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**Investigating How Individual Differences in Organisations are
Associated with Employee Performance, Job Satisfaction and
Climate for Innovation: A Quantitative Study in Jordan's Middle
Eastern Context**

Mereish, S.

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**Investigating How Individual Differences in
Organisations are Associated with Employee
Performance, Job Satisfaction and Climate for
Innovation: A Quantitative Study in Jordan's
Middle Eastern Context**

Suhair Mereish

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**A thesis submitted in partial fulfilment of the requirements
of the University of Westminster for the degree of Doctor of
Philosophy**

Abstract

For this PhD thesis, individual differences in the workplace are studied, with the focus being on the key personality characteristics and styles identified in the field of business and organisational psychology: the Big Five, Team Roles, Conflict Management Styles, and Decision Making Styles. Some personality characteristics and styles have been identified as ‘healthy’ and productive, whilst others are considered ‘unhealthy’ and dysfunctional. Measuring individual differences in the workplace is seen as highly beneficial in view of its diagnostic potential. Furthermore, these constructs have been found to be significantly associated with employee performance, job satisfaction and climate for innovation.

The literature is scant with regards to studying these constructs under one umbrella to investigate their associations with employee performance, job satisfaction and climate for innovation. Moreover, most of the evidence, to date, has been collected in Western contexts and studies from Middle Eastern countries are rare. The aim of this thesis is to address this research gap, by presenting a series of studies from Jordan – a collectivist society, which is becoming increasingly important in terms of economic growth and companies’ roles in the world market. Specifically, three empirical studies are presented that examine the structure of these individual differences constructs and how they are associated with employee performance, job satisfaction and climate for innovation.

For Study 1, the structure of individual differences constructs is investigated using a sample recruited from two of the top 20 companies in Jordan: a shipping and logistics company (n=224) and a telecommunications company (n=219). Confirmatory Factor Analyses largely confirmed the factorial structures found in studies in Western cultures: The big five were measured with the short and a longer version of the Big Five Inventory (i.e. BFI-10 and BFI-44), and a 5-factor structure was confirmed for the long, but not the short version. Team roles were measured with the Team Role Experience and Orientation questionnaire, and a 6-factor structure was confirmed. Conflict management styles were measured with the Dutch test for Conflict Handling, with a 5-factor structure being confirmed. Decision making styles were measured with the General Decision-Making Style questionnaire and a 5-factor structure was confirmed. Lastly, climate for innovation was measured with the Team Climate Inventory, with a 4-factor structure being confirmed.

Study 2 involved examining how individual differences are associated with employee performance, job satisfaction and climate for innovation. For this purpose, data were collected from a new sample (n=249) from the shipping and logistics company. For employee performance, regression analysis identified conscientiousness from the big five and the problem-solving conflict management style as significant predictors (both positive). For job satisfaction, regression analysis identified neuroticism from the big five and avoidant decision-making style as significant predictors (both negative). For climate for innovation, regression analysis identified agreeableness (positive) and neuroticism (negative) from the big five as significant predictors, along with the problem-solving conflict management style (positive) and rational decision-making style (positive).

Study 3 was aimed at replicating the findings from Study 2 in a sample from the Jordanian general population. Further, an additional more reliable measure of employee performance, the Individual Work Performance Questionnaire was used. Three hundred and ninety Jordanian employees participated. The findings from Study 2 were largely confirmed. Furthermore, from the regression analysis, additional predictors of employee performance, job satisfaction and climate for innovation emerged. i.e. neuroticism (negative), rational decision-making style (positive), and avoidant decision-making style (negative), were significant predictors of employee performance. Agreeableness (positive), the problem-solving conflict-management style (positive), and the rational decision-making style (positive) were significant predictors of job satisfaction. Moreover, the avoidant decision-making style was found to be a negative predictor of climate for innovation.

These studies contribute to knowledge in several ways: first, by examining the factorial structure of the instruments used in a Jordanian, rather than a Western context and second, by investigating the individual differences constructs simultaneously under one umbrella, thereby identifying the most and least effective characteristics that contribute to high levels of employee performance, job satisfaction and climate for innovation in Jordan's Middle Eastern context.

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Declaration

“I declare that, except where explicit reference is made to the contribution of others, this dissertation is the result of my own work and has not been submitted to any other degree at the University of Westminster or any other institution.”



Suhair M. Mereish, January 2020

Definitions of Abbreviations

ABP	Association of Business Psychology
AMOS	Analysis of Moment Structures
ASA	Attraction-Selection-Attrition
ASTMA	Attraction, Selection, Transformation, Manipulation, Attrition
BFI-10	Big Five Inventory 10
BFI-44	Big Five Inventory 44
CCQ	Creative Climate Questionnaire
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CMIN/df	Minimal Value of the Discrepancy
DUTCH	Dutch Test for Conflict Handling
GDMS	General Decision-Making Style
HPI	Hogan Personality Inventory
IFI	Incremental Fit Index
IWPQ	Individual Work Performance Questionnaire
JDI	Job Descriptive Index
MBTI	Myers-Briggs Type Indicator
MSQ	Minnesota Satisfaction Questionnaire
RMSEA	Steiger-Lind Root Mean Square Error of Approximation
ROC-2	Rahim Organizational Conflict Inventory
SPSS	Statistical Package for the Social Sciences
TAT	Trait Activation Theory
TCI	Team Climate Inventory
TREO	Team Role Experience and Orientation

UK

United Kingdom

UoW

University of Westminster

USA

United States of America

VIF

Variance of Inflation

Chapter 1. Outline of thesis

This first chapter provides an introduction to this thesis. It explains the motivation behind conducting this research as well as its main aim, objectives, and contributions to knowledge. Finally, there is an overview of the chapters included in this thesis.

1.1 Motivation for conducting the research

This research involves investigating the individual differences (i.e. the big five, team roles, conflict management styles and decision-making styles) that are associated with employee performance, job satisfaction and a climate for innovation in Jordan's Middle Eastern context. This country was chosen as research in this region, in general and in Jordan, in particular, is scarce, with regards to this topic. In the Middle East, only around 3,000 publications have been published since 2000. Jordan, alongside other Middle Eastern countries (Bahrain, Egypt, Iraq, Kuwait, Lebanon, Oman, Palestine, Qatar, Saudi Arabia, Syria, Yemen) authored around 1% to 3% of these (Bayazit, Özalp-Türetgen, & Sinangil, 2018). Hence, Jordan is a country where the introduction of business psychology has a lot of potential. Further, previous research aimed at examining those individual differences that are associated with these three outcome variables (employee performance, job satisfaction and a climate for innovation) was conducted mostly in western and individualistic societies. In contrast, this study was conducted in Jordan, which is a collectivist society (Hofstede, 2019). In such societies, individuals are interdependent, relationship oriented, prefer to work in teams, take into consideration the other party, make sacrifices for the sake of other group members and turn to others before making decisions. All of which links in with the individual differences constructs in this thesis (McAtavey & Nikolovska, 2010).

Personality traits and psychological characteristics are key variables for identifying the compatibility of individuals when working together (Winsborough & Chamorro-Premuzic, 2017). There are several approaches that can explain the personality of individuals at work, such as the trait and the social cognitive approaches. Under the trait approach, theorists perceive individuals' traits as stable and enduring (Costa, McCrae, & Löckenhoff, 2019; Yang et al., 2014), thus suggesting that the personality is set during young adulthood and remains the same thereafter (McCrae & Costa, 1994, 2007). Mirroring these conceptualisations, Judge et al. (2014) and

Minbashian et al. (2010) asserted that traits contribute to the development of various behaviours. Moreover, it has been contended that traits are formed by a combination of environmental and genetic factors (Krueger & Johnson, 2008) that may predict a variety of individual and interpersonal outcomes (Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007). In contrast, social cognitive approach theorists (e.g Mischel & Shoda, 2000) do not focus on the traits of individuals, instead, they view these traits through the lens of the *if* (i.e. situation) and *then* (i.e. behaviour) perspective (Mischel, 2004). For instance, if an individual is in situation Y, then they behave in an introverted manner, whilst if an individual is in situation X, then they behave in an extraverted manner (Yang et al., 2014).

In other words, these theorists draw attention to the contextual variables that affect behaviour (Mischel & Shoda, 2000). This work has addressed the importance of the situations in which traits tend to manifest in behaviour. This has contributed to the development of the Trait Activation Theory (TAT) for Tett and Burnett (2003). In this theory, behaviour is considered as the outcome of the person and the situation, where situations act as triggers to activate specific traits. These are manifested in behaviour at times when the condition or situation offers an opportunity for trait expression.

The TAT is important for investigating personality longitudinally and how it is relevant in the work environment. This is due to the fact that, the conditions, demands, situational and contextual factors at work change over time, and are often uncertain (Woods, Lievens, De Fruyt, & Wille, 2013). Notably, the demands that are put on employees may change even during short periods of time (Thoresen, Bradley, Bliese, & Thoresen, 2004). Therefore, when measuring organisational growth outcomes such as performance, at two different time points, the outcome may be of different behavior-in-context combination. Accordingly, traits that are activated during a specific time of an individual's career, for example, during the career identification and exploration stage may not be the same as the ones activated at other points in time, such as during the career establishment stage. This theory presents a framework for understanding the person-job fit, in which the individual's situational reactions make them fit for particular types of jobs and activities. Taken together, this theory implies that an active stimulation of an event is needed to trigger and activate the traits of the individuals and impact their behaviour (Woods et al., 2013).

In a similar vein, it has been found that work experience and environment play a role in shaping personality (Woods, Wille, Wu, Lievens, & De Fruyt, 2019). These can provide an understanding of the personality and its development that cannot be provided by biological approaches or by researching the impact of significant life events (e.g. marriage) (Bleidorn et al., 2013). Nonetheless, there is substantial variation in the psychological conditions which employees' work in, as well as the reward structures of the organisations. These variabilities can direct personality towards a different path (Woods et al., 2019). The Demands-Affordances TrAnsactional (DATA) model for Woods et al. (2019) draws on these concepts. This model proposes that the personality of individuals is dynamic and changes with time as a result of the socialisation and interaction processes that take place with other team members and in different contexts. It also elucidates how behaviour at the workplace that is linked to personality is called upon at four levels: vocation, job, group, and organisation. Further, it considers the person-environment fit as the central element for personality trait change at the workplace. This model has provided a clear person-environment interactional approach for researching the change of personality at the workplace. Nonetheless, it did not incorporate other personal attributes such as cognitive abilities or demographic characteristics that may play a role in mediating or moderating the work demand influences on personality. Traits could also be triggered by the cultural aspects present in a work environment, which were found to affect employees' priorities and decisions made in the daily activities (Woods et al., 2019). This idea has been elaborated further on in Schneider's Attraction-Selection-Attrition (ASA) interactive model which focuses on the person-organisation transaction (Schneider, Goldstein, & Smith, 1995).

In the *attraction* process, it is anticipated that candidates will be attracted to companies that are in line with their personalities. In the *selection* process, organisations select and recruit individuals that have personality traits similar to other members in the organisation. Finally, in the *attrition* process, individuals with traits that are not aligned with the culture of the organisation are more likely to resign. Overall, these processes will eventually lead to having homogenous organisations over time. Essentially, this model has been found to be more dynamic and extensive than the majority of person-organisation transactional models. Nonetheless, the model does not explore other elements that are related to interacting with organisations which present important aspects for understanding personality traits and personality development. For instance, the model

represents a limited scope for individuals to change both themselves and the organisation. This shows that the model neither sheds light on the socialisation processes, nor on efforts by the individual to structure their work in a way that will better match their needs (Roberts, 2006).

In order to overcome these limitations, Roberts (2006) extended the ASA model by adding two more elements which are: transformation (T) and manipulation (M), resulting in the ASTMA model (attraction, selection, transformation, manipulation, and attrition). This model particularly takes into account the effect of elements of the organisational culture on the personality of the individual. The transformation element was incorporated as individuals may change according to their organisational contexts. The manipulation element was included as individuals can face and manage the demands of the organisation. This means that individuals are consciously or unconsciously capable of shaping their organisational experiences. Accordingly, the organisational culture may change based on their interactions with the organisation. While this model has provided a rich and thorough view of personality development, it does not explain how the elements in the model interact with each other and how they interplay across the lifespan (Roberts, 2006).

Essentially, it has been asserted that these approaches to study stability and change in personality are very different from each other. Consequently, Funder (2009) argued that merging different approaches would impose a significant challenge on personality psychology. Moreover, Cervone (1999) highlighted that combining them with each other may be theoretically problematic and not empirically needed. Thus, for this research, the first approach is adopted, which is, the trait approach theory. It has been chosen as it proposes that personality is relatively stable and the majority of evidence in the field of organisational and industrial psychology has conceptualised personality as static and stable over time. Furthermore, previous research and meta-analyses have successfully established the relationships between personality traits and the organisational growth outcomes, specifically, employee performance, job satisfaction, and climate for innovation (Barrick & Mount, 1991; Rothstein & Reddon, 1994; Salgado, 1997; Soomro et al., 2015; Tett et al., 1994). Evidently, this approach allows the investigation of individual differences in relation to the outcome variables of this research which are: employee performance, job satisfaction, and climate for innovation.

1.1.1 The big five and employee performance, job satisfaction, and climate for innovation

The topic under investigation has been focused upon as personality psychology plays a fundamental role in understanding job satisfaction, employee performance and climate for innovation. Job satisfaction has been found to be dispositional (House, Shane, & Herold, 1996), with several correlations being elicited between the big five personality traits and job satisfaction (Spector, 1997). Thus, gaining an understanding about the relation between the big five personality traits and job satisfaction can provide a base for practitioners to advise on a broad range of professional matters that workers may face. Further, this would provide a deep understanding of issues relating to low engagement and turnover (Association of Business Psychology, 2019). Consequently, it has been concluded that personality measures are valid predictors of a broad range of job-criteria (Goldberg, 1993). Notably, personality instruments can assist disadvantaged workers (Hogan et al., 1996), as the latest studies revealed that personality traits have a direct relationship with job performance (Barrick & Mount, 1991; Rothmann & Coetzer, 2003). Evidently, having specific personality types in the team can influence its performance (Mazni et al., 2010).

Having and maintaining deep insights about one's own personality provides a person with an understanding of her/his own perception of the team climate for innovation (Acuña, Gómez, Hannay, Juristo, & Pfahl, 2015). This is crucial, as this climate encourages the development of the team as well as influences the interpersonal relationships within. All of which represent important facets for the success or failure of the team as a whole in the work they undertake (Curren et al., 2001). Correlations have also been found between personality traits and team climate for innovation (Acuña et al., 2015; Soomro, Salleh, & Nordin, 2015). The current research has been undertaken as previous studies on Jordan have not explored the personality traits that are associated with employee performance, job satisfaction and climate for innovation.

1.1.2 Team roles and employee performance, job satisfaction, and climate for innovation

Examining the roles of individuals in teams is another important factor to consider in the field of business and organisational psychology. Teams represent one of the main building blocks within the majority of contemporary organisations (Kozlowski & Ilgen, 2006; Kozlowski, 2018; Mathieu, Maynard, Rapp, & Gilson, 2008). Today, there is a universal awareness that a high proportion of

the work achieved in business is a by-product of team effort (Batenburg, Walbeek, & Maur, 2013). Teams are expected to become the main unit for performance in high performing companies (Katzenbach & Smith, 2005). Thus, it has been proposed that team composition is an important element in the development of effective ones (Belbin, 1981, 2010; Horwitz & Horwitz, 2007). That is, building and developing competent teams yields numerous benefits, such as gaining a competitive advantage and sustaining it (Mathieu, Tannenbaum, Kukenberger, Donsbach, & Alliger, 2015). In general, it has been found that maintaining effective teams results in higher employee performance (Hamilton, Nickerson, & Owan, 2002), greater job satisfaction (Henry, 2004; Wilson, Dejoy, Vandenberg, Richardson, & Mcgrath, 2004), and perceptions of autonomy (Griffin, Patterson, & West, 2001). However, there has been a lack in research in terms of studying team roles and climate for innovation. Further, previous studies in Jordan have not investigated the team roles construct associated with employee performance, job satisfaction, and climate for innovation.

1.1.3 Conflict management styles and employee performance, job satisfaction and climate for innovation

Investigating conflict management styles is also essential, in that executives and supervisors spend approximately 20 percent of their time resolving conflicts in the workplace (Thomas, 1992). For instance, disregarding frictions that take place between workers, might negatively have an impact on the growth of the organisation (Jehn, 1997). Further, mishandling conflict may also create inefficiency in organisations (Liu, Wei, Luo, & Hu, 2008), as this can lead to employee dissatisfaction, demotivation, lack of engagement, and accordingly, a drop in their performance (Chen, Zhao, Liu, & Dash, 2012). Also, unresolved conflicts may cause an increase in the turnover rates, lower the satisfaction levels and in return impact on the productivity and performance of the organisation as a whole (De Dreu & Van Vianen, 2001; Hom & Kinicki, 2001). Elfenbein, Curhan, Eisenkraft, Shirako & Baccaro (2008) contended that understanding the various personalities in the workplace may facilitate managing organisational conflicts, as they found that almost half of the variance in having successful negotiations was associated with individual differences (Elfenbein et al., 2008). Hence, maintaining effective individuals, teams and organisations is heavily reliant on how individuals handle interpersonal conflict in the workplace (Tjosvold, 2007). Essentially, interpersonal conflict is an essential element, which greatly influences the

relationships between employees at the workplace (Barki & Hartwick, 2001; Rahim, 1983). However, research in Jordan has not investigated these areas yet, specifically those concerned with studying conflict management styles that are associated with employee performance, job satisfaction, and climate for innovation.

1.1.4 Decision-making styles and employee performance, job satisfaction and climate for innovation

Decision making is a topic that has been vigorously investigated both theoretically and empirically, especially in the vocational behaviour and career improvement literature. The main focus has revolved around aspects concerned with the situation and tasks that influence the outcomes of the decision. Hence, fewer studies have been focused on the decision-making styles and their impact on the decision outcomes. Moreover, there has been found to be consistency and stability in the styles that individuals use to make decisions (Scott & Bruce, 1995). Essentially, understanding decision making styles is beneficial for predicting performance (e.g. person job-fit) (Singh & Greenhaus, 2004), stress-proneness (Thunholm, 2008), and conflict resolution (Sáez de Heredia, Arocena, & Gárate, 2004). Correlations have been found between decision making styles and performance (Russ, McNeilly, & Comer, 1996) as well as decision making styles and job satisfaction (Crossley & Highhouse, 2005). Nonetheless, there is a dearth of studies exploring the relationships between decision making styles and climate for innovation. Moreover, none of the extant studies involved researching the decision style in relation to employee performance, job satisfaction and climate for innovation in Jordan.

1.1.5 Motivation behind choosing the outcome variables

Employee performance, which represents the first outcome variable of this thesis, has been explored extensively in relation to the big five in industrial psychology (Barrick, Mount, & Judge, 2001). This construct can be influenced by situational attributes, like job characteristics, colleagues at work and the company (Strümpfer, Gouws, & Viviers, 1998). In addition, it can also be impacted upon by dispositional factors (Rothmann & Coetzer, 2003), such as personality traits, inclinations and motives, perspectives and needs that can give insights into individuals reactions (House et al., 1996). Industrial psychologists were initially sceptical about whether personality measures are

related to employee performance (Guion & Gottier, 1965). Also, some concerns have been flagged up with regards to people providing fake responses to personality measurements (Reilly & Warech, 1993). Nevertheless, it has been suggested by Goldberg (1993) that personality measures predict job related criteria. Rosse, Stecher, Miller, & Levin (1998) also concluded that personality traits have a direct relationship with employee performance. Regarding which, studies in Jordan have not explored this area thus far.

With respect to the second outcome variable, namely job satisfaction, this is one of the most widely investigated topics in the field of industrial and organisational psychology (Judge & Larsen, 2001). Previous research has been focused mostly on situational factors, job characteristics (Loher Noe, Moeller, & Fitzgerald, 1985) and job conditions. These have included supervisor support (Baruch-Feldman, Brondolo, Ben-Dayana, & Schwartz, 2002), fairness (Kim & Leung, 2007), unclear roles and responsibilities (Schuler, 1977) and organisational support (Eisenberger, Cummings, Armeli, & Lynch, 1997). Hence, research on the predictors of job satisfaction has paid attention mainly to situational factors, however, has also deemed it as dispositional (House et al., 1996; Judge & Larsen, 2001; Staw & Cohen-Charash, 2005). Moreover, personality has been taken into consideration when probing job satisfaction (Judge, Heller, & Mount, 2002). Furthermore, it was found by Hoppock (1935) that emotional adjustment correlates strongly with job satisfaction. Likewise, Fisher and Hanna (1931) asserted that a significant cause for dissatisfaction originates from emotional maladjustment. Additionally, several correlations were found between stable personality traits and job satisfaction (Templer, 2012). Consequently, as this has not been previously investigated in Jordan, it would be worthwhile testing whether the relationships between individual differences and job satisfaction would hold in that country.

With regards to the last outcome variable of this research, namely climate for innovation, the notion of climate has gained substantial recognition from organisational psychologists over the last 30 years. Several empirical studies have been conducted such as the review for Rentsch (1990); Rousseau (1988); Schneider & Reichers (1983); and Schneider (2013). This has taken place as organisations have been experiencing new financial, technological and social challenges (Mathisen & Einarsen, 2004). Hence, studying the organisational climate can uncover the patterns regarding how organisational characteristics are understood and perceived by individuals (James & James, 1989). Moreover, it is proposed that the manner in which individuals perceive the environment,

can provide further indicators to anticipate future behaviour (García-Buades, Ramis-Palmer, & Manassero-Mas, 2015). Furthermore, exploring the climate at the workplace, such as that for innovation or safety, could allow for the prediction of specific outcomes relating to the former or accident avoidance regarding the latter (Anderson & West, 1998). Further, exploring the personality traits of employees in the context of the organisational climate, can facilitate predicting their creativity and innovation (Oldham & Cummings, 1996). Notably, the literature in Jordan is scant with regard to examining the associations between individual differences and climate for innovation.

1.1.6 Gaps in the literature

Despite a vast amount of research on all of these constructs, it was apparent that the literature is scarce with regards to examining the associations between individual differences (i.e. the big five, team roles, conflict management styles, decision-making styles) as well as employee performance, under one umbrella. Also, researchers have yet to explore which of these individual difference constructs will be most and least relevant for studying employee performance. Whilst ample studies have identified the relationships between the big five and employee performance (Barrick & Mount, 1991; Hertz & Donovan, 2000; Salgado, 1998) as well as decision making styles and employee performance (Curseu & Schruijer, 2012) in diverse countries around the world. However, there is a gap in the literature in terms of studying the associations between team roles and employee performance as well as conflict styles and such performance.

There is a dearth of research that has investigated the links between these individual differences in relation to job satisfaction, in order to create high levels of job satisfaction. Additionally, the extant studies have not examined, which of these individual difference constructs are most and least relevant for studying job satisfaction. Further, there is a paucity of research on the relationships between team roles and job satisfaction. Only one study by Ruch et al. (2018), involved considering the relationships between both constructs, with the sample comprising participants from the United States, Australia and Canada. In contrast, many studies have provided support for the relationships between the big five personality traits and job satisfaction (Judge, Heller & Mount., 2002; Templer, 2012). Also, few studies have investigated the relationships between conflict styles and job satisfaction (Lee, 2008; Wall et al., 1987) as well as decision-making styles

and job satisfaction (Crossley & Highhouse, 2005; Hariri, Monypenny, & Prideaux, 2016), but no such work has been undertaken in Jordan.

There has been scant research on the relationships between individual difference constructs and climate for innovation, which if were examined could lead to identifying the characteristics that would create high levels of climate for innovation. Further, previous research did not involve investigating which of these individual differences' constructs are most and least relevant for studying climate for innovation. Only one preliminary study conducted in Malaysia examined the relationships between the big five and climate for innovation (Soomro et al., 2015). Furthermore, previous research did not directly ascertain the relationships between team roles, conflict management styles or decision-making styles in relation to a climate for innovation.

It is also worth noting that the research conducted on the constructs under investigation, specifically, individual differences (i.e. the big five, team roles, conflict management styles, and decision-making styles), employee performance, job satisfaction, and climate for innovation, and in Jordan, has been relatively absent and has involved very little empirical investigation. For instance, the big five topic in Jordan has been studied in relation to leadership traits (Khairuddin, 2015) and spiritual intelligence (Mahasneh Shammout, Alkhazaleh, Al-Alwan, & Abu-Eita, 2015). Moreover, there has been a lack of research with regards to studying team roles. Similar fields have studied employees' empowerment and its impact on team effectiveness (Harrim & Alkshali, 2008). Concerning the conflict management styles construct, in two previous studies in Jordan, these styles were investigated, with the focus being on Jordanian managers (Alzawahreh & Khasawneh, 2011) and nurses (Al-Hamdan, Norrie, & Anthony, 2014). In regards to decision-making styles, a small number of studies have investigated this construct in the context of the decision-making styles of department chairs at public universities (Khasawneh, Alomari, & Abutineh, 2011) as well as organisational learning (Al Shra'ah, 2015).

Whilst a small amount of research has examined job satisfaction and employee performance in Jordan (Al Ajlouni, 2015), in regards to climate for innovation, even fewer studies have investigated this construct. Regarding which, research was conducted to investigate the impact of the organisational climate on innovative behaviour at private universities in Jordan (Al-Saudi, 2012). Another study was carried out to examine the organisational learning culture, transfer climate and perceived innovation (Bates & Khasawneh, 2004).

Evidently, none have investigated the research area focused on for this thesis, that is, studying the individual differences that are associated with employee performance, job satisfaction, and climate for innovation. Also, none of the previous research involved using the instruments employed in the current work, apart from the big five inventory (BFI-44) (John & Srivastava, 1999) which has been adapted by Khaireddin (2015) and Schmitt (2007), and the general decision-making styles (GDMS) (Scott & Bruce, 1995) which has been only used once by Khasawneh et al. (2011). Hence, the big five inventory (BFI-10) (Rammstedt & John, 2007), the team role experience and orientation dimensions (TREO) (Mathieu et al., 2015), the Dutch test for conflict handling (DUTCH) (De Dreu et al., 2001), the employee job performance questionnaire (Cheng & Kalleberg, 1996), the individual work performance questionnaire (IWPQ) (Koopmans et al., 2016), the Andrews and Withey job satisfaction questionnaire (Andrews & Withey, 1976, 2012), and the team climate inventory (TCI) (Kivimaki & Elovainio, 1999), have never previously tested in Jordan. Lastly, the factorial structure for all of the used instruments in this research has never been examined in any published Jordanian study. Furthermore, the factorial structure of TREO has never been investigated in any study other than that carried out by its authors.

Based on the above discussion, the research seeks to address the above presented gaps through:

- Carrying out quantitative studies in Jordan that measure the factorial structure of the instruments in a Middle Eastern context.
- Conducting quantitative studies aimed at measuring the individual differences that are associated with employee performance, job satisfaction and climate for innovation in Jordan's Middle Eastern context. Hence, identifying the most and least effective characteristics for high levels of employee performance, job satisfaction and a climate for innovation.
- Measuring the associations between these constructs by using well known existing published instruments. Specifically, those between individual differences and employee performance, job satisfaction, and climate for innovation, which have never been tested before. This will be done through using: the big five inventory (BFI-10 and BFI-44) (Rammstedt & John 2007; John & Srivastava, 1999), the team role experience and orientation dimensions (TREO) (Mathieu et al., 2015), the Dutch Test for Conflict Handling (De Dreu et al., 2011), the General Decision-Making Style questionnaire (Scott

& Bruce, 1995), the employee job performance questionnaire (Cheng & Kalleberg, 1996), the individual work performance questionnaire (IWPQ) (Koopmans et al., 2016), the Andrews and Withey job satisfaction questionnaire (Andrews & Withey; 1976, 2012) and the team climate inventory (TCI) (Kivimaki & Elovainio, 1999).

1.2 Research aim and objectives

The aim of this research is to examine individual differences in relation to employee performance, job satisfaction, and climate for innovation in Jordan. This in turn, will facilitate the identification of the most and least effective characteristics for high levels of employee performance, job satisfaction and climate for innovation. These outcomes will provide insights and indicators for the management and recruitment divisions of organisations on the types of personalities to hire in relation to the requirement of the role (e.g. a role that entails the generation of new ideas or one that requires high conscientiousness levels to achieve high performance). The findings could also assist in understanding the personalities of current employees in an organisation, which could be drawn upon for improving the overall performance, level of satisfaction, and climate for innovation. This would be achieved through assigning responsibilities and tasks suited to the employees' personalities. Quantitative data was collected from two of the top 20 companies in Jordan (a shipping and logistics company and a telecommunications company). Subsequently, in order to present generalisable findings, data was collected from a wide sample of employees from the general population of Jordan. The aim of this research was achieved through four key research objectives, as presented table 1 below:

Table 1. Research aim and objectives

Research Aim: to investigate the most and least effective individual differences characteristics for employee performance, job satisfaction, and climate for innovation	
Objective 1:	To examine the factorial structure of the used instruments for two companies in Jordan (a shipping and logistics company and a telecoms company)
Objective 2:	To study the associations between individual differences and their outcome variables on a shipping and logistics company in Jordan
Objective 3:	To generalise findings from the companies to the general population in Jordan
Objective 4:	To investigate whether the findings from the employee job performance questionnaire would produce similar or different findings to the IWPQ

1.3 Research questions

This thesis addresses the following thirteen research questions:

1. Is the factorial structure of the BFI-10 in Jordan comparable to the published structure?
2. Is the factorial structure of the BFI-44 in Jordan comparable to the published structure?
3. Is the factorial structure of TREO in Jordan comparable to the published structure?
4. Is the factorial structure of the DUTCH in Jordan comparable to the published structure?
5. Is the factorial structure of the GDMS in Jordan comparable to the published structure?
6. Is the factorial structure of the TCI in Jordan comparable to the published structure?
7. Which of the BFI-10 scales are positively and negatively associated with employee performance, job satisfaction, and climate for innovation?

8. Which of the BFI-44 scales are positively and negatively associated with employee performance, job satisfaction, and climate for innovation?
9. Which of the TREO scales are positively and negatively associated with employee performance, job satisfaction, and climate for innovation?
10. Which of the DUTCH scales are positively and negatively associated with employee performance, job satisfaction, and climate for innovation?
11. Which of the GDMS scales are positively and negatively associated with employee performance, job satisfaction, and climate for innovation?
12. Do the findings from the shipping and logistics company confirm those from the general population in Jordan?
13. Do the findings from the employee job performance questionnaire produce similar or different ones to the IWPQ?

1.4 Context of the research: Jordan

In terms of culture, Jordan is a collectivist society (Hofstede, 2019), which is *a society in which people from birth onwards are integrated into strong, cohesive in-groups, which throughout people's lifetime continue to protect them in exchange for unquestioning loyalty*" (Hofstede, 2001, p. 225). In regard to the business psychology field, it is relatively new in Jordan in relation to both practice as well as literature, particularly in relation to the constructs examined in this thesis. As for the language used, the official language is Arabic, yet English is the prevalent language used in organisations, specifically, in the majority of written correspondence, for such as emails, reports, surveys, websites, databases, presentations and software. Further, it is used in newspapers and for job advertisements (Hamdan & Hatab, 2009).

1.5 Research contribution to evidence-based practice

The thesis is aimed at contributing to the evidence-based practice of business psychology. *Evidence-based practice is a particular approach or more accurately a set of approaches to incorporate evidence into practice decisions (Briner & Rousseau, 2011, p.6)*. This approach is useful for the industrial and organisational psychology fields as evidence helps inform practice decisions (Briner & Rousseau, 2011). In fact, evidence is a precursor to practice, as practice

revolves around practitioners making decisions and implementations based on the evidence found. Thus, this thesis is aimed at contributing to the evidence base of business psychology as presenting well-supported and robust evidence is important for having successful practice. Evidence-based research plays a role in providing guidance, encouragement, support, influence, and more certainty for practice with regards to implementing interventions and ideas effectively. It establishes stronger cases for execution and can highlight the value of findings that could strongly affect organisations (Baughman, Dorsey, & Zarefsky, 2011).

The novelty of this research lies in its unique design, which encompasses the big five, team roles, conflict management styles, decision-making styles, employee performance, job satisfaction and climate for innovation, in the workplace within the same study, in Jordan's Middle Eastern context. That is, theoretically, the thesis contributes to the field by investigating the individual differences constructs simultaneously under one umbrella. Moreover, the research will help identify the most and least effective characteristics for ensuring high levels of employee performance, job satisfaction and a healthy climate for innovation.

The factorial structure for all of the used constructs has been investigated in Western countries. This research contributes to the knowledge by examining the factorial structure of instruments used in a Jordanian context. Specifically, the BFI-10 and BFI-44 (John & Srivastava, 1999; Rammstedt & John 2007), TREO (Mathieu et al., 2015), the DUTCH (De Dreu et al., 2001), the GDMS (Scott & Bruce, 1995), and the TCI (Kivimaki & Elovainio, 1999) are assessed. The TREO (Mathieu et al., 2015), DUTCH (De Dreu et al., 2001), the employee job performance questionnaire (Cheng & Kalleberg, 1996), the IWPQ (Koopmans et al., 2016), the Andrews and the Withey job satisfaction questionnaire (Andrews & Withey, 1976, 2012) as well as the TCI (Kivimaki & Elovainio, 1999) have never been utilised in the literature of Jordan. Hence, this research contributes to the knowledge by using these instruments in Jordan's Middle Eastern context.

Practically, the instruments included in this research can be used by practitioners in Jordan in organisations as there is a lack in terms of assessing the validity of these instruments in this country. There is also noticeable scarcity in the role of learning and development in organisations in Jordan (Al-Qudah, Osman, Halim, & Al-Shatanawi, 2014). This highlights the importance of providing employees within teams with knowledge of their personality traits, team roles, conflict

management and decision making styles. This in turn will contribute to developing their skills, abilities and knowledge, thereby enhancing the organisational performance (Subramaniam et al., 2011). Moreover, the recruitment process in Jordan holds its own challenges, where the job-hunting duration is longer due to attempting to find the most compatible candidates, resulting in high unemployment rates (Groh et al., 2015). Therefore, the use of research instruments could aid in increasing employability by enhancing the efficiency of matching the vacancy with the appropriate candidate (Suwanti, Udin, & Widodo, 2018). This may result in enhancing employee performance (Suwanti et al., 2018), job satisfaction (Kristof-Brown, Zimmerman & Johnson, 2005) and climate for innovation (Suwanti et al., 2018).

Coaching practices are emerging in the Jordanian market. Since personality tests are known for their wide and important contribution to Jordan (Passmore, 2012), the instruments introduced in this research may be utilised by coaching practitioners in Jordan. This would contribute in developing the knowledge of these practitioners, on the various constructs of individual differences (i.e. the big five, team roles, conflict management styles, and decision-making styles). Accordingly, this knowledge would raise the self-awareness of the coachee, which can result in improving their understanding of their behaviour, as well as enhancing their performance at work.

Lastly, the lack of consideration of the skills and characteristics of candidates within organisations, often result in low performance and lack of skill and talent. This is particularly the case in Jordan (Al-Qeed et al., 2018). Therefore, a further use of the instruments utilised in this research can go towards assessing the personality traits, team roles, conflict management styles, and decision-making styles of potential candidates. This would also aid in retaining and developing current employees, which would result in improving the person-job fit. This would also enhance the efficiency and effectiveness of the work in teams, during conflicts, and when making decisions, which will consequently lead to flourishing the organisation as a whole (Irtaimah et al., 2016), in relation to employee performance, job satisfaction and climate for innovation. Consequently, this would introduce the opportunity to unlock the creative potential of employees' (Al-Lozi, Almomani & Al-Hawary, 2018). Notably, all of these aspects and roles refer to core areas within business psychology (ABP, 2019). Taken together, practitioners in the field of business psychology will be able to offer employees and organisations unbiased advice supported both theoretically and empirically (ABP, 2019), in particular, about the characteristics of individuals

that are associated with high levels of performance, satisfaction, and a healthy team climate at work.

The research outcomes can also help organisations to understand the behaviour of their employees. It will enable them to diagnose and comprehend the issues and challenges (ABP, 2019) that revolve around low performers, dissatisfied employees, and an unhealthy climate at work. Further, they will provide the recruitment and assessment, as well as the career development departments, with insights regarding the most and least effective characteristics for employee performance, job satisfaction and climate for innovation.

1.6 Structure of the thesis

Each chapter in this thesis covers important details that contributed to shaping this work. Chapters two and three include the theoretical foundation of this research. Chapter two discusses business psychology and individual differences in organisations. It also addresses self-report and bias that occur when using personality questionnaires. Further, it provides definitions, conceptualisations as well as explanation of the importance of studying individual differences (i.e. the big five, team roles, conflict management styles and decision-making styles). Additionally, this chapter maps out the different models used to measure the individual difference constructs. This chapter also discusses studies from previous literature conducted in Jordan and other Western countries.

The third chapter of this work has three main parts. First, it presents definitions and conceptualisations about employee performance and the methods used to measure this variable. Second, it provides definitions and conceptualisations about job satisfaction as well as the instruments used to operationalise this variable. Third, it gives definitions and conceptualisations about climate for innovation and the questionnaires used to examine this construct. This chapter has the purpose of illuminating the theoretical foundations of the key outcome variables in this thesis.

The fourth chapter is focused on presenting the individual differences constructs simultaneously under one umbrella to suggest the most and least effective characteristics for employee performance, job satisfaction, and climate for innovation. Accordingly, it indicates the positive and negative associations between individual differences, and employee performance, job

satisfaction, and climate for innovation. The purpose of this chapter is to bridge the theoretical part of this research with the empirical one.

The fifth chapter presents the research methodology of this research. It explains and justifies the choice of research methods, whilst also providing details about the characteristics of the sample and design adopted. Moreover, it discusses the research and practice in Jordan alongside the organisations where the research was conducted. Further, it provides an overview of the studies carried out in this research. Additionally, it presents a summary for the instruments used and their application in the English language. Lastly, it explains the rationale behind the data analytic techniques used and discusses the ethical guidelines that were followed while conducting the research.

The sixth chapter constitutes the first part of the analysis, specifically, Study 1. It displays findings from confirmatory factor analysis (CFA) for BFI-10 and BFI-44 (John & Srivastava, 1999; Rammstedt & John 2007), TREO (Mathieu et al., 2015), DUTCH (De Dreu et al., 2001), GDMS (Scott & Bruce, 1995), and TCI (Kivimaki & Elovainio, 1999). Thus, this chapter addresses the first objective of this research, which is testing the factorial structure of the used instruments in Jordan.

The seventh chapter pertains to Study 2. It presents findings from correlational and regression analyses for the variables that are positively and negatively associated with employee performance, job satisfaction, and climate for innovation for a shipping and logistics company in Jordan. Hence, this chapter covers the second objective of this research, that of examining which individual differences are most and least relevant for studying employee performance, job satisfaction, and climate for innovation. The eighth chapter presents Study 3. Similar to chapter seven, it also presents findings from correlational and regression analyses for the variables that are positively and negatively associated with employee performance, job satisfaction, and climate for innovation, but this time from the general population in Jordan. Further, this chapter compares findings from the self-report instruments, specifically, the employee job performance 2 item questionnaire with the IWPQ 5 item questionnaire. Accordingly, this chapter meets the third and fourth objectives of this research. The ninth chapter is a general discussion of the whole research. It provides a summary of the findings from all three studies, the theoretical and practical implications, as well as discusses the limitations of this research and proposals for future research.

Chapter 2. Individual differences in organisations

2.1 Introduction

Howarth and Cattell (1973) postulated that personality is “*that which enables us to predict what a person will do in a given, defined situation*” (p. 799). Their work provided evidence that personality consists of traits that are stable over time (Eysenck, 1967, 2017; McCrae & Costa, 1985). This definition implies that personality can predict outcomes with a degree of confidence. Thus, this chapter focuses on key personality traits, roles and styles in the field of business and organisational psychology (De Dreu et al., 2001; John & Srivastava, 1999; Mathieu et al., 2015; Scott & Bruce, 1995). More specifically, it addresses the big five, team roles, conflict management styles and decision-making styles.

Some of these personality traits, roles, and styles have been viewed as healthy and productive, such as problem solving (De Dreu et al., 2001), whilst others, such as avoiding and neuroticism, have been identified as unhealthy and dysfunctional (De Dreu et al., 2001; John & Srivastava, 1999). Accurately measuring individual differences in the workplace is considered highly valuable in view of its diagnostic potential (Sackett, Lievens, Van Iddekinge, & Kuncel, 2017). These traits and styles have been found to be significantly associated with employee performance, job satisfaction and climate for innovation in the workplace (e.g. Barrick & Mount, 1991; Yaakobi, 2017). For example, positive correlations were found between the conscientiousness personality trait and employee performance (Barrick & Mount, 1991). Moreover, positive correlations were also found between problem solving conflict management style and job satisfaction (Chen et al., 2012).

In this chapter, a review of previous theories and models that have examined the individual differences constructs of this thesis is provided. Specifically, this chapter presents the literature and empirical studies of the big five, team roles, conflict management styles and decision-making styles. Based on these studies, the operationalisation of these constructs has been achieved. Accordingly, the following instruments were selected: the big five inventory (BFI-10 and BFI-44) (John & Srivastava, 1999; Rammstedt & John, 2007), the team role experience and orientation questionnaire (TREO) (Mathieu et al., 2015), the Dutch test for conflict handling (DUTCH) (De Dreu et al., 2001), and the general decision-making styles questionnaire (GDMS) (Scott & Bruce, 1995). The purpose of this chapter lay the foundation for chapter three, which discusses the

outcome variables of these individual differences, namely: employee performance, job satisfaction, and climate for innovation.

2.2 Psychological concepts in organisations

Business psychology includes the study and practice of enhancing the quality of working life. It focuses on understanding, theoretically and practically, the behaviour of employees at work so as to achieve effective and maintainable performance for both the individuals and the organisation (ABP, 2019). Similarly, the organisational psychology field, which is closely related to that of business psychology, refers to the scientific study of individuals in the workplace. This involves applying psychological concepts, theory and research to work environments. The business and organisational psychology fields aim to carry out research with the objective of expanding the knowledge and understanding of human behaviour at work. Further, these fields seek to integrate this knowledge so as to improve the work environment and enhance the psychological status of employees. Thus, this highlights that psychologists in this field are both scientists and practitioners (Riggio, 2009).

The main aim of business psychology is to create healthy relationships between individuals in the organisation in order to attain important goals. This can be achieved by understanding the personalities of employees at work (ABP, 2019), as these can predict the behaviour of individuals at work (Barrick, 2005), which relates to the functioning of teams and organisations. In fact, personality traits act as predictors for employment outcomes related to job satisfaction, employee performance, motivation at work, team effectiveness, stress and coping, conflicts and deviant behaviours (Judge, Klinger, Simon, & Yang 2008).

Proponents of business psychology also aim to improve the selection and assessment as well as the psychometric testing domains (ABP, 2019; McKenna, 2000). Personality testing plays a role in hiring decisions (Hogan, Barrett, & Hogan, 2007) as employers want to avoid accidentally taking on those who are low achievers, negligent, incautious and/or inactive. Moreover, they do not want to recruit individuals that are anxious, depressed, hostile, and/or insecure (Judge et al., 2008).

This field focuses on understanding the behaviour of individuals at work in order for organisations to achieve their desired outcomes, such as boosting the wellbeing of individuals, increasing the performance of individuals and teams, and enhancing climate at work (ABP, 2019). This can, for

instance be done by adapting psychometric tests and instruments that are designed to measure personality traits, team roles, conflict management styles, and decision-making styles to investigate outcomes that are related to employee performance, job satisfaction and climate for innovation. There is an accumulating body of evidence showing that personality traits are associated with employee performance (Barrick, Mount & Judge, et al., 2001; Jiang, Chunping, Wang, & Zhou, 2009). Accordingly, this evidence can be integrated into organisations by business psychology practitioners to advise on issues related to low performance at work in order to develop a competitive edge (Cameron & Whetten, 2013). To summarise, business psychology is increasingly being considered as one of the essential fields that organisations should pay attention to in order to expand and advance (McKenna, 2000).

2.3 Challenges in the workplace

The workplace nowadays is facing continuous change associated with globalisation, business growth, competition and innovation (Pasmore, 2011). The uncertainty originating from these changes can have detrimental impact on the experience of individuals at work in terms of their job performance. In particular, these uncertainties can impact on the psychology of employees at the workplace (Cullen, Edwards, Casper & Gue, 2014), which in turn, may influence their satisfaction levels and hence, their delivered performance. Thus, gaining insights about the dispositions of individuals can aid in understanding the performance and job satisfaction of employees alongside their perception of the climate at work.

Organisations invariably seek to find ways to maximise performance and increase innovation. Further, they aim to provide stakeholders with outcomes that meet performance demands and deliver high-quality outcomes. Accordingly, it is essential for organisations to develop a high-quality pool of labour, which can be achieved by paying attention to the individual differences concept and using psychometric tests with potential recruits. This can also facilitate targeting characteristics for specific roles (Newman & Lyon, 2009).

Individuals working in teams also encounter several challenges in the workplace, including: unclear and ambiguous team roles, incohesive groups, an unhealthy work climate, unresolved personality conflicts, low performers, team members producing low quality outputs for other team members (Alliger, Cerasoli, Tannenbaum, & Vessey, 2015) and dysfunctional teams. Such

challenges impact on the satisfaction and the performance of employees (Ruch et al., 2018). These issues as a result increase the stress on team members and consequently, hinder the ability of the team to deal with any challenges. These issues may also harm the individuals and organisations (Alliger et al., 2015). All of which may possibly arise from the different team roles present in teams as for example in teams there is the challenger role or the team builder role (Mathieu et al., 2015). Hence, there are specific team roles that are recommended to be present in teams in order to achieve high levels of performance and satisfaction as well as a healthy climate at work.

Individuals working in organisations experience conflicts frequently. Thus, to enhance the experience of working with other individuals requires conflict management, for otherwise, the situation can become disruptive (Tjosvold, 2008). Often, employees tend to deal with conflict differently, for instance, through competing or avoidance behaviour, thus, growing the severity of the conflict. Such approaches mar the relationships between individuals (Tjosvold, 2008) and impact negatively on organisational outcomes. Evidently, it has been postulated that the negative consequences of conflict can override the positives, as even during favourable situations a collection of negative outcomes can also take place (Bruk-Lee, Nixon, & Spector, 2013; De Dreu, 2007). Relationship conflicts can cause animosity between co-workers (Choi & Cho, 2011), yield disputes and can influence goal achievements (Barki & Hartwick, 2004). They also reduce performance (Jehn, Greer, Levine, & Szulanski, 2008) and lead to employee dissatisfaction (Bruk-Lee & Spector, 2006; Saijo et al., 2008), depression (Ikeda et al., 2009), and psychological distress (Tsuno et al., 2009). Additionally, they can result in behavioural, emotional and physical stress (Spector & Bruk-Lee, 2008) and reduce the well-being of employees (Bruk-Lee et al., 2013). Moreover, they can bring feelings of frustration, irritation, and hostility (Bruk-Lee & Spector, 2006), which can lead to absenteeism, lateness (Spector et al., 2006) and have a negative impact on the climate at work.

Individuals also face difficulties in making decisions. For instance, some make unsuitable career choices and imprecise investment decisions which may hinder the process of achieving their goals (Dewberry Juanchich, & Narendran, 2013). In addition to that, it has been found that one of the most challenging and complicated decisions that individuals experience throughout their lives is making career decisions (Fabio, Palazzeschi, Asulin-Peretz, & Gati, 2013). In the field of vocational psychology, understanding career indecision remains to be one of the main issues that

is being faced by career counsellors (Brown & Rector, 2008). Interestingly, evidence showed relationships between personality traits and career decision difficulties (Di Fabio & Palazzeschi, 2009; Gati et al., 2011). For example, individuals with low emotional stability scores were found to face great difficulties in making career decisions (Fabio et al., 2013).

These individual challenges may stem from the idea that individuals have different decision-making styles, for instance, some individuals depend on other members to assist them in making decisions whilst, others avoid making decisions, all of which present styles that play a role in increasing the stress levels of the employees at the organisation. Nevertheless, there are constructivist decision styles which contributes to better organisational outcomes such as the rational style. Essentially, the absence of making effective decisions at the workplace make it hard on workers to proceed with their tasks, disrupts the work tasks of other workers to proceed with their tasks, and may contribute to creating stressful and unsupportive environments (Allwood & Salo, 2012). Further, the lack of efficiency in making decisions may negatively reduce the satisfaction and performance of employees (Russ et al., 1996; Sadler-Smith, 2004) as well as affecting the climate at work, which could negatively impact on organisational outcomes.

Taken together, it is essential for individuals, career developers, recruitment and assessment divisions, and organisations to gain insights about the personality traits, team toles, conflict management styles, and decision-making styles of individuals that improve or hinder outcomes that are related to employee performance, job satisfaction, and climate for innovation.

2.4 Why study individual differences in organisations?

Individuals are the greatest assets of organisations, for they are the ones that maintain the competitive edge of the company (Handy, 2011). Thus, individuals and money are the central elements that organisations need in order to succeed. Accordingly, the personality psychology field focuses on individuals and the nature of human behaviour (Hogan, 2005). Individuals have different personality traits (John and Srivastava, 1999), roles in teams (Mathieu et al., 2015), conflict management styles (De Dreu et al., 2001) and decision-making styles (Scott & Bruce, 1995). Personality traits and psychological characteristics appear to be the key variables to identify how well individuals are working together (Winsborough & Chamorro-Premuzic, 2017). Developing an understanding about personality traits help individuals to grow, understand the

behaviour of people around them, and thus, harmonically deal with each other in order to achieve the desired goals (Ward, 2012). On the other hand, the lack and weakness in understanding individual differences, make people fall in the normal ways of viewing and stereotyping situations, which normally take place during times of heightened stress and anxiety (Yehuda & Lambert, 2007). In such times, individuals exhibit defensive behaviours that are in accord with their personality preferences. Therefore, individual differences represent a guidance for organisations (Benton, 2017) towards managing the personality traits (John & Srivastava, 1999), team roles (Mathieu et al., 2015), conflict-management styles (De Dreu et al., 2001), and decision-making approaches (Scott & Bruce, 1995) of their employees. Furthermore, individual differences represent a guidance for the individuals to improve their abilities to deal with others that they identify as remarkably different from (Lloyd, 2012).

It is also essential for organisations to understand well the personality traits of their employees (Frick & Drucker, 2010). This can provide them with direction on how to deal and interact with their employees. It can also guide them to know which job role would work well with the personality type of their employees and as a result, they may decide to transfer them to a different one (Ali, 2019). Moreover, studying and assessing personality helps organisations to reduce the mistakes that happen during the hiring process. That is, this can assist them in evaluating the potential of prospective employees and understand their type of applicants better (Amar & Mullaney, 2017). Nonetheless, some researchers argue that testing personality traits may not be as valuable when the job role is in the science or information technology fields; however, others believe that studying personality has several benefits (Wilde, 2010). For instance, understanding the personality type of the individual before starting a project saves time and enables recruiters to create successful teams. Whilst some may not encourage the move towards screening job applicants with personality tests, other researchers greatly support it (Ones, Dilchert, Viswesvaran, & Judge, 2007). Whatever the case, it is clear that personality assessments are being broadly used and their application is increasing with time (Amar & Mullaney, 2017).

Examining individual differences can help organisations identify the most and least effective characteristics that are associated with employee performance (Jiang et al., 2009), job satisfaction (Templer, 2012) and climate for innovation (Soomro et al., 2015). It has been also found that assessing personality is useful for understanding behaviours, attitudes, performance, as well as

outcomes (Ones et al., 2007). Further, it has been concluded that personality predicts outcomes, such as ineffective work behaviours (Berry, Ones, & Sackett, 2007; Moscoso & Salgado, 2004), training success and job performance (Jiang et al., 2009; Salgado, 1997). In the field of business psychology, personality assessments are mostly used in making decisions related to the work of the personnel department (Hogan & Holland, 2003).

2.4 Assessing individual differences – self report and bias

Organisational, industrial and work psychologists have debated various aspects in regard to the validity of using personality instruments to select candidates (Morgeson et al., 2007a, 2007b). Some have argued that self-reports can be faked and this will influence the rank order of candidates, thus impacting on the entire process of the selection decision. Further, some have asserted that taking the social desirability element to reduce faking does not increase the validity. Hence, the inserted faked items do not fully identify the distorted answers (Salgado & Tauriz, 2014). Nonetheless, Hogan (2005a, 2005b), Ones et al. (2007) and Tet and Christiansen (2007) supported the use of personality inventories at the workplace. Further, Hogan et al. (2007) found out that only 5.25% of participants improve their responses. Hogan et al. (2007) also concluded that those who attempt to change their responses minimise their scores by faking. All in all, it can be indicated that faking responses on personality inventories during personnel selection is not as salient (Salgado & Tauriz, 2014). The reality is that, using personality tests is still a common and popular practice in the US and Europe (Tett, Christiansen, Robie, & Simonet, 2011).

2.5 Key individual differences

2.5.1 The big five

Personality has been defined as *a dynamic organisation, inside the person, of psychophysical systems that create the person's characteristic patterns of behaviour, thoughts and feelings* (Allport, 1961, p. 11). Personality scholars aim to understand how individuals behave (Maltby & Macaskill, 2010) and accordingly, come up with theories about human behaviour. This has been facilitated by the fact that personality traits present rather stable patterns of behaviour, thoughts, feelings, and motivations (Wilt & Revelle, 2009).

2.5.1.1 The big five inventory (BFI-10 and BFI-44)

Among several personality measures, the BFI-10 and BFI-44 (John & Srivastava, 1999; Rammstedt & John, 2007) have been selected to measure the big five construct of this thesis. Both instruments have been found to be valid and reliable (John & Srivastava, 1999; Rammstedt & John, 2007). These inventories were developed to cover the need for having a short test that assesses the prototypical components of the big five, which have been used in most studies. They have been particularly applied at times when the participants time is very limited (John, Donahue, & Kentle 1999; Rammstedt & John, 2007). These instruments were constructed as a short inventory that would generate effective and flexible evaluation of the big five variables.

The BFI-10 and BFI-44 comprise 10 and 44 items, respectively, and purport to measure five subscales, which are: openness, conscientiousness, extraversion, agreeableness and neuroticism (Bozionelos, Bozionelos, Polychroniou, & Kostopoulos, 2014; John & Srivastava, 1999; Rammstedt & John, 2007), as presented in table 2 below.

Table 2. Subscales and description of the big five inventory (John & Srivastava, 1999)

Subscale	Description
Openness	Curious, imaginative, artistic
Conscientiousness	Efficient, organised, disciplined, and thorough
Extraversion	Sociable, forceful, energetic, adventurous, enthusiastic, outgoing
Agreeableness	Forgiving, not demanding, warm, not stubborn, sympathetic
Neuroticism	Tense, irritable, depressed, shy, moody, vulnerable

Both inventories have been chosen as they assess the constructs in a short period of time. It has been pointed out that *the big five inventory is often used in research settings in which subject time is at premium and the short phrase item format provides more context (John and Srivastava, 1999, p.115)*. Regarding which, this research was conducted in two companies in Jordan, and the management were concerned about the amount of time completing the surveys would take. The

management in both companies did not want much interference with the completion of the tasks of their employees. Moreover, it has been indicated that respondents often do not prefer completing long surveys and that this can lead to boredom, tiredness, and displeasure. This can lessen the chances for participants to provide answers with care or give their consent to take part in any follow up data collection (Credé, Harms, Niehorster, & Gaye-Valentine, 2012).

The sentences in the inventories are concise and exact (John et al., 1991; Rammstedt & John, 2007)). Further, these instruments do not include single adjectives as items, as it held that these receive less consistent responses than those that have interpretations, elaborations or definitions (Goldberg & Kilkowski, 1985). The inventories consist of short phrases that address trait adjectives that cover the prototypical markers of the big five (Rammstedt & John, 2007). For instance, the neuroticism adjective “relaxed” has been written in the BFI-10 and BFI-44 as “*Is relaxed, handles stress well*”. Hence, the BFI-10 and BFI-44 questions are distinct as they are simple, clear, straightforward and short. It also does not have any of the issues that the other five-factor measures have (e.g. ambiguous, unclear meanings, and salient desirability) (John & Srivastava, 1999). The BFI-44 has been found to be correlated with performance and other organisational settings. For instance, this instrument has been found to be effective for organisational decision making, such as selecting new employees (Ones et al., 2007).

Regardless of the universality of the big five personality traits, some researchers have claimed that this model lacks conceptual validation (Waller & Ben-Porath, 1987), with its conceptual and methodological presumptions having been challenged (Block, 1995). However, the majority of studies have reported that the model is stable across the different cultures (McCrae & Terracciano, 2005; Rammstedt & John, 2007) and comprehensively includes all English trait adjectives (Goldberg, 1990, 2013).

The BFI-10 was developed for English as well as German samples and yielded valid and reliable results (Rammstedt & John, 2007). Additionally, an Italian version was also developed in which the convergent and concurrent validity were confirmed (Guido, Peluso, Capestro & Miglietta, 2015). In addition, a Chinese version was developed, for which its utility was confirmed (Carciofo, Yang, Song, Du, & Zhang, 2016). However, when it was applied to an Indian sample, the results revealed poor reliability in terms of fit (Kunzel-John, Gaab, Xavier, Waldmeier, & Meyer, 2019). Notably, shorter inventories, like the BFI-10, are renowned for having poorer reliability (Eisinga,

Te Grotenhuis & Pelzer, 2013) and thus, they tend only to be used when researchers need to administer surveys quickly. In contrast, the BFI-44 is a widely used instrument with well documented validity in research settings. Using both enabled the researcher to compare how well each of them works in the Jordanian context. If it turns out that the BFI-10 is not acceptable in Jordan, then the BFI-44 would be a better choice. However, if the BFI-10 is as good (or better) then this research would recommend using that in Jordan out of preference, because it is shorter.

Regarding the BFI-44, Benet-Martinez and John (1998) conducted a study to assess the Spanish version. The study samples were from the U.S and Spain and the authors concluded the following:

“There is little evidence for substantial cultural differences in personality structure at the broad level of abstraction represented by the Big Five dimensions” (Benet-Martinez & John, 1998, p. 729).

Further, in a cross sectional study that used the BFI-44 as well, which included 54 cultures and 28 languages from: the Middle East (in which volunteer college students from Jordan took part), South America, Western Europe, Eastern Europe, Southern Europe, Africa, Oceania, South/SE Asia, and East Asia, similar conclusions found in that only very few cultural differences in personality were found (Schmitt, Allik, McCrae, & Benet-Martínez, 2007).

The BFI-44 do not compromise their good psychometric properties or the comprehensiveness of the content itself (John & Srivastava, 1999). For instance, the BFI-44 has been run on Canadian and U.S. samples, with the findings showing satisfactory reliabilities for all scales. Further, their test-retest reliability ranged from 0.80 to 0.90 with a mean score of 0.85. Proof for validity involved significant convergent relations with the other big five measures and with peer ratings (John & Srivastava, 1999). A further proof of validity involved assessing the five dimensions between peer ratings and self-reports. The results showed convergent and discriminant cross-instrument and cross-observer validation for the five dimensions (McCrae & Costa, 1987). Additionally, previous studies conducted by Benet-Martinez and John (1998), Chiorri, Ubbiali and Donati (2008) and Cid and Finney (2009) found through confirmatory factor analysis that the Big five Inventory has five correlated factors. Significantly, the big five model has been reported as the most widely recognised and used instrument (Rossberger, 2014). In fact, this model has received attention the most in comparison to the other personality models (Salgado & Tauriz, 2014).

Notably, the BFI-10 instrument has never been applied in Jordan. In contrast, the BFI-44 was used previously, but to measure different subject matter than that proposed in this thesis. The instrument was used to measure the impact of the big five on the leadership styles of branch managers (Khaireddin, 2015). It was also utilised to examine the relationship between spiritual intelligence and personality traits (Mahasneh et al., 2015). Thus, in order to address the lack of consideration of the BFI-10 and BFI-44 in Jordan, both will be adopted to investigate the most and least effective characteristics that are associated with employee performance, job satisfaction, and climate for innovation. Whilst the study of the big five with regards to employee performance and job satisfaction is extensive, very few studies have probed the relationships between the big five and climate for innovation (Judge et al., 2002; Salgado, 1998; Soomro et al., 2015). Moreover, literature in Jordan is falling short in terms of examining the factorial structure of both the BFI-10 and BFI-44.

2.5.2 Team roles

Teams are broadly perceived as the main building blocks for the majority of contemporary organisations (Kozlowski & Ilgen, 2006; Mathieu et al., 2008). Teamwork refers to two or more individuals working together harmonically in order to achieve the desired goals (Brannick, Salas, & Prince, 1997), complete the tasks, and develop relationships with others (West, Tjosvold, & Smith, 2008). Developing team-based designs has the benefit of aligning the individuals that work in organisations with the competitive pressures, continuous work changes and with the demands that might arise unexpectedly. Building and developing competent teams has numerous benefits, such as gaining a competitive advantage and sustaining it (Mathieu et al., 2015), developing flexible employees and increasing the performance and productivity (Salas, Cooke, & Rosen, 2008).

Performance can be increased through creating and delivering products and services speedily and efficiently (West, 2012). Additionally, maintaining effective teams results in higher employee performance (Hamilton et al., 2002), job satisfaction (Henry, 2004; Wilson et al., 2004) and perception of autonomy (Griffin et al., 2001). There is a widespread awareness that a high proportion of the work achieved in a business is the by-product of team effort. This has led researchers to explore methods that would aid in developing competent and effective teams (Batenburg et al., 2013). However, other researchers are sceptical about the benefits of having

teams in organisations (Glassop, 2002). For example, Huselid and Becker (1995) did not view teamwork as an attribute of high-performance in work systems. Furthermore, Allen and Hecht (2004) postulated that teamwork conceptions are trends that are going to cease gradually after a period of time. Moreover, others, like Devine, Clayton, Philips, Dunford, and Melner (1999), stated that practitioners and researchers have to know more about teams, their characteristics and what is required from them. On the other hand, others like Tjosvold (1991), MacDuffie (1995), and West et al. (2008) strongly supported the concept of teamwork. Thus, team-based work has become the foundation of several service and production enterprises for the public and private sector (Van Hootegem et al., 2005). Accordingly, most organisations hold that they are team oriented (West et al., 2003) and they form teams to accomplish performance levels that are not possible to achieve individually (Van Der Vegt & Bunderson, 2005).

Essentially, individuals within teams have a different mix of behaviours and personalities (Mathieu et al., 2015). In order to have effective teams they need to be designed in advance. Teams that are composed of members with a combination of knowledge, skills, abilities and other characteristics (KSAOs), tend to work and perform better than those that do not possess any of these characteristics (Ilgen, 1999). Hence, the composition of the team is considered as the basis upon which other team attributes are founded. Furthermore, acknowledging the importance of composition of the team can drive team-building activities (Mathieu et al., 2015).

To determine the effective composition of the team, various attributes have been used, such as personality, competencies, technical skills, synergy of the group, and goal orientations (Klimoski & Zukin, 1999; Mathieu et al., 2015). These characteristics drive and/or empower individuals to occupy specific team roles (Stewart, Fulmer, & Barrick, 2005). The term role refers to the inclination to behave, contribute and interact with other individuals in a specific way (Belbin, 2010). A team role is also interpreted as a group of behaviours directed towards a common objective that is adopted by an individual for a particular task (Stewart et al., 2005). Accordingly, teams depend on several team members to accomplish specific requirements, such as coordinating the work, maintaining the peace within the group, and connecting their work with those of others in the company they work for (Aritzeta, Ayestaran, & Swailes, 2005; Stewart et al., 2005). This will result in the development and maintaining of successful teams.

Members of teams focus on individuals' behaviour, decision-making style, how they interact with other members and how they apply their skills to accomplish the required outputs (Belbin, 2010). Thus, team roles are greatly regarded as an essential element that needs to be managed for effective teams (Belbin, 1993), in fact, being perceived as the core factor for work teams (Sundstrom, De Meuse & Futrell, 1990). In the absence of having different team roles, unsuccessful teams can result, as this can lead to role conflict, which surfaces in personality clashes or members not collaborating with one another (Batenburg et al., 2013). Other clashes may occur in the process of decision-making, for example, between those who use a rational approach to making decisions and those who use an avoidant one (Scott & Bruce, 1995).

One of the approaches to team roles is the "role as person". This approach has been adopted in this research, for which it is proposed that roles represent a combination of different perspectives, behaviours and values of individuals, who are in specific positions in the social network. From this viewpoint, roles surface from the natural tendencies or preferences of the individuals and the social-psychological patterns in the team (Ilgen & Hollenbeck, 1991). Consequently, roles generate different behaviours that originate from the personality of the individual (Ruch et al., 2018).

2.5.2.1 The Team Role Experience and Orientation questionnaire (TREQ)

TREQ for Mathieu et al. (2015) is used to measure the team roles construct in this thesis. It *rests on the assumption that an individual's role propensities or predispositions are likely to be a function of their previous experiences and orientations* (Mathieu et al., 2015, p. 13). Accordingly, TREQ has two main scales: experiences and orientations. The experiences scale assumes that past behaviour is a proficient indicator of future behaviour (Mumford & Owens, 1984). The orientations scale focuses on the natural tendencies and preferences of the individual in relation to his/her personality (Stewart et al., 2005). It is regarded that these preferences and orientations guide the behaviour of the individual. TREQ, which was developed in the USA, identifies these behaviours into six dimensional roles, which are: (1) organiser, (2) doer, (3) challenger, (4) innovator, (5) team builder and (6) connector, as illustrated in table 3 below. It is worth noting that for the purposes of this research the items in the orientation subscales were the only ones used, as these are pertinent to the topic of interest.

Table 3. Subscales and descriptions of TREO (Mathieu et al., 2015, p.16)

Subscale	Description
Organiser	Someone who acts to structure what the team is doing. An Organiser also keeps track of accomplishments and how the team is progressing relative to goals and timelines.
Doer	Someone who willingly takes on work and gets things done. A “Doer” can be counted on to complete work, meet deadlines, and take on tasks to ensure the team’s success.
Challenger	Someone who will push the team to explore all aspects of a situation and to consider alternative assumptions, explanations, and solutions. A Challenger often asks “why” and is comfortable debating and critiquing.
Innovator	Someone who regularly generates new and creative ideas, strategies, and approaches for how the team can handle various situations and challenges. An Innovator often offers original and imaginative suggestions.
Team Builder	Someone who helps establish norms, supports decisions, and maintains a positive work atmosphere within the team. A Team Builder calms members when they are stressed and motivates them when they are down.
Connector	Someone who helps bridge and connect the team with people, groups, or other stakeholders outside of the team. Connectors ensure good working relationships between the team and “outsiders”, whereas Team Builders work to ensure good relationships within the team.

These roles can be multidimensional, in other words, one individual may possess several roles and more than one member in the same team may have the exact same role as another. This shows that TREO represents a more holistic approach than just putting individuals into types. For instance, a team might benefit more from having a minimum of one person who is high on organiser scores, another one with high team building scores and a minimum of two with high doer scores. In this condition, the team may have two individuals who fulfil the team building and organiser demands, or there may be one individual who satisfies both requirements of the team (Mathieu et al., 2015).

Factor analysis suggested excellent fit indices with six distinguishable variables (Mathieu et al., 2015). For this reason and due to the fact that TREO (Mathieu et al., 2015) has never previously been tested in Jordan, it was adopted to measure the team roles construct. In general, the research, practice and integration of team roles in Jordan is relatively absent and has received very little empirical attention. Hence, investigating this area will fill a gap that is present in research with regard to team roles in that context. Moreover, the factorial structure of this instrument has never been examined in any country, apart from the US. Thus, this study will be the first in Jordan to test its factorial structure and hence will also bridge the gap that exists between this instrument and the research, in general and in Jordan, in particular. As mentioned previously, the team roles construct in the design of this thesis are used to investigate the most and least effective characteristics of employee performance, job satisfaction, and climate for innovation.

2.5.3 Conflict management styles

Despite the contested claims about conflict in relation to its usefulness for organisations (Thomas, 1992), the majority of recommendations about that which takes place are focused on its minimisation and conflict resolution. Conflict has been defined as the interaction processes that produce disputes, disagreements, incongruence or dissimilarities between individuals, groups, or even organisations (Rahim, 2017), which generates feelings of irritation between the individuals (Van de Vliert, 1997). Conflict resolution refers to the degree to which team members participate in activities for the purposes of minimising disagreements (Nesterkin & Porterfield, 2016). Conflict, for instance, can take place from heated discussions that arise between employees about work tasks and responsibilities (Baillien & De Witte, 2009). Moreover, conflict manifests itself when an individual has certain personal behavioural preferences that are not in accord with the

preferences of another party or parties and when there are major different behavioural preferences with regards to the mutual action (Rahim, 2017).

Conflict occurs in the presence of different conflict management styles (Kolb & Putnam, 1992), which can contribute to creating an environment that stimulates negative emotions. Hence, it is essential for individuals, teams and organisations to understand the different preferences and behaviours in order to reduce conflict and have productive and satisfied individuals (Jehn, 1999). These different conflict management styles explain the behavioural inclinations and preferences of individuals (Liu, Steve Chi, Friedman, & Tsai, 2009).

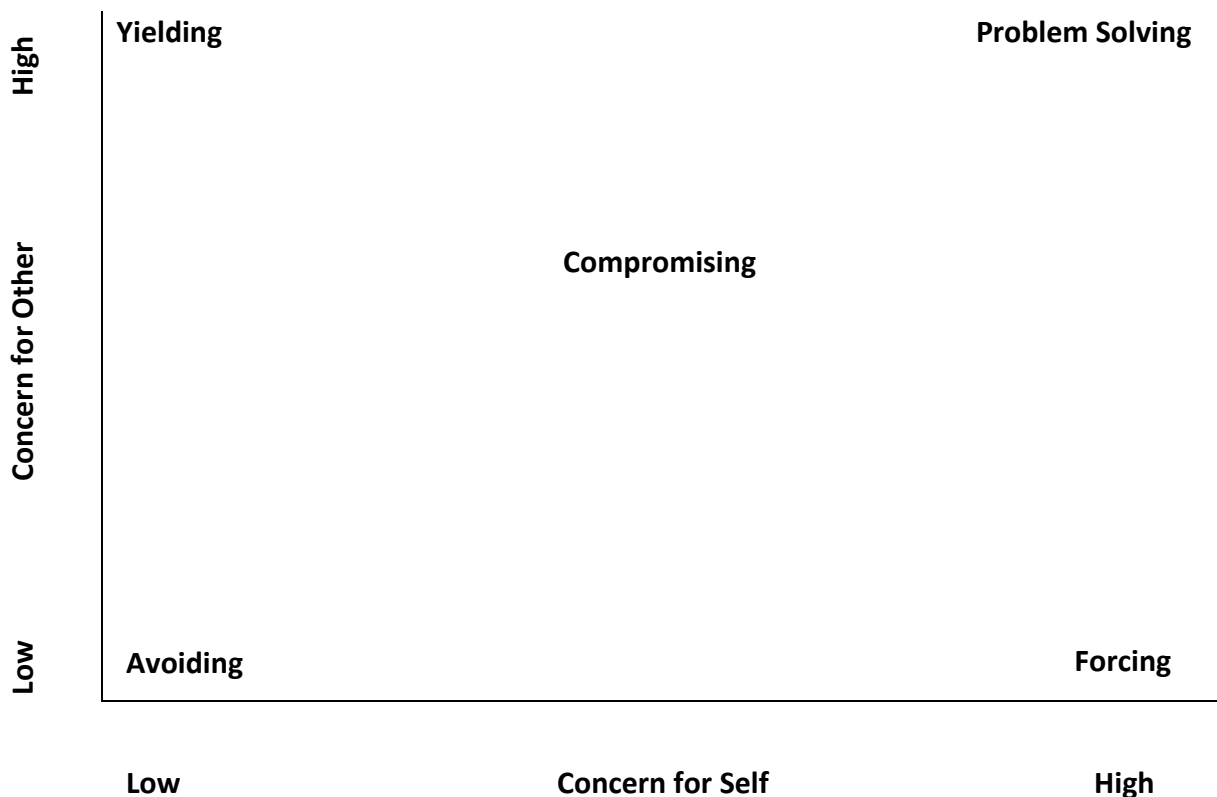
Conflicts can impact on the satisfaction, motivation, and engagement levels of employees, which in return may reduce their performance (Chen et al., 2012). Further, unresolved conflict may result in increasing turnover levels (Hom & Kinicki, 2001), increased absenteeism and sickness levels (Giebels & Janssen, 2004), lowering of productivity and performance (Meyer, 2004) as well as reducing the efficiency and innovation of organisations (Liu et al., 2008). Empirically, Dreu and Van Vianen (2001) found negative relationships between conflict and organisational performance and workers satisfaction. Dealing with conflict appropriately can improve innovation, productivity, creativity, problem solving and individual satisfaction. As result, the efficiency and profitability of the organisation will increase (Chen et al., 2005), with the team climate for innovation at work being improved.

In order to conceptualise conflict management styles, Western researchers have applied the dual-concern model (Blake & Mouton, 1964; Deutsch, 1973; Pruitt & Carnevale, 1993; Rahim, 1983; Ruble & Thomas, 1976). Under this model, it is proposed that understanding conflict behaviour requires a focus on outcomes, which are determined by the extent to which individuals have a concern for themselves and others (i.e. high or low concern for self as well as high or low concern for others) (Leung, Brew, Zhang, & Zhang, 2010).

As presented below in figure 1, this theory is composed of five conflict management styles, which are: forcing, avoiding, yielding, problem solving and compromising. 1) Forcing is characterised by individuals that have a high concern for self and a low concern for others, such that they impose their views and will on others. This style involves hostility, deception, persuasive negotiations, and positional commitments. 2) Avoiding pertains to those who have a low concern for self and a low concern for others. This style involves downplaying the seriousness of the issue, thus avoiding

thinking about the problem and suppressing others' views. 3) Yielding is characterised by individuals that have a low concern for self and a high concern for others. Individuals with this style are inclined to accept and incorporate others' will. This, thus, signifies a one-sided concession, provision of assistance and unconditional agreement. 4) Problem solving refers to those individuals that have a high concern for self and others. This style focuses on finding a solution that will satisfy both parties (i.e. a win-win situation). This approach includes communicating and exchanging information, as well as respecting the preferences, needs, and priorities of each other. It also involves making trade-offs between the matters that are important and those that are not. 5) Finally, compromising is characterised by individuals who have a moderate concern for self and the same for others (Rahim, 2017). This style is considered by some researchers, such as Pruitt and Rubin (1994), as half-hearted problem-solving. Nevertheless, others consider it a style that is distinct in itself and includes compromise. Thus, in order to meet the needs of the other party, a diligent search for common ground and making agreements based on threats and promises takes place (Van de Vliert, 1997).

Figure 1. Theoretical representation of the five conflict management strategies (De Dreu et al., 2001, p.646)



2.5.3.1 Conflict management styles: stable or situational

Whilst conflict management styles are the outcome of personality and the situation, this does not mean that when facing conflict at work, personality cannot be predicted by using conflict management styles instruments. Work environments are likely to be stable over time, with workers dealing with the same colleagues and incentive structures take a long time to change. The same thing goes for the roles and responsibilities of the workers; these do not change overnight and accordingly, employees experience the same interpersonal issues repeatedly (De Dreu, Weingart, & Kwon 2000). Further, employees working with each other in the same team or division, influence each other (Salancik & Pfeffer, 1977). That is, they develop their own social environment in which they deal with each other with their stable preferences that they use to manage conflict. This shows that the employees preferred conflict management style will be relatively stable over time (De Dreu et al., 2000). Moreover, Blake and Mouton (1964), Rahim (2017), Saeed Almas,

Anis-ul-Haq, and Niazi (2014), and Trudel and Reio (2011) treated the different conflict strategies as being stable over time and across situations. Hence, this provides strong basis for developing measures to evaluate conflict management styles at the workplace (De Dreu et al., 2000) to be used, for instance, by the recruitment division for personnel selection.

2.5.3.2 The Dutch test for conflict handling (DUTCH)

The DUTCH was chosen to measure the conflict management style in this thesis. The test was constructed by Dutch researchers, however, it has been asserted that it can be applied to different cultures, as it has generalisability (De Dreu et al., 2001). This instrument has five conflict management styles: problem solving, compromising, forcing, yielding and avoiding, as presented in table 4 below. DUTCH is a relatively short instrument, which has 16 items for the lean version and 20 items for the expanded one. This is crucial, especially in the case of distributing questionnaires to employees working in dynamic organisations, where short measures would be greatly needed (De Dreu et al., 2001).

Table 4. Subscales and descriptions of the DUTCH (De Dreu et al., 2001)

Subscale	Description
Problem Solving	This includes exchange of information about priorities and preferences, revealing insights and making trade-offs between important and unimportant issues.
Compromising	This includes the matching of others' concessions, making conditional promises and threats and pursuing an active search for a middle ground.
Forcing	This includes threats and bluffs, persuasive arguments and positional commitments.
Yielding	This includes unilateral concessions, unconditional promises and offering help.
Avoiding	This includes reducing the importance of the issues and attempting to suppress thinking about the issues.

DUTCH has satisfactory alphas and inter-correlations, with its psychometric qualities being more favourable in comparison with other instruments in the field. This instrument has been found as being valid and reliable (De Dreu et al., 2001; Giebels, & Janssen, 2004). Confirmatory factor analysis has supported the five-factor model. Further, this instrument has not been impacted by social desirability (De Dreu et al., 2001).

Researchers have investigated the degree to which this instrument is susceptible to self-serving bias, that is, the inclination of the participant to view his/her conflict management style as more positive and less negative than that of the other party (De Dreu, Nauta, & Van de Vliert, 1995). Convergence was found between self and opponent reports for problem solving, yielding, and forcing. Correlations were also found between self-reports of problem solving and yielding and observer ratings of conflict style during the negotiation process. However, for avoiding, the findings were less conclusive. That is, even though the psychometric qualities for avoiding were

satisfactory, the avoiding style self-reports did not converge with the avoiding observer ratings or opponent reports. A possible explanation for this, is that avoiding is an ambiguous strategy that is open to multiple attributions. For example, a conflict party who consistently downplays the importance of the conflict issue may do this in order to avoid the issue and to reduce interactions to a minimum. The opponent, however, may perceive such behaviour as a cunning way to get one's way, to buy time and to impose one's will on others (i.e. forcing). Perhaps avoiding, more than any of the other conflict management strategies, involves behaviours that are difficult to judge and hard to uncover accurate understanding of the underlying intentions (De Dreu et al., 2001).

Western studies have used DUTCH (De Dreu et al., 2001) quite widely. It has been employed in a study carried out by Nguyen (2013), which involved examining the role of gender and individual conflict handling style to predict aggression in a Midwest organisation. This test has been also adopted by Kazakevičiūnė, Ramanauskaitė and Venskutė (2013), who investigated the Adlerian lifestyle and conflict resolution strategies used by Lithuanians. Additionally, this test has been run for a study carried out by Trudel and Reio (2011), for which, conflict management and workplace incivility in three Midwestern countries was examined. On the other hand, Jordanian studies used the ROCI II to examine conflict management styles of nurses in Jordan (Al-Hamdan et al., 2014), and the conflict management styles of Jordanian nurse managers and its relationship to staff nurses' intent to stay (Al-Hamdan, Nussera, & Masa'deh, 2016). All in all, the above described Western studies highlight that DUTCH has been used to investigate topics that are different to the research domain of the current study. Further, the Jordanian studies indicate that the conflict management styles topic has been examined on areas that are dissimilar to the present research.

The conflict management styles construct in the design of this thesis is used to investigate the most and least effective characteristics of employee performance, job satisfaction, and climate for innovation. Further, this component is measured using DUTCH, as devised by De Dreu et al. (2001). Evidently, the empirical and theoretical literature emanating from Jordan with regards to this topic is lacking and hence, investigating this subject will fill a gap in the current understanding regarding that context. Furthermore, the DUTCH (De Dreu et al., 2001) instrument has never been applied in Jordan and thus, its factorial structure has never been investigated either and hence, this study will be the first to test this structure. Moreover, previous research has never involved exploring which of these styles are most and least relevant for studying employee performance,

job satisfaction, and climate for innovation. Consequently, this research will also bridge the gap that exists between this topic, this instrument and research, in general and in Jordan, in particular.

2.5.4 Decision making styles

The process of decision-making has been generally viewed as something that is full of challenges. The process of individuals and teams making decisions is essential (Korsgaard, Schweiger, & Sapienza, 1995; McKenzie, Van Winkelen, & Grewal, 2011). A reason for this may lie in the conflict that takes place owing to the multiple varying goals and objectives, which impact on the decision-making process. Another explanation could be attributed to the need for faultless decisions that are influenced by the fast development and broad use of the internet as a tool for exchanging and sharing information. The internet provides massive information volumes and resources that seemingly make the process of collecting and disseminating it rapid and easy. However, in some instances, the internet has contributed to generating inaccurate and insufficient information (Emran et al., 2009), which in return, has impacted negatively on the decision-making process.

Decision style has been defined as the tendency to make decisions in a similar manner over time and situations (Rowe & Mason, 1987; Scott & Bruce, 1995). That is, they refer to the habitual learned response pattern presented by the individual when faced with a situation that requires making decisions (Driver, Brousseau, & Hunsaker, 1990). As decisions are taken by individuals, the decision style of the individual is considered as the foundation for making effective ones (Rowe & Boulgarides, 1992). Clearly, individuals vary in how they make decisions (Hamilton, Shih, & Mohammed, 2016). Some rely on their gut feeling, whilst others engage in thorough and deliberate thought before making the decision. Also, some individuals make decisions based on feelings and moods, whilst others make cognitive and systematic decisions (Hamilton et al., 2016).

Understanding the different decision styles is beneficial as it aids in identifying the individuals who make good ones and those that do not. For example, it would be useful to gain insights as to whether or not rational decision makers take better decisions than intuitive ones (Wood & Highhouse, 2014). The understanding of the decision style of individuals can give organisations guidance with regards to predicting certain outcomes, such as performance (Curseu & Schrujjer; 2012), satisfaction (Hariri et al., 2016), person-job fit (Singh & Greenhaus, 2004), the quality of

decisions (Wood & Highhouse, 2014), stress levels (Thunholm, 2008) and team climate for innovation. Lastly, decision-making styles can facilitate the process of selecting employees, especially in relation to roles that entail a great deal of such a requirement (Dalal & Brooks, 2013; Harren, 1979).

Evidence has been found that decision making styles could be related to cognitive styles. That is, it has been elicited that multiple explanations of the same decision problem might be associated with the differences between individuals and their ability to process information, alongside other elements, such as perception and personality (Spicer & Sadler-Smith, 2005).

There are several models for identifying cognitive styles, such as the uni-factorial models (Allinson & Hayes, 1996) and the multi-factorial models (Myers, 1962; Riding, 1997). These models describe the intuitive/ holistic and the analytical/ rational traits (Spicer & Sadler-Smith, 2005). Decision making style comprises intuitive and analytical traits (Hunt, Krzystofiak, Meindl, & Yousry, 1989). Hence, decision making theorists view decision making style from the individual's behaviour, perception, and their approach to dealing with decisions (Harren, 1979). Evidently, this connects the notion of decision-making styles and its underlying cognitive style, to the stable dispositions of personalities that have originated from Jung's (1923) (Spicer & Sadler-Smith, 2005). Thus, decision-making style scholars pay attention into how individuals collect and process information (Scott & Bruce, 1995). For instance, McKenney and Keen (1974) asserted that individuals bring their habitual way of thinking when they gather and process information.

2.5.3.2 The general decision-making styles (GDMS)

A popular framework for decision making styles is the dual system framework, which focuses on rational and intuitive decision makers. Individuals that tend to use the rational style are described as emotion-free deliberates. In contrast, individuals who prefer to use the intuitive style are described as heuristic decision makers (Epstein, Pacini, Denes-Raj, & Heier, 1996).

Scott and Bruce (1995) developed the GDMS instrument, which is used in this thesis to measure the decision-making styles construct. With this instrument, three more styles were identified, namely: dependent, spontaneous, and avoidant as presented in table 5. This instrument was carried out on an American sample. The dependent decision-making style describes individuals who look for advice and guidance from others. Whilst the spontaneous one refers to individuals who tend to have sense of immediacy, needing to make a decision quickly and the avoidant-decision-making

style pertains to those who attempt to avoid making decisions. The questions in this instrument were phrased initially to examine career change. Subsequently, they were revised to include not only career decision areas, but also, any other area in which decision-making may be required (Bruce, 1991).

Table 5. Subscales and descriptions of the GDMS (Scott & Bruce, 1995)

Subscale	Description
Rational	Characterised by a thorough search for and logical evaluation of alternatives
Intuitive	Characterised by a reliance on hunches and feelings
Dependent	Characterised by a search for advice and direction from others
Spontaneous	Characterised by a sense of immediacy and a desire to get through the decision-making process as soon as possible
Avoidant	Characterised by attempts to avoid decision-making

The GDMS has been examined in different countries. It has been assessed and validated on French speaking population, where it was elicited that the GDMS is a valid and reliable instrument for measuring decision styles in that linguistic context (Girard & Reeve Bonaccio, 2016). Moreover, its psychometric properties have been examined for a UK sample, with its internal consistencies being generally sound and the confirmatory factor analysis findings supported the five-factor model (Spicer & Sadler-Smith, 2005). Thus, this indicates its ability to evaluate cross-cultural stability (Girard et al., 2016).

The GDMS has been used in a substantial number of studies. It has been utilised in two that explored decision-making styles and personality traits in Turkey (Bayram & Aydemir, 2017) and Iran (Naroui & Karazee, 2015). It was also employed by Rehman and Waheed (2012), who

investigated transformational leadership style as a predictor of decision-making styles in Pakistan. Further, it has been used in a study by Gonis (2015) to examine emotional intelligence, decision-making styles and exposure to criminal gang activity in a Southern California city. Additionally, it was adopted for examination of the relationships between decision making styles and employee performance in Iran (Ghaleno, Pourshafei, & Yunsei, 2015). Lastly, the GDMS (Scott & Bruce, 1995) has been used in Jordan in one study only, which involved investigating the decision-making styles of department chairs (Khasawneh et al., 2011). This demonstrates the paucity of research in Jordan in relation to studying decision making styles using the GDMS. It also exposes the gap in the literature with regards to investigating the topic of this thesis pertaining to studying the decision-making styles that are most and least relevant for researching employee performance, job satisfaction, and climate for innovation.

To summarise, the decision-making styles construct in the design of this thesis is used to investigate the most and least effective characteristics for employee performance, job satisfaction, and climate for innovation. The focus is on the characteristics of the individual that play a role in influencing these aspects of businesses. The research, practice and their integration in Jordan regarding this topic are scarce and hence, have received very little empirical attention. As a consequence, investigating decision-making approaches will fill the gap that is present in previous scholarship. Also, the factorial structure of this instrument has never been examined before in Jordan, which is addressed in this thesis.

2.6 Summary and conclusions

This chapter has introduced and justified the use of the trait approach theories, under which it is contended that personality traits are stable regarding various behaviours across time and different situations. It has also presented the rationale behind how the key individual differences (big five, team roles, conflict styles, and decision-making styles) have been derived from this underlying theory. This approach has been considered, as the main aim of this thesis is about investigating and finding patterns among individual differences in association with employee performance, job satisfaction, and climate for innovation. The findings, it is anticipated will assist organisations and practitioners in selecting potential employees and allocating the current employees to roles that may suit their personality better.

A broad range of personality theorists have developed instruments to measure individual differences in Western countries. In this thesis, the individual differences are operationalised by the BFI-10 and BFI-44 as a measurement of the big five, TREO as an evaluation of team roles, DUTCH as a measurement of conflict management styles, and GDMS as a tool to measure the decision-making styles. Overall, the instruments were selected based on their sound internal consistencies, confirmed factorial structure, generalisability across cultures and/or widespread use. Moreover, the recommendations offered with regards to using them for personnel selection and more importantly, the scarcity of adopting them in the Jordanian literature have motivated choosing them for application in this thesis. This selection was made after a thorough review of the literature with regards to the different inventories and models available. Further, in this chapter, evidential support for the validity of using these instruments through self-reports has been provided. Taken together, this chapter acts as the base of this thesis, it serves as a guide that can help readers to understand clearly chapter three, which explains the key outcome variables of this thesis (i.e. employee performance, job satisfaction, and climate for innovation). It also has laid the groundwork for chapter four, which investigates the individual differences that are associated with the key outcome variables.

Chapter 3. Key outcome variables in organisations: employee performance, job satisfaction and climate for innovation

3.1 Introduction

Employee performance, job satisfaction, and climate for innovation involve essential elements that organisations as well as business psychologists need to take into consideration when seeking to understand the behaviour of employees at work. These concepts are important for organisational growth. They have been studied extensively in Western countries and have been linked with individual differences (Acuña et al., 2015; Barrick & Mount, 1991; Hariri et al., 2016; Judge et al., 2002). Some of these individual differences show positive relationships with these outcome variables, whilst others show negative ones. For instance, it was found that conscientiousness is positively associated with employee performance, whilst neuroticism is negatively associated with it (Barrick & Mount, 1991).

The individual difference constructs and the instruments chosen to operationalise them were discussed in the previous chapter. There was a specific focus on studying the behaviour of individuals at work, particularly with regards to the big five construct and how it can be measured by using the BFI-10 and BFI-44 (John & Srivastava, 1999; Rammstedt & John 2007). Further, in regard to the team roles construct and how it can be operationalised by utilising TREO (Mathieu et al., 2015). Moreover, in relation to the conflict management styles construct and how it can be assessed by adapting the DUTCH instrument. Lastly in connection with the decision-making styles construct and it can be measured by adopting the GDMS (Scott & Bruce, 1995).

The purpose of this chapter, is to build on chapter two by discussing the outcome variables of this thesis, namely employee performance, job satisfaction, and climate for innovation, along with the tools selected to operationalise them. It explicates the reasons behind choosing these tools, which include the employee job performance questionnaire (Cheng & Kalleberg, 1996), the individual work performance questionnaire (IWPQ) (Koopmans et al., 2016), the Andrews and Withey job satisfaction questionnaire (Andrews & Withey, 1976, 2012) and the team climate inventory (TCI) (Kivimaki & Elovainio, 1999). Hence, this chapter provides the theoretical underpinnings for chapter four, in which there is in depth presentation of the associations between individual

differences and their key outcome variables. By drawing on the findings of previous empirical studies, the conceptual models of this research are developed at the end of chapter 4.

3.2 Employee performance

The employee performance construct, which is the first outcome variable of this thesis, has received a great deal of interest in the organisational psychology field, for which theories have been developed (Hunter & Schmidt, 1996; Viswesvaran, Schmidt, & Ones, 2005). Variables that are associated with employee performance, such as personality traits, can be integrated into these theories. It has been pointed out that employee performance depends on external judgement and identifies the crucial dimensions of the job to evaluate individuals based on their achievement (Carlos & Rodrigues, 2016). This can be achieved by investigating the behaviours needed for organisations to attain their goals (Bergeron, 2007). Employee performance has been defined as *the total expected value to the organization of the discrete behavioural episodes that an individual carries out over a standard period of time (Motowidlo & Kell, 2012, p.92)*. This demonstrates that performance is an element of behaviour. Moreover, performance is an attribute that is differentiated according to different behaviours being exercised by different individuals (Motowidlo & Kell, 2012).

Behaviour, performance, and results are different from each other. Behaviour is the action of individuals, whereas performance is the organisational anticipation behind that action. Results are the positive and negative outcomes that arise from the individual's actions, as predicted by the organisation. That is, the results are associated with the behaviours of individuals that support or obstruct the organisation from attaining its objectives (Motowidlo & Kell, 2012). Several meta-analyses have revealed that personality traits influence performance, job related behaviours, and organisational outcomes (Barrick & Mount, 1991; Hogan, 2005; Hertz & Donovan, 2000; Schmidt et al., 2008).

Other than behaviour, the attention of organisations is being directed towards the optimisation of performance (Heavy, Halliday, Gilbert, & Murphy, 2011), having high value products and increasing the satisfaction levels of their customers. These goals can be achieved by using their resources effectively, specifically, by empowering the individuals to adapt to the constant competition in the corporate world. Further, organisations are focusing on having high level

intellectual resources (Daud, Fadzilah, & Yusoff, 2010) as this will enable them to deal with the competitive markets (Almashari, Zairi, & Alathari, 2002; Daud et al., 2010), their globalisation and the constant technological advancement (Boumarafi, 2009).

Previous research has demonstrated relationships between personality and job performance. In several meta-analyses, studies for measuring personality in relation to job performance found relationships between the big five factors and job performance (Barrick & Mount, 1991; Hough, 1992; Tett, Jackson, & Rothstein, 1991). These studies have been conducted on thousands of participants in which a large number of validity coefficients were considered. Nevertheless, other researchers, such as Bakker, Demerouti and Lieke (2012), Ghiselli (1973), Guion and Gottier (1965), Locke and Hulin (1962), Reilly and Chao (1982), and Schmitt et al. (1984), concluded that the validity of personality traits in predicting job performance is relatively low. The divergence between the assertions of the classic and present meta-analyses can be attributed to the fact that *the latter used the five-factor model of personality as a taxonomy to integrate validity coefficients, whereas the classic reviews integrate coefficients without differentiating between personality constructs (Salgado, 1998, p.272)*. Interestingly, all of these big five factors were found to be replicable across studies (Goldberg, 1992). Notably, all of these studies have been conducted in the United States, Canada, and other European countries (Barrick & Mount's, 1991; Hough, 1992; Hough, Eaton, Dunnette, Kamp, & McCloy, 1990; Salgado, 1997).

Regarding employee performance and team roles, it has been asserted that specific team roles play a key element in enhancing the performance of the team. The attributes of the role holder within the team is fundamental for effective team performance. Further, previous findings have shown that having high levels of experienced employees who are skilled is a fundamental predictor of performance. Nonetheless, the attributes of the role holder has been found to predict performance more than the years of experience of the employees (Humphrey, Morgeson, & Mannor, 2009). Moreover, a meta-analysis study by Richter Dawson, and West (2011) reported a significant positive relationship between teamwork, staff satisfaction and performance outcomes.

With respect to employee performance and conflict management styles, research has found effects between both constructs. For instance, Rahim, Antonioni & Psenicka (2001), and Shih and Susanto (2010) found direct effects of the integrating (i.e. problem solving) style on employee performance. As for employee performance and decision-making styles, research conducted by

Ghaleno et al. (2015) revealed that the latter do not correlate with the former. However, others, such as Curseu and Schruijer (2012) found associations between both constructs.

3.2.1 Employee performance and its measurement

Measuring employee performance is considered a key challenge experienced by both managers and researchers (Murphy, 2008). This construct can be measured in different ways, for instance, through objective measures by using organisational records (Thoresen, Bradley, Bliese, & Thoresen, 2004; Furnham & Fudge, 2008) and performance appraisal (Rajput, 2015) or through subjective measures based on ratings or rankings assigned by supervisors or peers or through self-reports, for which participants complete their own survey (Carlos & Rodrigues, 2016; DeNisi & Murphy, 2017).

Some scholars have supported the self-rating method (Carlos & Rodrigues, 2016; Kock, 2017), whilst others have considered it as being a poor method of measuring performance (Murphy, 2008). Self-ratings may present leniency effects (Van der Heijden & Nijhof, 2004), whereby individuals often convey themselves in a positive and socially desirable manner. Consequently, findings from self-reports are one half to one standard deviation greater than ratings by supervisors or peers (Van der Heijden & Nijhof, 2004). This method may also yield biased results (Dijk, Engen, & Knippenberg, 2009). Additionally, objective and subjective measures have higher correlations in comparison to self-reporting (Koopmans et al., 2012). This is supported by Jaramillo, Carrillat and Locander (2005) findings, which revealed 0.44 correlation between managerial ratings and objective performance, whilst there was only 0.35 correlation between self-reports and the latter. Furthermore, meta-analyses revealed low correlations between self-reports and managerial ratings (0.19) (Jaramillo et al., 2005).

In contrast, Conway and Lance (2010) proposed that self-rating of performance represents valid information. Further, it has been argued that workers understand themselves more than their supervisors and peers (Van der Heijden & Nijhof, 2004), as individuals know themselves better than others (Pronin, Kruger, Savtisky, & Ross, 2001). This may be the case, particularly regarding counterproductive behaviours, as these are often pursued in a clandestine manner (Dalal, 2005). Previous research on counterproductive behaviours has found that self-reports are more practical than other measures, such as peer ratings and predict organisational outcomes better. That is, self-raters recorded themselves engaging in these behaviours more accurately than when rated by others

(Berry, Carpenter, & Barratt, 2012). There is also the personal bias factor (Kondrasuk, 2011), known as the halo effect, whereby supervisors rate their employees based on their overall impression (Dalal, 2005; Viswesvaran et al., 2005). Another example would be favouritism, as in the case of an employer rating an employee they favour, the evaluation will yield higher scores than in the case of rating one who is not as favoured (Kondrasuk, 2011). Lastly and crucially, personality and personal disposition can influence the effectiveness of appraisals (Fletcher, 2001).

In the context of this research, it was not feasible to obtain objective measures from the samples (i.e. the two companies and general population), thus, despite the above cited reservations research, the self-report method to measure employee performance was deemed the most appropriate.

The employee performance measure adapted by Cheng and Kalleberg (1996) as well as the individual work performance questionnaire (IWPQ) (Koopmans et al., 2016), which are self-report instruments, are used to measure the employee performance outcome variable in this thesis. The employee job performance questionnaire comprises two items, one of which measures the quality of work (i.e. work well), whilst the second measures the quantity achieved (i.e. work much) (Cheng & Kalleberg, 1996). In terms of the IWPQ, this measure consists of three scales, which are: task performance, contextual performance, and counterproductive work behaviour. For this thesis, only the task performance scale comprising five items is adopted, as this scale aligns the most with the focal subject of this research and has received widespread attention in the literature (Koopmans et al., 2016). Both instruments have presented satisfactory internal consistency, positive content validity (Darden, Hampton, & Howell, 1989; Koopmans et al., 2016) and have been applied to different cultures. Employee performance has been implemented in the UK and USA (Cheng & Kalleberg, 1996), whilst the IWPQ has been deployed in the Netherlands (Koopmans et al., 2012), USA (Koopmans et al., 2016), and Indonesia (Widyastuti & Hidayat, 2018).

The employee performance construct has been selected, as the question as to whether or not individual differences are associated with employee performance in Jordan remains unanswered. Also, the selected instruments to measure this construct in this thesis have never been used before in that country. Hence, this research will extend the literature by filling in current gaps. The practice and integration of constructs regarding this topic is scarce and it has received very little empirical attention in Jordan. In particular, there has been no prior investigation of the big five factors in relation employee performance in the Jordanian context and it could be that the cross-

cultural differences between Middle-Eastern settings and Western countries will yield results that are different to those found in the latter contexts (Salgado, 1998).

Moreover, whilst there is evidence that team roles are associated with team performance (Senior, 2011), the literature in general as well as in Jordan is falling short with regards to examining team roles in association with employee performance, on an individual level. Lastly, there has been scant research with regards to studying conflict management styles, decision-making styles and employee performance in both Western countries and in Jordan. Thus, it would be beneficial to explore which conflict management and decision-making styles are most and least relevant for studying employee performance. Overall, this examination will also provide insights, guidance and evidence-based advice to business and organisational psychologists as well as organisations about the characteristics of high and low performing individuals.

3.3 Job satisfaction

One of the most commonly investigated topics in the field of industrial and organisational psychology is job satisfaction (Judge et al., 2002). This is the second outcome variable in this research and refers to how individuals feel about their work as well as the elements around their job. It is the degree to which individuals like or dislike their work (Parvin, 2011; Spector, 1997). Job satisfaction presents the psychological dispositions of individuals in relation to their job (Schultz & Schultz, 1986). Thus, personality differences make individuals prone to being satisfied differently with their life events, including their work life (Heller, Judge, & Watson et al., 2002). Accordingly, some individuals are inclined to be happier than others in their jobs (Parvin, 2011). The accumulated literature showing that part of job satisfaction is dispositionally based supports the perspective that job satisfaction remains stable across time and careers (House et al., 1996; Judge et al., 2002; Naz, 2015).

Job satisfaction has been connected to several constructs, such as well-being, team composition and self-efficacy (Nielsen, Yarker, Randall, & Munir, 2009) conflict, motivation, leadership and attitude, life satisfaction (Parvin, 2011), psychological and physical health (Kirkcaldy, Shephard, & Furnham, 2002), intentions to stay (Parvin, 2011), organisational commitment (Cooper-Hakim & Viswesvaran, 2005), satisfaction with life, following the rules and goals of the organisation, employee dedication (Lambert & Hogan, 2009; Miller, Mire, & Kim, 2009) and mindfulness

(Donaldson-Feilder, Lewis, & Yarker, 2019; Reb, Narayanan, & Chaturvedi, 2014). On the other hand, job dissatisfaction has been associated with employee absenteeism, burnout, turnover (Allisey, Noblet, Lamontagne, & Houdmont, 2013; Lambert, Edwards, Camp, & Saylor, 2005; Robbins & Langton, 2007) and ineffective work behaviour (Dalal, 2005).

Researchers have elicited various correlations between job satisfaction and the individual differences constructs of this study: the big five, team roles, conflict management styles and decision-making styles. For example, the neuroticism personality trait was found to be negatively correlated with job satisfaction (Crossley & Highhouse, 2005; Hariri et al., 2016). Also, the relationship manager team role (i.e. similar to the team builder role) correlates positively with job satisfaction (Ruch et al., 2018). Additionally, problem-solving conflict management style has been found to correlate positively with job satisfaction (Chen et al., 2012). Lastly, rational decision-making style emerged as being positively correlated with job satisfaction (Crossley & Highhouse, 2005; Hariri et al., 2016).

3.3.1 Job satisfaction and its measurement

Developing job satisfaction instruments in the organisational psychology field has been taking place since the 1930s. Often, it has been measured using self-reports (Fritzsche & Parrish, 2005). Accordingly, the Andrews and Withey job satisfaction questionnaire, which is a self-report instrument (Andrews & Withey, 1976, 2012), is used in this research. The instrument comprises of six items measuring facets of the job (Spector, 1997), including: satisfaction with co-workers, the job, work, working conditions, supervision, pay and fringe. The validity and reliability of the instrument has been established in the USA (Andrews & Withey, 1976, 2012; Van Saane, Sluiter, Verbeek, & Frings-Dresen, 2003). It is suitable for participants that work in big organisations with limited time or capacity to complete it. Clearly, long questionnaires take more time to complete and more administration time to follow (Rentsch & Steel, 1992).

All in all, there are no known studies in Jordan that have used this instrument. Additionally, to the best of this researcher's knowledge, previous studies in Jordan did not involve investigating the individual differences that are associated with job satisfaction. Hence, investigating job satisfaction will address another gap in the extant research. It is anticipated that this investigation will also provide insights, guidance and recommendations to business and organisational

psychologists as well as organisations about the characteristics of the individuals at work who experience high and low satisfaction levels.

3.4 Climate for innovation

A climate for innovation assists organisations to distinguish themselves from their adversaries within organisational settings and improves their ability to grow (Panuwatwanich, Stewart, & Mohamed, 2007). Whilst innovation originates mainly from individual creativity, a range of research has illuminated the pivotal role the work environment provides for making room for creative ideas to surface and to be executed in a value enhancing manner (Crespell & Hanson, 2008). It has been asserted that the success or failure at work relies on the environment (Anderson & West, 1998). It has been suggested that providing an effective climate will positively influence performance (Nusair, 2013) and satisfaction (Fu et al., 2014) in the organisation. Moreover, the team climate refers to the social interactions in teams and this has been found to be essential for a broad range of performance and well-being measures (Kuoppala Lamminpää, Liira & Vainio, 2008; Broeck, Vansteenkiste, De Witte, & Lens, 2008).

It is well known that creativity focuses on coming up with new ideas and sharing them, whilst innovation pertains to implementing those ideas and bringing novel services or products for the organisation (Anderson, Potočnik, & Zhou, 2014). Climate for innovation refers to the extent of support and motivation the organisation offers its workers for the purposes of initiating and bringing innovative ways that impact on the innovation levels in the organisation (Sarros, Cooper, & Santora, 2008). Moreover, Reichers and Schneider (1990) identified climate from the perspective of the individual, with an emphasis on the shared perceptions approach (Koys & DeCottis, 1991). Thus, they defined it as *the shared perception of the way things are around here. More precisely, climate is shared perceptions of organizational policies, practices, and procedures'* (p.22).

One of the elements that contributes to climate for innovation is personal factors (Choi, Anderson, & Veillette, 2008). In order to understand how to enhance innovation, it is essential to look at the characteristics of the individuals at work. Thus, having specific characteristics may either positively or negatively correlate with climate for innovation. Previous research has found several correlations between climate for innovation and some of the individual differences constructs. For

instance, negative relationships were elicited between the neuroticism personality trait and climate for innovation (Soomro et al., 2015). Further, positive relationships were found between the problem-solving conflict management style and climate for innovation (Açıköz & İlhan, 2015).

3.4.1 Climate for innovation and its measurement

A four-factor model called the team climate inventory (TCI) for work group innovation has been presented by West (1990). This instrument is adopted to measure climate or innovation in this thesis. This model proposes four main factors for climate that predict innovation (West & Anderson, 1996), these being: (1) vision, (2) participative safety, (3) task orientation and (4) support for innovation. With regards to the first factor, Tseng, Liu, and West (2009) stated that the vision has to be clear, discussed properly to reach an agreement and should develop out of the need to accomplish valued future end results. This factor comprises of four parts: (a) clarity, (b) visionary nature, (c) attainability and (d) sharedness (Anderson and West, 1998).

The second factor, participative safety, refers to the means of decreasing resistance to change, whilst increasing dedication and involvement (Tseng et al., 2009), in relation to decision making in a climate that is seen as nonthreatening (Anderson & West, 1998). This factor focuses on information sharing, safety, influence and interaction frequency. For instance, it is present in an atmosphere where all individuals within the team are able to suggest novel ideas and alternatives to problems in a non-judgmental climate (Bradley, Postlethwaite, Klotz, Hamdani, & Brown, 2012).

The third factor, task orientation, is identified by reflexivity, dedication to producing outstanding quality, tolerance of minorities and constructive disputes. The factor outlines a general commitment to excellence in relation to task performance and thus focuses on excellence, appraisal and ideation (Tseng et al., 2009). The fourth factor, support for innovation, refers to the *expectation, approval and practical support of attempts to introduce new and improved ways of doing things in the work environment'* (West, 1990, p.38). Accordingly, the focus is on innovation, products, end results and new ideas aimed at modifying the goals of the team, methods and strategies (Tseng et al., 2009). For more clarification of these factors see table 6 below.

Table 6. Theoretical Dimensions in TCI (Mathisen & Einarsen, 2004, p. 131)

<i>Dimension</i>	<i>Description</i>
<i>Vision</i>	To what extent are the team's objectives and visions clearly defined, shared, valued and attainable? The dimension is divided into the subscales clarity, visionary nature, attainability, and sharedness.
<i>Participative Safety</i>	How participative is the team in decision-making procedures and to what extent is the environment perceived as interpersonally nonthreatening so that it is safe to present new ideas and improved ways of doing things? This dimension is divided into the subscales information sharing, safety, influence, and interaction frequency.
<i>Task Orientation</i>	To what extent does the team have a shared concern with excellence of quality of task performance in relation to shared vision or outcomes characterized by evaluations, modifications, control systems, and critical appraisals? This dimension is divided into the subscales excellence, appraisal, and ideation.
<i>Support for Innovation</i>	To what degree are there expectation, approval, and practical support of attempts to introduce new and improved way of doing things in the work environment? The dimension consists of the two subscales articulated support and enacted support.

Note: based on Anderson and West (1996)

The TCI has been used in several countries, such as Sweden (Agrell & Gustafson, 1994), the UK (Anderson & West, 1998), Finland (Kivimaki & Elovainio, 1999), the Netherlands (Strating & Nieboer, 2009), Ontario (Howard et al., 2011), Spain (Boada-Grau, de Diego-Vallejo, de Llanos-Serra, & Vigil-Colet, 2011), and Germany (Loeb, Stempel, & Isaksson, 2016). Overall, satisfactory internal consistencies were achieved, whilst empirical data also revealed an acceptable factor structure. Thus, it has been asserted that the TCI can be used commercially as well as for practical use (Mathisen & Einarsen, 2004).

The TCI is used to measure the climate for innovation outcome variable in this research. This tool has never been adopted before in Jordan and thus, it is important to test the factorial structure of this instrument in this context. It is also pertinent to examine the climate for innovation topic simultaneously with the individual differences construct (the big five, team roles, conflict management styles and decision-making styles), as this has never been done before in Jordan. This will fill the gap that is present in literature in general and in Jordan in particular. Also, it is anticipated that the findings of this study will also allow for making suggestions to practitioners in the business psychology field and organisations about the traits, roles and styles of the employees at work who have positive and negative perceptions about the climate at work.

3.5 Summary and conclusions

Employee performance, job satisfaction, and climate for innovation, which represent the outcome variables in this thesis, are topics that have been studied extensively in western countries in the field of business and organisational psychology, however, very rarely has this been the case in Jordan. More specifically, the individual differences constructs in association with these three outcome variables have never been investigated before in that context. Importantly, employee performance evaluates the achievement of the individuals at work, job satisfaction measures how individuals feel about their work, and climate for innovation assesses the environment of teams at the workplace. Previous literature in other countries in the world found associations between individual differences and these outcome variables, but as discussed above, Jordan is unresearched in this respect.

In order to operationalise these outcome variables, the employee job performance questionnaire (Cheng & Kalleberg, 1996), the individual work performance questionnaire (IWPQ) (Koopmans

et al., 2016), Andrews and Withey's job satisfaction questionnaire (Andrews & Withey, 1976, 2012) and the team climate inventory (TCI) (Kivimaki & Elovainio, 1999) were chosen. All in all, the selection has been made according to their reliability, validity, factorial structure, common use, generalisability across cultures, as well as the recommendations presented in former research in terms of using them at the workplace for personnel selection, and lastly the scarce use of these constructs in the literature of Jordan. Crucially, this selection has been made after an in-depth research of the literature with respect to the instruments available. This chapter has also provided evidence for the validity of measuring these variables via self-reports. Notably, this chapter has complemented chapter two by highlighting the key outcome variables of this thesis, and has laid the groundwork for chapter four, which investigates the individual differences that are associated with the key outcome variables.

Chapter 4. Individual differences as correlates of employee performance, job satisfaction and climate for innovation

4.1 Introduction

This chapter builds upon the literature review chapters (chapters 2 and 3) and presents the proposed conceptual models developed for this research. Specifically, the variables that are positively and negatively correlated with employee performance, job satisfaction and climate for innovation are set out. Briefly, for employee performance the positive correlates are: conscientiousness from the big five, doer and organiser team roles, problem solving conflict management style and rational decision-making style. For job satisfaction, the positive correlates are: agreeableness trait from the big five, team builder team role, problem solving conflict management style and rational decision-making style. For climate for innovation, the positive correlates are: agreeableness trait from the big five, innovator team role, problem solving conflict management style and rational decision-making style. In contrast, the negative correlates of employee performance, job satisfaction and climate for innovation are: the neuroticism trait from the big five, avoiding conflict management style and avoidant decision-making style. Importantly, theoretical foundations as well as findings from previous empirical studies will underpin the development of these models.

4.2 Individual differences as correlates of employee performance

Personality traits that are associated with employee performance is a topic that has been studied often in the field of industrial psychology (Barrick et al., 2001). Employee performance is a construct with several dimensions, all of which signify how well employees perform their tasks, the initiatives they undertake as well as their abilities to find solutions and overcome difficulties. It indicates how they use their resources, and the amount of energy and time they take to achieve their tasks (Boshoff & Arnolds, 1995; Schepers, 1994). Employee performance comprises the employees' financial or non-financial achievements, which in turn, are connected to the performance and achievements of the organisation as a whole.

Previous research has identified several variables that are positively associated with employee performance. However, most prominent ones are the conscientiousness trait from the big five (Barrick et al., 2001), organiser and doer team roles (Mathieu et al., 2015), problem solving conflict management style (Shih & Susanto, 2010) and rational decision-making style (Russ et al.,

1996). Based on this and as illustrated below these traits, roles and styles were selected for the current research.

4.2.1 Positive correlates of employee performance

4.2.1.1 Conscientiousness trait from the big five

Conscientiousness refers to individuals that are organised, task oriented, detailed, disciplined, efficient and deliberate (John & Srivastava, 1999). It also describes those that are methodical, accountable and reliable (Norman, 1963). Conscientious individuals tend to have high self-control, are dutiful and constantly plan and execute their tasks (Barrick & Mount, 1993). Thus, individuals with this trait always have a purpose, are determined and strong-willed. Moreover, they are known for being attentive and responsible. Also, they are goal oriented (Rothmann & Coetzer, 2003; Strengthscope, 2019) in terms of being diligent, as well as being orderly and organised (Rothmann & Coetzer, 2003). These individuals take instant action to solve performance problems when they surface (Strengthscope, 2019).

Ghiselli (1973), Guion and Gottier (1965), and Schmidt et al. (1984) asserted that personality measures are poor predictors of employee performance. Nevertheless, findings from several meta-analyses and studies have revealed that the big five personality traits have relationships with employee performance (Barrick & Mount, 1991; Hough et al., 1990; Salgado, 1997; Tett et al., 1991; Vinchur, Schippmann, Switzer III & Roth, 1998). The majority of these studies found that out of the four big five (conscientiousness, agreeableness, openness, extraversion), conscientiousness is associated with employee performance the most. Barrick and Mount (1991) conducted a meta-analysis that examined the relationships between the big five dimensions in five occupational groups (professionals, police, managers, sales, and skilled/semi-skilled) and for three job performance criteria (personnel data, training proficiency, and job proficiency). Conscientiousness was found to be the best predictor of job performance, with it presenting consistent relationships with job performance across all occupations. In relation to the other four personality traits, extraversion was reported as a valid predictor only for managers, sales and training proficiency. Openness was found to be a valid predictor just for training proficiency criteria across occupations. In contrast, agreeableness emerged as being an insignificant predictor of employee performance, particularly in roles that involve a lot of socialisation, such as sales or managerial positions. Accordingly, individuals that tend to be straightforward, polite, kind,

compassionate and trusting have a very small impact on job performance. Lastly, most correlations with emotional stability were found to be quite low.

In another meta-analysis, Barrick et al. (2001) found that conscientiousness predicts performance in all the jobs surveyed, whilst extraversion, agreeableness, and openness were found to predict performance across specific occupations only. Likewise, conscientiousness emerged as having generalised validity across jobs and criteria in Hough et al. (1990) and Hough's (1992) studies. Similarly, Salgado (1997) also carried out a study and found conscientiousness to be the most valid predictor of employee performance. This validity was generalised across occupations and criteria. As for extraversion, openness, and agreeableness, these were only found to predict performance for specific occupations. Similarly, Salgado (1998) conducted a study and found that conscientiousness generalised across occupations and criteria. With regards to extraversion, agreeableness and openness, these did not deliver generalised validity across jobs and criteria. Moreover, Tett et al. (1991) elicited that the openness to experience trait is not a valid predictor of employee performance. From these studies that were conducted on European and US samples, it was concluded that conscientiousness is a valid and generalisable predictor across cultures (Salgado, 1998).

Other than the abovementioned studies, many other researchers found that conscientiousness is positively and significantly related to employee performance (Barrick & Mount, 1991; Barrick et al., 1993; Frink & Ferris, 1999; Kappe & van der Flier, 2010; Ones & Viswesvaran, 1997; Sackett & Wanek, 1996). Conscientiousness was also found to predict job performance in many occupations (De Fruyt & Mervielde, 1999; Schneider, 1999; Tokar & Subich, 1997; Vinchur et al., 1998). This can be attributed to the fact that this personality trait mainly focuses on achieving work tasks in all occupations. Thus, individuals who are persistent, determined and have a strong sense of purpose tend to have better performance than those who do not (Barrick & Mount, 1991). Duty, autonomy and goal orientation play a role in impacting the relationship between conscientiousness and employee performance (Barrick & Mount, 1993; Barrick, Mount, & Strauss, 1993). Moreover, in educational settings, positive correlations were found between conscientiousness and educational achievement (Digman & Takemoto-Chock, 1981; Smith, 1967). Significantly, Barrick and Mount (1996) found that conscientiousness predicts employee performance even after adjusting the five-factor model for social desirability.

Jordanians are known to have a strong desire for education and knowledge (Sabri, 2012). In addition to this, in a study in Jordan that used the Big Five Inventory (John & Srivastava, 1999) to predict spiritual intelligence, mean scores for conscientiousness were the highest in comparison to the other four factors (Mahasneh et al., 2015). In Jordan, individuals have a desire to work hard, be precise and punctual (Hofstede, 2019). Moreover, it has been postulated that the culture influences the personality (Triandis, 2001). Jordan is a collectivist society and a study that tested the relationships between allocentrism (i.e. collectivist personality) and the big five, found positive relationships between it and conscientiousness (Realo, Allik, & Vadi, 1997).

Based on the significant findings of the conscientiousness trait with regards to its relationships with employee performance, as well as previous studies conducted in Jordan, this trait has been selected to examine its association with employee performance at work.

4.2.1.2 Organiser and doer team roles

Organiser team role describes individuals that organise the work of the team (Mathieu et al., 2015), are achievement-oriented and focus on goals and timelines. Organisers keep on moving and are always focused on what needs to be done (Belbin, 1993); they are dutiful, hard-working and self-disciplined (Belbin, 2004). They are described as being objective, analytical and tend to prefer working on projects (McCann & Margerison, 1989). Further, organisers assist other members to focus on long term plans and keep the big picture in mind (Parker, 1994). Accordingly, they are known to be coordinators and information seekers (Benne & Sheats, 1948) as well as collaborators (Parker, 1996). These individuals are task-oriented, they encourage the team to keep its focus in order to achieve the desired tasks successfully (Belbin, 2004). Lastly, organisers are practical and disciplined individuals who convert plans into doable and attainable tasks (Launonen & Kess, 2002).

Doer team role describes individuals that are always ready to take on work and accomplish their tasks. Such people can be relied on to finish the task, commit to deadlines and undertake tasks to make sure that the team is going to succeed (Mathieu et al., 2015). These individuals are perceived as dependable, reliable, task-oriented, trusted to accomplish tasks as well as presenting robust information and facts. They also encourage and motivate team members to achieve high performance (Parker, 1994). Accordingly, when the team makes a clear decision that needs to be implemented, doers immediately start working towards achieving the goal (Niemic, 2012).

Previous research in Jordan has demonstrated that managers in Jordan are inclined to guide their employees by clearly explaining the goals and tasks, and by providing guidance on how to work to attain these. It was also revealed that Jordanian employees prefer to work with someone who can give thorough and clear details to achieve the tasks (Sabri, 2012). These attributes in comparison to the four other team roles (team builder, connector, innovator, and challenger) share more common grounds with employee performance, specifically, in terms of being organised and task oriented (Boshoff & Arnolds, 1995) to achieve the goals and perform well in the workplace (Elnaga & Imran, 2013). The team builder and connector roles focus more on relationships, helping other members and developing connections. The innovator role revolves around offering new and creative ideas. Lastly, the challenger role focuses on exploring the attributes of the situations as well as discussing and critiquing situations (Mathieu et al., 2015). All of these present descriptions that tend to link in less with employee performance in comparison to the doer and organiser team roles. Accordingly, the doer and organiser team roles were chosen to examine their associations with employee performance.

4.2.1.3 Problem solving conflict management style

Problem solvers are characterised as individuals who have a high concern for themselves and others (De Dreu et al., 2001). They tend to incorporate and combine insights from different individuals about a specific problem. They also cooperate and take into consideration the concerns of others when making decisions, while expressing their feelings in order to strengthen their interpersonal relationships (Kilman & Thomas, 1977). This style includes exchange of information between each other about priorities and preferences, discussing ideas and making trade-offs between important and unimportant issues (De Dreu et al., 2001). In addition, problem solvers create exceptional solutions to the most challenging issues, as they concentrate on solving it instead of focusing on the symptoms. Moreover, they apply their strong analytical skills in every action they undertake during the process of solving the problem (Lloyd, 2009). Whilst Rahim (2005) and Gross and Guerrero (2000) proposed that all conflict management styles are suitable at varying times, the problem solving style is regarded as the most effective approach for dealing with conflict (Marriner, 1982, 1995; Rahim, 2005; Thomas, 1976).

In general, problem solving is considered as an important feature that will assist individuals to perform well (Ghorbani & Amirzadeh Heravi, 2011). Literature concerning conflict in

organisations has revealed that the problem-solving style has positive relationships with individual and organisational outcomes (Rahim et al., 2001). Likert and Likert (1976) postulated that organisations that support using the problem-solving style achieve higher performance. The problem-solving style increases job performance in relation to finding mutually satisfactory solutions. Both parties are supported in meeting their needs by sharing information (Meyer, 2004) and this can lead to individuals putting more effort into achieving the required performance (Shih & Susanto, 2010). Supporting this perspective, positive relationships have been found between the problem-solving style and employee performance (Rahim et al., 2001; Shih & Susanto, 2010; Weider-Hatfield, & Hatfield, 2010). However, the yielding and forcing styles were not found to influence employee performance positively (Rahim et al., 2001). Moreover, Jordan and Troth (2002) elicited that the avoiding style negatively impacts on the working relationship, which negatively influences performance. Lastly, for the compromising style, Shih and Susanto (2010) found positive but non-significant associations between this style and employee performance.

Previous research about conflict management styles in Jordan showed that the most commonly used one is problem solving, followed by compromising, obliging, dominating and avoiding (Al-Hamdan et al., 2014). Similarly, another study about conflict in Jordan presented problem solving as the most used style, followed by compromising, avoiding, yielding and forcing, in descending order (Al-Hamdan et al., 2016). Likewise, findings from a third study in Jordan about conflict management styles emerged that the problem-solving style is the most common used style, followed by compromising, avoiding, yielding, and forcing (Kozan, 1991).

Jordan, as a country, is considered as a collectivist society, in which people tend to care about rather than compete with others (Hofstede, 2019). Arabs are typically viewed as expressive and verbal (Ajami, 1981; Almaney, 1981; Patai, 1983), tending to work on their problems by discussing them (Kozan, 1991). These characteristics clarify the inclination to use the problem-solving approach more than the other conflict management styles (Al-Hamdan et al., 2014).

Based on these findings and assertions, the problem-solving conflict management style was selected to examine its association with employee performance. It is also worth highlighting that all of the above explanations show how this style (which has been considered as the healthiest style to use at the workplace (Rahim, 2005)) can contribute to examining employee performance, as it is focused on finding effective solutions, which can lead to high performance.

4.2.1.4 Rational decision-making style

Rational style features individuals who thoroughly seek and logically evaluate the available options. Such individuals make decisions analytically and base their decisions on logic and vigilance (Scott & Bruce, 1995). Rational decision makers tend to look for all aspects of information, options, and alternatives, then logically evaluating their alternatives. In other words, rational decision makers use reason, logic, and structured methods to make decisions (Bayram & Aydemir, 2017).

Yaakobi (2017) reported that several studies found positive correlations between rational decision-making style and employee performance. Notably, this decision-making style is the only one that presents significant relationships throughout all quality standards (Bruine de Bruin, Parker, & Fischhoff, 2007; Curseu & Schruijer, 2012). This is in line with previous research that demonstrated that attentive decision makers tend to perform well (Baiocco, Laghi, & D'Alessio, 2009). Significantly, this style has been regarded as the best approach to use to make decisions (Janis & Mann, 1977). Positive significant correlations were found between this style and employee performance in Russ et al.'s (1996) study, whereas no such effect was found between the intuitive, spontaneous, and dependent styles. Moreover, studies probing the intuitive decision-making style either associated this style with poor performance or reported non-significant results (Yaakobi, 2017). This may be attributed to the fact that intuitive individuals tend to make errors and may be inconsistent at times (Russ et al., 1996). As for the dependent style findings, this could be linked to the fact that they tend to lean on others and are prone to divert the responsibility of making decisions to others. With regards to the spontaneous style, these individuals often make decisions on the spur of the moment and tend not to reflect on them which at times may be problematic (Scott & Bruce, 1995).

A study in Jordan, where the general decision making style instrument (GDMS) was used (Scott & Bruce, 1995) to examine the decision making styles of department chairs at public universities, reported that the rational style was the primary style used by these employees followed by the dependent decision making style. The other decision-making styles, which included intuitive, avoidant and spontaneous, were not used by the department chairs (Khasawneh et al., 2011). Accordingly, as previous research has shown relationships between the rational decision-making

style and employee performance, this one has been chosen to investigate its relationship with employee performance in this thesis.

Taken together, it is proposed that the conscientiousness personality trait, organiser and doer team roles, problem solving conflict management style and rational decision-making style are positive correlates of employee performance. These traits, roles, and styles represent in one way or another, characteristics that revolve around being dutiful, structured, organised, task oriented, analytical, logical, reasonable as well as finding solutions to challenges. All of which represent crucial attributes for robust job performance. All in all, as mentioned previously, these individual differences constructs were selected based on the most significant findings in the literature as well as being based on findings from studies conducted in Jordan.

4.3 Individual differences as correlates of job satisfaction

Job satisfaction has been defined as the pleasurable emotions employees feel at the workplace as a result of valuation of their work (Castro & Martins, 2010; Locke, 1976; Moorehead & Griffin, 1998; Cranny, Smith, & Stone, 1993). Research on it involves focusing on the attitudes that employees have in relation to their work (Weiss, 2002) as well as their perception and evaluation (Sempene, Rieger, & Roodt, 2002). Essentially, job satisfaction can be influenced by extrinsic and intrinsic factors (Buitendach & De Witte, 2005). Extrinsic factors are related to elements that the individual cannot control, such as colleagues, supervision, pay, fringe benefits and promotions. Whilst intrinsic factors are connected to aspects that focus on satisfying high-order-needs, such as inner feelings of success, achievement (Lawler, 1976) and recognition (Robbins, 2001).

Numerous studies have found evidence that job satisfaction is strongly related to personality, attitudes and behaviours (Barrick & Mount, 1991; Furnham, Petrides, Jackson, & Cotter, 2002; Judge et al., 2002; Tokar, Fischer, & Subich, 1998). Previous research also presented several variables that are positively associated with job satisfaction, with most significant ones being: the agreeableness trait from the big five (Templer, 2012), team builder role (Mathieu et al., 2015), problem solving conflict management style (Chen et al., 2012) and rational decision-making style (Hariri et al., 2016).

4.3.1 Positive correlates of job satisfaction

4.3.1.1 Agreeableness trait from the big five

The agreeableness personality trait portrays individuals that are warm, forgiving, helpful, kind, polite, cooperative and generous (Barrick & Mount, 1991; Goldberg, 1990). Moreover, McCrae and Costa (1991) asserted that agreeableness should be linked with happiness due to the fact that individuals with high agreeableness scores have good interpersonal skills, which would result in increasing their levels of well-being. As a matter of fact, they also reported a positive relationship between agreeableness and life satisfaction. Presuming that these skills exist on the job, a similar process is expected to operate with regards to job satisfaction. Organ and Lingl (2010) stated that agreeableness includes getting along with others in amiable and pleasant relationships.

A meta-analysis for Judge et al. (2002), for which the relationship between the big five personality traits and job satisfaction in the West was investigated, found correlations between job satisfaction and extraversion (.25), openness (.02), agreeableness (.17), conscientiousness (.26), and neuroticism (-.29). The findings also showed that extraversion and neuroticism were the only traits that were generalised across the studies. However, this meta-analysis was criticised due to its inconsistent findings. In contrast, Matzler and Renzl (2007) found positive correlations between job satisfaction and agreeableness, as well as negative ones between job satisfaction and neuroticism. However, they elicited that conscientiousness had no impact on job satisfaction. Additionally, a study conducted in Singapore, which is considered a collectivist society, found positive correlations for extraversion, conscientiousness, emotional stability and agreeableness, with job satisfaction. Notably, agreeableness had the strongest correlation with job satisfaction (Templer, 2012).

These differences in the findings can be attributed to the fact that Western countries are regarded as individualistic societies, whilst Asian ones are considered as collectivist ones. In Western countries the relationships between agreeableness and job satisfaction vary greatly across studies. A reason for this may be that in individualistic societies, workers get recognised for being collaborative, accommodating and agreeable, whilst at the same time they also get recognised for being disagreeable and non-avoidance of conflict. This gives the opportunity for some to perform better than others. In those societies, individuals that show hostile and non-collaborative behaviours may not be punished and may even be rewarded, if they have performed well. In

contrast, agreeable people in collectivist societies are encouraged to develop friendly and peaceful relationships and get rewarded, which in turn, influences their job satisfaction in a positive manner (Templer, 2012). In addition to this, in a study by Realo et al. (1997) positive relationships were found between allocentrism and agreeableness.

This may well be the case in Jordan, as it is a collectivist society (Hofstede, 2019). A study that involved exploring the geographic distribution of the big five personality traits for 56 nations by Schmitt et al. (2007), revealed the Democratic Republic of the Congo and Jordan as being the most agreeable nations. In addition, the organisational environment in the Middle East has been perceived as one that incorporates emotionally involved relationships. Thus, the culture gives special importance towards developing personal relationships prior to focusing on what needs to be done (Badawy, 1980; Bourgeois & Boltvinik, 1981). Given these findings, in this thesis, agreeableness was selected as the trait that would have the strongest positive associations with job satisfaction.

4.3.1.2 Team builder team role

The team builder role describes individuals who develop a positive environment amongst team members. During stressful events, they are those who calm, encourage, motivate and cheer their team members up when they are feeling down (Mathieu et al., 2015). They also ensure the smooth running of the work of the team, in particular, because they are active listeners, who like to keep harmonious relations between team members and aim to reduce conflict (Belbin, 1993). Further, they push the group to find alternative approaches to solve problems and develop an environment in which different ideas and propositions are encouraged (Benne & Sheats, 1948).

In a study carried out by Ruch et al. (2018), positive relationships were found between the relationship manager role (i.e. similar to team builder role) and job satisfaction. Moreover, as this role features individuals that calm down others during stressful events (Mathieu et al., 2015), it is pertinent to point out that stress leads to job dissatisfaction (Ortqvist & Wincent, 2006). In sum, job satisfaction has been considered as one of the key factors that is influenced by stress (Kim, Murrmann, & Lee, 2009).

Based on this evidence, the team builder role was selected to investigate if it would present the strongest positive correlations with job satisfaction at the workplace. For, this role shares more

common ground with job satisfaction in comparison to the other five. In particular, none of the other five roles (connector, innovator, challenger, doer, and organiser) has an element that focuses on helping others to calm down in order to reduce their stress levels.

4.3.1.3 Problem solving conflict management style

The problem-solving conflict management style has been referred to as those individuals who have high concern for themselves and others. This feature describes individuals that communicate their needs and priorities, being able to make trade-offs and exchanges between what is considered as the most and least important to them (De Dreu et al., 2001). In a study conducted by Wall and Nolan (1987), who examined the relationships between conflict management styles and job satisfaction, it was found that group satisfaction correlated more strongly with the integrating style (similar to problem solving) than with the avoiding conflict management style. Lee (2008) also found that workers had higher levels of job satisfaction with supervisors that use the integrating, compromising and obliging (similar to yielding) styles. However, workers who perceived that their supervisors as mainly using the obliging and avoiding styles, considered their skills as being poor, which in turn, reduced the levels of their job satisfaction. In addition, Chen et al.'s (2012) study, which was conducted on a collectivist society, reported that the integrating and compromising styles positively correlated with job satisfaction, whilst no significant correlations were reported for the dominating (i.e. forcing), avoiding or obliging (i.e. yielding) styles.

In the case of workers exercising the integrating style, they are expected to express their ideas as well as include and combine the perspectives of others. Consequently, this would make them feel fulfilled, thus increasing their levels of satisfaction. In the case of employees using the obliging and avoiding styles, withdrawal behaviour will take place. As a result, employees will start operating and performing less, thus, reducing their levels of satisfaction at work. Furthermore, employees with dominating styles are inclined to argue aggressively with other employees when solving problems, aiming to convince them of their viewpoint. This style will generally disrupt the relationships and unity amongst the employees, as it opens up space for repugnance, which results in emotional disagreements, thus lowering their levels of job satisfaction (Chen et al., 2012). As previously mentioned, some researchers regard the integrating and compromising styles as positive conflict management styles, whilst they consider dominating, obliging and avoiding as negative conflict management styles (Song, Dyer, & Thieme, 2006).

Crucially, previous research has shown that the problem-solving style is the most effective to use when dealing with conflict (Song et al., 2006). It was also reported that this style has the strongest correlations with job satisfaction (Chen et al., 2012). Further, it has been found that this style is the most used by Jordanians (Al-Hamdan et al., 2014) due to the fact it is a collectivist society (Hofstede, 2019). Accordingly, this style has been selected to examine if it would present the strongest positive correlations with job satisfaction in the workplace in this thesis.

4.3.1.4 Rational decision-making style

The rational style as mentioned above describes individuals who tend to look for detailed information, are analytical and who are objective (Bruce & Scott, 1995). Very few studies have involved examining the relationships between the decision-making styles and job satisfaction. Two such studies conducted by Hariri (2011) and Hariri et al. (2016) found that the rational decision style predicted job satisfaction the most, whilst a negative relationship was elicited for the intuitive style.

Likewise, a study carried out by Crossley and Highhouse (2005) found that individuals who used the rational style when making choices were more satisfied than those who made choices intuitively. However, Wilson et al. (1993) argued that decision makers who think thoroughly about the choice before making it are often more regretful than satisfied. Nevertheless, it has been contended that key decisions should be made only after thinking thoroughly about them and deeply analysing the different options (Janis & Mann, 1977). In keeping with this, it was proposed that attentive decision-making results in more satisfaction and fewer regrets (Crossley & Highhouse, 2005). Individuals evaluate their satisfaction at work logically and rationally, according to the working conditions. Hence, this evaluation process is concerned more with the cognitions rather than using emotions (Zhu, 2013). These findings present the importance of having rational individuals in the workplace. Accordingly, the rational decision-making style was selected to test if it is associated with job satisfaction the most in the workplace.

In this thesis, the agreeableness personality trait, team builder team role, problem solving conflict management style, and the rational decision-making style are proposed as positive correlates of job satisfaction. This is in accord with the findings from extant Western literature and based on some indications from Jordanian texts.

4.4 Individual differences as correlates of climate for innovation

Climate for innovation is an essential construct that assists organisations to distinguish themselves from their competitors in others and it improves their ability grow (Panuwatwanich et al., 2007). Whilst innovation originates mainly from individual creativity, much research has revealed the pivotal role the work environment plays in making room for creative ideas to surface and being executed in a valuable manner (Crespell & Hanson, 2008).

One of the elements that contributes to climate for innovation is personal factors (Choi et al., 2008). In order to understand how to enhance innovation, it is essential to look at the characteristics of the individuals at work. That is, having specific characteristics can improve or hinder climate for innovation. Previous research and assertions have identified several positive correlates for climate for innovation. The most notable ones are the agreeableness trait from the big five (Barrick & Mount, 1991), innovator team role (Mathieu et al., 2015), problem solving conflict management style (Nordin, Sivapalan, Bhattacharyya, Ahmad, & Abdullah, 2014), and rational decision-making style (Açıkgöz, Günsel, Bayyurt, & Kuzey, 2014). Thus, these traits, roles and styles were selected for the current research to study if they are associated with climate for innovation.

4.4.1 Positive correlates of climate for innovation

4.4.1.1 Agreeableness trait from the big five

Agreeable individuals are characterised as warm, friendly, polite, generous and helpful individuals (Barrick & Mount, 1991; Goldberg, 1990). These descriptions share common ground with the team climate inventory dimensions. In particular, the characteristics of agreeable individuals in relation to being warm, friendly and helpful link in with the participative safety dimension, which focuses on having a safe environment that enables sharing new ideas and information. Similarly, these characteristics tend to be in accord with the support for innovation dimension, as agreeable individuals tend to provide support to other members in the team. Likewise, these characteristics connote the vision dimension and the importance of sharing this. That is, agreeable individuals tend to be cooperative, being inclined to share the vision and objectives with each other. Such descriptions may map onto the task orientation dimension, which focuses on having a shared concern for achieving high-quality task performance (West & Anderson, 1996).

Soomro et al.'s (2015) preliminary study reported that extraversion had the strongest significant positive relationships with all the team climate inventory dimensions. In fact, their research showed that this was the only trait that presented significant correlations. However, this study was conducted on a very small sample, specifically, 36 employees working in just one department, i.e. information technology. Regardless of these findings, this thesis sought to predict agreeableness as the trait that would show the strongest positive correlation with climate for innovation in Jordan. Primarily, the dimensions in the team climate inventory stress the importance of sharing and supporting others. All of which have similarities with the characteristics of agreeable individuals. In addition to that, as aforementioned, Jordan is a collectivist society, thus, members are known for their loyalty and great care for each other (Hofstede, 2019). Moreover, out of 56 nations, Jordan alongside the Democratic Republic of the Congo were found to be the most agreeable nations (Schmitt et al., 2007).

4.4.1.2 Innovator team role

Innovator team role features individuals that constantly bring new and creative ideas, plans, perspectives, approaches and techniques for the team to deal with problems and events. Innovators often suggest original and insightful ideas (Mathieu et al., 2015). Moreover, they bring innovative and creative solutions to problems, as they are resourceful, idea generators, free-thinkers (Belbin, 1993) and tackle the tasks by using different approaches (McCann & Margerison, 1989). All in all, innovators mainly focus on innovation and seek to make the process of ideas generation as smooth as possible (Barry, 1991).

These descriptions clearly have common ground with climate for innovation. In particular, this is in terms of supporting the innovation process at work in the team climate inventory, as this revolves around introducing and bringing new ways of doing work. These explanations also link in with the vision concept in the team climate inventory, which focuses on having a visionary nature in order to commit to the goals of the group. Similarly, this role shares similar characteristics to the participative safety dimension, which encourages the introduction of new ideas in a safe climate. Lastly, individuals who adopt this role tend to bring new plans and creative solutions, all of which are consistent with the task orientation dimension, which also stresses the importance of exploring the different perspectives and providing space for constructive discussions for high quality task performance (West, 1990).

Therefore, out of the six team roles (innovator, challenger, connector, team builder, doer and organiser) for Mathieu et al. (2015), the innovator team role was selected to investigate its relationship with climate for innovation in the workplace, as it would appear to share more common ground with this construct. Indeed, the other roles may have associations with other outcomes (e.g. organiser and doer in association with employee performance; team builder in relation to job satisfaction).

4.4.1.3 Problem solving conflict management style

Problem solving is characterised by individuals who have a high concern for themselves and others. This style focuses on reaching a situation that will satisfy both parties (i.e. a win win situation). It includes communicating and exchanging information, as well as understanding the preferences, needs and priorities of one another. It also involves making important trade-offs with others (De Dreu & Van de Vliert, 1997). This style has been identified as the best for dealing with complicated tasks (Chen et al., 2012). Moreover, it has been held that problem solvers take part in developing shared concerns about tasks and are actively looking for new information to solve problems (Chen et al., 2012), which in return can assist in generating high quality task performance (Anderson & West, 1998).

These descriptions have common ground with the task orientation dimension in the team climate inventory, which focuses on members being concerned about producing an outstanding quality of their tasks (Anderson & West, 1998). Further, problem solvers keep their eye on the big picture (Mann, 2001) and focus on objectives and goals (Blaylock & Allen, 2005; Rouillard, 2003). This approach allows them to achieve their team's objectives and visions, thus aligning with the vision dimension in the team climate inventory (Anderson & West, 1998).

Having a positive climate is crucial for enabling the individuals to use their problem-solving skills (Tjosvold, Tang, & West, 2004). Notably, using the problem-solving style leads to having a supportive climate (Nordin et al., 2014). Hence, having a positive psychological atmosphere will allow members to discuss issues openly in order to find solutions and enhance performance (Huang & Li, 2012). This will encourage those involved to convey their thoughts and feelings without fear of rejection. It will also allow them to share their skills, knowledge and experiences due to the existence of interchangeable trust. It will also motivate them to cooperate with each other and vigorously attempt to find solutions to problems (Açıkgöz, Günsel, Bayyurt, & Kuzey, 2014).

These styles also contribute to developing harmonious relationships (Song et al., 2006). A study by Desivilya and Yagil (2005) about the role of emotions in conflict management found that the problem solving and compromising styles were linked to positive emotional states. All of this is in line with the participative safety dimension in the team climate inventory, in particular, in relation to giving the employees space to share ideas and information as well as in situations where employees influence and interact with each other in a safe, positive and non-threatening environment (Anderson & West, 1998).

In a study conducted by Açıkgöz and İlhan (2015) about the climate and level of problem solving, positive correlations were found between innovation orientation (i.e. similar to support for the new ideas dimension in the TCI instrument) and goal orientation (i.e. similar to the task orientation dimension in the TCI) with problem solving. It was postulated that when members are eager to consider new ideas as well as use their combined efforts to attain goals effectively, then handling unpredicted events becomes more feasible. This also makes individuals more successful in terms of sharing more innovative ideas, answering complex problems, recognising and dealing with crises as well as using preventive strategies to stop errors. Moreover, goal orientation, which presents the team's combined efforts to achieve their goals and tasks, as well as innovation orientation, which demonstrates the level to which new ideas at work are being supported, seem to be fundamental for developing and maintaining a problem solving approach. Accordingly, having a supportive climate allows members to interact and discuss issues together for the purposes of resolving them and making the needed improvements (Açıkgöz & İlhan, 2015).

Based on all of the above and due to the fact that that the problem-solving style when compared with the other four conflict styles (compromising, yielding, forcing, and avoiding), has been identified as the best style to manage conflict at work (Song et al., 2006), it was chosen to test whether it is correlated with climate for innovation in the workplace.

4.4.1.4 Rational decision-making style

The rational decision-making style features individuals who thoroughly look for and logically evaluate the available options. These individuals make decisions analytically, basing their decisions on logic and vigilance (Scott & Bruce, 1995). This style rests on the belief in a certain cause and effect relationships in both the social and physical world (Cooke, Salas, Kiekel, & Bell, 2004). It describes individuals who are logical, systematic and are constantly looking for

information. During the process of collecting information, these individuals give great attention to detail. This thorough search for information, produces a lot of details that have to be taken into consideration. Consequently, this encourages the decision maker to produce various alternative solutions to the issue, which are evaluated logically (Açıkgöz et al., 2014). Accordingly, those who use this approach are responsible, have a sense of control, are confident and can deal with obstacles (Scott & Bruce, 1995; Thunholm, 2004). Dealing with the issue instead of avoiding it, is another attribute of rational decision makers (Loo, 2000). The information being collected by a rational (i.e. cognitive) decision maker is approached by applying recent and current concepts as well as existing cognitive categories when processing details. In the case of experiencing a problem, a tried and tested method that is expected to result in a solution being found is used (Scott & Bruce, 1995).

In a study conducted by Açıkgöz et al. (2014), where the team climate, team cognition, team intuition and software quality were examined, it was found that innovation orientation (i.e. similar to the support for innovation in TCI), goal orientation (i.e. similar to vision in TCI) and informal structure (i.e. similar to task orientation) correlate significantly and positively with the members that use the rational style. Hence, when members are determined to make use of new ideas, make a group effort to achieve goals and use norms and means of doing work positively, they then start receiving, understanding, and communicating information in a rational way. In the case of having a healthy environment, the knowledge of team members is enhanced by the techniques used to process information.

Interestingly, the study did not report any correlation between team climate and intuition. Thus, it was asserted that team climate does not have a direct impact on the intuitive style (Açıkgöz et al., 2014). The study also did not include any scales related to the spontaneous, avoidant or dependent decision-making styles. Essentially, the spontaneous style describes individuals who tend to make snap decisions, the avoidant style features individuals inclined to withdraw from the process of decision making and the dependent style portrays those who tend to defer to other individuals' suggestions (Scott & Bruce, 1995). Clearly, these styles do not lead to a positive climate in the workplace. Thus, based on the above discussion and given the fact that Açıkgöz et al.'s (2014) study is the only one to have examined decision making styles in relation to climate for innovation,

the rational decision-making style was chosen to study if it is correlated with climate for innovation at work.

4.5 Negative correlates of employee performance, job satisfaction and climate for innovation

Extant research has presented negative correlates for employee performance, job satisfaction and climate for innovation. Most notable ones were neuroticism from the big five (Neal, Yeo, Koy, & Xiao, 2011; Templer, 2012), avoiding conflict management style (Afzal, Khan, & Ali, 2009; Chen et al., 2012) and avoidant decision-making style (Russ et al., 1996; Wood & Highhouse, 2014). Based on this and as illustrated below these traits, roles and styles were selected as negative correlates of employee performance, job satisfaction and climate for innovation.

4.5.1 Neuroticism trait from the big five

Neuroticism is a personality trait signifying an individual's inclination to experience negative feelings, such as anxiety, sadness, fear, guilt, loneliness and/or embarrassment (McCrae & Costa, 1986; Bolger, 1990). This trait describes individuals who tend to be moody, depressed and anxious. It features those who experience negative emotions such as fear, loneliness, frustration, guilt (Thompson, 2008) and hostility (McCrae & Terracciano, 2005). Such individuals have a lower capacity for dealing with stressors, tending to view normal experiences as threatening and small obstacles as extremely challenging. Typically, they are self-conscious and tense (Thompson, 2008). Accordingly, neurotic individuals are inclined towards using avoiding and distracting styles to cope with stress (Bolger, 1990; McCrae & Costa, 1986). This is due to the fact that they often deny the situation rather than confronting it (Bolger, 1990; McCrae & Costa, 1986). This trait presents one of the "Big Two" identified by Eysenck (Eysenck, 1958). Individuals with high scores may develop some psychiatric problems, as they tend to have difficulties in dealing with stress. They also are often beset with illogical ideas and are less skilled in controlling their behaviours and impulses. In contrast, those with lower scores reflect emotional stability, tending to be calm and able to deal with stressful situations (Hough et al., 1990), whilst also converting negative feelings into fruitful ones (Strengthscope, 2019).

It was shown by Hörmann & Maschke (1996) that neuroticism predicts employee performance in several job roles. It was also found by Dunn, Mount, Barrick and Ones et al. (1995) that emotional stability is the second most essential trait that plays a role when hiring potential employees. More

recently, Judge, Higgins, Thoresen, and Barrick (1999) and Neal et al. (2011) reported that neuroticism is negatively related to employee performance. Furthermore, Rothmann and Coetzer (2003) pointed out that neurotic individuals have low performance in comparison to emotionally stable ones. The low performance of such individuals could be attributed to the fact that characteristics, such as nervousness, worry or self-pity, are inclined to hinder duties instead of facilitating them. Neurotic individuals also cannot function effectively by themselves (Barrick and Mount, 1991). Based on the above, in this thesis, neuroticism was selected as a negative correlate of employee performance in the workplace.

Significantly, emotional stability generalised validity across criteria and jobs (Barrick & Mount, 1991; Hough, 1992; Salgado, 1997; 1998). It has been found to be a valid predictor of employee performance (Salgado, 1997). The validity size of emotional stability in Salgado (1998) study was also similar to other predictors of personnel selection such as assessment centres, interviews, and ability tests (Schmidt & Hunter, 1998). Thus, this indicates that these findings can give guidance to employers throughout the hiring process (Salgado, 1998).

Further, due to their tendency to have a negative nature, neurotic people were found to face more negative situations than others (Magnus, Diener, Fujita, & Pavot, 1993). This is partly because they put themselves in settings that influence the emergence of these negative situations (Emmons, Diener, & Larsen, 1985), which in return reduces the level of job satisfaction. Neuroticism is also linked with lower sense of well-being, whereby individuals that are not emotionally stable tend to experience negative feelings (McCrae & Costa, 1991), as neurotic ones are moody, insecure and nervous (Goldberg, 1992). Accordingly, such individuals have less fulfilling interpersonal relationships at work than their counterparts who are more emotionally stable. In sum, individuals who are not emotionally stable undergo a greater negative affect reaction towards distressing situations than counterparts who are emotionally stable (Rusting & Larsen, 1997).

Neuroticism has also been identified as the main source of negative affectivity (NA) (Connolly & Viswesvaran, 2000). High scorers of NA are more impervious to positive events (Brief, Butcher, & Roberson, 1995), typically understanding and recall situations from a negative perspective (Necowitz & Roznowski, 1994). Findings from a meta-analysis conducted by Connolly and Viswesvaran (2000) revealed negative correlations between NA and job satisfaction. Thus, not being recognized or rewarded would result in reducing the job satisfaction of neurotic individuals.

(Connolly & Viswesvaran, 2000). Further, in a meta-analysis conducted by Judge et al. (2002), it was reported that neuroticism was a significant predictor of employee dissatisfaction. Specifically, it had the strongest estimated true-score negative correlation in relation to the remaining big four traits with job satisfaction.

In a study conducted by Matzler and Renzl (2007), as well, negative correlations were found between neuroticism and job satisfaction. Likewise, Templer (2012) studied the relationships between the big five personality traits and job satisfaction in collectivistic societies, finding negative relationships between the two. Lastly, Joshanloo and Afshari (2011) examined the personality traits, self-esteem and life satisfaction in a Middle Eastern collectivist country, namely Iran, where it was found that neuroticism was one of the strongest predictors of life dissatisfaction. Due to all of these significant findings from the extant literature and studies, for this thesis, neuroticism was selected as a negative correlate of job satisfaction in the workplace.

Clearly, neurotic individuals tend to worry, feel guilty, sad and cannot easily manage stressful situations. Those with this trait may not prefer to work in a high task-oriented team climate, as they may feel nervous when working in such environments. It is also possible that they will feel uncomfortable in a climate where they are being monitored and evaluated regarding what they are doing on an ongoing basis, alongside having a potential worry of not being able to meet expectations. Moreover, these descriptions signify that the anxiety and fear that neurotic individuals experience, make them unable to support themselves or others to innovate, participate in the team or work on their own objectives and goals (Burch & Anderson, 2004). However, a preliminary study conducted on 36 IT employees by Soomro et al. (2015), which examined the interrelations between the big five personality traits and team climate inventory, reported insignificant relationships between neuroticism and the team climate inventory. Nevertheless, according to the descriptions provided for neurotic individuals and due to the fact that Soomro's et al. (2015) study had a very small sample, it is worth examining these findings further with a larger sample that will give greater power to any identified effects. Overall, according to these interpretations and findings, neuroticism from the big five in this thesis is proposed as the variable that would show the strongest negative correlation with employee performance, job satisfaction and climate for innovation.

4.5.2 Avoiding conflict management style

The avoiding conflict management style is characterised by individuals who have a low concern for self and others. This style involves decreasing the gravitas of the issue, whereby the individual avoids thinking about the problem by withholding his/her views (De Dreu et al., 2001). Shaheryar (2016) asserted that this style features passive and withdrawal behaviours, aiming to dismiss or downplay the problem. Thus, individuals with this style conceal their emotions and avoid thinking about the issue that is taking place, thereby showing retreat behaviour (Chen et al., 2012). Accordingly, it has been asserted that individuals with this style tend to get stressed out easily and experience conflict more often (Butler, 1994; Friedman, Tidd, Currall, & Tsai, 2000). Importantly, researchers regard the avoiding style as a negative conflict management style (Burke, 1970; Rahim et al., 2001; Song et al., 2006). With this style, individuals do not cooperate with others to achieve their goals, they also do not attempt to pursue successfully their own outcomes (Shaheryar, 2016). Not dealing with conflict appropriately, can negatively impact on performance. However, properly dealing with the conflict can positively impact on performance (Afzal, Khan, & Ali, 2009). It has also been contended that avoiding conflict can result in low performance (Walton, 1969; Chen et al., 2005). Furthermore, it was asserted that individuals who tend to withdraw from conflicting situations contribute less to the job, which decreases their sense of fulfilment and job satisfaction (Chen et al., 2012).

Individuals who tend to avoid may also find it challenging to be involved in work groups. This may not go in line with West's (1990) description of vision scale in the TCI which focuses on the importance of participation with regards to developing new goals and motivating other workers. Also, as individuals with this style are liable to get stressed out more often than others (Friedman et al., 2000), they may not be able to perceive their environment as safe and even feel threatened, thus facing further difficulties in making decisions (West, 1990). Similarly, personalities that attempt to avoid situations perform less well (Judge et al., 1999), which can impede the task orientation dimension in the TCI that revolves around enhancing the quality of task performance (West, 1990). Lastly, individuals who adopt the avoiding style are inclined not to cooperate with others (Shaheryar, 2016), which result in their inability to support the introduction of new and enhanced methods of doing work in the workplace, as proposed by West (1990).

Regarding the forcing (having a high concern for self and low one for others) and yielding (having a low concern for self and high one for others), these have been identified as styles that are not healthy for dealing with conflict (Song et al., 2006). Nonetheless, in this thesis, the avoiding style has been proposed to be the variable that would show the strongest negative correlation with employee performance, as avoiding individuals tend to have a low concern for themselves as well as others. Drawing on the above, in this thesis, the avoiding style from the DUTCH is proposed as being the most negative correlate of employee performance, job satisfaction and climate for innovation.

4.5.3 Avoidant decision-making style

The avoidant decision-making style features individuals who have difficulties in making decisions, which lead them to delay the process of decision making. This also pertains to denial and indecisiveness (Russ et al., 1996), but utilising this style helps individuals to decrease the anxiety connected with making decisions (Jannis & Mann, 1977). That is, these individuals can worry about making the wrong decision (Russ et al., 1996). Consequently, delaying and avoiding making decisions may negatively impact on their performance in general. Supporting this, significant negative correlations were found between this style and employee performance in Russ et al.'s (1996) study.

Given that avoidant decision makers postpone making decisions, have difficulties in making decisions and/or keep looking for information (Scott & Bruce, 1995), it was found that such behaviour contributes to decreasing the levels of job satisfaction (Wood & Highhouse, 2014). In addition, this style was discovered to correlate positively with perceived stress (Thunholm, 2008). Moreover, in a study conducted by Maner and Schmidt (2006), it was found that avoiding making decisions in risky situations was positively correlated with anxiety. Evidently, relationships between decision making and stress have been researched (Thunholm, 2008) along with the impact of decision-making styles on perceived and actual encountered stress. The avoidant style was elicited as being positively correlated with depression and anxiety (Leykin & DeRubeis, 2010). It was also determined that it was positively related with stress and negatively with self-efficacy (Batool, 2007). Furthermore, positive relationships were reported between neuroticism and the avoidant style (Wood & Highhouse, 2014).

As avoidant individuals may be anxious and depressed (Batool, 2007), they may find it difficult to be visionary and contribute to bringing up ideas that will motivate their co-workers. All of which convey behaviors that may prohibit having high visionary levels in the team climate inventory instrument (Anderson & West, 1998). In a similar vein, individuals who use this style tend to avoid making decisions and have been considered as being indecisive (Russ et al., 2006). Such characteristics are not in line with the participative safety dimension in West (1990) theory which focuses on individuals that interact and participate greatly in the decision-making process. Moreover, individuals who avoid making decisions are inclined to perform less well (Russ et al., 2006), thus, they may not be able to commit to providing excellent task performance which is one of the pillars of task orientation in the team climate inventory (Anderson & West, 1998). Finally, avoidant decision makers may not be the perfect candidates to support others for innovation in terms of bringing new ideas and improving the general atmosphere at work, as these individuals are relatively stressed out and anxious (Russ et al., 2006).

It is likely that the dependent and spontaneous decision-making styles tend to be viewed as negative styles. This is because dependent individuals look for advice and guidance from others in their decision-making process (Scott & Bruce, 1995). This style signifies the absence of self-direction and independence, for dependent decision makers seek the support and advice of others when making decisions (Parker, Bruine, & Fichhoff, 2007). Accordingly, individuals who are dependent decision makers are not very focused or aware, always needing assistance and help from others (Bhunia, 2012). They give the responsibility of making decisions to others, as they have lower levels of confidence to make decisions and finding solutions to problems. In fact, dependent decision makers tend to avoid making decisions (Bruce & Scott, 1995), as they tend to be passive (Harren, 1979). However, dependent individuals may also feel secure, protected and satisfied (Bonavigo Sandhu, Pascolo-Fabrici, & Priebe, 2016; MacDonald & Jessica, 2006). Significantly, the dependent style has been found to be the second most used style in Jordan after the rational style (Khasawneh et al., 2011). In some instances, when making key decisions consulting others may be needed (Vroom, 2003). However, Russ et al.'s (1996) study did not find any influence between this style and employee performance.

Spontaneous individuals make decisions on the spur of the moment and are characterised as impulsive and unreflective. This may be due to spontaneous individuals who execute this style

believing that they are acting in a decisive manner (Scott & Bruce, 1995). Nonetheless, Russ et al. (1996) did not find any association between this style and employee performance.

To summarise, due to all of the above deliberations and the fact that the avoidant style has been identified as the least effective for use in the majority of situations (Scott & Bruce, 1995), it was selected in this thesis as the the variable that would show the strongest negative correlation with employee performance, job satisfaction and climate for innovation in the workplace. In sum, due to the previous findings and assertions, in this thesis, the neuroticism personality trait, avoiding conflict solving management style and the avoidant decision-making style were utilised as negative correlates of employee performance, job satisfaction, and climate for innovation.

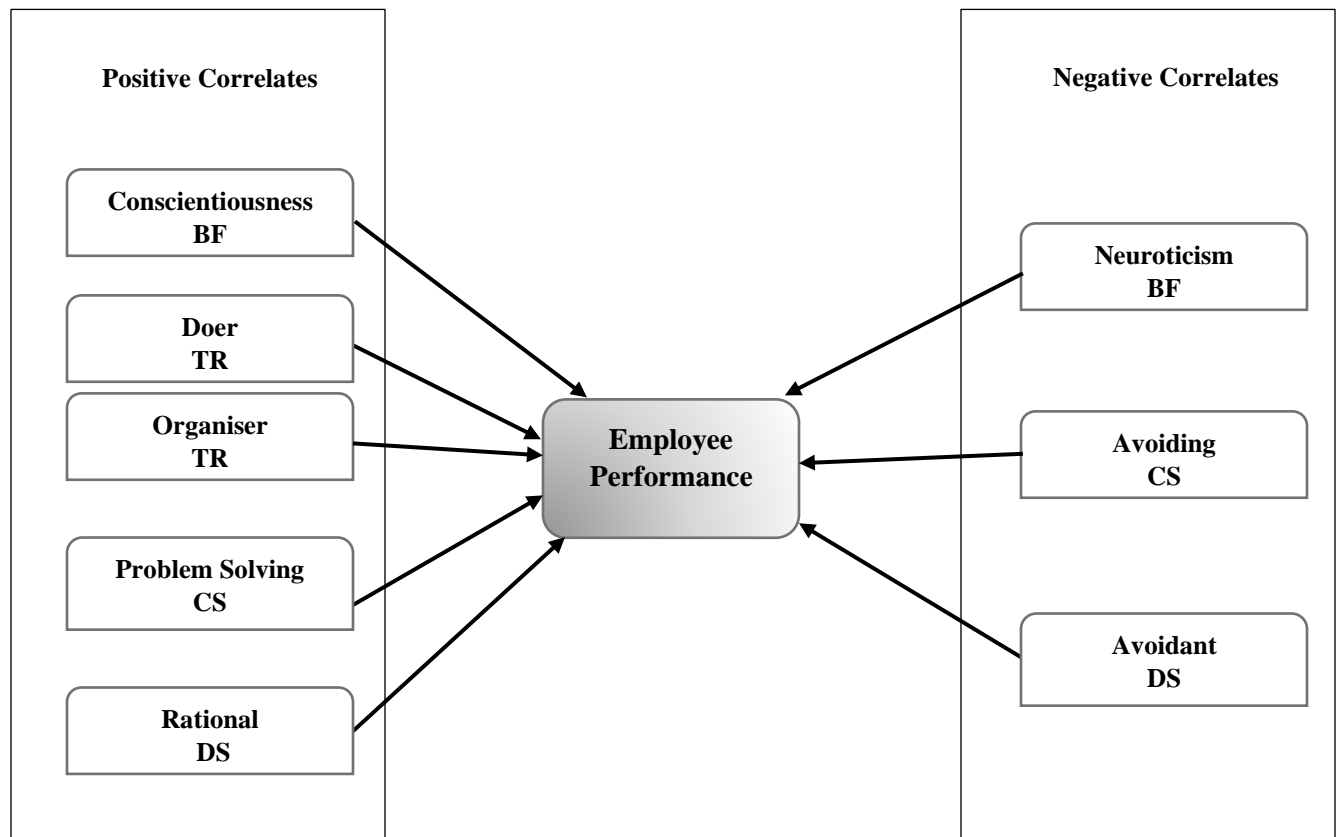
4.6 Conceptual models of employee performance, job satisfaction and climate for innovation

In this thesis the variables expected to correlate positively and negatively with employee performance, job satisfaction, and climate for innovation are proposed.

Conceptual model of employee performance

The variables expected to correlate positively with employee performance are: the conscientiousness trait from the big five, the doer and organiser team roles, the problem-solving conflict management style, and the rational decision-making style. Further, the variables expected to correlate negatively with employee performance are: the neuroticism trait from the big five, the avoiding conflict management style, and the avoidant decision-making style. All of these constructs are presented in figure 2 below.

Figure 2. Conceptual model of employee performance

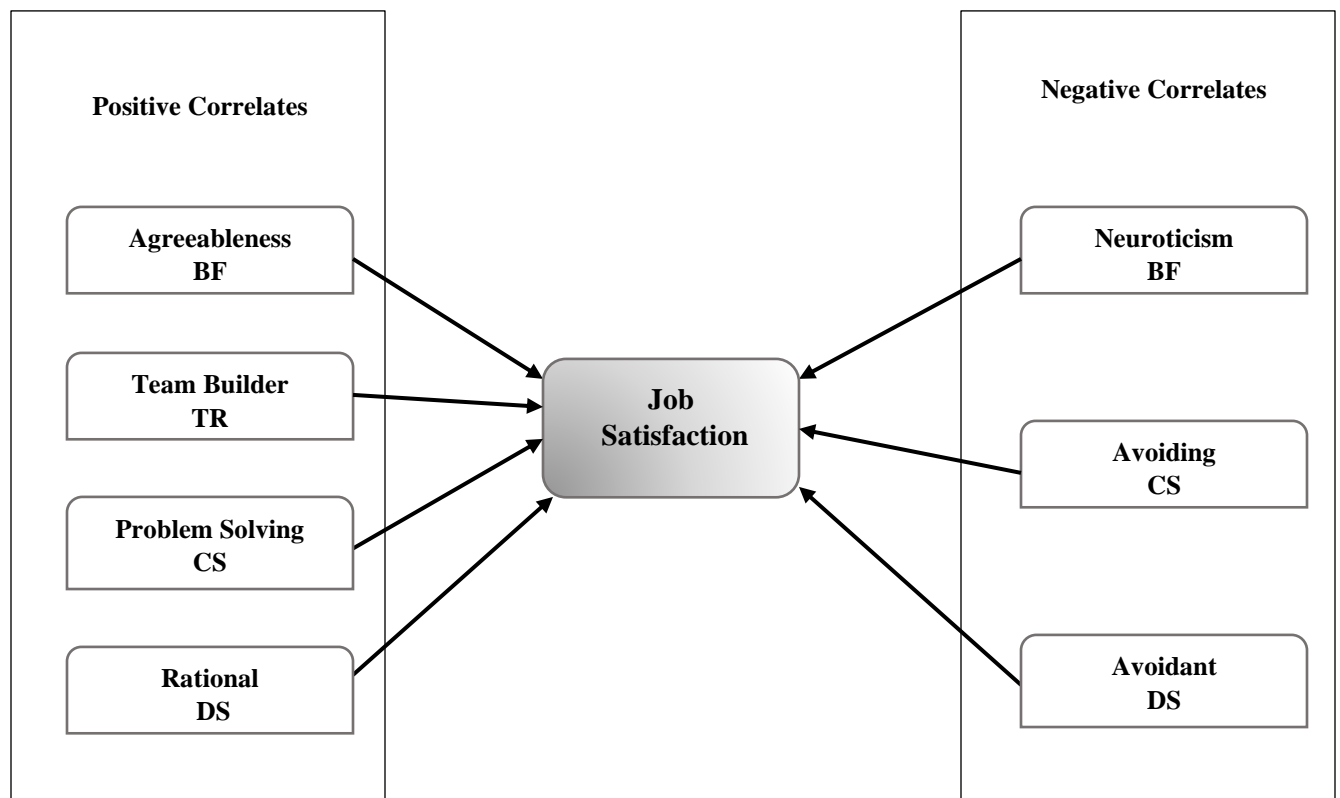


BF: Big Five
TR: Team Roles
CS: Conflict Management Styles
DS: Decision Making Styles

Conceptual model of job satisfaction

The variables expected to correlate positively with job satisfaction are: agreeableness from the big five, the team builder role, the problem-solving conflict management style and the rational decision-making style. As for the variables that are expected to correlate negatively, these are: the neuroticism trait from the big five, the avoiding conflict management style and the avoidant decision-making style. All of these constructs are presented in figure 3 below.

Figure 3. Conceptual model of job satisfaction

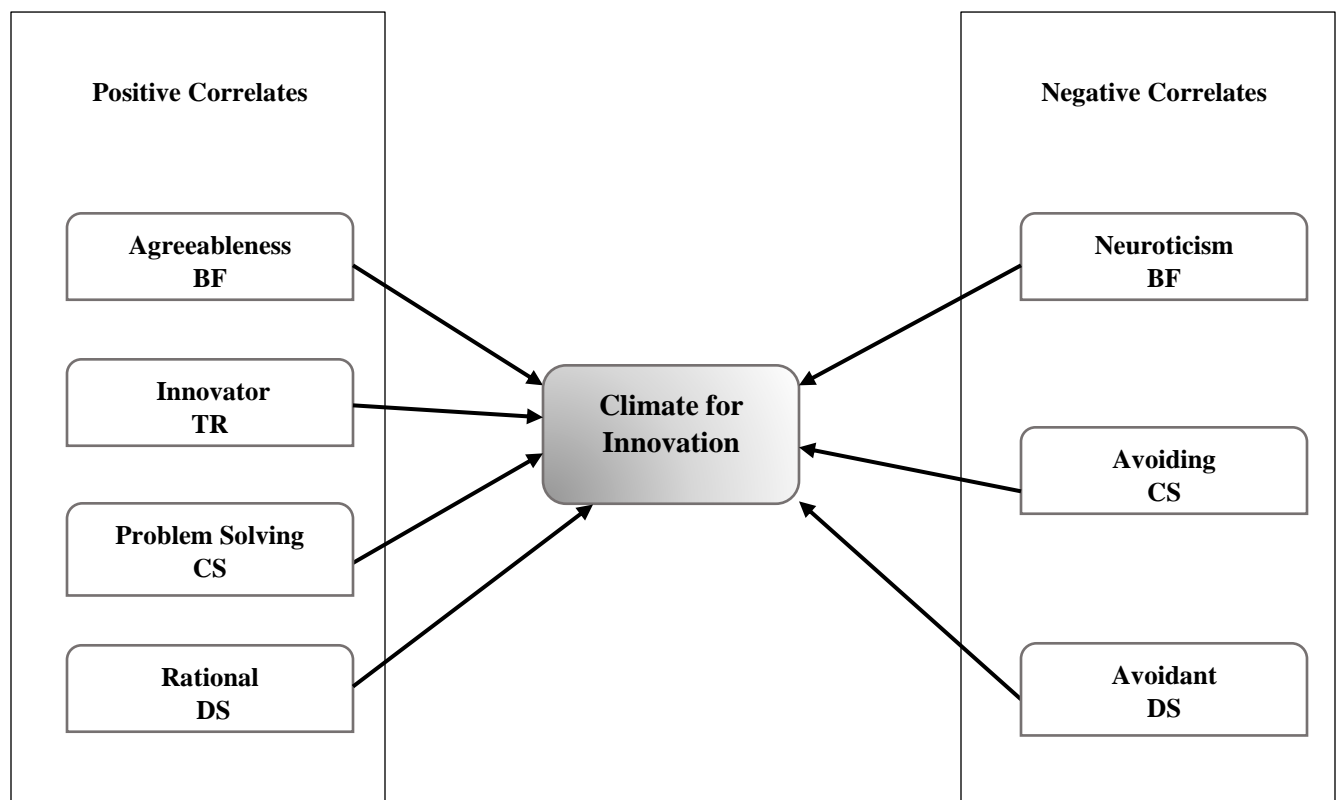


BF: Big Five
TR: Team Roles
CS: Conflict Management Styles
DS: Decision Making Styles

Conceptual model of climate for innovation

The variables expected to correlate positively with climate for innovation are: agreeableness from the big five, the innovator team role, the problem-solving conflict management style and the rational decision-making style. With regards to its variables that are expected to correlate negatively, these are: the neuroticism trait from the big five, the avoiding conflict management style and the avoidant decision-making style. All of these constructs are presented in figure 4 below.

Figure 4. Conceptual model of climate for innovation



BF: Big Five

TR: Team Roles

CS: Conflict Management Styles

DS: Decision Making Styles

4.7 Summary and conclusions

The second chapter provided information about the individual differences constructs and their measurements, whilst the third chapter introduced the outcome variables of these individual differences. In this chapter, the theoretical foundation adopted to develop this conceptualisation have been provided. Specifically, the theoretical foundations and findings from previous studies that examined the big five in relation to employee performance, job satisfaction and climate for innovation have been presented. Moreover, these aspects regarding team roles and their association with employee performance, job satisfaction, and climate for innovation have been discussed. Furthermore, the theoretical foundations and previous studies that tested the conflict management styles with employee performance, job satisfaction and climate for innovation have also been covered. Lastly, prior literature that investigated the decision-making styles with employee performance, job satisfaction, and climate for innovation has also been critically evaluated.

The variables that are expected to correlate positively or negatively with employee performance, job satisfaction and climate for innovation have been introduced and justified. Specifically, the conscientiousness trait from the big five, organiser and doer team roles, problem solving conflict management style and rational decision-making style have been proposed as positive correlates of employee performance. It has also been put forward that the agreeableness personality trait, team builder role, problem solving conflict management style and rational decision-making style are positive correlates of job satisfaction. Further, it suggested that the agreeableness trait from the big five, innovator team role, problem solving conflict management style and rational decision-making style are positive correlates of climate for innovation. As for the negative correlates, the neuroticism personality trait, avoiding conflict management style and avoidant decision-making style, have been proposed as negative correlates of employee performance, job satisfaction and climate for innovation. In sum, this chapter acts a connector between the theoretical foundations of the individual differences constructs alongside employee performance, job satisfaction and climate for innovation (i.e. chapters 1, 2 and 3) and the empirical side of this research, particularly, the analyses chapters in this thesis (i.e. chapters 6, 7, 8 and 9).

Chapter 5. Research methodology

5.1 Introduction

When planning the work of this thesis it was important to first identify the most appropriate research methodology to adopt. Accordingly, in this chapter, the methodology and methods carried out for this research are explained and justified. Following this, the target population is introduced, the study design presented and a background to the country (Jordan) where the data collection took place is provided. Next, a summary of the studies carried out in this thesis, the instruments adopted, and the data analytic techniques chosen to analyse the data are presented. Lastly, the chapter ends with the ethical guidelines that were followed in this work, particularly, the General Data Protection Regulation (BPS, 2018; GDPR, 2016) and British Psychological Association (BPS) guidelines (BPS, 2014). All in all, this chapter aims to provide a foundation for the reader to understand the analyses and discussion chapters of this thesis presented in chapters 6,7, 8 and 9.

5.2 Choice of research approach and methods

Behavioural theorists mostly use two main methodologies to examine their practices: the inductive (i.e. finding empirical generalisations) or hypothetico-deductive accounts (i.e. examining theories and hypotheses with regards to their predictive success). The latter methodology was the most dominant in 20th century psychology (Cattell, 1966), with many researchers examining hypotheses by using conventional statistical methods following the hypothetico-deductive structure (Haig, 2005). Thus, this research adopted this methodology, particularly, the quantitative methods which has been explained as the research that translates phenomena which is based on numerical data and analysed by using statistics (Goertzen, 2017). It involves using standard measures of several types, including surveys, physiological measures and behavioural ratings, all of which can be analysed using different statistical tests (Meadows, 2003; Rogelberg, Church, Waclawski, & Stanton, 2008). Survey research is effective and commonly used in industrial-organisational psychology (Rogelberg et al., 2008). Given this, a survey design was adopted for this thesis aimed at testing the behaviour of employees at work, specifically, the most and least effective characteristics for studying employee performance, job satisfaction and climate for innovation.

This method is consistent with the research aims in that it allows for examination and confirmation of theories, determining the variables that need to be investigated and exploring the associations

between these variables (e.g. conscientiousness as a positive correlate of employee performance). Also, this method involves employing standards of reliability and validity, whilst also utilising approaches and procedures that are not biased (Goertzen, 2017). The majority of previous research that examined the individual differences constructs that are associated with employee performance, job satisfaction and climate for innovation in Western countries deployed the quantitative methods as well (e.g. Barrick & Mount, 1991; Judge et al., 2002; Soomro et al., 2015).

This method, however, has received some criticism, which revolves around excluding the openheartedness element which in turn stimulate and encourage unusual creative thinking (Gummesson, 2007). However, the main aim of this quantitative research is to measure attributes precisely and test theories (Adams, Khan, Raeside, & White, 2007). All of which present aspects that are in line with the aim of this research. A qualitative method has not been selected, for this would focus on understanding the experiences, perceptions, social situations and processes, thereby unveiling meanings that individuals attach to their world (Gay & Airasian, 2009) particularly, how individuals grasp their world in detail (Smith, 2015), which are not the objectives of this research. Further, this approach seeks a naturalistic and interpretative view of the world (Mertens, 2014). All of the above do not come within the remit of the aims of this research.

5.3 Target population and design

The samples collected for this research were from Jordan. Specifically, two companies participated: a shipping and logistics company and a telecoms company. Subsequently, in order to make the findings more generalisable, data was collected from the general population in Jordan.

5.3.1 Original data collection plan and deviation from it

Initially, data for the company samples had been planned to be collected longitudinally at three different time intervals from the same employees through using self-report surveys and objective measures. Specifically, for time one, the researcher had aimed to collect data for the following self-report instruments: BFI-10, TREO, and TCI. For time two, the researcher had intended to gather data for the following self-report questionnaires: BFI-44, DUTCH, and GDMS. Finally, for time three, the researcher had planned to collect data for employee performance and job satisfaction through self-reports. For this stage, the researcher had also aimed to obtain consent from the management of both companies as well as their employees to extract organisational

records that measure the performance of the same participants. This was done by using objective measures, specifically, promotion, target, and appraisal. This design had been initially adopted as it allows causal inference (Imai & Kim, 2019). The data collection from these instruments had been designed to be done in stages in order to avoid respondents' fatigue and boredom, as well as to increase their engagement level (Hess, Hensher, & Daly, 2012).

Accordingly, in time 1 data was collected from 224 participants from the shipping and logistics company and from 219 participants from the telecoms company for the following instruments: BFI10, TREO and TCI. After three months, the telecoms company did not proceed further with their permission to collect data from their employees as the company was undertaking additional projects and wanted its employees to focus solely on their tasks without any external interruptions.

Thus, in time 2 the data collection was only resumed for the shipping and logistics company, for which the following questionnaires were completed by the same participants from time 1: BFI-44, DUTCH, and GDMS. This data collection was paper based (the researcher travelled to Jordan and visited the companies during data collection times), which was chosen as it was more feasible that the management and employees would complete it. For, not all the employees could access all the necessary websites, henceforth, Qualtrics was one of these websites. Whilst this procedure costs more, as indicated by Fan & Yan (2010), it has been recommended by Shih & Fan (2009), as it increases the response rate. In general, the data collection carried out in time one and two was undertaken to study the factorial structure of the instruments.

A further phase of data collection had been planned, but did not take place. Time 3 would have entailed collecting self-report data for employee performance, job satisfaction, as well as extracting records from the company that objectively measure the performance of the participants (i.e. promotion, target, and appraisal). However, employees did not provide consent for this, as there were concerns that their responses could be viewed by higher management. Thus, time 3 was not implemented as a result of these interruptions and drop-outs.

In order to investigate which individual differences are associated with employee performance, job satisfaction, and climate for innovation, another round of data collection from different employees at the same shipping and logistics company took place. In this study a cross-sectional design was adopted from the beginning. Specifically, data for the following surveys was collected from 249 participants: BFI-44, TREO, DUTCH, GDMS, TCI, job satisfaction questionnaire and

the employee job performance questionnaire. Notably, this study was conducted at one point in time in order to collect data for all the constructs of interest and to avoid facing again the interruptions that took place in the earlier research. This design has received criticism by some researchers in relation to its inability to present a causal inference (Levin, 2006). However, adopting it offered benefit of collecting data for all the focal constructs without interruptions that regularly take place in longitudinal studies (Caruana, Roman, Hernández-Sánchez, & Solli, 2015). Thus, there was no loss of participants, which often occurs when follow-ups are sought. Further, completing the survey with this design is less time consuming than for longitudinal ones (Levin, 2006). The adopted design for gathering company samples was the probability sampling technique, specifically, simple random sampling, where each employee had an equal opportunity of being invited to participate. This strategy benefited the research as it allowed for the research data to be generalised within these companies (Rossi, Wright, & Anderson, 2013; Tashakkori & Teddlie, 2003). For this data collection, this was done online on a platform called Qualtrics (Qualtrics, 2019). This took place due to the changes in ethical guidelines with regards to prohibiting researchers traveling to Middle Eastern countries, such as Jordan, to ensure their safety. Fortunately, the company cooperated with the researcher and provided the employees with access to Qualtrics website. Interestingly, collecting data online has yielded several benefits for this research, in particular, it saved the time needed to enter the data manually on SPSS (Statistical Package for the Social Sciences) as it could be directly downloaded from Qualtrics to SPSS.

Afterwards, in order to generalise the findings, data was collected from a third sample that included 390 participants from the general population in Jordan. This was done through a convenience sampling method, namely, snowball sampling (Atkinson & Flint, 2001; Baltar & Brunet, 2012), whereby each participant was asked to provide the name of a new one (Vogt & Johnson, 2011). This was useful as it helped to increase the response rate. Notably, this method has been proposed as one of the most efficient methods to reach populations that are hard to access or hidden to access virtually (Valdez & Kaplan, 2008). However, one of its limitations is that the sample may be impacted by the selection of the initial participants (Magnani, Sabin, Saidel, & Heckathorn, 2005). For example, the samples may be biased as they may include participants that are with big networks only (Baltar & Brunet, 2012). Thus, to overcome such limitations, the initial participants sought were employees who worked in different industries, covered both genders and were across age groups (e.g. a male participant working in a career network company at the age of 25, a female

participant working in a school at the age of 32, a female participant working in an environmental company at the age of 40, a male participant working in an insurance company at the age of 55). In sum, for this part of the study, the adopted design was cross sectional, with the sample comprising participants working at different companies in different contexts (Easterby-Smith, Thorpe, & Jackson, 2015) and the data collection was done remotely online via Qualtrics.

5.3.2 Selection of country: Jordan

5.3.2.1 Why conduct this research in Jordan?

Jordan is one of the countries that is included in the Middle East region, with others being: Bahrain, Egypt, Iran, Iraq, Israel, Kuwait, Lebanon, Oman, Palestine, Qatar, Saudi Arabia, Syria, Turkey, United Arab Emirates and Yemen. In general, research in psychology is not well established in the region. Explicitly, research in the psychology field has published only around 2.6% publications between the year 2006 and the year 2010 (O’Gorman, Shum, Halford, & Olive, 2012). Most of these publications were carried out in Israel (65%) and Turkey (27%). Further, only around 3,100 publications in the field of employment testing, industrial, organisational and occupational psychology fields have been published since the year 2000. Similar to psychological research, the majority of works were carried out in Israel (56%), followed by Turkey (18%), the UAE (7%) and Iran (6%). The rest of the countries authored between 1% and 3% of the publications (Bayazit et al., 2018). These figures show the scarcity of research in Jordan fields associated with that of business psychology and thus, brings forth the importance of carrying out such investigation in this country.

The business psychology field is relatively new in Jordan in relation to practice as well, in particular, in relation to the constructs investigated in this research. A possible explanation for this revolves around the fact that universities in Jordan do not offer any business psychology courses for bachelors, masters or doctorate students. The most relevant major offered is psychology where students can later choose between two routes: clinical psychology or organisational/social psychology. Those who undertake the organisational/social psychology track often apply for jobs in companies that have a human resources (HR) department. This takes place as companies in Jordan did not develop yet any job roles or job descriptions that are specified particularly for the organisational psychology field. However, employees working in the HR department, specifically

the human resources development division, may undertake tasks that fall within the business psychology field.

The business psychology field was first initiated in the UK, with the Association of Business Psychology was established in the year 2000 (ABP, 2019). This shows that this field is still in its infancy in UK and this is also the case for other Western countries. In sum, time is still needed for the business field to get introduced in more depth in Jordan, in which companies start developing a sole department for those that are specialised in business psychology.

Despite this scarcity, Jordan has been ranked as one of the top 10 countries that have greatly improved with regards to their ease in doing business. This figure was reported in the Doing Business 2020 report carried out by staff of the World Bank. This shows that the Jordanian economy is catching up with the developed economies (World Bank, 2020). Conducting this research in Jordan plays a role in bridging the gap that is present in the literature and terms of practice, with regards to topics related to individual differences, employee performance, job satisfaction and climate for innovation.

5.3.2.2 Society in Jordan

As aforementioned, Jordan is considered a collectivist society (Hofstede, 2019), as reported by Hofstede who has investigated the culture in the workplace in depth (Hofstede, Hofstede, & Minkov, 2010). A collectivistic society is *“a society in which people from birth onwards are integrated into strong, cohesive in-groups, which throughout people’s lifetime continue to protect them in exchange for unquestioning loyalty”* (Hofstede, 2001, p. 225). Collectivist cultures describe individuals who depend on their in-groups, prioritise the goals of their groups and shape their actions and behaviours mainly according to the group norms (Mills & Clark, 1982). It has been asserted that individuals in these societies prefer to work in teams (McAtavey & Nikolovska, 2010). Further, they place a great effort in maintaining the relationships with other individuals (Gelfand, Erez, & Aycan, 2007; Triandis, 2001). Accordingly, collectivists prefer to resolve their conflicts through mediation (Leung, 1997) and turn to others before making decisions (McAtavey & Nikolovska, 2010).

The society in Jordan encourages the development of strong relationships in which members of the team take the responsibility for other team members (Hofstede, 2019). Moreover, individuals care about each other and are less competitive than in individualistic societies (Al-Hamdan et al.,

2014). In Jordan, offence results in embarrassment and disgrace, employers and employees consider each other as part of a family, employment and promotion decisions take into consideration the members' in-group and top management focuses on managing the group as a whole (Hofstede, 2019).

Jordan is a feminine society, where the emphasis of individuals is directed towards working and making a living (Hofstede, 2019). Hence, it is not considered a masculine one (Hofstede, 2005; Hofstede, Hofstede, & Minkov, 2012) driven by competition, accomplishment and success. Accordingly, managers seek harmony and agreement. Also, the individual's perception about equality, consensus, group support and quality of their work life are crucial elements that have to be taken into consideration. Thus, disputes and conflicts are reconciled by negotiations and compromise and individuals get motivated by flexibility and free time. In sum, in Jordan the focus is directed more towards well-being, rather than status (Hofstede, 2019).

5.3.2.3 Language used in Jordanian organisations

The official language in Jordan is Arabic, yet English is the prevalent language used in organisations, especially in the majority of written correspondence, such as emails, surveys, database, reports, websites, presentations and software. Also, it is widely used in job advertisements in newspapers (Hamdan & Hatab, 2009). Further, Hamadan and Hatab's (2009) study showed that the use of English language is increasing, and the use of Arabic language is decreasing. There is also an increase in employers who require potential employees to be proficient in English (Hamadan & Hatab, 2009), with Harrison et al. (1975) reporting that 63% of the employees in Jordan use the English language in the workplace.

Regarding the educational system in schools, English is taught from grade 1 (Al-Khatib, 2008). English is taught by certified teachers even in small villages and towns. Crucially, students must pass the English language module in high school in order to get acceptance offers from colleges, universities and training institutes. In order to graduate from university, it is compulsory for students to pass the English module. In fact, Jordan has around 25 universities that offer programs that are taught in English (Hamdan & Hatab, 2009). It is worth noting that one of the reasons for the influence of the extensive use of the English Language revolves around the fact that in 1918 Jordan was *under British mandate until the year 1946 when its independence was achieved*

(Hughes, 1995, p. 624). Hence, the instruments used in this research have not been translated from English to Arabic.

5.3.3 Selection of organisations to implement this research

The researcher identified the top 20 companies to work for in Jordan and started contacting them. Fortunately, a shipping and logistics company as well as a telecoms company gave her permission to conduct the study on their premises. As abovementioned, afterwards, in order to generalise the data beyond the findings from the companies, data was collected from the general population in Jordan, specifically, from employees that worked in different companies.

5.3.3.1 Shipping and logistics company

This is a group of companies that was established in Jordan and is currently employing over 800 staff members in Jordan, Iraq and the West Bank. The core business of the group involves shipping and logistics, for which the company is considered as a market leader in the Levant Region. This company offers other services such as travel and tourism, cargo inspection and testing, security services, packing and packaging, warehousing and container yard services, online booking solutions and agricultural production. The company has the following departments: Finance, Human Resources (HR), Information Technology (IT), Sales and Marketing, Quality Assurance, Operations and Documentation. In each department there are the following roles: intern, officer, senior officer, supervisor, manager and director. The company has several significant accomplishments, for instance, it is the sole one eligible for the Jordan Customs Golden List programme within the domain of customs clearance and freight forwarding. Moreover, the idea of introducing the Jordan Logistics Association was initiated by the chairman of the company.

5.3.3.2 Telecom company

This company was also established in Jordan and is currently employing over 700 staff members in the country, providing mobile and internet services. The company has the following departments: Finance, HR, IT, Sales and Marketing, Quality Assurance, Engineering and a Call Centre. In each department there are the following roles: intern, officer, senior officer, supervisor, manager and director. The company has several notable accomplishments, for example, it was the first in Jordan to launch a high-speed internet service (LTE 4G) and the first to introduce the fastest 3.75G network in Jordan. Further, it was the first in Jordan to implement WiMax (Worldwide

Interoperability for Microwave Access), which is a technology that allows internet users to access the internet without having a landline.

5.3.3.3 The general population in Jordan and the industries they work in

The general population sample covered a broad range of participants from different industries. The industries were as per the following: academia, banking, business services, construction, consulting, design, energy, engineering, government, legal, media, medicine, NGO, oil and gas, retail, telecom, trade and translation.

5.4 Studies carried out in this thesis

This thesis is composed of three studies as presented below.

5.4.1 Study 1: Validating the factorial structure of the individual differences constructs in Jordan

This study involved testing the reliability and factorial structure of the instruments used in this research to understand their structure and to test their applicability in Jordan. Accordingly, Cronbach's alpha and confirmatory factor analysis were conducted on the BFI-10 (Rammstedt & John, 2007), BFI-44 (John & Srivastava, 1998), TREO (Mathieu et al., 2015), DUTCH (De Dreu et al., 2001), GDMS (Scott & Bruce, 1995) and the TCI (Kivimaki & Elovainio, 1999).

5.4.2 Study 2: Investigating how individual differences are associated with employee performance, job satisfaction and climate for innovation in two Jordanian companies

This study involved exploring which individual differences (the big five, team roles, conflict management styles, and decision-making styles) are most and least relevant for studying employee performance, job satisfaction and climate for innovation. This was achieved by using multiple linear regression analysis.

5.4.3 Study 3: How individual differences are associated with employee performance, job satisfaction and climate for innovation in the general population of Jordan

This study focused on generalising the findings from the population in Jordan by examining the individual differences constructs that are associated with employee performance, job satisfaction, and climate for innovation. This was carried out by using multiple linear regression analysis.

5.5 Instruments used in this research

5.5.1 General considerations about the instruments and their application in the English language

Translating questionnaires to their target language has become a crucial part of research (Daouk-Öyry & McDowal, 2013; Hofstede, 2001). It has been stated that the quality of the data may improve when presenting the questionnaire in the participants native language (Dörnyei & Taguchi, 2009). Participants who fill in surveys in their non-native language may face difficulties in comprehending the questions of the questionnaire, particularly items with complex questions, complex syntax, and vague words (Wenz, Al Baghal, & Gaia, 2020). Moreover, participants with different cultural contexts may understand the questions in various ways (Holbrook, Cho, & Johnson, 2006; Triandis, 1972), thus, providing accurate responses (Wenz et al., 2020).

For this research, however, the instruments published in the English language were utilised in order to save resources, time (Boynton & Greenhalgh, 2004), and to avoid the problems that may be faced during the process of translation, such as vocabulary, idiomatic and grammatical-syntactical problems (Sechrest, Fay, & Zaidi, 1972). Firstly, the issue of vocabulary equivalence takes place when the dictionary refers to a specific word in several ways or terms in the target language. For instance, there is only one word in Arabic for “very”, “too”, “much”, and “so” (Suleiman & Yates, 2011). Moreover, the word “pain” for example has 100 Arabic words (Harrison, 1988). Secondly, idiomatic equivalence is relatively difficult to obtain in the case of direct translation of an idiom as it would give a different and irrelevant meaning. Thus, it is essential for translators and back-translators to precisely understand the idioms (Sechrest et al., 1972). Indeed, idioms cannot be translated accurately if the person reading the sentence is not engrossed in the culture (Khalaila, 2010) (e.g. we have a “we are in it together attitude” in the TCI instrument (Kivimaki & Elovainio, 1999)). Thirdly, problems with grammatical-syntactical equivalence may also take place as every language has its grammatical-syntactical rules (Khalaila, 2013). Overall, direct translation of a questionnaire from the source language to the target language may not warrant an equivalent content for the translated instrument scale (Brislin, 1970, Sechrest et al., 1972).

There is also the limitation of ordering the words, using commas, verbs, and tenses. In addition to that, the Arabic language comprises three significant categories: 1) classical Arabic, 2) modern

standard Arabic, 3) and the regional colloquial Arabic dialects. The first is the language of the Holy Quran, whilst the second, is the language used in writing and the third, is the language used in everyday informal and oral conversations, plays, and songs (Haeri, 2000). Accordingly, if the translation was unclear or was not very known by some of the respondents, the reliability of the instrument could be affected (Khalaila, 2013). Whilst there are several methods for resolving these translation issues, none are comprehensive, i.e. each way deals only with some parts of the issues, whilst disregarding the others (Maneesriwongul & Dixon, 2004). All of these may lead to insufficient translations and therefore, yield questions that are different from the ones intended to be asked (Harkness, 2008).

Prominently, the individual differences factor in relation to the distinct personality characteristics and different behaviours of translators could also affect the process of translation (Coba, 2007; Karimnia & Mahjubi, 2013). It has been asserted that the same translated texts from the source language to the target language carried out by different translators may be different (Karimnia & Mahjubi, 2013). In fact, the process of decision-making is an essential factor in the performance of translators and the quality of their work (Darwish, 1999). In return, the process of decision making may be affected by the attitude, personality inclinations, behaviour (Karimnia & Mahjubi, 2013), feelings, reasoning (Hansen, 2005) as well as the individual attributes (Coba, 2007; Hubscher-Davidson, 2009; Wilss, 1998) of the translators.

When translating a questionnaire, it is also recommended for the translator to have adequate training (Razmjou, 2003) and theoretical knowledge of the scales of each item. This is useful as it facilitates the translation process (Simonsen & Mortensen, 1990) and maintains the interchange of texts, ideas and values (Azabdaftari, 1997). Nonetheless, having such knowledge may influence the translators to substantially amend some of the questions, which may result in changing the meaning of the item (Simonsen & Mortensen, 1990).

There are also drawbacks for the back-translation technique (Brislin, 1980), which is one of the primary approaches for investigating multi-lingual versions of surveys and research instruments (van de Vijver & Tanzer, 2004). This method focuses on the re-translation of an instrument into its original language which is then followed by comparing the original version with the back-translation version (Behr, 2017). Although, this approach provides useful insights for evaluating the standards of translation and for identifying possible issues (van de Vijver & Tanzer, 2004), this

technique can be misleading when carried out exclusively without other translation techniques (Hambleton & Patsula, 1999). This method focuses on literal and word-for-word translations more than focusing on other prominent aspects such as naturalness and readability (van de Vijver & Hambleton, 1996), which as a result may produce meaningless sentences in the language of other country (Daouk-Öyry & McDowal, 2013). Another drawback for this method is the challenges emerging from the terms and expressions that have several meanings in the target language, as well as the difference between the translation effectiveness of the back and forward translators (Hambleton, 1993). For example, the word “sense” has several meanings in English. The sentence “something makes sense” could be mistranslated to “something makes feeling” in the target language, yet, a back translation may still come back as “something makes sense”. Hence, the change in meaning in the target language may go undetected through this process (Daouk-Öyry & McDowal, 2013, p.5).

Aside from these translation issues, personality traits reported differ depending on the context (i.e. organisational versus general settings) individuals are reporting them in (Grover & Furnham, 2020). While personality traits are fundamentally stable, employees tend to adapt their behaviour according to the social context they are in. For instance, it was found that employees tend to report more conscientious behaviour in organisational contexts than in social settings with family and friends (Robinson, 2009). Thus, when assessing individual differences and their relationships with organisational outcomes such as performance, it is essential to take into consideration the behaviour of employees within the workplace (Grover & Furnham, 2020).

Overall, Jordanians understand the English language well and this is the language that employees use at the workplace as mentioned in subsection 5.3.2.3 above. Also, the majority of selected instruments have rarely or even never, been used in Jordan. Therefore, all instruments were used in the English language, to maintain their content accuracy, and to capture the personality traits of employees within the context of the organisations, in the language used at the workplace.

5.5.2 Instruments used in Study 1

The instruments utilised in Study 1 to operationalise the big five, team roles, conflict management styles, decision-making styles and climate for innovation are displayed in table 7.

Table 7. Instruments used in Study 1

Instruments	Scales	Source	Company
BFI-10	- Openness - Conscientiousness - Extraversion - Agreeableness - Neuroticism	- Rammstedt and John (2007)	- Shipping and Logistics - Telecoms
BFI-44	- Openness - Conscientiousness - Extraversion - Agreeableness - Neuroticism	- John and Srivastava (1999)	- Shipping and Logistics
TREO	- Organiser - Doer - Challenger - Innovator - Team builder	- Mathieu et al. (2015)	- Shipping and Logistics - Telecoms

	- Connector		
DUTCH	- Problem solving - Compromising - Forcing - Yielding - Avoiding	- De Dreu et al. (2001)	- Shipping and Logistics
GDMS	- Rational - Intuitive - Dependent - Spontaneous - Avoidant	- Scott and Bruce (1995)	- Shipping and Logistics
TCI	- Support for new ideas - Participative Safety - Vision - Task Orientation	Kivimaki and Elovainio (1999)	- Shipping and Logistics - Telecoms

5.5.3 Instruments used in Study 2

The following instruments were used in Study 2 to test which individual differences will be most and least relevant for studying employee performance, job satisfaction and climate for innovation, as presented in table 8. It is worth noting that these instruments were used with the shipping and logistics company only.

Table 8. Instruments used in Study 2

Instruments	Scales	Source
BFI-44	- Openness	- John and Srivastava (1999)
	- Conscientiousness	
	- Extraversion	
	- Agreeableness	
	- Neuroticism	
TREO	- Challenger	- Mathieu et al. (2015)
	- Doer	
	- Organiser	
	- Team builder	
	- Innovator	
	- Connector	
DUTCH	- Yielding	- De Dreu et al. (2001)
	- Compromising	
	- Forcing	
	- Problem solving	
	- Avoiding	
GDMS	- Rational	- Scott and Bruce (1995)
	- Intuitive	
	- Dependent	
	- Spontaneous	

	- Avoidant	
Employee Job Performance	- 2 items	Cheng and Kalleberg (1996)
Job Satisfaction	- 6 items	Rentsch and Steel (1992)
	- Support for new ideas	
TCI	- Participative Safety	Kivimaki and Elovainio (1999)
	- Vision	
	- Task Orientation	

5.5.4 Instruments used in Study 3

The instruments utilised to generalise the findings beyond the samples from the companies are depicted in table 9 below.

Table 9. Instruments used in Study 3

Instruments	Scales	Source
	- Openness	
BFI-44	- Conscientiousness	- John and Srivastava (1999)
	- Extraversion	
	- Agreeableness	
	- Neuroticism	
DUTCH	- Problem solving	- De Dreu et al. (2001)
	- Compromising	
	- Avoiding	

GDMS	<ul style="list-style-type: none"> - Rational - Avoidant 	<ul style="list-style-type: none"> - Scott and Bruce (1995)
TCI	<ul style="list-style-type: none"> - Support for new ideas - Participative safety - Vision - Task orientation 	<ul style="list-style-type: none"> Kivimaki and Elovainio (1999)
Job Satisfaction	<ul style="list-style-type: none"> - 6 items 	<ul style="list-style-type: none"> Rentsch and Steel (1992)
Employee Job Performance (EP)	<ul style="list-style-type: none"> - 2 items 	<ul style="list-style-type: none"> Cheng and Kalleberg (1996)
IWPQ	<ul style="list-style-type: none"> - 5 items 	<ul style="list-style-type: none"> Koopmans et al. (2016)

5.6 Data analysis techniques

5.6.1 Descriptive statistics and indicators of reliability

Cronbach's alpha reliability (Cronbach, 1951) is one of the most common measures for testing the reliability of the scales in the organisational and social fields. This measure presents the reliability of the sum or average of q measurements, where q refers to questionnaire and test items. In the case of the measurements including several questionnaire/test items, Cronbach's alpha is described as the internal consistency of reliability (Bonett & Wright, 2014).

The Cronbach alpha in this thesis has been tested for all instruments of this research using SPSS statistical software version 24 (IBM, 2019). For a reliable scale, a Cronbach alpha of 0.7 and above

has been proposed by Easterby-Smith et al. (2015) and Field (2009). However, Murphy and Davidshofer (1988), George and Mallery (2003), and Kline (2000, 2013) recommended a value of 0.6 and above. Fundamentally, “*there is no universal minimally acceptable reliability value (Bonett and Wright, 2014, p.3)*”. Supporting this, Schmitt (1996, p. 353) asserted that, “*there is no sacred level of acceptable or unacceptable level of alpha.*”. However, in this research Cronbach’s alphas with a value of .7 and above were deemed acceptable.

5.6.2 Validating the factorial structure of the instruments in Jordan (Study 1): Confirmatory Factor Analysis (CFA)

The confirmatory factor analysis method was undertaken in Study 1 to confirm the factorial structure of the used instruments in Jordan. This measure was selected as it evaluates the psychometric properties of the measures (Harrington, 2009). Further, this was done in order to check whether or not the factorial structure of these instruments works well in Jordan. Further, Amos 25 graphics was used to run the analysis (Amos, 2019).

5.6.3 Investigating how individual differences are associated with employee performance, job satisfaction and climate for innovation (Study 2 and Study 3)

The Pearson’s product moment correlation was used to test the relationships between the individual differences constructs and employee performance, job satisfaction and climate for innovation in Studies 2 and 3. Based on Cohen (1988, 2013), an absolute r value of 0.1 is considered small, 0.3 is considered medium and 0.5 is considered large. Consequently, for this research these rules of thumb were followed. Notably, this test was chosen as it is the most commonly used measure that explores the relationships between the variables (Puth, Neuhäuser & Ruxton, 2014). Further, these tests were performed using SPSS software (IBM, 2019).

A multiple linear regression method was also conducted in Studies 2 and 3 to test the functional relationships across the variables. That is, the relationships were presented in the form of a model that connected the outcome variables (employee performance, job satisfaction and climate for innovation) to the individual differences constructs (i.e. predictor variables). The formula for the multiple linear regression is:

$$y_i = \beta_0 + \beta_1 x_{i1} + \beta_2 x_{i2} + \dots + \beta_p x_{ip} + \varepsilon_i \text{ for } i = 1, 2, \dots, n.$$

The terms are defined as follows (Chatterjee & Hadi, 2012, p.58):

y_i : represents the i th value of the response variable Y

$x_{i1}, x_{i2}, \dots, x_{ip}$: represents values of predictor variables for the i th unit

\mathcal{E}_i : represents the error in the approximation of y_i

When performing multiple tests on a single dataset, the chances of rejecting the null hypothesis increase when it is true, that is, the Type I error. Nevertheless, the more the number of tests performed, the more it is likely to find unique correlations, hence concluding that there is an effect, when there is not. This concept refers to inflation of the alpha level. For the purposes of reducing this error, the alpha level was corrected by conducting a Bonferroni correction to make the alpha smaller. This was done by dividing the P value (α) by the number of comparisons being made and calculating the statistical power according to the corrected P value (Abdi, 2007). In other words, to reduce Type I error the Bonferroni correction was performed in Studies 2 and 3.

5.7 Ethics

Before initiating the data collection process, four ethics applications for all studies were submitted and approved by the University of Westminster (UoW) ethics committee. The research was classified as class 1 research based on the University of Westminster Code of Ethics Governing the Ethical Conduct of Research (CoP). Crucially, to ensure the safety of the researcher and the participants in Jordan, the following forms were granted from the procurement department for travel at the UoW: 1) institutional risk assessment from the Safety, Health and Well-being team and 2) insurance confirmation (BPS, 2014).

With regards to the confidentiality element for the conducted studies, on the key information page of the questionnaires, participants were informed that their responses would be anonymous and treated with full confidentiality, as outlined in the Data Protection Act 2018 in the UK (BPS, 2018). Further to this, a participant information sheet was used to provide the respondents with all the needed information in relation to the procedure of the study. Additionally, a consent form for all the studies was used to ensure that the participants were willing to participate. They were informed that they could withdraw from the research at any time without the need to give any reason. Finally, a debriefing sheet was used to supply the participants with information, answer queries and to thank them at the end of the study (BPS, 2019). The researcher did not include any vulnerable

individuals aged under 16, thus, all participants were aged between 19 and 72. Also, the research did not involve any sensitive or stressful topics.

For the general population study, the participants were entered in a draw to win one of twelve \$48 dollars amazon vouchers, which was similar to Wood and Highhouse's (2014) study. This was done by giving them the opportunity to add their email addresses at the end of the survey. In order to anonymise any identifying information (as per the general data protection regulations) (GDPR, 2016) from the downloaded datafiles from Qualtrics, email addresses were copied into a separate data file and then, deleted from the main one. This ensured removing any identifying information from the main datafile. Next, the email addresses kept in that separate file were printed out and kept in a locked filing cabinet in the University of Westminster staff office. Afterwards, this was shredded once the draw had taken place.

5.8 Summary and conclusions

This chapter has provided an explanation of the methodology and methods adopted in this research as well as a rationale for selecting them. The hypothetico-deductive methodology and quantitative method were adopted. Specifically, the data was collected by distributing surveys to two of the top 20 companies employing people in Jordan: a shipping and logistics company and a telecoms company. For this part, probability sampling, specifically, simple random sampling, was adopted. Following this, in order to generalise the findings, data was collected from a general population sample by using the convenience sampling method, namely, the snowball sampling technique. English language is the second most used language in Jordan after Arabic, being taught in schools from grade 1. It is also the language used by employees in organisations. Thus, to avoid any problems with translating the questionnaires, the used instruments were not translated to Arabic and were utilised solely in English.

In order to analyse the data, the following statistical techniques were conducted: Cronbach's alpha, confirmatory factor analysis (CFA), Pearson's product moment correlation and multiple regression analysis. Specifically, as Study 1 aimed to test the reliability of the scales and validate the factorial structure of the used instruments, Cronbach's alpha and CFAs were used. Moreover, as Studies 2 and 3 were aimed at examining the individual differences that are associated with employee performance, job satisfaction and climate for innovation, Pearson's product moment correlation

and multiple regression analyses were conducted. Moreover, it was explained how all ethical considerations were followed according to the GDPR and BPS guidelines. This chapter has set the ground for chapters 6, 7, 8 and 9, which cover the empirical and discussion chapters in this thesis.

Chapter 6. Study 1: Confirmation of factorial structure of the researched constructs

6.1 Introduction

Confirmatory factor analysis (CFA) is a powerful statistical tool for examining the nature of and relations among latent constructs (e.g., attitudes, traits, intelligence, clinical disorders) (Jackson Gillaspay Jr & Purc-Stephenson, 2009, p.6). That is, CFA investigates the associations between indicators or observed measures, such as scores of a behavioural observation and latent variables (Brown & Moore, 2012). Accordingly, it is essential to test the factorial structure of the used instruments before proceeding with subsequent analyses. As discussed in chapter 2, the selected instruments to operationalise the individual differences constructs were: the BFI-10 (Rammstedt & John, 2007) and BFI-44 (John & Srivastava, 1999) to measure personality traits, TREO (Mathieu et al., 2015) to assess team roles, DUTCH (De Dreu et al., 2001) to test conflict management styles and the GDMS (Scott & Bruce, 1995) to measure decision-making styles. Further, as highlighted in chapter 3, the chosen instruments to evaluate employee performance, job satisfaction and climate for innovation were: the employee job performance questionnaire (Chen & Kalleberg, 1996) and the IWPQ (Koopmans et al., 2016), as measurements of employee performance; the Andrews and Withey job satisfaction questionnaire (Andrews & Withey, 1976, 2012), as a measurement of job satisfaction; and the TCI (Kivimaki & Elovainio, 1999), as a measurement of climate for innovation.

Previous research conducted in Western countries presented the structure of these instruments. It was shown that BFI-10 and BFI-44 have five factors: openness, conscientiousness, extraversion, agreeableness and openness (Benet-Martinez & John, 1998; Chiorri et al., 2008; Cid & Finney, 2009; Rammstedt & John, 2007). It was also demonstrated that TREO has six factors, which are: organiser, doer, challenger, innovator, team builder and connector (Mathieu et al., 2015). Further, it was reported that the Dutch test for conflict handling has five factors, these being: problem solving, yielding, forcing, avoiding and compromising (De Dreu et al., 2001). It has also been established that the GDMS has five factors, which are: rational, intuitive, spontaneous, dependent and avoidant (Scott & Bruce, 1995; Spicer & Sadler-Smith, 2005). Lastly, it was reported that the TCI has four factors, namely: participative safety, support for innovation, vision, and task orientation (Agrell & Gustafson, 1994; Anderson & West, 1998; Boada-Grau et al., 2011; Kivimaki & Elovainio, 1999). As for employee job performance (Cheng & Kalleberg, 1996), the

IWPQ (Koopmans et al., 2016) and the Andrews and Withey job satisfaction questionnaires (Andrews & Withey, 1976, 2012), these consist of only two items, five items and six items, respectively, thus their structure was not addressed.

6.1.1 Rationale for Study 1

This chapter is aimed at fulfilling the first objective of this research by testing the factorial structure of all these instruments on three samples in Jordan, thereby bridging the gap that is present in the literature relating to that nation. Accordingly, this chapter provides the groundwork for chapter seven, which presents regression analysis for the individual differences constructs that are associated with employee performance, job satisfaction and climate for innovation.

6.1.2 Research question

The research question for this study is addressed below:

- Does the structure of the individual differences instruments alongside the climate for innovation instrument present similar or different structure to what has been published in western countries?

6.2 Methods

6.2.1 Design

As previously explained in chapter 5, the research design for this study is cross-sectional. Whilst such a design has received criticisms that it does not present a causal inference (Levin, 2006), adopting this design did offer key benefits to this research. For instance, it enabled the process of collecting data for all the focal constructs without any interruptions, which often take place in longitudinal studies (Caruana et al., 2015). In particular, there was no loss of participants, which regularly happens during follow-ups. Moreover, completing surveys with this design saved time (Levin, 2006) for both the researcher and participants. Further, data was collected by using probability sampling, specifically, simple random sampling was adopted for the company samples (Rossi et al., 2013; Tashakkori & Teddlie, 2003).

As explained previously in chapter 5, for practical reasons, to avoid respondents' fatigue and boredom, thus increasing the engagement level (Hess et al., 2012), data was collected at different time intervals. Specifically, data for BFI-10, TREO and the TCI was collected from a shipping and

logistics company (N= 224) as well as a telecoms company (N= 219) in time 1. Next, three months later, data for BFI-44, DUTCH and the GDMS was collected from the same participants who worked in the shipping and logistics company, but not from the telecoms company. The data collection for the remaining constructs from the telecoms company was halted, because the company undertook new projects and wanted to keep its employees focused on their new tasks without any external interruptions.

6.2.2 Samples

This study covered two samples from Jordan, sample 1 consisted of participants from a shipping and logistics company and sample 2 comprised of participants from a telecoms company.

6.2.2.1 Sample 1

From the shipping and logistics company there were 224 participants that completed the BFI-10, BFI-44, TREO, DUTCH, GDMS, and the TCI. Notably, this organisation is ranked within the top 20 companies to work for in Jordan. This sample involved participants from both males and females, diverse age groups, qualifications, departments and years of experience as displayed in table 10. The age range of the participants was from 19 to 59 with mean being 31.23 (SD= 8.10). Further, the number of working years with the company ranged between 1 to 25 years with mean being 4.73 (SD= 4.636).

Table 10. Characteristics of sample 1

Variable	Category	Percentage
Gender	Males	50.54 %
	Females	49.55%
Age	19	4.00 %
	20 – 29	48.70%
	30 – 39	27.70%
	40 – 49	13.40%
	50 – 59	6.30%
Departments	Finance	10.7%,
	Human Resources	7.60%
	Information Technology	11.60%
	Sales and Marketing	8.90%
	Quality Assurance	10.70%,
	Operations	40.6%,
	Documentation	9.40%
Level	Intern	.40%.
	Officers	43.30%
	Senior Officers	26.80%
	Supervisors	12.90%
	Managers	12.90%
	Directors	3.10%
	CEO	.40%
Number of Working Years	1-5 years	63.84%
	6-10 years	18.75%
	11-15 years	8.93%
	16-20 years	8.04
	21-25 years	.45%

6.2.2.2 Sample 2

From the telecoms company there were 219 participants. This sample covered participants from both males and females, different age groups, departments, levels, and number of working years with the firm as presented in table 11 below. The age range of the participants was from 19 to 59 with mean being 31.10 (SD= 7.212). Moreover, the number of working years ranged between 1 to 13 years with mean being 4.65 (SD= 3.591).

Table 11. Characteristics of sample 2

Variable	Category	Percentage
Gender	Males	66.70%
	Females	33.30%
Age	19	0.46%
	20 – 29	46.58%
	30 – 39	42.01%
	40 – 49	8.68%
	50 – 59	2.28%
Departments	Finance	14.2%
	Human Resources	7.8%
	Information Technology	10.0%
	Sales and Marketing	28.8%
	Quality Assurance	2.7%
	Engineering	22.4%
	Call Centre	14.2%
Level	Intern	.90%
	Officers	45.2%
	Senior Officers	26.9%
	Supervisors	11.0%
	Managers	13.2%
	Directors	2.7%
Number of Working Years	1-5 years	64.8%
	6-10 years	21.5%
	11-15 years	9.1 %

6.2.3 Instruments: Scales used and their reliabilities

For this thesis, the following instruments were selected to measure individual differences and climate for innovation. Notably, a Cronbach alpha of 0.7 and above was proposed by Field (2009) and Easterby-Smith et al., (2015) for a reliable scale.

6.2.3.1 Instruments used to measure individual differences

6.2.3.1.1 The Big Five inventory (BFI-10)

BFI-10 (Rammstedt & John, 2007) was used to measure the big five construct on both the shipping and logistics company and the telecoms company, with Table 12 below demonstrating the scales and reliabilities of this instrument and appendix 1d presenting the instrument itself.

Table 12. Instrument used to measure the big five and its reliability

Instrument	Scale	Sample 1 α	Sample 2 α	No. of Items
BFI-10	Openness	-.305	-.620	2
	Conscientiousness	.328	.191	2
	Extraversion	-.049	.230	2
	Agreeableness	.198	.259	2
	Neuroticism	-.274	.467	2

**sample 1 = shipping and logistics company; sample 2= telecom company*

6.2.3.1.2 The Big Five inventory (BFI-44)

BFI-44 (John & Srivastava, 1999) was used to measure the big five on the shipping and logistics company only, with Table 13 below displaying the scales and reliabilities of this instrument and appendix 1h showing the instrument itself.

Table 13. Instrument used to measure the big five and its reliability

Instrument	Scale	α	No. of Items
BFI-44	Openness	.752	10
	Conscientiousness	.833	9
	Extraversion	.940	8
	Agreeableness	.852	9
	Neuroticism	.651	8

6.2.3.1.3 The Team Role Experience and Orientation Dimensions (TREO)

TREO (Mathieu et al., 2015) was adapted to measure the team roles construct on both the shipping and logistics company as well as the telecoms company, with Table 14 below demonstrating the scales and reliabilities of this instrument and appendix 1d displaying the items in the instrument.

Table 14. Instrument used to measure team roles and its reliability

Instrument	Scale	α	No. of Items
TREO – Sample 1	Organiser	.860	4
	Doer	.821	4
	Challenger	.859	4
	Innovator	.818	4
	Team Builder	.866	4
	Connector	.911	4
TREO – Sample 2	Organiser	.715	4
	Doer	.616	3
	Challenger	.445	4
	Innovator	.692	3
	Team Builder	.705	4
	Connector	.690	4

**sample 1 = shipping and logistics company; sample 2= telecom company*

In order to improve the reliability of TREO for the telecom company, the following items were deleted: “As a member of different teams I like it when we keep busy and get things done” from the doer scale, and “As a member of different teams I get bored when we do the same task the same

way every time” from the innovator scale. This took place as Tavakol and Dennick (2011) proposed deleting items with poor correlations as they may contribute to producing low alphas.

6.2.3.1.4 The Dutch Test for Conflict Handling (DUTCH)

DUTCH (De Dreu et al., 2001) was used to measure the conflict management styles construct on the shipping and logistics company only, with Table 15 below presenting the scales and reliabilities of this instrument and appendix 1h demonstrating the items in the instrument.

Table 15. Instrument used to measure conflict management styles and its reliability

Instrument	Scale	α	No. of Items
DUTCH	Problem solving	.620	4
	Compromising	.746	4
	Forcing	.708	4
	Yielding	.629	4
	Avoiding	.644	4

6.2.3.1.5 The General Decision-Making Styles Survey (GDMS)

GDMS (Scott & Bruce, 1995) was adapted to measure the decision-making styles construct on the shipping and logistics company only, with Table 16 below presenting the scales and reliabilities of this instrument and appendix 1h displaying the items in the instrument.

Table 16. Instrument used to measure decision-making styles and its reliability

Instrument	Scale	α	No. of Items
GDMS	Rational	.761	5
	Intuitive	.753	5
	Dependent	.792	5
	Spontaneous	.633	5
	Avoidant	.628	5

6.2.3.1.6 Team Climate Inventory (TCI)

TCI (Kivimaki & Elovainio, 1999) was adopted on both the shipping and logistics and the telecoms company to measure the climate for innovation construct, with Table 17 below illustrating the scales and reliabilities of this instrument with appendix 1d presenting the items in the instrument.

Table 17. Instrument used to measure climate for innovation and its reliability

Instruments	Scales	Sample 1	Sample 2	No. of Items
		α	α	
TCI	Support for new ideas	.724	.836	3
	Participative safety	.896	.824	4
	Vision	.890	.849	4
	Task orientation	.877	.812	3
	TCI total score	.940	.918	12

**sample 1 = shipping and logistics company; sample 2= telecom company*

6.2.4 Procedure

The researcher intended to undertake research on the top 20 companies to work for in Jordan and started contacting them. Fortunately, a shipping and logistics company as well as a telecoms company gave the researcher permission to conduct the study on their premises. Data was collected on paper in order to increase the response rate. In fact, both companies provided their employees with internet access only to websites that were relevant to their jobs and hence, they did not have access to Qualtrics.

A small pilot study was carried out before publishing the survey. It was carried out on both the shipping and logistics company as well as the telecoms company. The sample covered different levels, departments, age groups and gender from both companies. Specifically, it involved six employees from three different levels (entry level, mid-level management, top-level management); departments (human resources, information technology, sales and marketing); age groups (20 years old, 30 years, 50 years) and gender (three males, three females). This gave the researcher the opportunity to examine the methods and measures on this trial sample before conducting the study on a larger scale, thus enhancing the main study (Hazzi & Maldaon, 2015). That is, any presenting challenges were addressed before embarking on the actual study (Hazzi & Maldaon, 2015; Lackey & Wingate, 1998). Despite the fact that carrying out this study provided limited information when compared with the main study, it did increase the chances of having better overall results (Hazzi & Maldaon, 2015).

This pilot study was useful as it played a role in convincing the stakeholders to conduct this research in their company. This is due to the fact that the participants provided the stakeholders with positive feedback about the study. Also, it provided the researcher with some important details about the time needed to fill out the questionnaire and the best layout to use that would make completing the survey a smooth and speedy process. Additionally, it allowed for testing the feasibility of utilising the adopted questionnaires as well as familiarising the researcher with the environment of the companies and the process of data collection. Notably, the number of participants was kept to a minimum in order to avoid losing members who might subsequently provide data that proved valuable, for the information from this pilot study was excluded from all the data analysis for the main study.

6.2.5 Data analytic technique

For this study, CFA was conducted, whereby the aim was to investigate the structure of the selected instruments in Jordan. That is, this test involved examining the factorial validity of the instruments (Brown & Moore, 2012), as to whether the findings from Jordan would yield consistent results with those from Western countries. This was undertaken using the software package Analysis of Moment Structures (Amos) (Arbuckle, 2012).

6.2.6 Ethics

This study was carried out in accordance to the British Psychological Association guidelines (BPS, 2014). Accordingly, two ethics applications were submitted and approved by the University of Westminster (UoW) ethics committee. Based on the University of Westminster Code of Ethics Governing the Ethical Conduct of Research (CoP), the research was classified as class 1 research. The companies that took part provided the researcher with written approval letters, which gave permission to collect data from their employees. These letters were submitted to the ethics committee of the UoW.

A participant information sheet, as presented in Appendix 1a and Appendix 1e, was used to provide participants with a thorough understanding of the purposes, aims as well as a clear description of the process of filling in the questionnaires. The participants were also notified that they were free to withdraw from the study at any time and afterwards they were asked to sign the consent form, as illustrated in Appendix 1b and Appendix 1f. This indicates that the participants had a clear understanding of the study and agreed to participate in it. Additionally, a debriefing sheet was used to provide them with information, recommendations for additional readings, respond to queries and to thank them, at the end of the study (see appendix 1c and appendix 1g) (BPS, 2014). Further, ethical guidelines of confidentiality and anonymity were presented on the key information page of the questionnaires, specifically, with a statement that mentioned that their responses would be anonymous and treated with full confidentiality, as outlined in the Data Protection Act 2018 in the UK (BPS, 2018). Crucially, vulnerable groups aged under 16 were not included in the study, therefore, the samples included participants aged between 20 and 72. Moreover, the research did not involve addressing any sensitive or stressful topics.

6.3 Results

6.3.1 Factorial structure of the researched constructs

The most common method to examine and analyse the psychometric qualities of personality tests is through using factor analysis (Gunnarsson, Gustavsson, Holmberg, & Weibull, 2015). Therefore, to meet the first objective of this thesis, the factorial structure of the instruments employed in this piece of research was investigated, particularly through using CFA.

CFAs were specifically run to study the factorial structure of the BFI-10 (Rammstedt & John, 2007), the BFI-44 (John & Srivastava, 1999), TREO (Mathieu et al., 2015), the DUTCH (De Dreu et al., 2001), the GDMS (Bruce & Scott, 1995), and the TCI (Anderson & West, 1998). There are no known studies in Jordan that have tested the factorial structure of these instruments. Accordingly, before proceeding with any regression analyses, it is crucial to start by first examining the factorial structure of the used instruments.

Whilst running CFAs, it is essential to pay attention if there are any considerable number of cases required when testing the model in order for it to converge without impossible parameter estimates or improper solutions (Wolf, Harrington, Clark, & Miller, 2013). Therefore, model with large samples (Boomsma, 1982; Gagné & Hancock, 2006; Velicer & Fava, 1998), with more indicators per factor, as well as with larger factor loadings (Gagné & Hancock, 2010) have higher chances to converge properly. Thus, CFA was considered as appropriate to use as the sample size in the shipping and logistics company (N=224) was greater than the recommended 200 (Wolf et al., 2013). Also, the total number of sample size in the telecom company was (N= 219) which is also greater than the recommended 200. Further, CFA was selected as it uses multiple statistical tests to determine if the model fits the data by computing the goodness-of-fit indices (GOF). Fundamentally, CFA confirms the factor structure of a group of observed variables. Accordingly, it gives room for the researcher to examine if a relationship between the observed variables and their latent constructs is present (Harrington, 2009).

Standard goodness-of-fit indices were selected *a priori* to test the measurement models. The chi-square values (χ^2) are reported. This indicator points out the amount of difference expected and observed covariance matrices. A value of a chi-square that is close to zero means that there is a minimal amount of difference between the expected and the observed covariance matrices.

Moreover, in the case of the chi-square being close to zero, the probability level has to be greater than 0.05. However, it has been postulated that this indicator is generally sensitive to sample size, thus, as the sample size of this research is big, in this case, the chi-square was not considered as a good indicator to look at (Lance & Vandenberg, 2001; Loo, 2000), as significant chi-square values will be produced. Accordingly, the relative chi-square CMIN/df value which is the minimum discrepancy, \hat{C} divided by its degrees of freedom has been evaluated instead. This indicator is referred to as normed chi square, normal chi square, or chi-square to df ratio. This value aims to reduce the dependency of the model chi-square on sample size (Shadfar & Malekmohammadi, 2013). Multiple researchers have proposed cut-offs between 2 to 5 for this indicator (Byrne, 1989; Carmines & McIver, 1981; Marsh & Hocevar, 1985). Therefore, this study used 3.00 as a rule of thumb where values greater than that would present an inadequate fit.

The root mean square error of approximation (RMSEA) for Steiger and Lind (1980) is one of the indices to use as a complementary fit that will assist in accommodating big samples. Thus, this indicator has been also used. Browne and Cudeck's (1993) proposed a cut-off of 0.08 or less as an indicator for a good-fitting model. Additionally, the comparative fit-index (CFI), also known as Bentler comparative fit-index, has been chosen as one of the indices to present in this research. This index compares the fit of the targeted model with the fit of the independent model where the variables are presumed not to be correlated. Therefore, this value focuses on the discrepancy between the observed and predicted covariance matrices (Hu & Bentler, 1999). This value is not very sensitive to sample size (Fan, Thompson, & Wang, 1999). For adequate fit, Hu and Bentler (1990) suggested a value of .90 or more. Finally, the incremental fit index (IFI), which is known as Bollen's IFI as well, is generally not sensitive to sample size. This relative fit index compares the chi-square of the tested model with the baseline model. For a good fitting model, a cut-off of .90 or bigger has to be achieved (Tanaka, 1993).

6.3.1.1 Factorial structure of the big five inventory: BFI-10 and BFI-44

6.3.1.1.1 Factorial structure of the big five inventory (BFI-10)

To study the different theoretical models (Bentler & Bonnet, 1980; Breckler, 1990; Byrne, 1989; Loehlin, 1992) CFA was run on the data collected with the Big Five Inventory (BFI-10)

(Rammstedt & John, 2007). The BFI-10 comprises of five factors. These factors are: openness (i.e. individuals that tend to be curious, imaginative, and artistic), conscientiousness (i.e. individuals that tend to be organised, disciplined, and thorough), extraversion (i.e. individuals that tend to be sociable, energetic, and enthusiastic), agreeableness (i.e. individuals that tend to be forgiving, warm, and sympathetic), and neuroticism (i.e. individuals that tend to be irritable, moody, and vulnerable).

In this research a five-factor model was tested (see table 18 for a summary of the BFI-10 factorial models). Two versions of this five-factor model were inspected: one with five independent factors and one which allowed the factors to intercorrelate as illustrated in table 19. This independent and intercorrelated five factor models included all openness, conscientiousness, extraversion, agreeableness, and neuroticism factors.

Table 18. Summary of the BFI-10 factorial models

Model	Factors
Five Factor Model	Factor 1: Extraversion Factor 2: Agreeableness Factor 3: Conscientiousness Factor 4: Neuroticism Factor 5: Openness

Table 19 presents the fit indices of the factorial structures of the data collected with the BFI-10 for sample 1 and sample 2. For sample 1, the correlated five-factor model showed unacceptable fit indices as per the following: RMSEA (.098), CFI (1.00), and IFI (1.00). Further, the model with the five independent factors showed inadequate fit. The fit indices for the independent five factor model were found to be: RMSEA (.098), CFI (1.00), and IFI (1.00). Notably, for the correlated and uncorrelated five-factor models on AMOS did not report fit indices for CMIN/df. This further indicates that the model did not provide an acceptable fit to the data.

Likewise, for sample 2, the correlated five-factor model showed unacceptable fit indices as per the following: CMIN/df (3.014), RMSEA (.096), CFI (.684), and IFI (.719). Furthermore, the model with the five independent factors showed inadequate fit. Its fit indices were found to be: CMIN/df

(3.014), RMSEA (.096), CFI (.684), and IFI (.719). Overall, it can be concluded that the five-factor model for the BFI-10 does not work in Jordan.

Table 19. Goodness-of-Fit indicators of models for the correlated and uncorrelated big five inventory (BFI-10) for sample 1 (N= 224) and sample 2 (N= 219)

Uncorrelated Models								
	Model	χ^2	<i>Df</i>	CMIN/df	<i>RMSEA</i>	CFI	IFI	$\Delta\chi^2$
Sample 1	Five Factor Model	-	35	-	.098	1.000	1.000	-
	Five Factor Model	75.346	25	3.014	.096	.684	.719	29.43
Correlated Model								
Sample 1	Five Factor Model	-	25	-	.098	1.000	1.000	-
	Five Factor Model	75.346	25	3.014	.096	.684	.719	0

Note: CMIN/df = the minimal value of the discrepancy, χ^2 , divided by the degrees of freedom; RMSEA = root mean square error of approximation; CFI=comparative fit index; IFI = the incremental fit index; $\Delta\chi^2$ = chi-square difference between the two different models. $p < 0.001$. N= 473. Sample 1 = shipping and logistics company; sample 2= telecom company.

6.3.1.1.2 Factorial structure of the BFI-44

To investigate the different theoretical models (Bentler & Bonnet, 1980; Breckler, 1990; Byrne, 1989; Loehlin, 1992) CFA was run on the data collected with the BFI-44 (John & Srivastava, 1999). The BFI-44 comprises of five factors which are: openness (i.e. individuals that tend to be curious, imaginative, and artistic), conscientiousness (i.e. individuals that tend to be organised, disciplined, and thorough), extraversion (i.e. individuals that tend to be sociable, energetic, and enthusiastic), agreeableness (i.e. individuals that tend to be forgiving, warm, and sympathetic), and neuroticism (i.e. individuals that tend to be irritable, moody, and vulnerable) (John & Srivastava, 1999).

In the CFA that was conducted by Benet-Martinez & John (1998), a five-factor model was run. The five-factor model comprised of the following: factor one included all openness items, factor two included all conscientiousness items, factor three included all extraversion items, Factor four included all agreeableness items, and factor five included all neuroticism items. Likewise, the same procedure was replicated and examined on the Jordanian sample.

Thus, in this research a five-factor model was tested (see table 20 for a summary of the BFI-44 factorial models). Two versions of this five-factor model were inspected: one with five independent factors and one which allowed the factors to intercorrelate as illustrated in table 21. The independent and intercorrelated five factor models included all openness, conscientiousness, extraversion, agreeableness, and neuroticism items.

Table 20. Summary of the BFI-44 factorial models

Model	Factors
Five Factor Model	Factor 1: Extraversion Factor 2: Agreeableness Factor 3: Conscientiousness Factor 4: Neuroticism Factor 5: Openness

Table 21 shows the fit indices for the factorial structures to the data collected with the BFI-44. The correlated five-factor model showed adequate fit indices as per the following: CMIN/df (1.452), and RMSEA (.045), CFI (.903), and IFI (.904). The correlated five factor model showed a significantly better fit (χ^2 diff= 1294.840, df= 892, $p < 0.001$) than the independent five factor model (χ^2 diff= 1895.771, df= 902, $p < 0.001$). The model with the five independent factors showed a tolerable fit. The fit indices for the independent five factor model were found to be: CMIN/df (2.102), RMSEA (.070), CFI (.760), and IFI (.762). Accordingly, the correlated five factor model had significantly better fit than the independent five factor model: $\Delta\chi^2 = 600.931$ (df= 892), $p < .001$.

Table 21. Goodness-of-Fit indicators of models for the correlated and uncorrelated big five inventory (BFI-44) for sample 1 (N= 224)

Uncorrelated Models							
Model	χ^2	<i>Df</i>	CMIN/df	<i>RMSEA</i>	CFI	IFI	$\Delta\chi^2$
Five Factor							
Model	1895.771	902	2.102	.070	.760	.762	496.907
Correlated Model							
Five Factor Model	1294.840	892	1.452	.045	.903	.904	600.931*

Note: CMIN/df = the minimal value of the discrepancy, \hat{C} , divided by the degrees of freedom; RMSEA = root mean square error of approximation; CFI=comparative fit index; IFI = the incremental fit index; $\Delta\chi^2$ = chi-square difference between the two different models. $p < 0.001$. Sample 1 = shipping and logistics company.

6.3.1.2 Factorial structure of TREO

To study the different theoretical models (Bentler & Bonnet, 1980; Breckler, 1990; Byrne, 1989; Loehlin, 1992), CFA was run on the data collected with TREO dimensions. TREO is composed of 2 scales (i.e. experience and orientation). Each of these scales has six factors which are: challenger (i.e. describes individuals that tend to debate and criticize), doer (i.e. describes

individuals that tend to focus on completing the tasks), organiser (i.e. describes individuals that tend to structure the work of the team), team builder (i.e. describes individuals that tend to focus on motivating the team to maintain the positive atmosphere at work), innovator (i.e. describes individuals that tend to bring new ideas) , and connector (describes individuals that tend to connect team members with each other and with outsiders) (Mathieu et al., 2015). As mentioned in chapter 2, specifically, subsection 2.5.2.1, in this thesis the orientation scale was the only one adapted as the experience scale does not link in with the research idea. Therefore, this section describes the structure of the of the orientation scale only.

In the CFA that was conducted by Mathieu et al. (2015), a one-factor model and a six-factor model were run. The one-factor model loaded all items onto a single factor. The six-factor model comprised of the following: the one-factor model included all challenger items, the two-factor model included all items for doer, the three-factor model included all items for organiser, the four-factor model included all items for team-builder, the five-factor model included all items for innovator, and the six-factor model included all items for connector. This procedure was replicated and examined on the Jordanian sample.

First, a one-factor model, where all items loaded onto a single factor, was tested. Following that, a six-factor model was tested. Two versions of this factor model were inspected: one with independent factors and another one which allowed the factors to intercorrelate. In every model, the first factor contained all challenger items. The second item contained all doer items. The third factor contained all organiser items. The fourth factor contained all team builder items. The fifth factor contained all innovator items. The final and sixth factor contained all connector items. Table 22 illustrates a summary of these factorial models.

Table 22. Summary of TREO factorial models

Model	Factors
One Factor Model	All items
Six Factor Model	Factor 1: challenger Factor 2: doer Factor 3: organiser Factor 4: team builder Factor 5: innovator Factor 6: connector

Table 23 shows the fit indices for the factorial structures to the data collected with the TREO dimensions for sample 1 and sample 2. For sample 1, the correlated six-factor model has acceptable fit indices, the values were found to be: CMIN/df (2.208), RMSEA (.074), CFI (.943), and IFI (.944). The correlated six factor model (χ^2 diff= 523.228, df= 237, $p < 0.01$) did show a significantly better fit than the independent six factor model (χ^2 diff= 2419.611, df= 252, $p < 0.01$). Thus, the correlated six-factor model has a significantly better fit than the independent six-factor model: $\Delta\chi^2 = 1896.383$ (df= 237), $p < .001$. The fit indices for the independent six factor model showed inadequate fit and were found to be: CMIN/df (9.602), RMSEA (.196), CFI (.571), and IFI (.573). Similar to the correlated six factor model, the fit indices for the one factor model met the recommended criteria with values of: CMIN/df (2.337), RMSEA (.077), CFI (.933), IFI (.934). However, the correlated six-factor model presented better fit indices.

For sample 2, the correlated six-factor model presented tolerable fit indices. As presented in table 23 below, the fit indices were found to be: CMIN/df (1.874), RMSEA (.063), CFI (.873), and IFI (.877). The correlated six factor model (χ^2 diff= 444.133, df=,237 $p < 0.01$) showed a significantly better fit than the independent six factor model (χ^2 diff= 1197.471, df= 252, $p < 0.01$). Therefore, the correlated six-factor model has a significantly better fit than the independent six-factor model: $\Delta\chi^2 = 753.338$ (df= 237), $p < .001$. The independent six-factor model displayed poor fit indices with values of: CMIN/df (4.752), RMSEA (.131), CFI (.419), and IFI (.435). Lastly, the one factor

model presented tolerable fit indices with values of: CMIN/df (2.079), RMSEA (.070), CFI (.833), IFI (.838). Overall, table 23 conveys that the correlated six factor model from both samples has the most adequate fit in comparison to the other models under evaluation.

Table 23. Goodness-of-Fit indicators of models for TREO for Sample 1 (N= 224) and sample 2 (N= 219)

Uncorrelated Models								
Sample	Models	χ^2	<i>df</i>	CMIN/df	<i>RMSEA</i>	CFI	IFI	$\Delta\chi^2$
	One Factor							
Sample 1	Model	588.851	252	2.337	.077	.933	.934	-
Sample 2	One Factor Model	523.908	252	2.079	.070	.833	.838	-
Sample 1	Six Factor Model	2419.611	252	9.602	.196	.571	.573	1830.76
Sample 2	Six Factor Model	1197.471	252	4.752	.131	.419	.435	673.563
Correlated Model								
Sample 1	Six Factor Model	523.228	237	2.208	.074	.943	.944	1896.383
Sample 2	Six Factor Model	444.133	237	1.874	.063	.873	.877	753.338

Note: CMIN/df = the minimal value of the discrepancy, \hat{C} , divided by the degrees of freedom; RMSEA = root mean square error of approximation; CFI=comparative fit index; IFI = the incremental fit index; $\Delta\chi^2$ = chi-square difference between the two different models. $p < 0.001$. Sample 1= shipping and logistics company; Sample 2= telecom company.

6.3.1.3 Factorial structure of the DUTCH

To study the different theoretical models (Bentler & Bonnet, 1980; Breckler, 1990; Byrne, 1989; Loehlin, 1992) CFA was run on the data collected with the DUTCH. The DUTCH comprises of five factors which are: problem solving (i.e. characterised by individuals that have a high concern for self and others), yielding (i.e. characterised by individuals that have a low concern for self and a high concern for others), forcing (i.e. characterised by individuals that have a high concern for self and a low concern for others), avoiding (i.e. characterised by individuals that have a low concern for self and others), and compromising (i.e. characterised by individuals that have an intermediate concern for self and others) (De Dreu et al., 2001).

In the confirmatory factor analysis (CFA) that was conducted by De Dreu et al. (2001) a one factor, two-factor, three factor, four-factor, and five factor models were run. The one factor model loaded all items onto a single factor. The two-factor model contained all problem solving, compromising and yielding items for factor 1, and all forcing and avoiding items for factor 2. The three-factor model contained all avoiding and yielding items for factor 1, all forcing items for factor 2, all problem solving and compromising items for factor 3. The four-factor model contained all problem solving and compromising items for factor 1, all yielding items for factor 2, all forcing items for factor 3, all avoiding items factor 4. The five-factor model contained all items for problem solving for factor 1, all yielding items for factor 2, all forcing items for factor 3, all avoiding items for factor 4, and all compromising items for factor 5. This procedure was replicated and examined on the Jordanian sample.

First, a one factor model where all items loaded onto a single factor was tested. Following that, a two-factor model was tested. Two versions of this factor model were inspected: one with independent factors and another one which allowed the factors to intercorrelate. In each model, the first factor contained all problem solving, compromising, and yielding items, and the second factor contained all forcing and avoiding items. Next, a three-factor model was tested. Two versions of this factor model were inspected: one with independent factors and another one which allowed the factors to intercorrelate. In each model, the first factor included all avoiding and yielding items, the second factor included all forcing items, the third factor included all problem solving and compromising items. Next, a four-factor model was tested. Two versions of this factor model were inspected: one with independent factors and another one which allowed the factors to

intercorrelate. In these models, the first factor was comprised of all problem solving and compromising items, the second all yielding items, the third all forcing items, and the fourth all avoiding items. Finally, a five-factor model was tested. Two versions of this factor model were inspected: one with independent factors and another one which allowed the factors to intercorrelate. Model one included all problem-solving items, model two included all yielding items, model three included all forcing items, model four included all avoiding items, and lastly, model five included all compromising items. Table 24 illustrates a summary of these factorial models.

Table 24. Summary of the DUTCH factorial models

Model	Factors
One Factor Model	All items
Two Factor Model	Factor 1: problem solving, compromising, yielding Factor 2: forcing, avoiding
Three Factor Model	Factor 1: avoiding, yielding Factor 2: forcing Factor 3: problem solving, compromising
Four Factor Model	Factor 1: problem solving, compromising Factor 2: yielding Factor 3: forcing Factor 4: avoiding
Five Factor Model	Factor 1: problem solving Factor 2: yielding Factor 3: forcing Factor 4: avoiding Factor 5: compromising

Table 25 shows the fit indices for the factorial structures to the data collected with the DUTCH for sample 1. The correlated five factor model has acceptable fit indices, the values were found to be: CMIN/df (1.592), RMSEA (.052), CFI (.907), and IFI (.909). The correlated five factor model (χ^2 diff= 254.706, df= 160, $p < 0.001$) showed a significantly better fit than the independent five factor model (χ^2 diff= 556.525, df=170, $p < 0.001$).

Further, the fit indices for the independent factor models did not meet the recommended criteria. For the one factor model the fit indices were found to be: CMIN/df (2.822), RMSEA (.090), CFI (.694), and IFI (.700). Moreover, for the two-factor model the fit indices were found to be: CMIN/df (3.122), RMSEA (.098), CFI (.644), and IFI (.651). In addition to that, for the three-factor model the fit indices were found to be: CMIN/df (2.673), RMSEA (.087), CFI (.719), and IFI (.725). Moreover, for the four-factor model the fit indices were found to be: CMIN/df (2.696), RMSEA (.087), CFI (.715), and IFI (.721). Lastly, for the five-factor model the fit indices were found to be: CMIN/df (3.274), RMSEA (.101), CFI (.619), and IFI (.626).

With regards to the computed statistics for the correlated factor models, the two-factor model did not meet the recommended criteria as well. Its fit indices were found to be: CMIN/df (3.054), RMSEA (.096), CFI (.657), and IFI (.664). Further, the three and four-factor models displayed tolerable fit indices. The fit indices for the three-factor model were found to be: CMIN/df (1.835), RMSEA (.061), CFI (.862), and IFI (.865). Also, the fit indices for the four-factor model were found to be: CMIN/df (1.667), RMSEA (.055), CFI (.892), and IFI (.895). Essentially, the fit indices for the correlated five factor model met the recommended criteria with values of: CMIN/df (1.592), RMSEA (.052), CFI (.907), and IFI (.909).

Overall, these values show that the correlated five factor model fit the data the most. Clearly, the correlated five factor model has a significantly better fit than the correlated four factor model: $\Delta\chi^2=18.637$ (df= 160), $p< .001$.

Table 25. Goodness-of-Fit indicators of models for the DUTCH for sample 1 (N= 224)

<i>Uncorrelated Models</i>							
Model	χ^2	<i>Df</i>	CMIN/df	<i>RMSEA</i>	CFI	IFI	$\Delta\chi^2$
One Factor Model	479.736	170	2.822	.090	.694	.700	-
Two Factor Model	530.730	170	3.122	.098	.644	.651	50.994
Three Factor Model	454.370	170	2.673	.087	.719	.725	76.36
Four Factor Model	458.362	170	2.696	.087	.715	.721	3.992
Five Factor Model	556.525	170	3.274	.101	.619	.626	98.163
<i>Correlated Models</i>							
Two Factor Model	516.163	169	3.054	.096	.657	.664	-
Three Factor Model	306.523	167	1.835	.061	.862	.865	209.64
Four Factor Model	273.343	164	1.667	.055	.892	.895	33.18
Five Factor Model	254.706	160	1.592	.052	.907	.909	18.637

*CMIN/df = the minimal value of the discrepancy, \hat{C} , divided by the degrees of freedom; RMSEA = root mean square error of approximation; CFI=comparative fit index; IFI = the incremental fit index; $\Delta\chi^2$ = chi-square difference between the two different models. $p < 0.001$. Sample 1= shipping and logistics company.

6.3.1.4 Factorial Structure of the GDMS

To examine the different theoretical models (Bentler & Bonnet, 1980; Breckler, 1990; Byrne, 1989; Loehlin, 1992) CFA was run on the data collected with the GDMS. The GDMS is comprised of five factors which are: rational (i.e. describes individuals that thoroughly look for and logically evaluate the available options), intuitive (i.e. describes individuals that base their decisions on hunches and feelings), dependent (i.e. describes individuals that look for advice and guidance from others), spontaneous (i.e. describes individuals that have a desire to make quick decisions and end the decision-making process as soon as possible), and avoidant (i.e. describes individuals that attempt to avoid making decisions) (Scott & Bruce, 1995).

In the CFA that was conducted by Scott and Bruce (1995) a one factor, two-factor, three factor, four-factor, and five factor models were run. The one factor model loaded all items onto a single factor. The two-factor model included all rational and dependent items for factor 1, and all intuitive, spontaneous, and avoidant items for factor 2. The three-factor model included all rational items for factor 1, all intuitive, spontaneous, and avoidant items for factor 2, and all dependent items for factor 3. The four-factor model included all rational items for factor 1, all intuitive and spontaneous items for factor 2, all dependent items for factor 3, and all avoidant items for factor 4. The five-factor model included all rational items for factor 1, all intuitive items for factor 2, all dependent items for factor 3, all spontaneous items for factor 4, and all avoidant items for factor 5. This procedure was replicated and examined on the Jordanian sample.

First, a one-factor model, where all items loaded onto a single factor, was tested. Following that, a two-factor model was tested. Two versions of this factor model were inspected: one with independent factors and another one which allowed the factors to intercorrelate. In each model, the first factor comprised of all rational and dependent items, and the second factor comprised of intuitive, spontaneous, and avoidant factors. Next, a three-factor model was tested. Two versions of this factor model were inspected: one with independent factors and another one which allowed the factors to intercorrelate. In every model, the first factor contained all rational items, the second factor contained all intuitive, spontaneous, and avoidant items, the third factor contained all dependent items. Next, a four-factor model was tested. Two versions of this factor model were inspected: one with independent factors and another one which allowed the factors to intercorrelate. In every model, the first factor included all rational items, the second factor included

all intuitive and spontaneous items, the third factor included all dependent factors, and the fourth factor included all avoidant factors. Finally, a five-factor model was tested. Two versions of this factor model were inspected: one with independent factors and another one which allowed the factors to intercorrelate. In every model, the first factor incorporated all rational items, the second factor incorporated all intuitive items, the third factor incorporated all dependent items, the fourth factor incorporated all spontaneous items, and the fifth and final factor incorporated all avoidant items. Table 26 represents a summary of these factorial models.

Table 26. Summary of the GDMS factorial models

Model	Factors
One Factor Model	All items
Two Factor Model	Factor 1: rational, dependent Factor 2: intuitive, spontaneous, avoidant
Three Factor Model	Factor 1: rational Factor 2: intuitive, spontaneous, avoidant Factor 3: dependent
Four Factor Model	Factor 1: rational Factor 2: intuitive, spontaneous Factor 3: dependent Factor 4: avoidant
Five Factor Model	Factor 1: rational Factor 2: intuitive Factor 3: dependent Factor 4: spontaneous Factor 5: avoidant

Table 27 shows the fit indices for the factorial structures to the data collected with the GDMS. The correlated five factor model presented acceptable values for the CMIN/df (1.347), RMSEA (.039), CFI (.933), and IFI (.935) fit indices. The correlated five factor model (χ^2 diff= 357.059, df= 265, $p < 0.001$) showed a significantly better fit than the uncorrelated five factor model (χ^2 diff= 694.498, df= 275, $p < 0.001$).

Further, the fit indices for the independent models, particularly, for the one, three, four, and five factor model did not meet the recommended criteria. The fit indices for the one factor model were found to be: CMIN/df (2.881), RMSEA (.092), CFI (.621), and IFI (.635). Furthermore, the fit indices for the three-factor model were found to be: CMIN/df (2.974), RMSEA (.094), CFI (.602), and IFI (.617). Additionally, the fit indices for the four-factor model were found to be: CMIN/df (2.577), RMSEA (.084), CFI (.683), and IFI (.694). Lastly, the fit indices for the five-factor model were found to be: CMIN/df (2.525), RMSEA (.083), CFI (.693), and IFI (.704). As for the two-factor model, the fit indices presented tolerable fit with values of: CMIN/df (2.372), RMSEA (.078), CFI (.724), and IFI (.734).

With respect to the computed statistics of the correlated models, the two, three and four factor models presented tolerable fits. The fit indices for the two-factor model were found to be: CMIN/df (2.231), RMSEA (.074), CFI (.753), and IFI (.762). Further, the fit indices for the three-factor model were found to be: CMIN/df (2.233), RMSEA (.074), CFI (.754), and IFI (.764). Additionally, the fit indices for the four-factor model were found to be: CMIN/df (1.830), RMSEA (.061), CFI (.837), and IFI (.843). In contrast, the fit indices for the five-factor model presented acceptable fit indices with values of: CMIN/df (1.347), RMSEA (.039), CFI (.933), and IFI (.935). Accordingly, as presented the correlated five factor model has a significantly better fit than the uncorrelated four factor model: $\Delta\chi^2 = 135.104$ (df= 265), $p < .001$. Overall, table 27 conveys that the correlated five factor model has the most adequate fit in comparison to the other models under evaluation.

Table 27. Goodness-of-Fit indicators of models for the GDMS for sample 1 (N= 224)

<i>Uncorrelated Models</i>							
Models	χ^2	<i>df</i>	CMIN/df	<i>RMSEA</i>	CFI	IFI	$\Delta\chi^2$
One Factor Model	792.392	275	2.881	.092	.621	.635	-
Two Factor Model	652.257	275	2.372	.078	.724	.734	140.135
Three Factor Model	817.969	275	2.974	.094	.602	.617	165.715
Four Factor Model	708.574	275	2.577	.084	.683	.694	109.395
Five Factor Model	694.498	275	2.525	.083	.693	.704	14.076
<i>Correlated Models</i>							
Two Factor Model	611.352	274	2.231	.074	.753	.762	-
Three Factor Model	607.482	272	2.233	.074	.754	.764	3.87
Four Factor Model	492.163	269	1.830	.061	.837	.843	115.319
Five Factor Model	357.059	265	1.347	.039	.933	.935	135.104

*CMIN/df = the minimal value of the discrepancy, \hat{C} , divided by the degrees of freedom; RMSEA = root mean square error of approximation; CFI=comparative fit index; IFI = the incremental fit index; $\Delta\chi^2$ = chi-square difference between the two different models. $p < 0.001$. Sample 1= shipping and logistics company.

6.3.1.5 Factorial structure of the TCI

To study the different theoretical models (Bentler & Bonnet, 1980; Breckler, 1990; Byrne, 1989; Loehlin, 1992), CFA was run on the data collected with the TCI. The team climate inventory has four factors which are: vision (e.g. clarity, visionary nature, attainability, sharedness), support for innovation (i.e. supporting individuals who introduce new ideas to the workplace), participative safety (e.g. information sharing, influence, safety and interaction frequency), and task orientation (e.g. excellence, appraisal, and ideation) (Anderson & West, 1998).

In the CFA that was conducted by Anderson and West (1998), a one, two, and four-factor models were run. The one-factor model loaded all items onto a single factor. The two-factor model included all participative safety and support for innovation items for factor 1, and all vision and task orientations items for factor 2. The four-factor model included all vision items for factor 1, all support for innovation items for factor 2, all participative safety items for factor 3, and all task orientation items for factor 4. This procedure was replicated and examined on the Jordanian sample.

First, a one-factor model where all items loaded onto a single factor was tested. Following that, a two-factor model was tested. Two versions of this factor model were inspected: one with independent factors and another one which allowed the factors to intercorrelate. In each model, the first factor included all items for participative safety and support for innovation. The second factor included all items for vision and task orientation. Next, a four-factor model was tested. Two versions of this factor model were inspected: one with independent factors and another one which allowed the factors to intercorrelate. In each model, the first factor included all vision items. The second factor included all support for innovation items, the third factor included all participative safety items, and the fourth factor included all task orientation items. Table 28 exhibits a summary of these factorial models.

Table 28. Summary of the TCI factorial models

Model	Factors
One Factor Model	All items
Two Factor Model	Factor 1: participative safety, support for innovation Factor 2: vision, task orientation
Four Factor Model	Factor 1: vision Factor 2: support for innovation Factor 3: participative safety Factor 4: task orientation

Table 29 shows the fit indices for the factorial structures to the data collected with the team climate inventory (TCI) for sample 1 and sample 2. For sample 1, the correlated four factor model has acceptable fit indices, the values were found to be: CMIN/df (2.408), RMSEA (.079), CFI (.955), and IFI (.955). The correlated four factor model (χ^2 diff= 170.991, df= 71, $p < 0.01$) showed a significant better fit than the uncorrelated four factor model (χ^2 diff= 778.688, df= 77, $p < 0.01$).

Further, for the independent models for sample 1, the fit indices for the one, two, and four factor models did not meet the recommended criteria. The fit indices for the one-factor model were found to be: CMIN/df (4.831), RMSEA (.131), CFI (.866), and IFI (.868). Also, the fit indices for the two-factor model were found to be: CMIN/df (7.730), RMSEA (.174), CFI (.765), and IFI (7.730). Finally, the fit indices for the four-factor model were also found to be inadequate with values of: CMIN/df (10.113), RMSEA (.202), CFI (.682), and IFI (.686). In addition to that, for the correlated model of this sample, the fit indices for the two-factor model did not meet the recommended criteria. Its fit indices were found to be: CMIN/df (4.327), RMSEA (.122), CFI (.886), and IFI (.887). Fundamentally, the correlated four factor model fits the data the most with values of: CMIN/df (2.408), RMSEA (.079), CFI (.955), and IFI (.955). Thus, the correlated four-factor

model has the most parsimonious fit. This shows that the correlated four-factor model has a significantly better fit than the uncorrelated four-factor model: $\Delta\chi^2= 157.858$ (df= 71), $p < .001$.

For sample 2, similar findings were found to what was found for sample 1. The correlated four factor model (χ^2 diff= 134.383, df= 71, $p < 0.01$) showed a significant better fit than the uncorrelated four factor model (χ^2 diff= 538.126, df= 77, $p < 0.01$). The correlated four factor model showed acceptable values for the CMIN/df (1.893), RMSEA (.064), CFI (.960), and IFI (.961) fit indices. Clearly, the fit indices for the uncorrelated models did not meet the recommended standards. To illustrate that, the fit indices for the one factor model were found to be: CMIN/df (4.505), RMSEA (.126), CFI (.829), and IFI (.832). Also, the fit indices for the uncorrelated two factor model were found to be: CMIN/df (5.071), RMSEA (.136), CFI (.801), and IFI (.805). Lastly, the fit indices for the uncorrelated four factor model were found to be: CMIN/df (6.989), RMSEA (.165), CFI (.707), and IFI (.713). Moreover, the fit indices for the correlated two factor model were also found to be inadequate with values of: CMIN/df (3.146), RMSEA (.099), CFI (.897), and IFI (.898). Taken together, the correlated four-factor model in this sample as well has the most parsimonious fit. Evidently, it has a significantly better fit than the uncorrelated four-factor model: $\Delta\chi^2= 104.726$ (df= 5), $p < .001$.

Table 29. Goodness-of-Fit indicators of models for the TCI for Sample 1 (N= 224) and for Sample 2 (N= 219)

Uncorrelated Models								
	Models	χ^2	<i>df</i>	CMIN/df	<i>RMSEA</i>	CFI	IFI	$\Delta\chi^2$
Sample 1	One-Factor Model	371.959	77	4.831	.131	.866	.868	-
Sample 2	One-Factor Model	346.884	77	4.505	.126	.829	.832	-
Sample 1	Two-Factor Model	595.234	77	7.730	.174	.765	7.730	223.275
Sample 2	Two-Factor Model	390.431	77	5.071	.136	.801	.805	43.547
Sample 1	Four-Factor Model	778.688	77	10.113	.202	.682	.686	183.454
Sample 2	Four-Factor Model	538.126	77	6.989	.165	.707	.713	147.695
Correlated Model								
Sample 1	Two-Factor Model	328.849	76	4.327	.122	.886	.887	-
Sample 2	Two-Factor Model	239.109	76	3.146	.099	.897	.898	-
Sample 1	Four-Factor Model	170.991	71	2.408	.079	.955	.955	157.858
Sample 2	Four-Factor Model	134.383	71	1.893	.064	.960	.961	104.726

*CMIN/df = the minimal value of the discrepancy, \hat{C} , divided by the degrees of freedom; RMSEA = root mean square error of approximation; CFI=comparative fit index; IFI = the incremental fit index; $\Delta\chi^2$ = chi-square difference between the two different models. $p < 0.001$. Sample 1= shipping and logistics company; Sample 2= telecom company.

6.4 Discussion

For this study, the factorial structure of the big five, team roles, conflict management styles, decision-making styles and climate for innovation was investigated through factor analysis. It was carried out on two companies in Jordan, a shipping and logistics company and a telecoms company. Fundamentally, this took place in order to examine whether or not the factorial structure of the instruments used works well in Jordan's collectivist society. From the shipping and logistics company, data was collected for the following instruments: BFI-10, BFI-44, TREO, DUTCH, GDMS and TCI. From the telecoms company, data was collected for the following instruments: BFI-10, TREO, and TCI.

The factor analysis findings from both companies presented poor fit-indices for **BFI-10**. This instrument comprises openness, conscientiousness, agreeableness, extraversion and neuroticism. Moreover, the BFI-10 displayed very low alphas from both companies. Nevertheless, for **BFI-44** the analysis showed adequate fit findings for the correlated five factor model from the shipping and logistics company, which includes the following: openness, conscientiousness, agreeableness, extraversion and neuroticism. Regarding the **TREO** findings, the analysis presented an adequate fit for the correlated six-factor model from the shipping and logistics company and a tolerable one for the correlated six-factor model from the telecoms company. Moreover, the alphas from the telecoms company showed values that are lower than the standard criteria, in particular, for the doer, challenger, innovator and connector scales. The instrument constitutes of the following factors: organiser, doer, challenger, innovator, team builder, and connector. Concerning **DUTCH** and the **GDMS** from the shipping and logistics company, the findings demonstrated adequate fits for the correlated five factor models. DUTCH comprises problem solving, compromising, forcing, yielding, and avoiding factors, whilst the GDMS is composed of rational, intuitive, dependent, spontaneous and avoidant factors. Lastly, the **TCI** indicated an adequate fit for the four-factor model from both companies, which includes: support for new ideas, participative safety, vision and task orientation.

Clearly, the inadequate fit indices from both companies for BFI-10 were not in line with Rammstedt and John's (2007) study. However, these were in accord with that of Kunnell-John et al. (2019), which was also conducted on a collectivist society. Regarding the findings for BFI-44, the TREO, DUTCH, the GDMS, and the TCI, these were in accord with previous research.

Specifically, the five factor findings from the shipping and logistics company for BFI-44 were similar to Benet-Martinez and John (1998), Chiorri et al. (2008) and Cid and Finney's (2009) factorial structures. Moreover, the six factor models from both companies for TREO were in accord with Mathieu et al.'s (2015) findings. Further, the five factor findings from the shipping and logistics company for DUTCH and the GDMS reflect former research. For DUTCH, the findings were similar to those of De Dreu et al.'s (2001) study, whilst for the GDMS, the results resembled those of Scott and Bruce (1995) and Spicer and Sadler-Smith (2005). Lastly, for the TCI, the four factor findings mirrored previous research conducted by Agrell & Gustafson (1994), Anderson & West (1998), Boada-Grau et al. (2011) and Kivimaki & Elovainio (1999).

However, the limitations of this study should be acknowledged. First, while this sample involved data from two of the top 20 companies to work for in Jordan, from a very diverse sample including both male and female employees, different age groups, qualifications, departments and years of experience, the findings may not be representative of other companies in Jordan. Thus, limiting the generalisability to the general population in Jordan. Therefore, future studies should aim to include more heterogenous sampling. A second limitation of this study is with regards to the sample size. Despite for both companies the size was within the recommended criteria (Wolf et al., 2013) and was chosen to be as large as practically possible, the findings presented slightly low alphas for some of the scales, including the TREO, DUTCH and the GDMS instruments. Accordingly, future research with a bigger sample size and from more companies would allow for the investigation of these items further.

Overall, the study outcomes have extended the literature and the evidence within business psychology by examining the factorial structure of the instruments used for the first time in Jordan on two companies ranked in the top 20 to work for in Jordan from different industries, whilst encompassing a diverse sample in terms of gender, age, level, departments and years of experience. Moreover, the findings have shown that the structure of the instruments used in this research work well in Jordan's Middle Eastern context, except for BFI-10. In sum, the factorial structure findings have provided a robust foundation for the subsequent analyses proposed for thesis.

Chapter 7. Study 2: How individual differences are associated with employee performance, job satisfaction and climate for innovation in two Jordanian companies

7.1 Introduction

Studies conducted in Western countries have presented associations between individual differences (the big five, team roles, conflict management styles, decision-making styles) and employee performance, job satisfaction and climate for innovation. For employee performance, the strongest positive correlations were displayed for conscientiousness from the big five (Barrick & Mount, 1991; Hough et al., 1990; Judge et al., 1999; Kappe & Van der Flier, 2010; Neal et al., 2012; Rothmann & Coetzer, 2003), doer and organiser team roles (Launonen & Kess, 2002; Parker, 1994), problem solving conflict management style (Afzal et al., 2009; Chen et al., 2005; Rahim et al., 2001; Shih & Susanto, 2010) and the rational decision-making style (Russ et al., 1996; Yaakobi, 2017). These individual differences in relation to employee performance share strong common ground with each other. For instance, task performance is a common factor between conscientiousness and employee performance (Boshoff & Arnolds, 1995; John & Srivastava, 1999). Accordingly, individuals who are persistent, determined and have a strong sense of purpose tend to have a better performance than those who do not (Barrick & Mount, 1991). On the other hand, individuals who are often anxious and moody (Thompson, 2008) tend to have a low performance (Neal et al., 2012). Further, organisers and doers are achievement and task oriented (Belbin, 1993; Parker, 1994), whilst also being hard-workers (Belbin, 2004; Mathieu et al., 2015). Hence, the common grounds these roles share with employee performance in relation to being organised and task oriented (Boshoff & Arnolds, 1995). Moreover, problem solvers tend to come up with exceptional solutions to challenging issues (Lloyd, 2009), which in turn, enhance their performance (Ghorbani & Amirzadeh Heravi, 2011). Lastly, rational decision makers are analytical, logical and structured (Scott & Bruce, 1995), all of which present features that may contribute to improving their performance (Russ et al., 1996).

For job satisfaction, the most significant positive relationships were presented for agreeableness from the big five (Judge et al., 2002; Templer, 2012), the team builder role (Ruch et al., 2018), the problem solving conflict management style (Chen et al., 2012) and the rational decision-making style (Hariri, 2011; Hariri et al., 2016; Leykin & DeRubeis, 2010). These individual differences in

association with satisfaction have similar attributes to each other. Essentially, the agreeableness and job satisfaction constructs focus on concepts that are related to positive and pleasurable emotions (Castro & Martins, 2010; McCrae & Costa, 1991). Individuals who are warm and forgiving tend to be more satisfied at their work (Templer, 2012). Further, team builders often develop positive environments between their team members (Mathieu et al., 2015), which impact their job satisfaction levels (Ruch et al., 2018). Additionally, problem solvers are individuals who have a high level of concern for themselves and others (De Dreu et al., 2001), as a consequence this makes both parties feel fulfilled, which in turn, increases their job satisfaction (Chen et al., 2012). Lastly, rational individuals think issues through thoroughly before making the decision (Scott & Bruce, 1995), which reduces their regret (Crossley & Highhouse, 2005) and increases the levels of satisfaction (Harriri et al., 2016).

For climate for innovation, the most relevant associations were found for: agreeableness from the big five (Burch & Anderson, 2004), innovator team role (Mathieu et al., 2015; West, 1990), the problem solving conflict management style (Açıkgöz & İlhan, 2015) and the rational decision-making style (Açıkgöz et al., 2014). These individual differences in association with climate for innovation share similar elements with each other. Notably, the climate for innovation construct focuses on having a healthy climate at work (Anderson & West, 1998) and the agreeableness trait may contribute to developing such an atmosphere, as it pertains to individuals who are cooperative, warm and polite (Barrick & Mount, 1991). Furthermore, innovators often suggest original and insightful ideas (Mathieu et al., 2015), all of which may be linked with the climate for innovation concept, which aims to bring forth new approaches to doing the work (Anderson & West, 1998). In addition, problem solvers are constantly looking for new information to solve problems (Chen et al., 2012); they keep their eye on the big picture (Mann, 2001) and they provide a supportive climate (Nordin et al., 2014). This, in turn, produces harmonious relationships (Song et al., 2006) and leads to a positive climate in the workplace (Desivilya & Yagil, 2005). Lastly, rational decision makers typically pay attention to details, which leads to producing various alternative solutions to the issues at hand and this opens the door for working with each other in a positive manner that can influence the climate at work (Açıkgöz et al., 2014).

On the other hand, the strongest negative correlations with employee performance, job satisfaction and climate for innovation were found for neuroticism from the big five (Judge et al., 1999; Judge

et al., 2002; Neal et al., 2012; Templer, 2012), the avoiding conflict management style (Chen et al., 2005; Chen et al., 2012) and the avoidant decision-making style (Russ et al., 2006; Wood & Highhouse, 2014). This could be explained by the fact that employee performance relies on the abilities of the individuals to find solutions and overcome difficulties (Boshoff & Arnolds, 1995), job satisfaction focuses on pleasurable emotions employees feel in the workplace (Locke, 1976) and climate for innovation focuses on bringing new ideas to the workplace alongside developing a positive atmosphere (Anderson & West, 1998). Essentially, these descriptions are inconsistent with the neuroticism trait (Templer, 2012), which features individuals who tend to be anxious, sad and fearful (McCrae & Costa, 1986), or the avoiding style, which describes individuals who withdraw and deal with situations passively (Shaheryar, 2016), or the avoidant style, which portrays those who are indecisive and have difficulties in making decisions (Russ et al., 1996). In chapter 4, these associations were discussed in detail.

The instruments used in Study 1 presented the same factorial structure that was reported in Western studies, except for the BFI-10 (Rammstedt & John, 2007). Thus, this demonstrates that majority of these instruments capture individual differences well in Jordan. Hence, it is important also to investigate whether or not these constructs are associated with employee performance, job satisfaction and climate for innovation. Accordingly, this study was aimed at testing which individual differences from the big five, team roles, conflict management styles and decision-making styles would appear to be the most and least relevant for studying employee performance, job satisfaction and climate for innovation.

In order to achieve these aims, this chapter details the rationale for this study alongside the method, procedure and data analysis technique followed. Further, it outlines the BPS ethical guidelines that were followed in this research. Moreover, it presents the associations between individual differences, employee performance, job satisfaction and climate for innovation. Lastly, it ends with a summary and conclusions. As such, this chapter provides the groundwork for chapter 8, which presents findings from the general population in Jordan.

7.1.1 Rationale for Study 2

After confirming the factorial structures of the instruments in Jordan, this study was conducted to examine which individual differences will be most and least relevant for studying employee performance, job satisfaction and climate for innovation in this Middle Eastern context.

Accordingly, this chapter is aimed at fulfilling the second objective of this research as mentioned in table 1.

7.1.2 Research questions and hypotheses

The research questions for this study are summarised below:

1. Which of the big five, team roles, conflict management styles and decision-making styles show the strongest associations with employee performance?
2. Which of the big five, team roles, conflict management styles and decision-making styles show the strongest associations with job satisfaction?
3. Which of the big five, team roles, conflict management styles and decision-making styles show the strongest associations with climate for innovation?

The research hypotheses for this study are illustrated below:

Hypotheses for individual differences in association with employee job performance

Hypothesis 1a. Conscientiousness trait is positively associated with employees' job performance

Hypothesis 1b. Neuroticism trait is negatively associated with employees' job performance

Hypothesis 1c. The doer and organiser team roles are positively associated with employees' job performance

Hypothesis 1d. Problem solving conflict management style is positively associated with employees' job performance

Hypothesis 1e. Avoiding conflict management style is negatively associated with employees' job performance

Hypothesis 1f. Rational decision-making style is positively associated with employees' job performance

Hypothesis 1g. Avoidant decision-making style is negatively associated with employees' job performance

Hypotheses for individual differences in association with job satisfaction

Hypothesis 2a. Agreeableness trait is positively associated with job satisfaction

Hypothesis 2b. Neuroticism trait is negatively associated with job satisfaction

Hypothesis 2c. The team builder team role is positively associated with job satisfaction

Hypothesis 2d. Problem solving conflict management style is positively associated with job satisfaction

Hypothesis 2e. Avoiding conflict management style is negatively associated with job satisfaction

Hypothesis 2f. Rational decision-making style is positively associated with job satisfaction

Hypothesis 2g. Avoidant decision-making style is negatively associated with job satisfaction

Hypotheses for individual differences in association with climate for innovation

Hypothesis 3a. Agreeableness trait is positively associated with climate for innovation

Hypothesis 3b. Neuroticism trait is negatively associated with climate for innovation

Hypothesis 3c. The innovator team role is positively associated with climate for innovation

Hypothesis 3d. Problem solving conflict management style is positively associated with climate for innovation

Hypothesis 3e. Avoiding conflict management style is negatively associated with climate for innovation

Hypothesis 3f. Rational decision-making style is positively associated with climate for innovation

Hypothesis 3g. Avoidant decision-making style is negatively associated with climate for innovation

7.2 Method

7.2.1 Design

The research design in this study is cross-sectional. Data was collected by using probability sampling, specifically, simple random sampling was deployed for the company samples (Rossi et al., 2013; Tashakkori & Teddlie, 2003). Given this study was conducted at one point in time, this format has received criticism by some researchers as it does not deliver causal inference (Levin, 2006). However, adopting this design has benefits, in particular, collecting data for all constructs of this research without the interruptions that often take place in the longitudinal studies (Caruana et al., 2015). In other words, there was no loss that often occurs from follow-ups and completing the survey required less time than the time that is often needed in longitudinal studies (Levin, 2006).

7.2.2 Sample

This data collection took place at a shipping and logistics company in Jordan. The total number of completed useable surveys was 249. Interestingly, this company is ranked within the top 20 companies to work for in Jordan. This sample comprised of participants from both males and females, different age groups, qualifications, departments and years of experience as presented in table 30 below. The age range of the participants was from 20 to 72 with mean being 32.66 (SD= 9.572). Further, years of experience ranged between 1 to 46 years with mean being 9.75 (SD= 8.533).

Table 30. Characteristics of sample from shipping and logistics company

Variable	Category	Percentage
Gender	Males	55.90%
	Females	44.10%
Age	20 – 29	45.90%
	30 – 39	36.50%
	40 – 49	11.90%
	50 – 59	2.00%
	60 – 69	3.30%
	70 - 79	0.40%
Qualification	High School, graduate, diploma or equivalent	14.60%
	Bachelor’s	78.50%
	Master’s	6.50%
	Doctorate	0.4%
Department	Finance	13.80%
	Human Resources	14.20%
	Information Technology	2.80%
	Sales and Marketing	23.20%
	Quality Assurance	4.10%
	Operations	32.90%
	Documentation	8.90%

Years of Experience	1-5 years	37.40%
	6-10 years	30.10%
	11-15 years	14.20%
	16-20 years	9.30%
	21-25 years	2.40%
	26 – 30 years	2.80%
	31 – 35 years	0.80%
	36 – 40 years	2.00%
	41 – 45 years	0.40%
46 – 50 years	0.40%	

7.2.3 Instruments: Scales used and their reliabilities

According to the literature and based on findings from Study 1, the following instruments were selected in order to examine which individual differences will be most and least relevant for studying employee performance, job satisfaction and climate for innovation. Importantly, a Cronbach alpha of 0.7 and above was suggested by Easterby-Smith et al. (2015) and Field (2009) for a reliable scale.

7.2.3.1 Instruments used to measure individual differences

7.2.3.1.1 The Big Five Inventory (BFI-44)

BFI-44 (John & Srivastava, 1999) was used to measure the big five construct, with Table 31 below presenting the scales and reliabilities of this instrument and appendix 2d demonstrating the items in the instrument.

Table 31. Instrument used to measure the big five and its reliability

Instrument	Scale	α	No. of Items
BFI-44	Openness	.675	9
	Conscientiousness	.723	9
	Extraversion	.635	6
	Agreeableness	.600	9
	Neuroticism	.731	7

In order to improve the reliability of the BFI-44 scales, the following items were deleted: “*is full of energy*” and “*is reserved*” from the extraversion scale, “*is easily distracted*” from the conscientiousness scale, and “*can be tense*” from the neuroticism scale. This was done as Tavakol and Dennick (2011) proposed deleting items with poor correlations as these may contribute to producing low alphas.

7.2.3.1.2 The Team Role Experience and Orientation Dimensions (TREO)

TREO (Mathieu et al., 2015) was adapted to measure the team roles construct, with Table 32 below displaying the scales and reliabilities of this instrument and appendix 2d presenting the items in the instrument.

Table 32. Instrument used to measure team roles and its reliability

Instrument	Scale	α	No. of Items
TREO	Organiser	.740	4
	Doer	.675	4
	Challenger	.364	4
	Innovator	.799	3
	Team Builder	.723	4
	Connector	.702	3

For the purposes of improving the reliability of the scales of this instrument, the following items were deleted: “*I get bored when we do the same task the same way every time*” from the innovator scale, and “*I typically find out what is going on outside my team and share that with my teammates*” from the connector scale. This was carried out as Tavakol and Dennick (2011) recommended deleting items with low correlation as these may result in producing low alphas.

7.2.3.1.3 The Dutch Test for Conflict Handling (DUTCH)

DUTCH (De Dreu et al., 2001) was used to measure the conflict management styles construct, with Table 33 below presenting the scales and reliabilities of this instrument and appendix 2d demonstrating the items in the instrument.

Table 33. Instrument used to measure conflict management styles and its reliability

Instrument	Scale	α	No. of Items
DUTCH	Problem solving	.780	4
	Compromising	.694	4
	Forcing	.676	4
	Yielding	.677	4
	Avoiding	.688	3

To improve the reliability of the avoiding scale the following item was deleted: “*I try to make difference loom less severe*”. This was done as Tavakol and Dennick (2011) recommended deleting items with low correlation as these may result in producing low alphas.

7.2.3.1.4 The General Decision-Making Styles Survey (GDMS)

GDMS (Scott & Bruce, 1995) was adopted to measure the decision-making styles construct, with Table 34 below presenting the scales and reliabilities of this instrument and appendix 2d showing the items in the instrument.

Table 34. Instrument used to measure decision-making styles and its reliability

Instrument	Scale	α	No. of Items
GDMS	Rational	.764	5
	Intuitive	.719	5
	Dependent	.729	4
	Spontaneous	.722	5
	Avoidant	.791	5

Tavakol and Dennick (2011) proposed deleting items with poor correlations as these may produce low alphas. Accordingly, from the dependent scale the following item was deleted: “*I rarely make important decisions without consulting other people*”.

7.2.3.2 Instruments to measure employee performance, job satisfaction, and climate for innovation

7.2.3.2.1 Employee Job Performance Questionnaire

The employee job performance questionnaire (Cheng & Kalleberg, 1996) was adapted to measure employee performance, with Table 35 presenting the reliability of this instrument and appendix 2d demonstrating the items in the instrument.

Table 35. Instrument used to measure employee job performance and its reliability

Instrument	A	No. of Items
Employee Job Performance Questionnaire	.643	2

7.2.3.2.2 Job satisfaction instrument

The Andrews and Withey job satisfaction questionnaire (Andrews & Withey, 1976, 2012) was used to measure the job satisfaction levels of individuals, with Table 36 below presenting the reliability of this instrument and appendix 2d conveying the items in the instrument.

Table 36. Instrument used to measure job satisfaction and its reliability

Instruments	α	No. of Items
Andrews and Withey job satisfaction questionnaire	.815	6

7.2.3.2.3 Team Climate Inventory (TCI)

TCI (Kivimaki & Elovainio, 1999) was adopted to measure the climate for innovation construct, with Table 37 below presenting the scales and reliabilities of this instrument and appendix 2d demonstrating the items in the instrument.

Table 37. Instrument used to measure climate for innovation and its reliability

Instruments	Scales	α	No. of Items
TCI	Support for new ideas	.848	3
	Participative safety	.837	4
	Vision	.849	4
	Task orientation	.810	3
	TCI total score	.915	14

7.2.4 Procedure

The data for this study was collected remotely online on a platform called Qualtrics (Qualtrics, 2019). The shift from paper-based (i.e. study 1) to web-based was made in response to the recent changes that took place in 2019 with regards to the ethical guidelines that forbid researchers from

collecting data in Middle Eastern countries face to face. Accordingly, the researcher communicated this crucial information to the company and employees were given access to the Qualtrics website. Essentially, this online mode minimised the cost and saved the time of inputting the data (Denscombe, 2009) from paper manually into SPSS (IBM, 2019). Notably, Qualtrics offers the option of downloading the data directly from their platform (Qualtrics, 2019). The data was saved on the hard drive of the university (GDPR, 2016), in order to avoid issues that are often faced when using web surveys, such as viruses, technical problems and internet crime (Fan and Yan, 2010).

7.2.5 Data analytic technique

For this study, correlational and regression analyses were carried out. These tests were chosen as the aim of this study was to examine the individual differences variables that are most and least relevant for studying employee performance, job satisfaction and climate for innovation. Evidently, these tests examine the relationships between variables, in which information related to a specific variable carries knowledge about another variable (Cohen, West, & Aiken, 2014). Notably, the SPSS software (Statistical Package for the Social Sciences) was used to analyse the data. Additionally, as mentioned in chapter 5 section 5.6.3, for the purposes of reducing type I error that may occur from running multiple correlations and regressions, the alpha level was corrected by performing a Bonferroni correction and thus, making the alpha smaller. Accordingly, the cut-off of the *p* value for the correlational and regression analyses was reduced from 0.05 to 0.01. This was done by dividing 0.05 by the number of tests being carried out (i.e. by 8 for the employee job performance, and by 7 for the Andrews and Withey job satisfaction questionnaire and TCI) then by rounding the values to two decimal places as proposed by Abdi (2007).

7.2.6 Ethics

This study was carried out in compliance with the British Psychological Association guidelines for internet-mediated research (BPS, 2017). An ethics application was submitted and approved by the University of Westminster (UoW) ethics committee. The research was classified as class 1 research based on the UoW Code of Ethics Governing the Ethical Conduct of Research (CoP). The shipping and logistics company provided the researcher with a written approval that allowed the

researcher to collect data from their employees. This application for approval was submitted to the ethics committee of the UoW. Further, all potential participants had to give consent after reading the participant information sheet (see appendix 2a and appendix 2b). The participants were informed that their responses would be anonymous and treated with full confidentiality, as outlined in the Data Protection Act 2018 in the UK (BPS, 2018). Moreover, they were informed that they could withdraw from the research without the need to give any reason at any time. Further, a debriefing sheet was used to supply the participants with information, recommendations for additional readings, to answer queries, and to thank them at the end of the study (see appendix 2c) (BPS, 2014). In this research, the researcher did not include any vulnerable groups aged under 16, thus, all participants were aged between 20 and 72. Also, the research did not involve any sensitive or stressful topics.

7.3. Descriptive statistics: correlations among variables

7.3.1 The relationship between individual differences, employee performance, job satisfaction, and climate for innovation: Findings from correlational analysis

This section presents individual differences (the big five, team roles, conflict management styles, and decision-making styles) in relation to employee performance, job satisfaction, and climate for innovation. Further, appendix 4 displays the relationships between BFI-44 subscales, appendix 5 portrays the correlations between TREO subscales, appendix 6 presents the associations between the DUTCH subscales, appendix 7 demonstrates the relationships between GDMS subscales, and lastly, appendix 8 represents the links between TCI subscales.

7.3.1.1 The relationship between the big five 44 (BFI-44), the team role experience and orientation dimensions (TREO), the Dutch test for conflict handling (DUTCH), the general decision-making style (GDMS) and employee performance

This section illustrates the relationships between the individual differences constructs in relation to the employee job performance questionnaire (Cheng & Kalleberg, 1996).

The relationship between BFI-44 and the employee job performance questionnaire

Table 38. Correlations between the BFI-44 and the employee job performance

	Openness	Conscientiousness	Extraversion	Agreeableness	Neuroticism
Employee Performance	.230**	.251**	.101	-.021	-.138

*p< 0.01.

Correlational analysis as listed in table 38 showed a significant positive correlation between conscientiousness and the employee job performance ($r = .251^{**}$). Further, it presented the largest positive effect size in comparison to the other scales. This indicates that conscientious individuals are more likely to be the most to perform well at the workplace.

Correlational analysis as listed in table 38 showed a negative but non-significant correlation between neuroticism and the employee job performance ($r = -.138$). However, it displayed the largest negative effect size in comparison to the other scales.

The relationship between TREO and the employee job performance

Table 39. Correlations between TREO and the employee job performance

	Organiser	Doer	Challenger	Innovator	Team Builder	Connector
Employee Performance	.277**	.228**	.165**	.189**	.221**	.252**

*p< 0.01.

Correlational analysis as listed in table 39 showed a significant positive correlation between organiser and doer team roles and the employee job performance ($r = .277^{**}$ and $r = .228^{**}$) respectively. In addition, the largest effect size was presented for the organiser but not for the doer role. Clearly, the connector scale presented the second largest effect size ($r = .252^{**}$). This indicates that organisers and connectors are more likely to be the most to perform well at the workplace.

The relationship between the DUTCH and the employee job performance

Table 40. Correlations between the DUTCH and the employee job performance

	Problem Solving	Compromising	Yielding	Avoiding	Forcing
Employee Performance	.253**	.191**	.084	.009	.018

*p < 0.01.

Correlational analysis as listed in table 40 showed a significant positive correlation between problem solving style and the employee job performance ($r = .253^{**}$). Additionally, the largest effect size was presented for the problem-solving style. This suggests that individuals who use this style are more likely to be the most to perform well at the workplace. Further, this correlational analysis presented no correlations between the avoiding style and the employee job performance ($r = .009$).

The relationship between the GDMS and the employee job performance

Table 41. Correlations between the GDMS and the employee job performance

	Rational	Intuitive	Dependent	Spontaneous	Avoidant
Employee performance	.158*	.072	.073	-.064	-.070

*p < 0.01.

Correlational analysis as listed in table 41 presented a positive significant correlation between rational style and the employee job performance ($r = .158^{**}$). Moreover, it displayed the largest effect size in comparison to the other scales. This indicates that individuals who prefer to use the rational style when making decisions are more likely to perform well at the workplace.

Correlational analysis as listed in table 41 presented a negative but non-significant correlation between the avoidant style and the employee job performance ($r = -.070$). However, this scale as expected presented the largest negative effect size.

7.3.1.2 The relationship between big five 44 (BFI-44), the team role experience and orientation dimensions (TREQ), the Dutch test for conflict handling (DUTCH), the general decision-making style (GDMS) and job satisfaction

This section illustrates the relationships between the individual differences constructs in relation to the job satisfaction survey (Andrews and Withey, 1976, 2012).

The relationship between BFI-44 and job satisfaction

Table 42. Correlations between the BFI-44 and job satisfaction

	Openness	Conscientiousness	Extraversion	Agreeableness	Neuroticism
Job Satisfaction	.126	.205**	.093	.284**	-.354**

*p < 0.01.

Correlational analysis as listed in table 42 presented a positive significant correlation between agreeableness and job satisfaction ($r = .284^{**}$). Moreover, it displayed the largest positive effect size in comparison to the other scales. This suggests that agreeable individuals are more likely to be satisfied at the workplace.

Correlational analysis as listed in table 42 presented a negative significant correlation between neuroticism and job satisfaction ($r = -.354^{**}$). Moreover, it displayed the largest negative effect size in comparison to the other scales. This indicates that individuals who tend to be neurotic are more likely to be dissatisfied at the workplace.

The relationship between TREQ and job satisfaction

Table 43. Correlations between TREQ and job satisfaction

	Organiser	Doer	Challenger	Innovator	Team Builder	Connector
Job Satisfaction	.093	.031	-.053	.095	.071	.064

*p < 0.01.

Correlational analysis as listed in table 43 presented positive but non-significant correlations between the team builder team role and job satisfaction ($r = .071$). However, the direction of the correlation for this scale is positive as expected and presented the largest effect size.

The relationship between the DUTCH and job satisfaction

Table 44. Correlations between the DUTCH and job satisfaction

	Problem Solving	Compromising	Yielding	Avoiding	Forcing
Job Satisfaction	.108	-.008	-.029	-.027	-.082

* $p < 0.01$.

Correlational analysis as listed in table 44 presented a positive but non-significant significant correlation between the problem-solving style and job satisfaction ($r = .108$). Nonetheless, this style presented the largest effect size and the direction of the correlation is positive as expected.

Correlational analysis as listed in table 44 presented a negative but non-significant correlation between the avoiding style and job satisfaction ($r = -.027$). Despite that, the direction of the correlation for this scale is negative as expected.

The relationship between the GDMS and job satisfaction

Table 45. Correlations between the GDMS and job satisfaction

	Rational	Intuitive	Dependent	Spontaneous	Avoidant
Job Satisfaction	.067	-.073	-.092	-.083	-.218**

* $p < 0.01$.

Correlational analysis as listed in table 45 presented a positive but non-significant correlation between rational style and job satisfaction ($r = .067$). Despite that, this scale presented the largest positive effect size and the direction of its correlation is positive as expected.

Correlational analysis as listed in table 45 presented a negative significant correlation between avoidant style and job satisfaction ($r = -.218^{**}$). This may signify that individuals who tend to avoid making decisions are more likely to be dissatisfied at the workplace.

7.3.1.3 The relationship between big five 44 (BFI-44), the Dutch test for conflict handling (DUTCH), the general decision-making style (GDMS) and the team climate inventory (TCI)

This section illustrates the relationships between the individual differences constructs in relation to the TCI (Kivimaki & Elovainio, 2010). Fundamentally, as the correlations between the TCI were relatively high as presented in appendix 8, the mean score for the TCI as a whole was calculated and was included in all subsequent analyses accordingly. Evidently, similar steps have been applied as well in Soomro et al. (2015) study. Team climate implies that the workplace has committed team members that focus on objectives and tasks. It also indicates that the workplace provides a safe environment for members to participate and develop new ideas (Kivimaki & Elovainio, 2010).

The relationship between BFI-44 and TCI

Table 46. Correlations between BFI-44 and TCI

	Openness	Conscientiousness	Extraversion	Agreeableness	Neuroticism
TCI	.126	.201**	.140	.319**	-.323**

* $p < 0.01$.

Correlational analysis as listed in table 46 presented a positive significant correlation between agreeableness and TCI ($r = .319^{**}$). Moreover, it displayed the largest positive effect size in comparison to the other scales. This indicates that teams with individuals who tend to be agreeable are more likely to have a positive team climate.

Correlational analysis as listed in table 46 presented a negative significant correlation between neuroticism and TCI ($r = -.323^{**}$). Furthermore, it displayed the largest negative effect size in comparison to the other scales. This signifies that teams with individuals who tend to be neurotic are more likely to have a negative team climate.

The relationship between TREO and TCI

Hypothesis 3c. Innovator team role positively correlates the most with TCI scales in comparison to other styles

Table 47. Correlations between TREO and TCI

	Organiser	Doer	Challenger	Innovator	Team Builder	Connector
TCI	.166**	.146*	.014	.133	.109	.040

*p< 0.01.

Correlational analysis as listed in table 47 presented non-significant correlations between the innovator team role and TCI ($r= .133$). This may indicate a lack of relationships between this scale and TCI. On the other hand, the organiser team role displayed positive significant correlations and presented the largest effect size in comparison to the other roles ($r= .166^{**}$). This means that teams with individuals who tend to use the organiser role have a positive team climate.

The relationship between the DUTCH and TCI

Table 48. Correlations between the DUTCH and TCI

	Problem Solving	Compromising	Yielding	Avoiding	Forcing
TCI	.285**	.259**	.037	-.077	-.058

*p< 0.01.

Correlational analysis as listed in table 48, presented a positive significant correlation between problem solving style and TCI ($r= .285^{**}$). Additionally, this scale presented the largest effect size in comparison to the other scales. Thus, this means that individuals who prefer to use this style are more likely to bring a positive climate to the workplace.

Correlational analysis as listed in table 48, displayed a negative but non-significant correlation between the avoiding style and TCI ($r= -.077$). Nonetheless, it presented the largest negative effect size in comparison to the other scales as expected.

The relationship between GDMS and TCI

Table 49. Correlations between the GDMS and TCI

	Rational	Intuitive	Dependent	Spontaneous	Avoidant
TCI	.163**	-.034	-.058	-.004	-.128

* $p < 0.01$.

Correlational analysis as listed in table 49 presented a positive significant correlation between the rational style and TCI ($r = .163^{**}$). This scale presented the largest positive effect size in comparison to the other scales. Therefore, this signifies that individuals who favor this style are more likely to bring a positive climate to the workplace.

Correlational analysis as listed in table 49 presented a negative but non-significant correlation between the avoidant style and TCI ($r = -.128$). This style displayed the largest negative effect size in comparison to the other scales.

Correlations overview of all variables analysed

Table 50. Correlations between all individual differences constructs and their outcome variables

	EP	JS	TCI	O	C	E	A	N	OR	DO	CH	IN	TB	CO	Y	AV	F	R	I	D	S	AV		
														O	S	M	I	G	O	A	N	E	P	T
JS	.022																							
TCI	.129	.409*																						
O	.230*	.126	.126																					
C	.251*	.205*	.201*	.438*																				
E	.101	.093	.140	.317*	.252*																			
A	-.021	.284*	.319*	.201*	.373*	.103																		
N	-.138	.354*	.323*	.221*	.322*	-.067	.449*																	
OR	.277*	.093	.166*	.373*	.267*	.155	.094	.115																
DO	.228*	.031	.146	.230*	.247*	.202*	.189*	.111	.647*															
CH	.165*	-.053	.014	.244*	.086	.226*	-.109	.099	.495*	.515*														
IN	.189*	.095	.133	.371*	.219*	.134	.136	.054	.633*	.605*	.470*													
TB	.221*	.071	.109	.253*	.132	.168*	.204*	.075	.627*	.664*	.506*	.703*												
CO	.252*	.064	.040	.372*	.244*	.332*	.066	.122	.677*	.574*	.455*	.589*	.600*											

***Outcome variables:** EP= Employee Performance; JS= Job Satisfaction; TCI= Team Climate Inventory

***BFI-44:** O= Openness; C= Conscientiousness; E= Extraversion; A= Agreeableness; N= Neuroticism

***TREO:** OR= Organiser; DO= Doer; CH= Challenger; IN= Innovator; TB= Team Builder; CO= Connector

***DUTCH:** PS= Problem Solving, COM= Compromising; YI= Yielding; AVG= Avoiding; FO= Forcing

***GDMS:** RA= Rational; IN= Intuitive; DE= Dependent; SP= Spontaneous; AVT= Avoidant

	EP	JS	TCI	O	C	E	A	N	OR	DO	CH	IN	TB	CO	PS	COM	YI	AVG	FO	RA	IN	DE	SP	AVT
PS	.253 **	.108	.285 **	.362 **	.407 **	.162 *	.247 **	-.234 **	.305 **	.204 **	.134 *	.361 **	.290 **	.270 **										
COM	.191 **	-.008	.259 **	.200 **	.203 **	-.006	.230 **	-.153	.228 **	.172 **	.140	.284 **	.195 **	.136 **	.560 **									
YI	.084	-.029	.037	.116	-.019	-.054	.019	-.003	.079	.013	.071	.057	.039	.075	.142	.246 **								
AVG	.009	-.027	-.077	.070	-.059	-.054	.104	-.143	.015	-.025	-.021	-.013	.064	-.011	.118	.193 **	.288 **							
FO	.018	-.082	-.058	.098	.040	.154 *	.205 **	.174 **	.132	.072	.196 **	.118	.084	.157 *	-.011	-.063	.051	-.007						
RA	.158 *	.067	.163 **	.302 **	.352 **	.101	.156 *	-.203 **	.267 **	.295 **	.226 **	.346 **	.297 **	.234 **	.522 **	.290 **	-.019	.016	.036					
IN	.072	-.073	-.034	.167 **	.008	.069	-.059	.060	.078	.166 **	.251 **	.123	.183 **	.077	.154 *	.043	.119	.074	.167 **	.004				
DE	.073	-.092	-.058	-.028	.028	.129	.149 *	-.009	.031	-.043	-.059	.081	.140	.007	.148 *	.213 **	.073	.136	.059	.184 **	-.090			
SP	-.064	-.083	-.004	-.028	-.223 **	.077	-.199 **	.331 **	.086	.088	.172 **	.127	.130	.076	-.061	-.023	.055	.095	.387 **	-.239 **	.436 **	-.059		
AVT	-.070	-.218 **	-.128	-.173 **	-.254 **	.271 **	-.159 *	.194 **	-.141	-.125	-.040	-.085	.015	-.116	-.125	.075	.236 **	.253 **	.129	-.218 **	.226 **	.275 **	.292 **	-

***Outcome variables:** EP= Employee Performance; JS= Job Satisfaction; TCI= Team Climate Inventory

***BFI-44:** O= Openness; C= Conscientiousness; E= Extraversion; A= Agreeableness; N= Neuroticism

***TREO:** OR= Organiser; DO= Doer; CH= Challenger; IN= Innovator; TB= Team Builder; CO= Connector

***DUTCH:** PS= Problem Solving, COM= Compromising; YI= Yielding; AVG= Avoiding; FO= Forcing

***GDMS:** RA= Rational; IN= Intuitive; DE= Dependent; SP= Spontaneous; AVT= Avoidant

Correlational analysis for all variables analysed, as listed in table 50, presented a positive significant correlation between the organiser team role and employee performance ($r = .277^{**}$). This scale presented the largest positive effect size in comparison to all other individual differences scales. This may indicate that individuals who favour this role are more likely to perform well at the workplace. This analysis also showed a negative but non-significant correlation between neuroticism from the big five and employee performance ($r = -.138$). This scale demonstrated the largest negative effect size in comparison to all other individual differences scales.

Correlational analysis for all variables analysed, as listed in table 50, showed a positive significant correlation between agreeableness from the big five and job satisfaction ($r = .284^{**}$). This scale presented the largest positive effect size in comparison to all other individual differences scales. This may signify that agreeable individuals are more likely to be satisfied at the workplace. Further, the analysis presented a negative significant correlation between neuroticism from the big five and job satisfaction ($r = -.354^{**}$). This scale displayed the largest negative effect size in comparison to all other individual differences scales. This may indicate that individuals who tend to be neurotic are more likely to be dissatisfied at the workplace.

Correlational analysis for all variables analysed, as listed in table 50, showed a positive significant correlation between agreeableness from the big five and TCI ($r = .319$). This scale presented the largest positive effect size in comparison to all other individual differences scales. This may signify that agreeable individuals are more likely to bring a positive climate to the workplace. Further, the analysis presented a negative significant correlation between neuroticism from the big five and TCI ($r = -.323$). This scale displayed the largest negative effect size in comparison to all other individual differences scales. This may indicate that individuals who tend to be neurotic are more likely to have a negative perception of their workplace climate.

7.4 Results

7.4.1 How individual differences are associated with employee performance, job satisfaction, and climate for innovation: Findings from linear regressions

This section presents findings from linear regressions for the individual differences that are most and least relevant for studying employee performance, job satisfaction, and climate for innovation. Crucially, in all regression models no collinearity was displayed. Multicollinearity is diagnosed by

the tolerance statistic and variance of inflation (VIF). For the tolerance statistic and VIF, all values were within the accepted criteria. Evidently, for the tolerance statistics values of .10 or less may be harmful (Miles, 2014). Whereas, there is no formal rule for VIF, it is often accepted that values more than 10 may indicate problems with multicollinearity (Yoo et al., 2014).

The associations between employee performance and the BFI-44

Hypothesis 1a. Conscientiousness trait is positively associated with employees' job performance

Hypothesis 1b. Neuroticism trait is negatively associated with employees' job performance

To investigate whether the big five personality traits (openness, conscientiousness, extraversion, agreeableness, and neuroticism) are significantly associated with employee performance in organisations, a multiple linear regression using the enter method was carried out (Field, 2013). Employee job performance was entered as the criterion and all big five scales as predictor variables. Results indicated that the regression was significant, $F(5,243)= 5.921, p < .001, Adj. R^2 = .090$. Overall, the results of the regression indicated that the model explained 9.0% of the variance. As presented in Table 51, conscientiousness emerged as a significant positive predictor of the employee job performance and had the largest effect size ($p= .003$). Further, neuroticism did not emerge as significantly different from zero, however, the direction of the coefficient was as expected ($p= .087$). However, agreeableness emerged as the most significant negative predictor of the employee job performance. Overall, based on this analysis, hypothesis 1a was accepted and hypothesis 1b was rejected.

Table 51. Regression coefficients for the regression predicting employee job performance based on the BFI-44

Model	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	Tolerance	VIF
Constant	3.619	0.624	-	5.798	<.001	-	-
Openness	0.183	0.090	.142	2.042	.042	.755	1.325
Conscientiousness	0.284	0.095	.216	2.982	.003	.697	1.434
Extraversion	0.015	0.077	.013	.200	.842	.882	1.134
Agreeableness	-0.274	0.104	-.185	-2.625	.009	.739	1.353
Neuroticism	-0.118	0.069	-.119	-1.717	.087	.764	1.309

Note: * $p < 0.01$.

The associations between employee performance and TREO

Hypothesis 1c. The doer and organiser team roles are positively associated with employees' job performance

To investigate whether team roles (organiser, doer, challenger, innovator, team builder, and connector) are significantly associated with employee performance in organisations, a multiple linear regression using the enter method was carried out (Field, 2013). Employee job performance was entered as the criterion and all six scales as predictor variables. Results indicated that the regression was significant, $F(6,242) = 3.881$, $p < .001$, $Adj. R^2 = .065$. Overall, the results of the regression indicated that the model explained 6.50% of the variance. As presented in Table 52, none of the scales below emerged as significant predictors of employee job performance. Thus, based on this analysis, hypothesis 1c was rejected.

Table 52. Regression coefficients for the regression predicting employee job performance based on TREO

Model	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	Tolerance	VIF
Constant	2.784	0.362	-	7.689	<.001	-	-
Organiser	0.175	0.100	.171	1.762	.079	.402	2.490
Doer	0.063	0.111	.053	.573	.567	.443	2.259
Challenger	0.005	0.093	.004	.050	.960	.658	1.520
Innovator	-0.052	0.100	-.049	-.516	.606	.426	2.350
Team Builder	0.059	0.119	.049	.496	.621	.386	2.588
Connector	0.103	0.088	.104	1.160	.247	.471	2.123

Note: * $p < 0.01$.

The associations between employee performance and the DUTCH

Hypothesis 1d. Problem solving conflict management style is positively associated with employees' job performance

Hypothesis 1e. Avoiding conflict management style is negatively associated with employees' job performance

To examine whether the conflict management styles (problem solving, compromising, yielding, forcing and avoiding) are significantly associated with employee performance in organisations, a multiple linear regression using the enter method was carried out (Field, 2013). Employee job performance was entered as the criterion and all five scales as predictor variables. Results indicated that the regression was significant, $F(5,243) = 3.643$, $p < .001$, $Adj. R^2 = .051$. Overall, the results of the regression indicated that the model explained 5.1% of the variance. As presented in Table 53, problem solving emerged as the only significant positive predictor of employee job performance ($p = .006$). Further, avoiding did not emerge as significantly different from zero, nevertheless, the direction of its coefficient was as expected ($p = .856$). Thus, hypothesis 1d was accepted and hypothesis 1e was rejected.

Table 53. Regression coefficients for the regression predicting employee job performance based on the DUTCH

Model	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	Tolerance	VIF
Constant	2.819	0.377	-	7.485	<.001	-	-
Problem Solving	0.233	0.083	.210	2.792	.006	.675	1.482
Compromising	0.075	0.086	.067	.867	.387	.638	1.568
Yielding	0.039	0.066	.039	.597	.551	.881	1.134
Forcing	0.020	0.053	.023	.369	.713	.987	1.013
Avoiding	-0.009	0.050	-.012	-.181	.856	.900	1.111

Note: * $p < 0.01$.

The associations between employee performance and the GDMS

Hypothesis 1f. Rational decision-making style is positively associated with employees' job performance

Hypothesis 1g. Avoidant decision-making style is negatively associated with employees' job performance

To test whether the general decision-making styles (rational, intuitive, dependent, spontaneous and avoidant) are significantly associated with employee performance in organisations, a multiple linear regression using the enter method was carried out (Field, 2013). Employee job performance was entered as the criterion and the other five scales as predictor variables. Results indicated that the regression was non-significant, $F(5,243) = 2.114$, $Adj. R^2 = .022$. Overall, the results of the regression indicated that the model explained 2.2% of the variance. Accordingly, as presented in table 54, the decision-making styles presented insignificant regression coefficients. However, while the rational scale did not emerge as significantly different from zero, the direction of its regression coefficient was as expected ($p = .086$). Therefore, hypotheses 1f and 1g were rejected.

Table 54. Regression coefficients for the regression predicting employee job performance based on the GDMS

Model	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	Tolerance	VIF
Constant	3.262	0.476	-	6.855	<.001	-	-
Rational	0.137	0.086	.110	1.602	.086	.839	1.192
Intuitive	0.126	0.073	.124	1.726	.110	.764	1.309
Dependent	0.076	0.064	.081	1.181	.239	.832	1.202
Spontaneous	-0.063	0.072	-.064	-.874	.383	.729	1.371
Avoidant	-0.064	0.060	-.078	-1.081	.281	.760	1.315

Note: * $p < 0.01$.

The associations between employee performance and the BFI-44, TREO, DUTCH and GDMS

To investigate in one model whether all individual differences constructs are significantly associated with employee performance in organisations, specifically, the big five personality traits (openness, conscientiousness, extraversion, agreeableness, and neuroticism), team roles (organiser, doer, challenger, innovator, team builder, and connector), conflict management styles (problem solving, compromising, yielding, forcing, and avoiding), and decision-making styles (rational, intuitive, dependent, spontaneous, and avoidant), a multiple linear regression using the enter method was carried out (Field, 2013). Employee performance was entered as the criterion and all other scales as predictor variables. Results indicated that the regression model was significant, $F(21,227) = 2.858$, $p < .001$, $Adj. R^2 = .136$. Overall, the results of the regression presented that the model explained 13.6% of the variance. As presented in Table 55, conscientiousness emerged as a significant positive predictor of employee performance ($p = .014$). Further, agreeableness emerged as a significant negative predictor of employee performance ($p = .001$).

Table 55. Regression coefficients for the regression predicting employee performance based on the BFI-44, TREO, DUTCH and GDMS

Model	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	Tolerance	VIF
Constant	2.684	0.740	-	3.628	<.001	-	-
Openness	0.091	0.098	.070	.925	.356	.605	1.654
Conscientiousness	0.254	0.102	.193	2.488	.014	.578	1.731
Extraversion	-0.002	0.083	-.002	-.027	.979	.706	1.416
Agreeableness	-0.398	0.113	-.269	-3.526	.001	.600	1.666
Neuroticism	-0.068	0.072	-.069	-.948	.344	.662	1.510
Organiser	0.071	0.101	.069	.709	.479	.363	2.756
Doer	0.132	0.114	.110	1.161	.247	.388	2.577
Challenger	-0.018	0.098	-.015	-.183	.855	.549	1.823
Innovator	-0.104	0.103	-.098	-1.011	.313	.374	2.672
Team Builder	0.151	0.124	.125	1.215	.226	.328	3.047
Connector	0.049	0.091	.050	.542	.588	.411	2.435
Problem Solving	0.103	0.098	.093	1.049	.295	.443	2.258
Compromising	0.088	0.086	.079	1.026	.306	.584	1.711
Yielding	0.012	0.065	.012	.187	.852	.815	1.226
Forcing	-0.019	0.059	-.022	-.319	.750	.741	1.350
Avoiding	0.121	0.056	.142	2.159	.032	.802	1.246
Rational	-.0117	0.098	-.094	-1.192	.235	.563	1.775
Intuitive	0.050	0.074	.049	.682	.496	.662	1.511
Dependent	0.084	0.063	.090	1.323	.187	.752	1.330
Spontaneous	-0.081	0.079	-.083	-1.031	.304	.536	1.864
Avoidant	-0.068	0.063	-.083	.276	-.192	.607	1.647

Note: * $p < 0.01$.

The associations between job satisfaction and the BFI-44

Hypothesis 2a. Agreeableness trait is positively associated with job satisfaction

Hypothesis 2b. Neuroticism trait is negatively associated with job satisfaction

To test whether the big five personality traits (openness, conscientiousness, extraversion, agreeableness, and neuroticism) are significantly associated with job satisfaction in organisations, a multiple linear regression using the enter method was carried out (Field, 2013). Job satisfaction was entered as the criterion and all big five scales as predictor variables. Results indicated that the regression was significant, $F(5,243)= 8.596, p < .001, Adj. R^2 = .133$. Overall, the results of the regression indicated that the model explained 13.3% of the variance. As presented in Table 56, agreeableness did not emerge as a significant positive predictor of job satisfaction. However, the direction of the coefficient was as expected ($p= .049$). Notably, the p value was reduced from .05 to .01 after the Bonferroni correction. Further, neuroticism emerged as the only significant negative predictor of job satisfaction ($p < .001$). Therefore, based on this analysis hypothesis 2a was rejected and hypothesis 2b was accepted.

Table 56. Regression coefficients for the regression predicting job satisfaction based on the BFI-44

Model	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	Tolerance	VIF
Constant	4.082	0.900	-	4.534	<.001	-	-
Openness	-0.001	0.130	-.001	-.012	.991	.755	1.325
Conscientiousness	0.109	0.138	.056	.789	.431	.697	1.434
Extraversion	0.082	0.110	.047	.745	.457	.882	1.134
Agreeableness	0.298	0.151	.136	1.979	.049	.739	1.353
Neuroticism	-0.399	0.099	-.271	-4.012	<.001	.764	1.309

Note: * $p < 0.01$.

The associations between job satisfaction and TREO

Hypothesis 2c. The team builder team role is positively associated with job satisfaction

To investigate whether team roles (organiser, doer, challenger, innovator, team builder, and connector) are significantly associated with employee performance in organisations, a multiple linear regression using the enter method was carried out (Field, 2013). Job satisfaction was entered as the criterion and all six scales as predictor variables. Results indicated that the regression was non-significant, $F(6,242)= 1.201$, $p < .001$, $Adj. R^2 = .005$. Overall, the results of the regression indicated that the model explained 0.5% of the variance. Accordingly, as presented in table 57, hypothesis 2c was rejected.

Table 57. Regression coefficients for the regression predicting job satisfaction based on TREO

Model	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	Tolerance	VIF
Constant	4.552	.552	-	8.247	<.001	-	-
Organiser	0.169	0.152	.111	1.111	.268	.402	2.490
Doer	-0.092	0.169	-.052	-.548	.584	.443	2.259
Challenger	-0.271	0.142	-.149	-1.905	.058	.658	1.520
Innovator	0.147	0.153	.094	.964	.336	.426	2.350
Team Builder	0.075	0.181	.042	.416	.678	.386	2.588
Connector	0.008	0.135	.006	.061	.952	.471	2.123

Note: * $p < 0.01$.

The associations between job satisfaction and the DUTCH

Hypothesis 2d. Problem solving conflict management style is positively associated with job satisfaction

Hypothesis 2e. Avoiding conflict management style is negatively associated with job satisfaction

To examine whether the conflict management styles (problem solving, compromising, yielding, forcing and avoiding) are significantly associated with job satisfaction in organisations, a multiple

linear regression using the enter method was carried out (Field, 2013). Job satisfaction was entered as the criterion and all five scales as predictor variables. Results indicated that the regression was significant, $F(5,243)= 1.449, p<.001, Adj. R^2= .009$. Overall, the results of the regression indicated that the model explained 0.9% of the variance. As presented in Table 58, problem solving did not emerge as a significant predictor of job satisfaction. Nonetheless, the direction of the coefficient was as expected ($p= .039$). Notably, the p value was reduced from .05 to .01 after the Bonferroni correction. Further, the direction of the regression for avoiding is negative as expected, nonetheless, the p value is insignificant ($p= .437$). Duly, hypotheses 2d and 2e were rejected.

Table 58. Regression coefficients for the regression predicting job satisfaction based on the DUTCH

Model	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	Tolerance	VIF
Constant	4.825	.569	-	8.485	<.001	-	-
Problem Solving	0.261	0.126	.160	2.075	.039	.675	1.482
Compromising	-0.151	0.130	-.092	-1.164	.246	.638	1.568
Yielding	-0.015	0.100	-.010	-.154	.878	.881	1.134
Forcing	-0.103	0.080	-.082	-1.288	.199	.987	1.013
Avoiding	-0.059	0.075	-.052	-.779	.437	.900	1.111

Note: * $p < 0.01$.

The associations between job satisfaction and the GDMS

Hypothesis 2f. Rational decision-making style is positively associated with job satisfaction

Hypothesis 2g. Avoidant decision-making style is negatively associated with job satisfaction

To investigate whether the general decision-making styles (rational, intuitive, dependent, spontaneous and avoidant) are significantly associated with job satisfaction in organisations, a multiple linear regression using the enter method was carried out (Field, 2013). Job satisfaction was entered as the criterion and the other five scales as predictor variables. Results indicated that the regression was significant, $F(5,243)= 2.596, p<.001, Adj. R^2= .031$. Overall, the results of the

regression indicated that the model explained 3.1% of the variance. As presented in Table 59, the direction of the regression for rational is positive as expected in comparison to all other scales in which the direction of their regression coefficients is negative, nonetheless, its p value is insignificant ($p= .633$). However, avoidant emerged as the only significant negative predictor of job satisfaction ($p= .010$). Based on these findings, hypothesis 2f was rejected, whilst, hypothesis 2g was accepted.

Table 59. Regression coefficients for the regression predicting job satisfaction based on the GDMS

Model	B	SE	β	t	p	Tolerance	VIF
Constant	5.594	0.700	-	7.993	<.001	-	-
Rational	0.060	0.126	.033	.478	.633	.839	1.192
Intuitive	-0.046	0.107	-.031	-.429	.668	.764	1.309
Dependent	-0.069	0.094	-.050	-.735	.463	.832	1.202
Spontaneous	-0.014	0.106	-.010	-.137	.891	.729	1.371
Avoidant	-0.229	0.088	-.187	-2.612	.010	.760	1.315

Note: * $p < 0.01$.

The associations between job satisfaction and the BFI-44, TREO, DUTCH and GDMS

To investigate in one model whether all individual differences constructs are significantly associated with job satisfaction in organisations, specifically, the big five personality traits (openness, conscientiousness, extraversion, agreeableness, and neuroticism), team roles (organiser, doer, challenger, innovator, team builder, and connector), conflict management styles (problem solving, compromising, yielding, forcing, and avoiding), and decision-making styles (rational, intuitive, dependent, spontaneous, and avoidant), a multiple linear regression using the enter method was carried out (Field, 2013). Job satisfaction was entered as the criterion and all other scales as predictor variables. Results indicated that the regression model was significant, $F(21,227)= 2.883$, $p < .001$, $Adj. R^2 = .138$. Overall, the results of the regression indicated that the

model explained 13.8% of the variance. As presented in Table 60, neuroticism emerged as the only significant negative predictor of job satisfaction ($p < .001$).

Table 60. Regression coefficients for the regression predicting job satisfaction based on the BFI-44, TREO, DUTCH and GDMS

Model	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	Tolerance	VIF
Constant	5.505	1.092	-	5.041	<.001	-	-
Openness	-0.040	0.144	-.021	-.278	.781	.605	1.654
Conscientiousness	0.151	0.151	.078	1.001	.318	.578	1.731
Extraversion	0.036	0.123	.021	.293	.770	.706	1.416
Agreeableness	0.339	0.167	.155	2.032	.043	.600	1.666
Neuroticism	-0.435	0.106	-.296	-4.085	<.001	.662	1.510
Organiser	0.117	0.149	.077	.789	.431	.363	2.756
Doer	-0.301	0.168	-.170	-1.795	.074	.388	2.577
Challenger	-0.043	0.145	-.023	-.294	.769	.549	1.823
Innovator	0.173	0.151	.110	1.143	.254	.374	2.672
Team Builder	0.134	0.183	.075	.730	.466	.328	3.047
Connector	-0.086	0.134	-.059	-.637	.525	.411	2.435
Problem Solving	0.039	0.145	.024	.269	.788	.443	2.258
Compromising	-0.168	0.127	-.102	-1.326	.186	.584	1.711
Yielding	0.053	0.097	.036	.545	.586	.815	1.226
Forcing	-0.038	0.086	-.030	-.441	.660	.741	1.350
Avoiding	-0.062	0.083	-.049	-.743	.458	.802	1.246
Rational	-0.015	0.145	-.008	-.102	.919	.563	1.775
Intuitive	-0.109	0.109	-.073	-1.003	.317	.662	1.511
Dependent	-0.130	0.093	-.095	-1.391	.166	.752	1.330
Spontaneous	0.175	0.116	.121	1.503	.134	.536	1.864
Avoidant	-0.123	0.092	-.101	-1.328	.185	.607	1.647

Note: * $p < 0.01$.

The associations between climate for innovation and the BFI-44

Hypothesis 3a. Agreeableness trait is positively associated with climate for innovation

Hypothesis 3b. Neuroticism trait is negatively associated with climate for innovation

To test whether the big five personality traits (openness, conscientiousness, extraversion, agreeableness, and neuroticism) are significantly associated with team climate in organisations, a multiple linear regression using the enter method was carried out (Field, 2013). TCI was entered as the criterion and all five scales as predictor variables. Results indicated that the regression was significant, $F(5,243) = 8.817$, $p < .001$, $Adj. R^2 = .136$. Overall, the results of the regression indicated that the model explained 13.6% of the variance. As presented in Table 61, agreeableness emerged as the only significant positive predictor of climate for innovation ($p = .004$). Further, neuroticism emerged as the only significant negative predictor of climate for innovation ($p = .002$). Thus, hypotheses 3a and 3b were accepted.

Table 61. Regression coefficients for the regression predicting climate for innovation based on the BFI-44

Model	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	Tolerance	VIF
Constant	3.004	0.716	-	4.196	<.001	-	-
Openness	-0.012	0.103	-.008	-.120	.904	.755	1.325
Conscientiousness	0.054	0.109	.035	.496	.620	.697	1.434
Extraversion	0.137	0.088	.098	1.560	.120	.882	1.134
Agreeableness	0.350	0.120	.201	2.922	.004	.739	1.353
Neuroticism	-0.253	0.079	-.216	-3.204	.002	.764	1.309

Note: * $p < 0.01$.

The associations between climate for innovation and TREO

Hypothesis 3c. The innovator team role is positively associated with climate for innovation

To investigate whether team roles (organiser, doer, challenger, innovator, team builder, and connector) are significantly associated with climate for innovation in the shipping and logistics company, a multiple linear regression using the enter method was carried out (Field, 2013). TCI was entered as the criterion and all six scales as predictor variables. Results indicated that the regression was significant, $F(6,242) = 2.278$, $p < .001$, $Adj. R^2 = .030$. Overall, the results of the regression indicated that the model explained 3.0% of the variance. As presented in Table 62, innovator did not emerge as a significant positive predictor of climate for innovation ($p = .399$). Therefore, hypothesis 3c was rejected.

Table 62. Regression coefficients for the regression predicting climate for innovation based on TREO

Model	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	Tolerance	VIF
Constant	3.486	.434	-	8.030	<.001	-	-
Organiser	0.247	0.119	.204	2.066	.040	.402	2.490
Doer	0.161	0.133	.114	1.214	.226	.443	2.259
Challenger	-0.162	0.112	-.111	-1.445	.150	.658	1.520
Innovator	0.101	0.120	.081	.846	.399	.426	2.350
Team Builder	0.002	0.143	.002	.017	.986	.386	2.588
Connector	-0.188	0.106	-.161	-1.772	.078	.471	2.123

Note: * $p < 0.01$.

The associations between climate for innovation and the DUTCH

Hypothesis 3d. Problem solving conflict management style is positively associated with climate for innovation

Hypothesis 3e. Avoiding conflict management style is negatively associated with climate for innovation

To examine whether the conflict management styles (problem solving, compromising, yielding, forcing, and avoiding) are significantly associated with climate for innovation in organisations, a multiple linear regression using the enter method was carried out (Field, 2013). TCI was entered as the criterion and all five scales as predictor variables. Results indicated that the regression was significant, $F(5,243)= 5.837$, $Adj. R^2= .089$. Overall, the results of the regression indicated that the model explained 8.9% of the variance. As presented in Table 63, problem solving emerged as the only significant positive predictor of climate for innovation ($p= .011$). Additionally, the avoiding scale did not emerge as significantly different from zero, nonetheless, the direction of its regression coefficient was as expected and had the largest effect size in comparison to the other negative coefficients ($p= .122$). Accordingly, hypothesis 3d was accepted and hypothesis 3e was rejected.

Table 63. Regression coefficients for the regression predicting climate for innovation based on the DUTCH

Model	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	Tolerance	VIF
Constant	2.874	0.434	-	6.617	<.001	-	-
Problem Solving	0.247	0.096	.190	2.574	.011	.675	1.482
Compromising	0.218	0.099	.167	2.200	.029	.638	1.568
Yielding	-0.003	0.076	-.002	-.037	.970	.881	1.134
Forcing	-0.039	0.061	-.039	-.640	.523	.987	1.013
Avoiding	-0.089	0.057	-.099	-1.554	.122	.900	1.111

Note: * $p < 0.01$.

The associations between climate for innovation and the GDMS

Hypothesis 3f. Rational decision-making style is positively associated with climate for innovation

Hypothesis 3g. Avoidant decision-making style is negatively associated with climate for innovation

To investigate whether the general decision-making styles (rational, intuitive, dependent, spontaneous and avoidant) are significantly associated with climate for innovation in organisations, a multiple linear regression using the enter method was carried out (Field, 2013). TCI was entered as the criterion and the other five scales as predictor variables. Results indicated that the regression was significant, $F(5,243) = 2.294$, $p < .001$, $Adj. R^2 = .025$. Overall, the results of the regression indicated that the model explained 2.5% of the variance. As presented in Table 64, rational emerged as the only significant positive predictor of climate for innovation ($p = .010$). Further, the avoidant scale did not emerge as significantly different from zero, nonetheless, the direction of its regression coefficient was as expected and had the largest effect size in comparison to the other negative coefficients ($p = .255$). Based on these findings, hypothesis 3f was accepted and hypothesis 3g was rejected.

Table 64. Regression coefficients for the regression predicting climate for innovation based on the GDMS

Model	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	Tolerance	VIF
Constant	3.602	0.559	-	6.441	<.001	-	-
Rational	0.262	0.101	.178	2.599	.010	.839	1.192
Intuitive	-0.070	0.086	-.058	-.812	.417	.764	1.309
Dependent	-0.075	0.075	-.068	-.996	.320	.832	1.202
Spontaneous	0.096	0.084	.083	1.137	.256	.729	1.371
Avoidant	-0.080	0.070	-.082	-1.141	.255	.760	1.315

Note: * $p < 0.01$.

The associations between climate for innovation and the BFI-44, TREO, DUTCH and GDMS

To investigate in one model whether all individual differences constructs are significantly associated with climate for innovation in organisations, specifically, the big five personality traits (openness, conscientiousness, extraversion, agreeableness, and neuroticism), team roles (organiser, doer, challenger, innovator, team builder, and connector), conflict management styles (problem solving, compromising, yielding, forcing, and avoiding), and decision-making styles (rational, intuitive, dependent, spontaneous, and avoidant), a multiple linear regression using the enter method was carried out (Field, 2013). TCI was entered as the criterion and all other scales as predictor variables. Results indicated that the regression model was significant, $F(21,227)= 3.855$, $p < .001$, $Adj. R^2 = .195$. Overall, the results of the regression indicated that the model explained 19.5% of the variance. As presented in Table 65, agreeableness emerged as the only significant positive predictor of climate for innovation ($p= .013$). Further, neuroticism emerged as the most significant negative predictor of climate for innovation ($p< .001$) which was followed by the connector team role ($p= .014$).

Table 65. Regression coefficients for the regression predicting climate for innovation based on the BFI-44, TREO, DUTCH and GDMS

Model	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	Tolerance	VIF
Constant	2.617	0.841	-	3.113	.002	-	-
Openness	-0.080	0.111	-.053	-.721	.472	.605	1.654
Conscientiousness	-0.020	0.116	-.013	-.173	.863	.578	1.731
Extraversion	0.171	0.095	.122	1.800	.073	.706	1.416
Agreeableness	0.320	0.128	.184	2.499	.013	.600	1.666
Neuroticism	-0.295	0.082	-.252	-3.594	<.001	.662	1.510
Organiser	0.212	0.114	.175	1.849	.066	.363	2.756
Doer	0.037	0.129	.026	.287	.775	.388	2.577
Challenger	-0.017	0.112	-.012	-.152	.879	.549	1.823
Innovator	0.022	0.117	.017	.186	.853	.374	2.672
Team Builder	-0.019	0.141	-.013	-.132	.895	.328	3.047
Connector	-0.257	0.103	-.221	-2.480	.014	.411	2.435
Problem Solving	0.189	0.111	.145	1.694	.092	.443	2.258
Compromising	0.160	0.097	.123	1.646	.101	.584	1.711
Yielding	0.036	0.074	.030	.479	.633	.815	1.226
Forcing	-0.017	0.066	-.017	-.250	.803	.741	1.350
Avoiding	-0.075	0.064	-.074	-1.171	.243	.802	1.246
Rational	0.076	0.112	.052	.679	.498	.563	1.775
Intuitive	-0.146	0.084	-.122	-1.743	.083	.662	1.511
Dependent	-0.142	0.072	-.130	-1.973	.050	.752	1.330
Spontaneous	0.206	0.089	.179	2.299	.022	.536	1.864
Avoidant	0.018	0.071	.019	.254	.800	.607	1.647

Note: * $p < 0.01$.

7.5 Discussion

The analysis was focused on examining which individual differences (i.e. the big five, team roles, conflict management styles, and decision-making styles) would be most and least relevant for

studying employee performance, job satisfaction and climate for innovation. This data collection was conducted on a Shipping and Logistics company in Jordan. Findings from the regression analysis for the developed hypotheses suggest that the big five, the conflict management styles and the decision-making styles are effective at examining employee performance, job satisfaction and climate for innovation.

Regarding *employee performance*, of the big five, the conscientiousness trait emerged as the only significant positive predictor, whilst, agreeableness emerged as the only significant negative one. Further, in relation to neuroticism, whilst it did not emerge as significantly different from zero, the direction of its coefficient was negative as expected. As for the conflict management styles, the problem-solving style emerged as the only significant positive predictor. Concerning the decision-making styles, the regression model was insignificant. With respect to the regression model in which the big five, team roles, conflict management styles, and decision-making styles were regressed onto employee performance, conscientiousness emerged as the only significant positive predictor, whilst, agreeableness emerged as the only significant negative one.

For *job satisfaction*, from the big five, the agreeableness trait did not emerge as a significant predictor, however, the direction of its coefficient was positive as anticipated. Further, the neuroticism trait emerged as the only negative significant predictor. Regarding the conflict management styles, the problem-solving style did not emerge as a significant predictor, but the direction of the regression coefficient was positive as predicted. Concerning the decision-making styles, the rational style did not emerge as a significant predictor. Moreover, this scale was the only one to present a positive regression coefficient in comparison to all other scales, which presented negatively. As for the avoidant style, this scale emerged as the only significant negative predictor. With reference to the regression model in which the big five, team roles, conflict management styles, and decision-making styles were regressed onto job satisfaction, neuroticism emerged as the only significant negative predictor.

For *climate for innovation*, of the big five, the agreeableness trait emerged as the only significant positive predictor. Moreover, the neuroticism trait emerged as the only significant negative predictor of climate for innovation. With regards to the conflict management styles, the problem-solving style was the only one to register as a significant positive predictor. With respect to the decision-making styles, the rational style emerged as the only significant positive predictor. In

connection with the regression model in which the big five, team roles, conflict management styles, and decision making styles were regressed onto climate for innovation, the agreeableness trait emerged as the only significant positive predictor, whilst neuroticism emerged as the strongest significant negative one. *Team roles* in association with employee performance, job satisfaction and climate for innovation presented insignificant findings. Notably, for employee performance, the organiser and doer roles did not emerge as significant predictor for employee performance. Regarding job satisfaction, the regression model was insignificant and for climate for innovation, the innovator role did not emerge as a significant predictor.

The avoiding scale from the conflict management styles was not found to be a significant predictor for employee performance, job satisfaction or climate for innovation, however, the direction of its regression coefficient was negative for all three. Similarly, the avoidant decision-making scale did not emerge as a significant predictor of employee performance or climate for innovation, nonetheless, the direction of its regression coefficient was negative as expected.

To clarify the findings thoroughly from the regression analysis, particularly for individual differences in relation to employee performance, from the *big five*, conscientiousness was the most significant positive predictor. Clearly, conscientious individuals are goal oriented, focused, strong willed, determined and have a purpose. Moreover, the employees in Jordan are punctual, hard workers and precise (Hofstede, 2019). These descriptions mirror the autonomy and goal orientation concepts, which consequently impact on employee performance (Barrick & Mount, 1993; Barrick et al., 1993). The findings from this study are in line with Western findings from Barrick and Mount (1991), Barrick et al. (1993), Barrick et al. (2001), Frink and Ferris (1999), Hough et al. (1990), Hough (1992), Kappe and Van der Flier (2010), Ones and Viswesvaran (1997), Sackett and Wannek (1996), Salgado (1997) and Salgado's (1998) studies.

From the big five also, unexpectedly, agreeableness emerged as a significant negative predictor of employee performance. This finding contradicts previous research that either showed positive associations between agreeableness and employee performance (Tett et al., 1991) or zero correlations between both constructs (Gellatly & Irving, 2001). An interpretation of this non-replicated result could be linked to the idea that agreeable employees show a tendency to doubt their decisions (Erjavec, Popovič, & Trkman, 2019) and ask for the advice of others before making them (Dalal & Brooks, 2013), and therefore, may not perform well. Another interpretation of this

unanticipated finding could perhaps revolve around the organisational context and culture of the shipping and logistics company. For instance, its beliefs and values which in turn may have influenced the behaviour and attitudes of the employees (Padhi, 2017). The finding could have been also impacted by the nature of the executed tasks with regards to the diverse occupations, roles and duties that the employees undertake within the organisation. As indicated by Tett, Jackson, Rothstein, and Reddon (1999), these variables include important factors that could play a role in impacting employee performance. While these interpretations are possible, at present the reason for this association is not clear and would require further research to clarify. It is of course possible that among the very many findings in this research that were in line with previous studies, it may just be a false positive. For the set of results regarding the *conflict management styles*, the problem-solving style emerged as the only significant positive predictor. Clearly, problem solvers are inclined to have a concern for themselves and others. They tend to exchange information, make trade-offs and have discussions with others. This style has been reported as being the most useful style to use (Marriner, 1982, 1995; Rahim, 2005; Thomas, 1976). Hence, this could explain why adopting this style plays a role in increasing the performance of individuals. The finding from this study mirrors assertions and outcomes that reported that using this style positively influences performance (Likert & Likert, 1976; Rahim et al., 2001; Shih & Susanto, 2010; Weider-Hatfield & Hatfield; 2010). Interestingly, this study revealed that employees in the company used this style the most. This is in line with previous findings from Jordanian studies conducted by Al-Hamdan et al. (2014), Al-Hamdan et al. (2016) and Kozan (1991). This can be connected with the fact that Jordan is a collectivist society, in which individuals are viewed as caring (Hofstede, 2019), expressive, verbal (Ajami, 1981; Almaney, 1981; Patai, 1983) and would rather work on their problems through discourse (Kozan, 1991). This leads to achieving harmony (Tjosvold et al., 2003), which is a state that has been associated with a preference for using the problem-solving style in cultures that are collectivists (Chen et al., 2012).

Regarding the findings in relation to *decision-making styles*, the regression for the model was insignificant. However, the direction of the regression coefficient of the rational style was positive as expected. A possible explanation for its insignificance may be due to the sample size. While the sample size was adequate, being as large as possibly reasonable from the company, a bigger one could have provided more statistical power.

Concerning the findings of the regression model that included all individual differences constructs in association with employee performance, the conscientiousness trait emerged as the only significant positive predictor, whereas, agreeableness emerged as the only significant negative one. The conscientiousness finding is in line with previous meta analyses that showed positive associations between conscientiousness and employee performance (Anderson & Viswesvaran, 1998; Barrick et al., 2001; Salgado, 1997). Nonetheless, the agreeableness result is not in line with previous research that either presented positive relationships between agreeableness and employee performance (Tett et al., 1991) or zero correlations between both constructs (Gellatly & Irving, 2001). As previously stated, an explanation for this could be linked to the culture of the organisation where the data collection took place (e.g. the values and beliefs of both the team and the company) (Padhi, 2017). Another elucidation could revolve around the different occupations within the company and the nature of the tasks and responsibilities that are required to be executed by the employees. All of these present areas that have been proposed to impact performance (Tett et al., 1999). A further interpretation of this non-replicated outcome could be connected to the preferences of agreeable individuals, specifically, their inclinations to doubt their decisions (Erjavec et al., 2019) and their tendency to depend on others when making decisions (Dalal & Brooks, 2013), which in return may lead to low performance. These interpretations may all present factors to influence performance, however, the reason for this finding is not clear and further studies would be required to clarify it. Among the several findings in this research that were in accord with former studies, it is also possible that it may just be a false positive.

Taken together, it can be concluded that from all the individual differences constructs (the big five, team roles, conflict management styles, and decision-making styles), the big five show the strongest associations with employee performance. This sheds a light on the important role the big five plays with understanding employee performance in the workplace.

With respect of the findings from the regression analysis about individual differences in relation to job satisfaction, for the *big five*, neuroticism emerged as the only significant predictor. Essentially, employees who have high neuroticism scores may feel insecure and nervous, thus feeling stressed out more often during distressing situations. These traits may play a role in decreasing the levels of satisfaction and this finding is in line with Templer (2012) study, which was conducted on a collectivist society.

In regard to the findings on *conflict management styles*, the problem-solving style did not emerge as a significant predictor of job satisfaction, but the regression coefficient of this trait was positive as expected. The lack of significance in the problem-solving finding could be explained by the sample size. While the size is adequate, however, the p value was very close to the significance of the cut-off criteria and thus, a bigger sample size might have provided greater statistical power.

Regarding the findings for *decision-making styles* and job satisfaction, the avoidant style emerged as the only significant predictor. This can be linked to the idea that employees who prefer to use this style postpone making decisions, often find it hard to make decisions and are constantly looking for more information. Furthermore, this result is in accord with findings that reported relationships between this style and stress (Thunholm, 2008), depression (Leykin & DeRubeis, 2010) and anxiety (Maner & Schmidt, 2006). All of which convey attributes that contribute to increasing the levels of dissatisfaction (Wood & Highhouse, 2014).

In connection with the results of the regression model that involved all individual differences constructs in association with job satisfaction, neuroticism trait from the big five emerged as the only significant negative predictor. Individuals that are neurotic tend to experience negative feelings such as fear and anxiety, and they tend to also have difficulties in managing stressful events. This finding resembles findings from the meta-analysis conducted by Judge et al. (2002) as well as the study carried out by Matzler and Renzl (2007), which reported negative associations between neuroticism and job satisfaction. Moreover, the finding is also in line with previous research carried out in collectivist societies, specifically, Templer (2012) and Joshanloo and Afshari's (2011) studies in which negative associations were also presented between neuroticism and job satisfaction. Overall, it can be concluded that from all the individual differences constructs, that is, the big five, team roles, conflict management styles, and decision-making styles, the big five demonstrate the strongest associations with job satisfaction. This highlights the importance of using the big five in organisations to understand their relationship with job satisfaction and perhaps assist in identifying the satisfaction level of employees.

Concerning the findings from the regression analysis about individual differences in relation to climate for innovation, for the *big five*, as anticipated, the agreeableness trait emerged as the only significant positive predictor. This personality trait portrays individuals who are cooperative, helpful, warm, kind, polite and forgiving. Hence, it would make sense for the agreeableness scale

to show significant links with climate for innovation, as Jordan is a collectivist society, where individuals tend to be caring and cooperative. That is, being warm and friendly may contribute to bringing a positive climate to the workplace. Notably, this finding needs to be viewed with caution as the alpha value that was obtained for this trait was slightly lower than the cut-off criterion.

Moreover, the neuroticism trait emerged as the only significant negative predictor of climate for innovation. Neurotic individuals tend to feel lonely, down, sad and may easily feel stressed out. Further, individuals who tend to be neurotic may feel anxious whilst working in a high-task oriented team climate. They may also feel uncomfortable working in an atmosphere where they are being evaluated, as they may get worried about not meeting expectations (Burch and Anderson, 2004). All of which explains why this trait may negatively impact on climate for innovation.

For the group of findings of the *conflict management styles*, as expected, the problem-solving style emerged as the only significant positive predictor. Problem solvers develop harmonious relationships, which as a consequence, create positive psychological environments that open the door for individuals to express their feelings and thoughts in an atmosphere that is safe and deal with their issues in a healthy manner, in order to come up with new and innovative ideas. Moreover, problem solvers focus on developing shared concerns about tasks and are constantly searching for new information to work on the issues that arise. All of which present attributes that assist in generating high quality task performance. Additionally, problem solvers often focus on the big picture, which enables them to achieve the team's objectives and visions. Accordingly, attributes like these may explain the reason behind the positive associations between this style and climate for innovation. This finding is supported by Açıkgöz and İlhan's (2015) work, in which positive correlations were found between climate and problem solving, specifically, between innovation orientation (i.e. similar to the support for new ideas dimension in the TCI instrument) and goal orientation (i.e. similar to the task orientation dimension in TCI).

Concerning the findings on *decision-making styles*, the rational style emerged as the only significant positive predictor of climate for innovation. This describes individuals who are logical, systematic and are constantly looking for information. These team members are determined to make use of new ideas, make a group effort to achieve goals as well as using the norms and means of doing work positively. This finding is in line with Açıkgöz et al.'s (2014), for which an association between members who use the rational style and climate for innovation was found.

With respect to the results of the regression model that comprised of all individual differences constructs in association with climate for innovation, agreeableness from the big emerged as the only significant positive predictor, whilst, neuroticism from the big five as well emerged as the strongest significant negative one. The agreeableness finding is in line with the nature of agreeable individuals, as they prefer to help and support others. This is particularly relevant in Jordan's collectivist society, as members are known for their loyalty and great care for each other (Hofstede, 2019). All of these present descriptions that overlap with the climate for innovation dimensions. As for the neuroticism finding, as previously stated, these individuals are inclined to be moody, anxious, sad, and down. Accordingly, they may feel anxious about the idea of working in a high-task oriented climate. Further, they may avoid working in an environment where they are being evaluated, as they may get distressed about not achieving their goals (Burch and Anderson, 2004). Clearly, these descriptions provide explanations as to why this trait presented negative associations with climate for innovation. It is evident that from all the individual differences constructs (the big five, team roles, conflict management styles, and decision-making styles), the big five present the strongest associations with climate for innovation. This shows the importance of adopting the big five in organisations and the role it provides with regards to understanding the climate of the organisation.

The *team roles* findings in association with employee performance, job satisfaction and climate for innovation presented mixed findings. For employee performance, the organiser and doer roles did not emerge as significant predictors. Moreover, the doer role did not appear as being a reliable scale. Regarding job satisfaction, the regression model was insignificant. For climate for innovation, the innovator role did not emerge as a significant predictor. Hence, team roles in general turned out to be ineffective. Therefore, examining the team roles instrument in relation to employee performance, job satisfaction, and climate for innovation does not provide robust indications as to which scale is the most and least effective. This could be attributed to the idea that the team roles scales share much common ground with each other, for example, the team builder and connector scales focus on the concept of developing relationships. Similarly, the doer and organiser roles focus on structuring and completing the tasks. Likewise, the challenger scale stresses exploring the different aspects of an event and takes into consideration the various alternatives, which have common ground with the innovator scale, in particular, bringing up new ideas that enable the team to handle new challenges.

The *avoiding* scale from the conflict management style did not emerge as a significant predictor for employee performance, job satisfaction and climate for innovation, however, the direction of its regression coefficient was negative for all three. Notably, caution should be taken with this interpretation as the obtained alpha value was slightly smaller than the cut-off criterion. Similarly, the *avoidant* decision-making scale did not emerge as a significant predictor for employee performance or climate for innovation, nevertheless, the direction of its regression coefficient was negative as expected. The absence of significance for both scales may be related to the fact that Jordanians use both these styles the least, as found in this study and in that of Al-Hamdan et al. (2014). Further, participants' tendency to respond in socially desirable ways may have restricted the range of avoiding and avoidant scores, thus failing to capture any relationships present in this regard.

A key limitation of this study concerns only collecting data from one company in Jordan and thus, just one industry (shipping and logistics). Despite the fact that this company is large in size and ranked in the top 20 companies to work for and the sample covering a broad range of characteristics (i.e. males and females from different age groups, qualifications, departments and years of experience), the findings could have been impacted upon by the culture of the company in terms of its values and ethics. Hence, future research could address this limitation by collecting data from the general population in Jordan in order to include a broad range of companies of varying sizes and across different industries.

A further limitation is in the low reliability of the employee job performance questionnaire. The low alpha value may have been obtained due to the fact that the instrument is composed of two items only. Accordingly, it is important to address this limitation in future studies by adding a new instrument for employee performance that has more items than this. Further, this research was aimed at collecting performance data not only through self-reports but also by using objective measures from the annual reports of the shipping company. Whilst the company provided approval to the researcher, the participants did not give consent. Although the self-report method has been found to present valid information (Conway & Lance, 2010), future research may benefit from collecting data through objective measures as well in order to explore the findings further.

The importance of these results should not be underestimated. This study has contributed to the literature and evidence-based business psychology through its unique design, which has

incorporated personality traits, team roles, conflict management styles, decision-making styles, employee performance, job satisfaction, and climate for innovation in the workplace within the same research endeavour, in Jordan's Middle Eastern context. Hence, the findings have allowed for providing guidance in relation to which individual differences variables are positively and negatively associated with employee performance, job satisfaction and climate for innovation.

As this study was conducted on one company in Jordan, future research should test the general population (and use a bigger sample), to ascertain whether the big five scales, the conflict management styles and the decision-making styles present fruitful basis for studying employee performance, job satisfaction and climate for innovation. Moreover, caution is suggested when proposing the most and least effective characteristics for team roles in relation to employee performance, job satisfaction, and climate for innovation, as it would appear that these roles are weak correlates.

Chapter 8. Study 3: How individual differences are associated with job satisfaction, employee performance and climate for innovation in the general population of Jordan

8.1 Introduction

Associations between individual differences (i.e. the big 5, conflict management styles, and decision-making styles) in relation to employee performance, job satisfaction and climate for innovation demand more consideration in general and in Jordan in specific. Clearly, the growing literature of individual differences has not investigated all of these constructs under one umbrella. Furthermore, there is scant literature in regard to investigating these constructs and instruments in the context of Jordan.

The regression analyses carried out in Study 2 provided indications for the key individual differences that are associated with employee performance, job satisfaction and climate for innovation. Briefly, these correlates were: all big five traits (John & Srivastava, 1999); problem solving, compromising, and avoiding styles from conflict management styles (De Dreu et al., 2001); as well as the rational and avoidant styles from decision-making styles (Scott & Bruce, 1995). Hence, these were the only ones included in the wider study alongside their outcome variables, namely, employee performance (Cheng & Kalleberg, 1996), job satisfaction (Andrews & Withey, 1976, 2012) and climate for innovation (Kivimaki & Elovainio, 2010).

Previous studies and postulations have indicated that conscientiousness from the big five (Barrick & Mount, 1991), doer and organiser team roles (Belbin, 2004; Parker, 1991), the problem solving conflict management style (Weider-Hatfield, & Hatfield, 2010), and rational decision-making style (Russ et al., 1996) are the variables that strongly correlate with employee performance. Notably, the conscientiousness trait describes individuals who are organised and task oriented (John & Srivastava, 1999), whilst the doer and organiser roles feature individuals who focus on their tasks (Mathieu et al., 2015). Moreover, the problem-solving style portrays individuals who tend to come up with exceptional solutions to challenging issues (Lloyd, 2009) and the rational style pertains to those who base their decisions on logic and vigilance (Scott & Bruce, 1995). Clearly, these individual differences present characteristics that share strong common grounds with the employee performance construct as it focuses on how well employees perform their tasks (Schepers, 1994).

Further, prior studies and assertions have revealed agreeableness from the big five (Templer, 2012), team builder role (Mathieu et al., 2015), the problem-solving conflict management style (Chen et al., 201) and rational decision-making style (Hariri et al., 2016) as the strongest variables to positively correlate with job satisfaction. In essence, the agreeableness trait pertains to individuals who are helpful and polite (Goldberg, 1990), the team builder team role features individuals who are calm and encourage others during times of stress (Mathieu et al., 2015), the problem solver style refers to individuals who incorporate the opinions of others (De Dreu et al., 2001) and the rational style portrays individuals who think thoroughly about the decision before making it (Bruce & Scott, 1995). Thus, it would appear that these descriptions are in accord with the job satisfaction construct, which revolves around the pleasurable feelings' individuals experience in the workplace (Castro & Martins, 2010).

Preceding research has also elicited that, agreeableness from the big five, the innovator team role (Mathieu et al., 2015), the problem solving conflict management style (Nordin et al., 2014) and the rational decision-making style, are the strongest variables to positively correlate with climate for innovation (Açıkgöz et al., 2014). The innovator role which describes individuals who tend to bring new ideas and plans to the workplace (Mathieu et al., 2015), alongside the agreeableness, problem solving, and rational characters are in line with the climate for innovation concept that aims to generate novel ideas and develop a positive climate at the workplace (Anderson & West, 1998).

Extant literature has demonstrated how neuroticism from the big five, the avoiding conflict management style and avoidant decision-making style are the strongest variables that negatively correlate with employee performance, job satisfaction and climate for innovation (Russ et al., 1996; Shaheryar, 2016; Templer, 2012). Essentially, the neuroticism trait features individuals who tend to be anxious, sad and fearful (McCrae & Costa, 1986), whilst the avoiding style describes individuals who withdraw and deal with situations passively (De Dreu et al., 2001) and the avoidant style portrays individuals that are indecisive and have difficulties in making decisions (Bruce & Scott, 1995). Chapter 4 has discussed the associations for the positive and negative correlates in detail.

The findings from regression analyses in Study 2 were from the shipping and logistics company in Jordan. Subsequently, for this study, data was collected on the general population in Jordan.

This was done in order to confirm the findings from Study 2 and to generalise the results beyond what was found for the shipping and logistics company in order to ensure presenting results from a representative sample. Notably, for this study, the team roles construct was not considered, as its findings revealed insignificant results as well as low alphas for some of its scales.

The internal consistency for the employee job performance questionnaire in Study 2 was slightly lower than the cut-off criteria that was followed. This shortcoming was addressed by including an additional instrument called the Individual Work Performance Questionnaire (IWPQ) (Koopmans et al., 2016), which measures employee performance as well.

Overall, there were three main aims: (1) to confirm the factorial structure of BFI-44 and the TCI again in this new sample; (2) to generalise the findings from Study 2 for the general population in Jordan, specifically, with regards to the individual differences that are associated with employee performance, job satisfaction and climate for innovation; and (3) to compare the findings from the employee job performance questionnaire with the newly added performance instrument, i.e. the IWPQ. In order to achieve these aims, this chapter details the rationale for this study alongside the method, procedure, and data analysis technique followed. Further, it outlines the BPS ethical guidelines that were followed in this research. Moreover, it presents results for the individual differences that are most and least relevant for studying employee performance, job satisfaction and climate for innovation. Accordingly, this chapter provides further information for chapter 9, which presents the general discussion of this thesis.

8.1.1 Rationale for Study 3

In order to present unbiased and valid results as well as to generalise the results beyond the focal companies in Jordan, data was collected from the general population (Lavrakas, 2008). Moreover, as the employee job performance questionnaire (Cheng & Kalleberg, 1996) presented a slightly lower alpha than the recommended criterion, this study is aimed to add a new performance instrument called the IWPQ (Koopmans et al., 2016) in order to compare the findings. Accordingly, this chapter is aimed at fulfilling the third and fourth objectives of this research as highlighted in table 1.

8.1.2 Research questions and hypotheses

The research questions for this study are summarised below:

1. Are there associations between conscientiousness and neuroticism from the big five, problem solving and avoiding from the conflict management styles, rational and avoidant from the decision-making styles, and employee performance?
2. Are there associations between agreeableness and neuroticism from the big five, problem solving and avoiding from the conflict management styles, rational and avoidant from the decision-making styles, and job satisfaction?
3. Are there associations between agreeableness and neuroticism from the big five, problem solving, compromising and avoiding from the conflict management styles, rational and avoidant from the decision-making styles, and climate for innovation?
4. Does the structure of the BFI-44 and TCI confirm the structure of the constructs again in this new sample?
5. Do the findings from the employee job performance questionnaire yield similar findings to the Individual Work Performance Questionnaire (IWPQ)?

The research hypotheses for this study are illustrated below:

Hypotheses for individual differences in relation to employee job performance questionnaire and the IWPQ

Hypothesis 1a. Conscientiousness trait is positively associated with employees' job performance

Hypothesis 1b. Neuroticism trait is negatively associated with employees' job performance

Hypothesis 1c. Conscientiousness trait is positively associated with IWPQ

Hypothesis 1d. Neuroticism trait is negatively associated with IWPQ

Hypothesis 1e. Problem solving conflict management style is positively associated with employees' job performance

Hypothesis 1f. Avoiding conflict management style is negatively associated with employees' job performance

Hypothesis 1g. Problem solving conflict management is positively associated with IWPQ

Hypothesis 1h. Avoiding conflict management style is negatively associated with IWPQ

Hypothesis 1i. Rational decision-making style is positively associated with employees' job performance

Hypothesis 1j. Avoidant decision-making style is negatively associated with employees' job performance

Hypothesis 1k. Rational decision-making style is positively associated with IWPQ

Hypothesis 1l. Avoidant decision-making style is negatively associated with IWPQ

Hypotheses for individual differences in relation to job satisfaction

Hypothesis 2a. Agreeableness personality trait is positively associated with job satisfaction

Hypothesis 2b. Neuroticism personality trait is negatively associated with job satisfaction

Hypothesis 2c. Problem solving conflict management style is positively associated with job satisfaction

Hypothesis 2d. Avoiding conflict management style is negatively associated with job satisfaction

Hypothesis 2e. Rational decision-making style is positively associated with job satisfaction

Hypothesis 2f. Avoidant decision-making style is negatively associated with job satisfaction

Hypotheses for individual differences in relation to climate for innovation

Hypothesis 3a. Agreeableness personality trait is positively associated with climate for innovation

Hypothesis 3b. Neuroticism personality trait is negatively associated with climate for innovation

Hypothesis 3c. Problem solving conflict management style is positively associated with climate for innovation

Hypothesis 3d. Avoiding conflict management style is negatively associated with climate for innovation

Hypothesis 3e. Rational decision-making style is positively associated with climate for innovation

Hypothesis 3f. Avoidant decision-making style is negatively associated with climate for innovation

8.2 Method

8.2.1 Design

The research design in this research is cross-sectional. Data was collected using a convenience sampling method, specifically, the snowball sampling technique (Atkinson & Flint, 2001; Baltar & Brunet, 2012), whereby each participant was asked to pass on an invitation to participate to their own contacts (Vogt & Johnson, 2011). This was useful as it helped in increasing the response rate. Notably, this method has been proposed as one of the most efficient methods to reach populations that are hard or hidden to access (Valdez & Kaplan, 2008) virtually, in a country like Jordan. However, one of its limitations is that the outcomes may be influenced by the selection of the initial participants (Magnani et al., 2005) such as including only the ones with big networks or that are helpful (Baltar & Brunet, 2012). Thus, to overcome these limitations, the initial participants sought were employees who worked in different industries, of both gender and from a range of age groups (e.g. a male participant working in the retail industry at the age of 22, a male participant working in a school at the age of 35, a female participant working in an aviation company at the age of 42 and a female participant working in a translation office at the age of 51). Thus, the initial sample comprised participants working at different companies in different contexts (Easterby-Smith et al., 2015).

8.2.2 Sample

The total number of participants that completed the surveys was 399. Out of these, 390 surveys were found to be useable. This sample comprised of participants from both males and females, different age groups, qualifications, industries, and years of experience as presented in table 66 below. The age range of the participants was from 19 to 60 with mean being 33.21 (SD= 7.164). Further, years of experience ranged between 1 to 40 years with mean being 9.83 (SD= 6.529).

Table 66. Characteristics of sample 3

Variable	Category	Percentage
Gender	Males	33.20%
	Females	66.80%
Age	19	0.30%
	20 – 29	25.30%
	30 – 39	57.20%
	40 – 49	13.10%
	50 – 59	3.60%
	60	0.50%
English Language Level	Very well	84.50%
	Well	14.90%
	Not well	0.50%
	Not well at all	0.00%
Qualification	High School, graduate, diploma or equivalent	3.10%
	Bachelor's	54.60%
	Master's	35.10%
	Professional	2.10%
	Doctorate	5.20%

Industry

Academia	
Banking	
Business Services	18.73%
Construction	4.41%
Consulting	2.48%
Design	3.03%
Design	7.44%
Energy	1.93%
Engineering	0.83%
Engineering	8.54%
Government	1.93%
Legal	0.83%
Legal	4.96%
Media	8.26%
Medicine	8.54%
NGO	0.28%
NGO	18.46%
Oil and gas	7.99%
Retail	0.28%
Telecom	1.10%
Trade	
Translation	

Years of Experience	1-5 years	26.10%
	6-10 years	39.30%
	11-15 years	18.00%
	16-20 years	10.20%
	21-25 years	2.80%
	26 – 30 years	2.40%
	31 – 35 years	0.60%
	36 – 40 years	0.60%

8.2.3 Instruments: Scales used, their reliabilities and confirmation of factorial structure

Based on the literature as well as findings from Studies 1 and 2, the following instruments and scales were selected in order to generalise the results beyond specific companies from the general population in Jordan. For a reliable scale, a Cronbach alpha of 0.7 and above was suggested by Easterby-Smith et al. (2015) and Field (2009).

8.2.3.1 Instruments used to measure individual differences

8.2.3.1.1 The Big Five inventory (BFI-44)

BFI-44 (John & Srivastava, 1999) was used to measure the big five construct with Table 67 below presenting the scales and reliabilities of this instrument and appendix 3d showing the items in the instrument.

Table 67. Instrument used to measure the big five and its reliability

Instrument	Scale	α	No. of Items
BFI-44	Openness	.753	9
	Conscientiousness	.715	9
	Extraversion	.728	8
	Agreeableness	.672	9
	Neuroticism	.810	8

In order to improve the reliability of the openness scale the following item was deleted: “*has few artistic interests*”. This was as Tavakol and Dennick (2011) proposed deleting items with poor correlations as these may contribute to producing low alphas. As for agreeableness, all items were kept in the analysis as deleting items did not improve its alpha.

8.2.3.1.1.2 Confirmation of the factorial structure of the BFI-44

Similar to what was done in Study 1, the factorial structure of the BFI-44 for this study was investigated. This was done to confirm its structure beyond the shipping and logistics sample in Study 1. This was considered in order to meet the first objective of this thesis that was addressed in table 1 as well as to answer question one of this study which focuses on testing the structure of the BFI-44 on the general population Jordan.

As mentioned previously in chapter 6, specifically, section 6.3.1, in order to be able to run a confirmatory factor analysis, Wolf et al. (2013) recommended a sample size of 200 and above, all of which has been met in this sample (N= 399). Moreover, the same fit indices that were used in Study 1 were also considered for this study. Particularly, the chi-square values (χ^2) and the relative chi-square CMIN/df value (cut-off: between 2 to 5 (Byrne, 1989; Carmines & McIver, 1981; Marsh & Hocevar, 1985). Notably, this study used 3.00 as a rule of thumb where values greater than that would present an inadequate fit. Further, other fit indices that were considered were: the root mean square error of approximation (RMSEA) (cut-off: ≤ 0.08) (Browne & Cudeck's, 1993), the comparative fit-index (CFI) (cut-off: $\geq .90$) (Hu & Bentler, 1999), and the incremental fit index (IFI) (cut-off: $\geq .90$) (Tanaka, 1993).

The CFA was run on the data collected with the BFI-44. Thus, similar to what was done in Study 1, a one-factor model where all items loaded onto a single factor was tested. Following that, a five-factor model was tested (see table 68 for a summary of the BFI-44 factorial models). Two versions of this five-factor model were inspected: one with five independent factors and one which allowed the factors to intercorrelate. The independent and intercorrelated five factor models included all openness, conscientiousness, extraversion, agreeableness, and neuroticism items.

Table 68. Summary of the BFI-44 models

Model	Factors
One Factor Model	All items
Five Factor Model	Factor 1: Extraversion Factor 2: Agreeableness Factor 3: Conscientiousness Factor 4: Neuroticism Factor 5: Openness

Table 69 shows the fit indices for the factorial structures to the data collected with the BFI-44. The correlated five-factor model showed tolerable fit indices as per the following: CMIN/df (2.502), and RMSEA (.062), CFI (.683), and IFI (.687). The correlated five-factor model showed a significantly better fit (χ^2 diff= 2231.704, df= 892, $p < 0.001$) than the independent five-factor model (χ^2 diff= 2487.418, df= 902, $p < 0.001$). The model with the five independent factors showed tolerable fit indices as well. The fit indices were found to be: CMIN/df (2.758), RMSEA (.067), CFI (.625), and IFI (.629). However, better fit indices were found for the correlated five-factor model. Accordingly, the correlated five-factor model had significantly better fit than the independent five factor model: $\Delta\chi^2 = 255.714$ (df= 892), $p < .001$.

Table 69. Goodness-of-Fit indicators of models for the correlated and uncorrelated BFI-44

Uncorrelated Models							
Model	χ^2	<i>Df</i>	CMIN/df	<i>RMSEA</i>	CFI	IFI	$\Delta\chi^2$
Five Factor Model	2487.418	902	2.758	.067	.625	.629	982.563
Correlated Model							
Five Factor Model	2231.704	892	2.502	.062	.683	.687	255.714

Note: CMIN/df = the minimal value of the discrepancy, \hat{C} , divided by the degrees of freedom; RMSEA = root mean square error of approximation; CFI=comparative fit index; IFI = the incremental fit index; $\Delta\chi^2$ = chi-square difference between the two different models. $p < 0.001$. N= 473.

8.2.3.1.2 The Dutch tTest for Conflict Handling (DUTCH)

DUTCH (De Dreu et al., 2001) was used to measure the conflict management styles construct with Table 70 below presenting the scales and reliabilities of this instrument and appendix 3d showing the items in the instrument.

Table 70. Instrument used to measure conflict management styles and its reliability

Instrument	Scale	α	No. of Items
DUTCH	Compromising	.577	4
	Problem solving	.681	4
	Avoiding	.752	4

From the avoiding scale, the following item has been deleted: “*I try to make differences loom less severe*”. This has been done as Tavakol and Dennick (2011) recommended deleting items with poor correlations as these may generate low alphas.

8.2.3.1.3 The General Decision-Making Style Survey (GDMS)

GDMS (Scott & Bruce, 1995) was adopted to measure the decision-making styles construct with Table 71 below presenting the scales and reliabilities of this instrument and appendix 3d demonstrating the items in the instrument.

Table 71. Instrument used to measure decision-making styles and its reliability

Instrument	Scale	α	No. of Items
GDMS	Rational	.728	5
	Avoidant	.843	5

8.2.3.2 Instruments to measure employee performance, job satisfaction, and climate for innovation

8.2.3.2.1 Employee performance: Employee Job Performance Questionnaire and Individual Job Performance Questionnaire (IWPQ)

The employee job performance questionnaire (Cheng & Kalleberg, 1996) and IWPQ (Koopmans et al., 2016) were adapted to measure employee performance with Table 72 below presenting the reliabilities of both instruments and appendix 3d showing the items in these instruments.

Table 72. Instruments used to measure employee performance and their reliabilities

Instruments	α	No. of Items
Employee Job Performance Questionnaire	.657	2
IWPQ	.836	5

8.2.3.2.2 Job satisfaction instrument

The Andrews and Withey job satisfaction questionnaire (Andrews & Withey, 1976, 2012) was used to measure the job satisfaction levels of individuals with Table 73 below presenting the reliability of this instrument and appendix 3d demonstrating the items in the instrument.

Table 73. Instrument used to measure job satisfaction and its reliability

Instruments	α	No. of Items
Job Satisfaction Questionnaire	.803	6

8.2.3.2.3 Team Climate Inventory (TCI)

TCI (Kivimaki & Elovainio, 1999) was adopted to measure the climate for innovation construct with Table 74 below presenting the scales and reliabilities of this instrument and appendix 3d displaying the items in the instrument.

Table 74. Instrument used to measure climate for innovation and its reliability

Instruments	Scales	α	No. of Items
TCI	Support for new ideas	.843	3
	Participative safety	.841	4
		.792	4
	Vision	.777	3
	Task orientation		
	TCI	.906	14

8.2.3.2.3.1 Confirmation of the factorial structure of the TCI

Similar to what was done in Study 1, the factorial structure of the TCI for this study was investigated. This was done to confirm its structure beyond sample 2 in Study 1, which is the shipping and logistics company. This was considered in order to meet the first objective of this thesis as well as to answer the fourth research question of this study which focuses on testing the structure of the TCI on the general population in Jordan.

As mentioned previously in chapter 6, particularly, subsection 6.3.1, in order to be able to run a confirmatory factor analysis, Wolf et al. (2013) recommended a sample size of 200 and above, all

of which has been met in this sample (N= 399). Moreover, the same fit indices that were used in Study 1 and section 8.2.3.1.2 of this chapter were also considered for this study.

The CFA was run on the data collected with the TCI. This study followed the same manner that was carried out in Study 1, in which a one-factor model where all items loaded onto a single factor was tested. Following that, a two-factor model was tested. Two versions of this factor model were inspected: one with independent factors and another one which allowed the factors to intercorrelate. In each model, the first factor included all items for participative safety and support for innovation. The second factor included all items for vision and task orientation. Next, a four-factor model was tested. Two versions of this factor model were inspected: one with independent factors and another one which allowed the factors to intercorrelate. In each model, the first factor included all vision items. The second factor included all support for innovation items, the third factor included all participative safety items, and the fourth factor included all task orientation items. Table 75 exhibits a summary of these factorial models.

Table 75. Summary of the TCI factorial models

Model	Factors
One Factor Model	All items
Two Factor Model	Factor 1: participative safety, support for innovation Factor 2: vision, task orientation
Four Factor Model	Factor 1: vision Factor 2: support for Innovation Factor 3: participative Safety Factor 4: task orientation

Table 76 shows the fit indices for the factorial structures to the data collected with the TCI. For this sample, the correlated four-factor model has acceptable fit indices, the values were found to

be: CMIN/df (2.295), RMSEA (.058), CFI (.965), and IFI (.965). The correlated four-factor model (χ^2 diff= 162.958, df= 71, $p < 0.01$) showed a significant better fit than the uncorrelated four-factor model (χ^2 diff= 805.234, df= 77, $p < 0.01$).

Further, for the independent models for sample 1, the fit indices for the one, two, and four-factor models did not meet the recommended criteria. The fit indices for the one-factor model were found to be: CMIN/df (6.592), RMSEA (.120), CFI (.835), and IFI (.836). Also, the fit indices for the two-factor model were found to be: CMIN/df (8.362), RMSEA (.138), CFI (.783), and IFI (.784). Finally, the fit indices for the four-factor model were also found to be inadequate with values of: CMIN/df (10.458), RMSEA (.156), CFI (.721), and IFI (.722). In addition to that, for the correlated model of this sample, the fit indices for the two-factor model did not meet the recommended criteria. Its fit indices were found to be: CMIN/df (4.909), RMSEA (.100), CFI (.886), and IFI (.887). Fundamentally, the correlated four-factor model fits the data and evidently has the most parsimonious fit. All in all, this means that the correlated four-factor model has a significantly better fit than the uncorrelated four-factor model: $\Delta\chi^2 = 210.102$ (df= 71), $p < .001$.

Table 76. Goodness-of-Fit indicators of models for the TCI

Uncorrelated Models							
Models	χ^2	<i>df</i>	CMIN/df	<i>RMSEA</i>	CFI	IFI	$\Delta\chi^2$
One-Factor							
Model	507.558	77	6.592	.120	.835	.836	-
Two-Factor							
Model	643.863	77	8.362	.138	.783	.784	136.305
Four-Factor							
Model	805.234	77	10.458	.156	.721	.722	161.371
Correlated Model							
Two-Factor							
Model	373.060	76	4.909	.100	.886	.887	-
Four-Factor							
Model	162.958	71	2.295	.058	.965	.965	210.102

*CMIN/df = the minimal value of the discrepancy, \hat{C} , divided by the degrees of freedom; RMSEA = root mean square error of approximation; CFI=comparative fit index; IFI = the incremental fit index; $\Delta\chi^2$ = chi-square difference between the two different models. $p < 0.001$.

8.2.4 Procedure

The data was collected remotely online on a platform called Qualtrics (Qualtrics, 2019). The survey was advertised on social media platforms, specifically, Facebook and LinkedIn. This was done in order to approach a larger number of participants and to ensure that the survey would cover a wide geographical area. Also, the platform was utilised to reduce the costs, and to save time in terms of inputting the data (Denscombe, 2009), as datasets can be downloaded directly from

Qualtrics (Qualtrics, 2019). That is, this saved the time of entering the data manually on SPSS (IBM, 2019). Further, the online based survey was adopted to comply with the recent changes that took place in 2019 regarding the safety of researchers in the field, whereby travel to Middle Eastern countries, such as Jordan, to collect data face-to-face, has been prohibited.

In order to avoid any technical problems, viruses and internet crimes that can be issues when using web surveys (Fan & Yan, 2010), the data was stored on the hard drive of the university (GDPR, 2016). Also, it is worth noting that in order to boost the response rate incentives were used (Fan & Yan, 2010; Goritz, 2006), that is, the participants were offered the opportunity to enter a draw to win one of twelve \$48 amazon vouchers.

A pilot study was conducted before publishing the questionnaire online on Qualtrics, to assess its feasibility, duration and functionality. This sample comprised six academics and doctoral researchers from Jordan who provided feedback on the experience. Notably, the data collected from this study was not included in the analysis.

8.2.5 Data analytic technique

Due to the fact that this study aims to investigate the individual differences variables that are associated with employee performance, job satisfaction, and climate for innovation in Jordan, correlational as well as linear regression analyses were conducted. These tests were selected as they test the relationships between variables, in which information related to a specific variable carries knowledge about another variable (Cohen et al., 2014). This was done by using the SPSS software (Statistical Package for the Social Sciences). Moreover, for the purposes of reducing type I error that may occur from running multiple correlations and regressions, the alpha level was corrected by performing a Bonferroni correction and thus, making the alpha smaller. Accordingly, the cutoff of the p value for the correlational analysis was reduced from 0.05 to 0.01. This was done by dividing 0.05 by the number of tests being carried out (i.e. by 8 for the employee job performance and IWPQ, and by 7 for the Andrews and Withey job satisfaction questionnaire and TCI) then by rounding the values to two decimal places as suggested by Abdi (2007).

8.2.6 Ethics

This study was carried out in compliance with the British Psychological Association guidelines for internet-mediated research (BPS, 2017). An ethics application was submitted and approved by the University of Westminster (UoW) ethics committee. The research was classified as class 1 research according to the University of Westminster Code of Ethics Governing the Ethical Conduct of Research (CoP). All participants had to give consent after reading the participant information sheet (see appendix 3a and appendix 3b). They were informed that their responses would be anonymous, and treated with full confidentiality, as outlined in the Data Protection Act 2018 in the UK (BPS, 2018). Moreover, potential participants were informed that they could withdraw from the research without the need to give a reason at any time.

Further, a debriefing sheet was used to supply the participants with information about the study, answer queries and to thank them at the end of the study (see appendix 3c) (BPS, 2014). This research did not involve including any vulnerable groups aged under 16, therefore, all the participants were aged between 19 and 60. Also, the research did not involve any sensitive or stressful topics.

Those participants who wanted to be entered into the Amazon vouchers draw, they were asked to provide their email addresses at the end of the survey. In order to anonymise any identifying information (as per the general data protection regulations) (GDPR, 2016) from the downloaded datafiles from Qualtrics, email addresses were copied into a separate file and then deleted from the main datafile. That is, this ensured removing any identifying information from the main datafile. Next, the email addresses kept in that separate file were printed out and kept in a locked filing cabinet in the University of Westminster staff office. Afterwards, this was shredded once the draw had taken place.

8.3. Descriptive statistics: correlations among variables

8.3.1 The relationship between individual differences, employee performance, job satisfaction, and climate for innovation: Findings from correlational analysis

This section presents individual differences (the big five, conflict management styles, and decision-making styles) in relation to employee performance, job satisfaction, and climate for

innovation. Further, appendix 9 displays the relationships between BFI-44 subscales, appendix 10 presents the associations between the DUTCH subscales, appendix 11 demonstrates the relationships between GDMS subscales, and lastly, appendix 12 represents the links between TCI subscales.

8.3.1.1 The relationship between the big five 44 (BFI-44), the Dutch test for conflict handling (DUTCH), the general decision-making style (GDMS) and employee performance

This section illustrates the relationships between the individual differences constructs in relation to the employee job performance questionnaire (Cheng & Kalleberg, 1996) and IWPQ (Koopmans et al., 2016).

The relationship between BFI-44 and the employee job performance questionnaire

Table 77. Correlations between the BFI-44 and the employee job performance

	Openness	Conscientiousness	Extraversion	Agreeableness	Neuroticism
Employee job performance	.261**	.310**	.198**	.137**	-.225**

*p < 0.01.

Correlational analysis as listed in table 77 showed a significant positive correlation between conscientiousness and the employee job performance ($r = .310^{**}$). This indicates that conscientious individuals are more likely to perform well at the workplace.

Correlational analysis as listed in table 77 showed a significant negative correlation between neuroticism and the employee job performance ($r = -.225^{**}$). This signifies that neurotic individuals may tend to not perform well at the workplace.

The relationship between BFI-44 and IWPQ

Table 78. Correlations between the BFI-44 and IWPQ

	Openness	Conscientiousness	Extraversion	Agreeableness	Neuroticism
IWPQ	.240**	.393**	.237**	.077	-.328**

*p < 0.01.

Correlational analysis as listed in table 78 showed a significant positive correlation between conscientiousness and IWPQ ($r = .393^{**}$). This indicates that conscientious individuals are more likely to perform well at the workplace.

Correlation analysis as listed in table 78 showed a significant negative correlation between neuroticism and IWPQ ($r = -.328^{**}$). This suggests that neurotic individuals may tend to not perform well at the workplace.

The relationship between the DUTCH and the employee job performance

Table 79. Correlations between the DUTCH and the employee job performance

	Problem Solving	Compromising	Avoiding
Employee job performance	.309**	.088	-.065

*p < 0.01.

Correlational analysis as listed in table 79 showed a significant positive correlation between problem solving style and the employee job performance ($r = .309^{**}$). This suggests that individuals who use this style are more likely to perform well at the workplace. Moreover, this correlational analysis presented a negative but non-significant correlation between avoiding style and the employee job performance ($r = -.065$).

The relationship between the DUTCH and IWPQ

Table 80. Correlations between the DUTCH and IWPQ

	Problem Solving	Compromising	Avoiding
IWPQ	.323**	.214**	-.060

* $p < 0.01$.

Correlational analysis as listed in table 80 presented a positive significant correlation between problem solving style and IWPQ ($r = .323^{**}$). This indicates that individuals who prefer to solve problems when facing conflicts are more likely to perform well at the workplace. Further, this correlational analysis presented a negative but non-significant correlation between problem solving style and IWPQ ($r = -.060$).

The relationship between the GDMS and the employee job performance

Table 81. Correlations between the GDMS and the employee job performance

	Rational	Avoidant
Employee job performance	.245**	-.152**

* $p < 0.01$.

Correlational analysis as listed in table 81 presented a positive significant correlation between rational style and the employee job performance ($r = .245^{**}$). This indicates that individuals who prefer to use the rational style when making decisions are more likely to perform well at the workplace.

Correlational analysis as listed in table 81 presented a negative significant correlation between avoidant style and the employee job performance ($r = -.152^{**}$). This signifies that individuals who prefer to use the avoidant style when making decisions are more likely to not perform well at the workplace.

The relationship between the GDMS and IWPQ

Hypothesis 1k. Rational decision-making style correlates positively to IWPQ

Hypothesis 1l. Avoidant decision-making style correlates negatively to IWPQ

Table 82. Correlations between the GDMS and IWPQ

	Rational	Avoidant
IWPQ	.320**	-.294**

*p < 0.01.

Correlational analysis as listed in table 82 presented a positive significant correlation between rational style and IWPQ ($r = .320^{**}$). This indicates that individuals who prefer to use the rational style when making decisions are more likely to perform well at the workplace.

Correlational analysis as listed in table 82 presented a negative significant correlation between avoidant style and IWPQ ($r = -.294^{**}$). This suggests that individuals who prefer to use the avoidant style when making decisions are more likely to not perform well at the workplace.

8.3.1.2 The relationship between the big five 44 (BFI-44), the Dutch test for conflict handling (DUTCH), the general decision-making style (GDMS) and job satisfaction

This section illustrates the relationships between the individual differences constructs in relation to the job satisfaction survey (Andrews and Withey, 1976, 2012).

The relationship between BFI-44 and job satisfaction

Table 83. Correlations between the BFI-44 and job satisfaction

	Openness	Conscientiousness	Extraversion	Agreeableness	Neuroticism
Job Satisfaction	.162**	.253**	.208**	.266**	-.333**

*p < 0.01.

Correlational analysis as listed in table 83 presented a positive significant correlation between agreeableness and job satisfaction ($r = .266^{**}$). This proposes that agreeable individuals are more likely to be satisfied at the workplace.

Correlational analysis as listed in table 83 presented a negative significant correlation between neuroticism and job satisfaction ($r = -.333^{**}$). This indicates that individuals who tend to be neurotic are more likely to be dissatisfied at the workplace.

The relationship between the DUTCH and job satisfaction

Table 84. Correlations between the DUTCH and job satisfaction

	Problem Solving	Compromising	Avoiding
Job Satisfaction	.232**	.127*	-.048

* $p < 0.01$.

Correlational analysis as listed in table 84 presented a positive significant correlation between the problem-solving style and job satisfaction ($r = .232^{**}$). This indicates that individuals who deal with conflict through using this style are more likely to be satisfied at the workplace. Additionally, this correlational analysis presented a negative but non-significant correlation between the avoiding style and job satisfaction ($r = -.048$).

The relationship between the GDMS and job satisfaction

Table 85. Correlations between the GDMS and job satisfaction

	Rational	Avoidant
Job Satisfaction	.197**	-.170**

* $p < 0.01$.

Correlational analysis as listed in table 85 presented a positive significant correlation between rational style and job satisfaction ($r = .197^{**}$). This indicates that individuals who make decisions through using this style are more likely to be satisfied at the workplace.

Correlational analysis as listed in table 85 presented a negative significant correlation between avoidant style and job satisfaction ($r = -.170^{**}$). This may signify that individuals who tend to avoid making decisions are more likely to be dissatisfied at the workplace.

8.3.1.3 The relationship between big five 44 (BFI-44), the Dutch test for conflict handling (DUTCH), the general decision-making style (GDMS) and the team climate inventory (TCI)

This section illustrates the relationships between the individual differences constructs in relation to the TCI (Kivimaki and Elovainio, 2010). Fundamentally, as the correlations between the TCI were relatively high as presented in appendix 12, the mean score for the TCI as a whole was calculated and was included in all subsequent analyses accordingly. Evidently, similar steps have been applied as well in Soomro et al. (2015) study.

The relationship between BFI-44 and TCI

Table 86. Correlations between the BFI-44 and TCI

	Openness	Conscientiousness	Extraversion	Agreeableness	Neuroticism
TCI	.200**	.247**	.231**	.303**	-.247**

*p < 0.01.

Correlational analysis as listed in table 86 presented a positive significant correlation between agreeableness and TCI ($r = .303^{**}$). This proposes that teams with individuals who are inclined towards agreeableness are more likely to have a positive team climate.

Correlational analysis as listed in table 86 presented a negative significant correlation between neuroticism and TCI ($r = -.247^{**}$). This highlights that teams with individuals who tend to be neurotic are more likely to have a negative team climate.

The relationship between the DUTCH and TCI

Table 87. Correlations between the DUTCH and TCI

	Problem Solving	Compromising	Avoiding
TCI	.366**	.319**	-.008

*p < 0.01.

Correlational analysis as listed in table 87 presented a positive significant correlation between problem solving style and TCI ($r = .366^{**}$). This finding addresses that teams with individuals who use the problem-solving style during conflicts are more likely to have a positive team climate.

Further, this correlational analysis as listed in table 87 presented a negative but non-significant correlation between the avoiding style and TCI ($r = -.008$).

The relationship between GDMS and TCI

Table 88. Correlations between the GDMS and TCI

	Rational	Avoidant
TCI	.337**	-.208**

* $p < 0.01$.

Correlational analysis as listed in table 88 presented a positive significant correlation between rational style and TCI ($r = .337^{**}$). This suggests that teams with individuals who use the rational style when making decisions are more likely to have a positive team climate.

Correlational analysis as listed in table 88 presented a negative significant correlation between avoidant style and TCI ($r = -.208^{**}$). This highlights that teams with individuals who use the avoidant style when making decisions are more likely to have a negative team climate.

8.3.2 How individual differences are associated with employee performance, job satisfaction and climate for innovation: Findings from linear regressions

This section presents findings from linear regressions for the individual differences that are associated with employee performance, job satisfaction, and climate for innovation. Crucially, in all regression models no collinearity was displayed. Multicollinearity is diagnosed by the tolerance statistic and variance of inflation (VIF). For the tolerance statistic and VIF, all values were within the accepted criteria. Evidently, for the tolerance statistics values of .10 or less may be harmful (Miles, 2014). Whereas, there is no formal rule for VIF, it is often accepted that values more than 10 may indicate problems with multicollinearity (Yoo et al., 2014).

The associations between employee performance and the BFI-44

Hypothesis 1a. Conscientiousness trait is positively associated with employees’ job performance

Hypothesis 1b. Neuroticism trait is negatively associated with employees’ job performance

To investigate whether the big five personality traits (openness, conscientiousness, extraversion, agreeableness, and neuroticism) are significantly associated with employee performance in organisations, a multiple linear regression using the enter method was carried out (Field, 2013). Employee job performance questionnaire was entered as the criterion and all big five scales as predictor variables. Results indicated that the regression was significant, $F(5,384) = 13.952$, $p < .001$, $Adj. R^2 = .143$. Overall, the results of the regression indicated that the model explained 14.3% of the variance. As presented in Table 89, conscientiousness emerged as a significant positive predictor of the employee job performance and had the largest effect size ($p < .001$). Further, the neuroticism scale did not emerge as significantly different from zero, however, the direction of its regression coefficient was as expected and had the largest effect size in comparison to the other negative coefficient ($p = .095$). Based on this analysis, hypothesis 1a was accepted and hypothesis 1b was rejected.

Table 89. Regression coefficients for the regression predicting employee job performance based on the BFI-44

Model	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	Tolerance	VIF
Constant	1.587	0.530	-	2.997	.003	-	-
Openness	0.263	0.070	.189	3.753	<.001	.870	1.150
Conscientiousness	0.320	0.072	.231	4.419	<.001	.805	1.242
Extraversion	0.081	0.065	.065	1.251	.212	.824	1.214
Agreeableness	-0.005	0.076	-.004	-.072	.943	.840	1.190
Neuroticism	-0.091	0.054	-.091	-1.674	.095	.750	1.333

Note: * $p < 0.01$.

The associations between individual work performance and the BFI-44

Hypothesis 1c. Conscientiousness trait is positively associated with IWPQ

Hypothesis 1d. Neuroticism trait is negatively associated with IWPQ

To test whether the big five personality traits (openness, conscientiousness, extraversion, agreeableness, and neuroticism) are significantly associated with individual work performance in organisations, a multiple linear regression using the enter method was carried out (Field, 2013). Individual work performance was entered as the criterion and all big five scales as predictor variables. Results indicated that the regression was significant, $F(5,384) = 23.572$, $p = .001$, *Adj. R*² = .225. Overall, the results of the regression indicated that the model explained 22.5% of the variance. As presented in Table 90, conscientiousness emerged as a significant positive predictor of individual work performance and had the largest effect size ($p < .001$). Further, neuroticism emerged as a significant negative predictor of employee performance and had the largest effect size ($p < .001$). Therefore, hypotheses 1c and 1d were accepted.

Table 90. Regression coefficients for the regression predicting individual work performance based on the BFI-44

Model	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	Tolerance	VIF
Constant	2.287	0.510	-	4.485	<.001	-	-
Openness	0.214	0.067	.152	3.176	.002	.870	1.150
Conscientiousness	0.433	0.070	.309	6.209	<.001	.805	1.242
Extraversion	0.105	0.063	.083	1.680	.094	.824	1.214
Agreeableness	-.0182	0.073	-.122	-2.504	.013	.840	1.190
Neuroticism	-0.208	0.052	-.204	-3.956	<.001	.750	1.333

Note: * $p < 0.01$.

The associations between employee performance and the DUTCH

Hypothesis 1e. Problem solving conflict management style is positively associated with employees' job performance

Hypothesis 1f. Avoiding conflict management style is negatively associated with employees' job performance

To examine whether the conflict management styles (problem solving, compromising, and avoiding) are significantly associated with employee performance in organisations, a multiple linear regression using the enter method was carried out (Field, 2013). Employee job performance was entered as the criterion and all three scales as predictor variables. Results indicated that the regression was significant, $F(3,386) = 7.709$, $p < .001$, $Adj. R^2 = .049$. Overall, the results of the regression indicated that the model explained 4.9% of the variance. As presented in Table 91, problem solving emerged as the only significant positive predictor of employee job performance ($p < .001$). Further, the avoiding scale did not emerge as significantly different from zero, however, the direction of its regression coefficient was as expected ($p = .303$). Accordingly, hypothesis 1e was accepted and hypothesis 1f was rejected.

Table 91. Regression coefficients for the regression predicting employee job performance based on the DUTCH

Model	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	Tolerance	VIF
Constant	3.542	0.350	-	10.133	<.001	-	-
Problem Solving	0.339	0.091	.221	3.725	<.001	.693	1.443
Compromising	0.030	0.089	.020	.334	.738	.654	1.528
Avoiding	-0.048	0.047	-.053	-1.032	.303	.922	1.085

Note: * $p < 0.01$.

The associations between individual work performance and the DUTCH

Hypothesis 1g. Problem solving conflict management is positively associated with IWPQ

Hypothesis 1h. Avoiding conflict management style is negatively associated with IWPQ

To investigate whether the conflict management styles (problem solving, compromising, and avoiding) are significantly associated with individual work performance in organisations, a multiple linear regression using the enter method was carried out (Field, 2013). Individual work performance was entered as the criterion and all other three scales as predictor variables. Results indicated that the regression was significant, $F(3,386) = 16.257$, $p < .001$, $Adj. R^2 = .105$. Overall, the results of the regression indicated that the model explained 10.3% of the variance. As presented

in Table 92, problem solving emerged as the only significant positive predictor of individual work performance ($p < .001$). Further, the avoiding scale did not emerge as significantly different from zero, however, the direction of its regression coefficient was as expected ($p = .113$). Thus, hypothesis 1g was accepted and hypothesis 1h was rejected.

Table 92. Regression coefficients for the regression predicting individual work performance based on the DUTCH

Model	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	Tolerance	VIF
Constant	2.225	.284	-	7.834	<.001	-	-
Problem Solving	0.357	0.074	.278	4.833	<.001	.693	1.443
Compromising	0.100	0.072	.082	1.388	.166	.654	1.528
Avoiding	-0.060	0.038	-.079	-1.588	.113	.922	1.085

Note: * $p < 0.01$.

The associations between employee performance and the GDMS

Hypothesis 1i. Rational decision-making style is positively associated with employees' job performance

Hypothesis 1j. Avoidant decision-making style is negatively associated with employees' job performance

To test whether the general decision-making styles (rational and avoidant) are significantly associated with employee performance in organisations, a multiple linear regression using the enter method was carried out (Field, 2013). Employee job performance was entered as the criterion and the other two scales as predictor variables. Results indicated that the regression was significant, $F(2,387) = 14.491$, $p < .001$, $Adj. R^2 = .065$. Overall, the results of the regression indicated that the model explained 6.5% of the variance. As presented in Table 93, rational emerged as a significant positive predictor of employee performance ($p < .001$). Further, the avoidant scale did not emerge as significantly different from zero, however, the direction of its regression coefficient was as expected ($p = .045$). Based on this analysis, hypothesis 1i was accepted and hypothesis 1j was rejected.

Table 93. Regression coefficients for the regression predicting employee job performance based on the GDMS

Model	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	Tolerance	VIF
Constant	2.833	.332	-	8.527	<.001	-	-
Rational	0.299	0.068	.222	4.402	<.001	.948	1.055
Avoidant	-0.082	0.041	-.101	-2.014	.045	.948	1.055

Note: * $p < 0.01$.

The associations between individual work performance and the GDMS

Hypothesis 1k. Rational decision-making style is positively associated with IWPQ

Hypothesis 1l. Avoidant decision-making style is negatively associated with IWPQ

To examine whether the general decision-making styles (rational and avoidant) are significantly associated with individual work performance in organisations, a multiple linear regression using the enter method was carried out (Field, 2013). Individual work performance was entered as the criterion and the other two scales as predictor variables. Results indicated that the regression was significant, $F(2,387) = 35.178$, $p < .001$, $Adj. R^2 = .149$. Overall, the results of the regression indicated that the model explained 14.8% of the variance. As presented in Table 94, rational emerged as a significant positive predictor of individual work performance ($p < .001$), and avoidant emerged as a significant negative predictor of individual work performance ($p < .001$). Overall, hypotheses 1k and 1l were accepted.

Table 94. Regression coefficients for the regression predicting individual work performance based on the GDMS

Model	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	Tolerance	VIF
Constant	2.856	.321	-	8.900	<.001	-	-
Rational	0.364	0.066	.266	5.549	<.001	.948	1.055
Avoidant	-0.191	0.039	-.233	-4.861	<.001	.948	1.055

Note: * $p < 0.01$.

The associations between job satisfaction and the BFI-44

Hypothesis 2a. Agreeableness personality trait is positively associated with job satisfaction

Hypothesis 2b. Neuroticism personality trait negatively is negatively associated with job satisfaction

To test whether the big five personality traits (openness, conscientiousness, extraversion, agreeableness, and neuroticism) are significantly associated with job satisfaction in organisations, a multiple linear regression using the enter method was carried out (Field, 2013). Job satisfaction was entered as the criterion and all big five scales as predictor variables. Results indicated that the regression was significant, $F(5,384) = 14.839$, $p < .001$, $Adj. R^2 = .151$. Overall, the results of the regression indicated that the model explained 15.1% of the variance. As presented in Table 95, agreeableness emerged as a significant positive predictor of job satisfaction and had the largest effect size ($p = .006$). Further, neuroticism emerged as the only significant negative predictor of job satisfaction ($p < .001$). Duly, hypotheses 2a and 2b were accepted.

Table 95. Regression coefficients for the regression predicting job satisfaction based on the BFI-44

Model	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	Tolerance	VIF
Constant	3.101	0.637	-	4.867	<.001	-	-
Openness	0.106	0.084	.063	1.263	.207	.870	1.150
Conscientiousness	0.168	0.087	.101	1.936	.054	.805	1.242
Extraversion	0.131	0.078	.086	1.668	.096	.824	1.214
Agreeableness	0.253	0.091	.142	2.786	.006	.840	1.190
Neuroticism	-0.257	0.066	-.211	-3.919	<.001	.750	1.333

Note: * $p < 0.01$.

The associations between job satisfaction and the DUTCH

Hypothesis 2c. Problem solving conflict management style is positively associated with job satisfaction

Hypothesis 2d. Avoiding conflict management style is negatively associated with job satisfaction

To examine whether the conflict management styles (problem solving, compromising, and avoiding) are significantly associated with job satisfaction in organisations, a multiple linear regression using the enter method was carried out (Field, 2013). Job satisfaction was entered as the criterion and all three scales as predictor variables. Results indicated that the regression was significant, $F(3,386) = 7.709$, $p < .001$, $Adj. R^2 = .049$. Overall, the results of the regression indicated that the model explained 4.9% of the variance. As presented in Table 96, problem solving emerged as the only significant positive predictor of job satisfaction ($p < .001$). Further, the avoiding scale did not emerge as significantly different from zero, however, the direction of its regression coefficient was as expected ($p = .303$). Accordingly, hypothesis 2c was accepted, whilst, hypothesis 2d was rejected.

Table 96. Regression coefficients for the regression predicting job satisfaction based on the DUTCH

Model	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	Tolerance	VIF
Constant	3.542	0.350	-	10.133	<.001	-	-
Problem Solving	0.339	0.091	.221	3.725	<.001	.693	1.443
Compromising	0.030	0.089	.020	.334	.738	.654	1.528
Avoiding	-0.048	0.047	-.053	-1.032	.303	.922	1.085

Note: * $p < 0.01$.

The associations between job satisfaction and the GDMS

Hypothesis 2e. Rational decision-making style is positively associated with job satisfaction

Hypothesis 2f. Avoidant decision-making style is negatively associated with job satisfaction

To investigate whether the general decision-making styles (rational and avoidant) are significantly associated with job satisfaction in organisations, a multiple linear regression using the enter method was carried out (Field, 2013). Job satisfaction was entered as the criterion and the other two scales as predictor variables. Results indicated that the regression was significant, $F(2,387) = 11.336$, $p < .001$, $Adj. R^2 = .050$. Overall, the results of the regression indicated that the model explained 5.0% of the variance. As presented in Table 97, rational emerged as a significant positive predictor of job satisfaction ($p = .001$) and avoidant emerged as a significant negative predictor of job satisfaction ($p = .010$). Overall, hypotheses 2e and 2f were accepted.

Table 97. Regression coefficients for the regression predicting job satisfaction based on the GDMS

Model	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	Tolerance	VIF
Constant	4.098	0.405	-	10.125	<.001	-	-
Rational	0.273	0.083	.167	3.294	.001	.948	1.055
Avoidant	-0.129	0.050	-.132	-2.597	.010	.948	1.055

Note: * $p < 0.01$.

The associations between climate for innovation and the BFI-44

Hypothesis 3a. Agreeableness personality trait is positively associated with climate for innovation

Hypothesis 3b. Neuroticism personality trait is negatively associated with climate for innovation

To test whether the big five personality traits (openness, conscientiousness, extraversion, agreeableness, and neuroticism) are significantly associated with climate for innovation in organisations, a multiple linear regression using the enter method was carried out (Field, 2013). TCI was entered as the criterion and all five scales as predictor variables. Results indicated that the regression was significant, $F(5,384) = 14.511, p < .001, Adj. R^2 = .148$. Overall, the results of the regression indicated that the model explained 14.8% of the variance. As presented in Table 98, agreeableness emerged as a significant positive predictor of climate for innovation and had the largest effect size ($p < .001$). Further, neuroticism did not emerge as significantly different from zero, however, the direction of its regression coefficient was the only negative one as expected ($p = .134$). Therefore, hypothesis 3a was accepted, whereas, hypothesis 3b was rejected.

Table 98. Regression coefficients for the regression predicting climate for innovation based on the BFI-44

Model	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	Tolerance	VIF
Constant	1.740	0.529	-	3.287	.001	-	-
Openness	0.129	0.070	.093	1.844	.066	.870	1.150
Conscientiousness	0.155	0.072	.112	2.149	.032	.805	1.242
Extraversion	0.161	0.065	.127	2.471	.014	.824	1.214
Agreeableness	0.309	0.076	.209	4.090	<.001	.840	1.190
Neuroticism	-0.082	0.054	-.081	-1.503	.134	.750	1.333

Note: * $p < 0.01$.

The associations between climate for innovation and the DUTCH

Hypothesis 3c. Problem solving conflict management style is positively associated with climate for innovation

Hypothesis 3d. Avoiding conflict management style is negatively associated with climate for innovation

To examine whether the conflict management styles (problem solving, compromising, and avoiding) are significantly associated with climate for innovation in organisations, a multiple linear regression using the enter method was carried out (Field, 2013). TCI was entered as the criterion and all three scales as predictor variables. Results indicated that the regression was significant, $F(3,386) = 24.084, p < .001, Adj. R^2 = .151$. Overall, the results of the regression indicated that the model explained 15.1% of the variance. As presented in Table 99, problem solving emerged as a significant positive predictor of climate for innovation and had the largest effect size ($p < .001$). Further, the avoiding scale did not emerge as significantly different from zero, however, the direction of its regression coefficient was as expected ($p = .277$). Based on this, hypothesis 3c was accepted, whereas, hypothesis 3d was rejected.

Table 99. Regression coefficients for the regression predicting climate for innovation based on the DUTCH

Model	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	Tolerance	VIF
Constant	2.326	0.274	-	8.491	<.001	-	-
Compromising	0.227	0.069	.189	3.272	.001	.654	1.528
Problem Solving	0.336	0.071	.265	4.715	<.001	.693	1.443
Avoiding	-0.040	0.037	-.053	-1.088	.277	.922	1.085

Note: * $p < 0.01$.

The associations between climate for innovation and the GDMS

Hypothesis 3e. Rational decision-making style is positively associated with climate for innovation

Hypothesis 3f. Avoidant decision-making style is negatively associated with climate for innovation

To investigate whether the general decision-making styles (rational and avoidant) are significantly associated with climate for innovation in organisations, a multiple linear regression using the enter method was carried out (Field, 2013). TCI was entered as the criterion and the other two scales as predictor variables. Results indicated that the regression was significant, $F(6.212) = 11.428$, $p < .001$, $Adj. R^2 = .127$. Overall, the results of the regression indicated that the model explained 12.7% of the variance. As presented in Table 100, rational emerged as a significant positive predictor of climate for innovation ($p < .001$) and avoidant emerged as a significant negative predictor of climate for innovation ($p < .005$). Accordingly, hypotheses 3e and 3f were accepted.

Table 100. Regression coefficients for the regression predicting climate for innovation based on the GDMS

Model	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	Tolerance	VIF
Constant	2.965	0.322	-	9.214	<.001	-	-
Rational	0.413	0.066	.305	6.275	<.001	.948	1.055
Avoidant	-0.113	0.039	-.139	-2.856	.005	.948	1.055

Note: * $p < 0.01$.

8.4 Discussion

For this study, the factorial structure of BFI-44 and the TCI was investigated through factor analysis. Further, the individual differences correlates (i.e. the big five, conflict management styles and decision-making styles) of employee performance, job satisfaction and climate for innovation were examined by regression analysis. This was applied to a general population sample in Jordan, to generalise the findings beyond the data that was collected and analysed from both companies in Study 1 and Study 2.

The factor analysis findings revealed a tolerable fit for the correlated five-factor model for **BFI-44** and an adequate fit for the correlated five-factor model from the **TCI**. Moreover, findings from the regression analysis suggested that the big five, conflict management styles and the decision-making styles are effective predictors of employee performance, job satisfaction and climate for innovation.

For **employee performance**, conscientiousness from the big five emerged as the most significant positive predictor of employee job performance, which was also the case for the IWPQ. Moreover, neuroticism emerged as the only significant negative predictor regarding the IWPQ. Further, the problem solving conflict management style emerged as the only significant positive predictor of employee job performance as well as IWPQ. Additionally, the rational decision-making style emerged as a significant positive predictor of both employee job performance as well as IWPQ. However, the avoidant decision-making style emerged as a significant negative predictor only for the IWPQ.

For *job satisfaction*, agreeableness from the big five emerged as the only significant positive predictor, whereas neuroticism emerged as the only significant negative one. Also, the problem-solving conflict management style emerged as the only significant positive predictor. Furthermore, the rational decision-making style emerged as a positive significant predictor.

Regarding *climate for innovation*, agreeableness from the big five emerged as the most significant positive predictor. Moreover, the problem-solving conflict management style was found to be the most significant positive predictor. Furthermore, for the decision-making styles, the rational style emerged as a significant positive predictor, whereas the avoidant style emerged as a significant negative one.

Unexpected findings were revealed for the negative correlates (neuroticism, avoiding conflict management style and avoidant decision-making style) of employee performance, job satisfaction and climate for innovation. In particular, the neuroticism trait from the big five and the avoidant decision-making style did not emerge as significant predictors of employee job performance. Likewise, neuroticism was not found to be a significant predictor of climate for innovation. Similarly, the avoiding conflict management style did not emerge as a significant predictor of employee performance, job satisfaction or climate for innovation.

In relation to the five factor structure that was found for BFI-44, the findings were similar to previous studies conducted by Benet-Martinez and John (1998), Chiorri et al. (2008) and Cid and Finney (2009), in which they found through confirmatory factor analysis that the Big five Inventory has five correlated factors: openness, conscientiousness, extraversion, agreeableness, and neuroticism. However, this finding should be interpreted with caution, for whilst two of its indices were satisfactory (RMSEA and DMIN/df), its two other fit indices' (CFI and IFI) outcomes were tolerable, but not completely obtained. Further, with regards to the 4-factor structure that was revealed for the TCI, findings were also in accord with previous studies conducted by Anderson and West (1998), Boada-Grau et al. (2011) and Kivimaki and Elovainio (1999).

As briefly mentioned above regarding the findings from the regression analysis, individual differences in association with employee performance for the *big five* model, the conscientiousness trait emerged as significant positive predictor of both the employee job performance and the IWPQ. This finding may be attributed to the fact that conscientious individuals have a purpose, are determined, are strong-willed and are goal oriented. Moreover, in Jordan employees are hard

workers, precise and punctual (Hofstede, 2019). All of which are consistent with autonomy and goal orientation, which in return, impact positively on employee performance (Barrick and Mount, 1993; Barrick et al., 1993). Evidently, the results from this Jordanian study confirmed Western findings from Barrick and Mount (1991), Barrick et al. (1993), Barrick et al. (2001), Frink and Ferris (1999), Hough (1992), Hough et al. (1990), Kappe and van der Flier (2010), Ones and Viswesvaran (1997), Sackett and Wanek (1996), Salgado (1997) and Salgado's (1998) studies.

The neuroticism trait from the big five emerged as the only significant negative predictor of the IWPQ. This finding highlights how individuals who tend to be anxious, sad, fearful, guilty and lonely are more likely to not perform well in the workplace due to such inclinations. Interestingly, this finding from this Jordanian sample is in line with findings from former Western studies that reported negative relationships between neuroticism and employee performance, such as those conducted by Hörmann and Maschke (1996), Judge et al. (1999), Neal et al. (2012) and Rothmann and Coetzer (2003).

For the *conflict management styles*, the problem-solving style emerged as the only significant positive predictor for both employee job performance and the IWPQ. This finding could be attributed to the fact that problem solvers tend to have a high concern for themselves and others. They often prefer to exchange information between each other, discuss ideas and make trade-offs. This style has been considered as the being most effective style to use in the workplace (Marriner, 1982, 1995; Rahim, 2005; Thomas, 1976). Thus, these explanations provide evidence that using this style contributes to increasing the performance of the individuals. This finding is in accord with extant research that highlighted how using the problem-solving style contributes to enhancing performance (Likert & Likert, 1976; Rahim et al., 2001; Shih & Susanto, 2010; Weider-Hatfield & Hatfield, 2010), because solutions that serve both ends are often found (Meyer, 2004). This will most likely result in more effort being put into the task at hand, which in turn, will impact positively on performance (Shih & Susanto, 2010).

Further, results from this study showed that participants adopted the problem-solving style the most. This finding is similar to previous results from Jordanian research, for which it was found that the problem-solving style is the most common style used (Al-Hamdan et al., 2014; Al-Hamdan et al., 2016; Kozan, 1991). This can be associated with the typical collectivist culture of Jordan, where individuals are perceived as caring (Hofstede, 2019), expressive, verbal (Ajami, 1981;

Almaney, 1981; Patai, 1983) and prefer to work on their problems through discussing them (Kozan, 1991). Thus, pursuing harmony (Tjosvold et al., 2003), which is associated with a preference for using the problem-solving style in cultures that are collectivists (Chen et al., 2012), would appear to be widely utilised in such contexts.

Regarding the *decision-making styles*, the rational style emerged as a significant positive predictor for both employee job performance and the IWPQ. Essentially, individuals who favour this style thoroughly look for and logically evaluate the available options. These individuals base their decisions on vigilance and logic, making them analytically and as a consequence, they evaluate their alternatives logically. All of which present explanations which address why this style is positively associated with performance. These results confirm Yaakobi (2017) postulations and Russ et al.'s (1996) findings with regards to the positive relationships between this style and employee performance. Under this lens, it has been asserted that this style is the best to use for making decisions (Janis & Mann, 1977). Moreover, in this study it was found that the rational style was most adopted by the participants, which was also elicited in work by Khasawneh et al. (2011) for a Jordanian sample. The avoidant decision-making style emerged as a significant negative predictor only for the IWPQ. Individuals who favour this style are more likely to be indecisive, anxious and they postpone making decisions, which in turn, may negatively impact on their performance. This was confirmed in Russ et al.'s (1996) study, which found negative links between this style and employee performance.

As summarised above for the findings of the regression analysis, regarding individual differences in association with job satisfaction, for the *big five*, agreeableness emerged as the only significant positive predictor. Agreeable individuals tend to be warm, forgiving, helpful, kind, polite, cooperative and generous. This significant positive finding is in accord with Templer's (2012) study that was conducted on a collectivist society, namely, Singapore, which presented positive associations between this trait and job satisfaction. Essentially, agreeable individuals in collectivist societies are encouraged to develop friendly and peaceful relationships, for they get rewarded and this, in return, increases their job satisfaction (Templer, 2012). In addition to that, this finding can be viewed from the fact that the most used trait by Jordanians in this study was agreeableness. Interestingly, this finding is similar to what was reported in Schmitt et al.'s (2007) study, in which Jordan was found to be one of the most agreeable nations.

Moreover, neuroticism from the big five emerged as the only significant negative predictor of job satisfaction. Individuals who tend to be neurotic portray nervousness, insecurities and moodiness and consequently, may get stressed out easily when facing distressing situations. All of which can contribute to increasing the levels of dissatisfaction. The significant negative finding from this study is in line with those from Judge et al. (2002) as well as Matzler and Renzl (2007). Further, it is in accord with Templer's (2012) research that was conducted on a collectivist society.

For the *conflict management styles*, the problem-solving style was found to be the only significant positive predictor of job satisfaction. Individuals who are inclined to use this style tend to communicate their priorities and needs along with making exchanges and trade-offs. Consequently, expressing ideas and thoughts makes such individuals feel fulfilled, which in return, increases their levels of satisfaction. This finding is in line with results from Chen et al.'s (2012) study, which involved a collectivist society. Moreover, as previously mentioned, this work reporting the problem-solving style as the most common, resonates with the findings from the Jordanian study carried out by Al-Hamdan et al. (2014). Hence, this may explain why this trait impacts on job satisfaction the most.

Regarding the *decision-making styles*, the rational style emerged as a significant positive predictor of job satisfaction. This finding may be attributed to the fact that rational individuals are inclined to search for information as well as often being analytical and objective. In order to increase satisfaction levels, it is essential for such people to make important decisions after thinking deeply about them and analysing the alternatives. The significant finding from this study is in line with those for Hariri (2011) and Hariri et al. (2016), in which they elicited that the rational style have relationships with job satisfaction. Additionally, as previously mentioned, the rational style was reported as being most adopted in this study, and this is in accord to what was reported in Khasawneh et al. (2011) study that was also carried out in Jordan. Hence, this addresses the links between this style and job satisfaction.

The avoidant decision-making style emerged as a significant negative predictor of job satisfaction. In essence, individuals who use this style tend to postpone making decisions, have difficulties in making decisions and are continuously searching for more information. Evidently, this finding is in accord with work reporting associations between this style and stress (Thunholm, 2008), depression (Leykin & DeRubeis, 2010) and anxiety (Maner & Schmidt, 2006). These

characteristics can contribute to increasing the levels of dissatisfaction at work (Wood & Highhouse, 2014).

As presented above for the findings of the regression analysis, regarding individual differences in association with climate for innovation, for the *big five*, agreeableness emerged as the most significant positive predictor. The agreeableness trait pertains to individuals who are warm, forgiving, helpful, kind, polite and cooperative. Hence, it would make sense for this trait to appear as a significant predictor, given that Jordan is a collectivist society. Also, given that agreeableness was found to be the most used trait in this study as well as in Schmitt et al.'s (2007) one. Thus, in this nation it is important to have individuals who are warm and friendly in order to bring a positive climate to the team and workplace.

In relation to *conflict management styles*, the problem-solving style was elicited as being the most significant positive predictor of climate for innovation. Problem solvers attempt to develop shared concerns about the tasks and are continuously seeking new information to resolve issues, which increases the likelihood of generating high quality task performance. Moreover, they tend to keep their eye on the big picture in order to achieve the team's objectives and vision. Further, problem solvers encourage harmonious relationships, which in return, helps in developing a positive psychological atmosphere that allows individuals to share their thoughts and feelings in a safe environment. Moreover, this is conducive to solving any emerging problems and bringing up new and innovative ideas. All of which may explain why these styles are positively associated with climate for innovation, as also supported by Açıkgöz and İlhan (2015).

Regarding *decision-making styles*, the rational one emerged as a significant positive predictor of climate for innovation. As explained previously, rational individuals are more likely to be logical, responsible and are confident of their abilities to deal with obstacles. Whenever they face them, a guaranteed method that often yields guidance to find a solution is used and all of this may explain why rational individuals are strongly associated with climate for innovation. This finding is in line with Açıkgöz et al.'s (2014) study, which found positive associations between this style and climate at work.

The avoidant decision-making style was found to be a significant negative predictor of climate for innovation. Individuals who prefer to use this style are more likely to be anxious and depressed (Batool, 2007). Hence, they may find it challenging to be visionary and contribute to bringing up

ideas that will motivate their co-workers. Further, those with this style may dislike interacting and participating with others to make decisions. Therefore, they may perform less as they may be less motivated towards achieving excellent task performance. Also, due to the fact that these individuals tend to get stressed and feel anxious (Russ et al., 1996), they may not have the ability to support others in innovating and improving the working environment. All of the above indicates why the avoidant style has appeared as a significant negative predictor of climate for innovation. Notably, the avoiding conflict management style did not emerge as a significant predictor for any of the outcome variables of this research, i.e. employee performance, job satisfaction and climate for innovation. Nonetheless, as proposed the direction of the regression coefficient was negative as expected. One potential explanation is that this style falls under the umbrella of uncooperative behaviours. Further, in this study as well as in work by Al-Hamdan et al. (2014) that took place in Jordan, it was found that the least adopted style by participants was the avoiding style. This can be attributed to the fact that many Arabs, including Jordanians, having dispositions that are expressive and verbal (Ajami, 1981; Almaney, 1981; Patai, 1983). Hence, they are inclined to sort out their problems through communication and discussion (Kozan, 1991). Accordingly, in Jordan problems are solved through discussions and compromises (Hofstede, 2019) instead of avoiding them.

This study had several limitations. Firstly, despite the fact that the sample covered a broad range of industries, age groups, qualifications and number of working years, the sample had a marked gender bias, with 66.80% females. Nevertheless, this limitation was not identified as a major limitation considering the slight differences reported between the personalities of males and females (Hyde, 2005). Secondly, the employee performance measurements were based on self-reports. Whilst, previous research has supported the use of this method (Carlos & Rodrigues, 2016; Kock, 2017), and while this study added IWPQ as an additional measurement for employee performance, nonetheless, it would be useful for future research on employee performance in Jordan to use objective measures and supervisory ratings alongside these self-report instruments and make comparisons. It is important to note that in this setting, where data was collected remotely from the general population, obtaining such measures was difficult. However, this was not considered as being a major limitation as the findings from this study were mostly in accord with those from studies that used objective measures and supervisory ratings. Lastly, the data analysis of some of the scales provided slight lower Cronbach alphas than the cut-off criteria, specifically, the agreeableness trait, the problem-solving conflict management style and the

employee job performance questionnaire. Given these alphas were lower than the standard criterion by a very small margin, future research may benefit from investigating these scales further in Jordan with a bigger sample size.

Taken together, this study provided new knowledge to the evidence-based business psychology as well as extended findings from Study 1 with regards to investigating the factorial structure of BFI-44 and the TCI for the general population, thus extending findings beyond the two focal companies in this previous study. Moreover, this study involved investigating further the findings from Study 2 with regards to the correlates of employee performance, job satisfaction and climate for innovation for the general population. Also, this work has contributed to the literature through its unique design, which encapsulated personality traits, conflict management styles, decision-making styles, employee performance, job satisfaction and climate for innovation in the workplace within the same study, in Jordan's Middle Eastern context. Hence, it presented the most and least effective characteristics for employee performance, job satisfaction, and climate for innovation. In sum, from the current research findings it is concluded that majority of the individual differences scales included in this study provide fruitful basis for studying employee performance, job satisfaction and climate for innovation in Jordan.

Chapter 9. General Discussion: individual differences, employee performance, job satisfaction, and climate for innovation

Individuals are the greatest assets of organisations. They have different characteristics and thus, behave differently to each other. Indeed, individuals have different personality traits (John & Srivastava, 1999), roles in teams (Mathieu et al., 2015), conflict management styles (De Dreu et al., 2001) and decision-making styles (Scott & Bruce, 1995). Accordingly, individual differences in this research is characterised by the big five, team roles, conflict management styles and decision-making styles.

A majority of research has established that personality traits represent stable patterns of behaviour, feelings, thoughts and motivations (Wilt & Revelle, 2009). However, some studies such as those conducted by Tett and Burnett (2003) and Woods et al. (2019) have shown that personality is dynamic, and changes over time, according to situations, as well as a result of the individuals' interactions with the environment and the organisational culture. Prominently, the majority of past studies in the field of industrial, organisational and vocational psychology indicated that personality is static and stable across time. Meta-analyses have also yielded correlations between personality traits in relation to organisational growth outcomes (Barrick & Mount, 1991; Rothstein, & Reddon, 1994; Salgado, 1997; Tett et al., 1994). Duly, this research followed the idea that personality traits are stable as this approach allows the investigation of individual differences that associate with employee performance (Salgado, 1997; Jiang et al., 2009), job satisfaction (Judge et al., 2002; Templer, 2012), and climate for innovation (Soomro et al., 2015). Based on this, the main aim of this research was to investigate the most and least effective characteristics for these three aspects in Jordan's Middle Eastern context.

Individual differences in Western countries have been widely studied, for example, researchers have investigated the associations between the big five or decision-making styles and employee performance (Barrick & Mount, 1991; Curşeu & Schreijer, 2012). Moreover, research has involved examining the links between the big five, team roles, conflict management styles and decision-making with job satisfaction (Hariri et al., 2016; Judge et al., 2002; Lee, 2008; Ruch et al., 2018). Whilst a few studies have covered the connections between the big five and climate for innovation (Acuña et al., 2015; Soomro et al., 2015), there is a gap in the literature in terms of studying the associations between team roles or conflict management and employee performance. Further,

research is scant with regards to testing the connections between team roles, conflict management styles, or decision-making styles and climate for innovation. Basically, the literature is lacking with regards to examining individual differences (i.e. the big five, team roles, conflict management styles and decision-making styles) that are associated with employee performance, job satisfaction and climate for innovation under one umbrella.

Individual differences in Middle Eastern countries, such as Jordan, have been rarely examined. There have been only around 3,100 publications on topics related to employment testing, industrial, organisational and occupational psychology fields since the year 2000. Most of these publications were conducted in Israel (56%), Turkey (18%), UAE (7%) and Iran (6%). The rest of the countries authored between 1% and 3% of these publications (Bayazit et al., 2018). This highlights the importance of conducting this study in Jordan, where research in this field is relatively lacking. In particular, has received scant empirical attention in relation to the individual differences that are associated with employee performance, job satisfaction and climate for innovation. Further, carrying out the research in this country is relevant as Jordan has been ranked as one of the top 10 countries that has greatly improved with regards to its ease in doing business in recent years (World Bank Group, 2020).

Furthermore, the factorial structure of the instruments used in this research was never tested before in Jordan. Thus, to rectify the aforementioned dearth in the literature, this research was started by examining the factorial structure of the used instruments. This included BFI-10 and BFI-44 as a measurement for the big five, TREO as an examination of team roles, DUTCH as an assessment of the conflict management styles, the GDMS as a measurement of the general decision-making style and the TCI as an assessment for climate for innovation. The evaluation of these measures initially included a shipping and logistics company and a telecoms company in Jordan. Establishing the factorial structure provided valuable information concerning the as-yet-unexamined instruments in Jordan. Likewise, investigating the factorial structure of TREO presented important insights for this instrument, which was developed in the USA and has never tested previously in any other country.

A second aim concerned studying which individual differences are most and least relevant for studying employee performance, job satisfaction and climate for innovation as this has been infrequently studied especially in Jordan. Initially, this was carried out in Jordan on the same

shipping and logistics company. Subsequently, this was conducted on the general population in Jordan to see whether or not the findings could be generalised.

9.1 Overview of the findings

9.1.1 Key findings of Study 1 and Study 3 - the individual differences structure

Study 1 was aimed at identifying whether the structure of BFI-10, BFI-44, TREO, DUTCH, the GDMS, and the TCI work well in Jordan through applying them to two companies in Jordan: a shipping and logistics company and a telecoms company. Specifically, whilst BFI-10, TREO and the TCI were investigated for the telecoms company, all of the aforementioned instruments were tested on the shipping and logistics company. Furthermore, Study 3 was aimed at ascertaining whether or not the structure of BFI-44 and the TCI was applicable to the general population in Jordan.

The findings for *BFI-10* (which consists of five factors: openness, conscientiousness, extraversion, agreeableness and neuroticism) from both companies revealed low reliabilities (Cronbach's alphas) and inadequate five factor models and accordingly, it was concluded that this instrument does not work well in Jordan. A possible explanation for the low Cronbach's alphas may be attributed to having only two items per scale, which has been identified as problematic (Eisinga et al., 2013). Former research conducted by Kunnell-John et al. (2019), in India, which is a collectivist society revealed the same finding. Thus, it would appear that the structure of BFI-10 does not work well in collectivistic societies. Concerning the structure of *BFI-44*, the results from the shipping and logistics firm presented a good fit for the correlated five factor model. This is similar to the findings for Benet-Martinez and John (1998), Chiorri et al. (2008) and Cid and Finney's (2009) studies. Further, the results displayed a tolerable fit for the correlated five factor model from the general population sample. Thus, the model looks satisfactory on some of the indices, but not on the others. In particular, adequate fit indices were found for the CMIN/df and RMSEA, but not the CFI and IFI. Hence, these findings suggest that there is a scope for improvement for this model.

Regarding the *TREO* findings, the analysis presented an adequate fit for the correlated six factor model when applied to the shipping and logistics company, and this finding that is in line with Mathieu et al.'s (2015) factorial structure. Further, a tolerable fit for the correlated six factor model in relation to the telecoms company was revealed. Moreover, poor reliabilities from the telecoms company were found for the doer, challenger, innovator and connector scales. Notably, this

instrument constitutes of the following factors: organiser, doer, challenger, innovator, team builder and connector.

The findings for all the other instruments, that is, *DUTCH*, the *GDMS*, and the *TCI*, presented adequate fit as per previous studies. *DUTCH*, which has the following five factors: compromising, problem solving, forcing, yielding and avoiding, displayed the best fit for the five-factor model. This finding is in accord with De Dreu et al.'s (2001) factorial structure. Moreover, the *GDMS*, which includes the factors: rational, intuitive, dependent, spontaneous, and avoidant showed a superior fit for the five-factor model, and this finding is similar to that for Scott and Bruce's (1995) factorial structure. Lastly, the *TCI*, which comprises the factors: rational, intuitive, dependent, spontaneous and avoidant, presented the best fit for the 4-factor model in both samples (the shipping and logistics company and the general population). This finding mirrors Anderson and West (1998), Boada-Grau et al. (2011) and Kivimaki and Elovainio's (1999) results. In sum, Study 1 and Study 3 extends extant work that investigated the factorial structure of the instruments in Western countries but never in Jordan, by indicating the best fitted model for each instrument.

9.1.2 Key findings from Study 2 and Study 3 - the associations between individual differences, and employee performance, job satisfaction and climate for innovation

Study 2 was aimed at investigating which traits from the big five, team roles, conflict management styles and decision-making styles are most and least relevant for studying employee performance, job satisfaction and climate for innovation. This was examined by collecting data from the same shipping and logistics company. Further, Study 3 sought to generalise the findings from Study 2 in order to present results from a generalisable sample. Clearly, this was attained by collecting data from the general population in Jordan. Moreover, Study 3 aimed to address the low reliability of the employee job performance questionnaire found in Study 2 by adding an additional employee performance questionnaire called the IWPQ. Consequently, this study was also intended to compare the findings from the employee job performance questionnaire with those for the IWPQ.

The positive correlates of employee performance in these studies were: conscientiousness from the big five, organiser and doer team roles, the problem-solving conflict management style and the rational decision-making style. Moreover, the positive correlates of job satisfaction in these studies were: agreeableness from the big five, team builder team role, the problem-solving conflict management style and the rational decision-making style. The positive correlates of climate for

innovation in these studies were: agreeableness from the big five, innovator team role, the problem-solving conflict management style and the rational decision-making style. The negative correlates of employee performance, job satisfaction and climate for innovation were: neuroticism from the big five, the avoiding conflict management style and the avoidant decision-making style.

9.1.2.1 Employee performance findings

Findings from the regression analysis from Studies 2 and 3 were manifold. Regarding employee performance, for the *big five*, the findings for the conscientiousness trait from both studies were similar. In Study 2, this trait emerged as a significant positive predictor for employee job performance. Likewise, in Study 3, it was found to be a significant positive predictor of employee job performance and also for the IWPQ. This finding may be attributed to the fact that conscientious individuals have a purpose, are determined, are strong-willed and goal oriented. Other than that, in Jordan the employees are hard workers, precise and punctual (Hofstede, 2019). All of which present descriptions that align with the autonomy and goal orientation, which in return, impact positively on employee performance (Barrick & Mount, 1993; Barrick et al., 1993). The results from this Jordanian study concur with Western ones from Barrick and Mount (1991), Barrick et al. (1993), Barrick et al. (2001), Frink and Ferris (1999), Hough (1992), Hough et al. (1990), Kappe and van der Flier (2010), Ones and Viswesvaran (1997), Sackett and Wanek (1996), Salgado (1997) and Salgado's (1998) studies.

For neuroticism, also from the big five, in Study 3 it emerged as the only significant negative predictor of IWPQ. This finding is in line with extant Western studies that reported negative relationships between neuroticism and employee performance, such as those conducted by Hörmann and Maschke (1996), Judge et al. (1999), Neal et al. (2012) and Rothmann and Coetzer (2003).

Concerning the *conflict management styles* results, in both studies, the problem-solving style was elicited as being a significant positive predictor of employee job performance. Correspondingly, it emerged as a significant positive predictor of the IWPQ. Problem solvers are inclined to have a concern for themselves and others. They tend to exchange information, make trade-offs and have discussions with others. This style has been reported as being the most useful style to use (Marriner, 1982, 1995; Rahim, 2005; Thomas, 1976). Hence, this could explain why adopting this style plays a role in increasing the performance of individuals. This finding supports prior research

reporting that using this style positively influences performance (Likert & Likert, 1976; Rahim et al., 2001; Shih & Susanto, 2010; Weider-Hatfield & Hatfield, 2010). Notably, this study revealed that the participants used this style the most. This is in line with previous findings from Jordanian studies conducted by Al-Hamdan et al. (2014), Al-Hamdan et al. (2016) and Kozan (1991). Consequently, this can be connected with the fact that Jordan is a collectivist society, in which individuals are viewed as caring (Hofstede, 2019), expressive, verbal (Ajami, 1981; Almaney, 1981; Patai, 1983) and would rather work on their problems through discussions (Kozan, 1991). It would seem reasonable to argue that they are pursuing harmony (Tjosvold et al., 2003), which has been associated with a preference for using the problem-solving style in cultures that are collectivist (Chen et al., 2012).

Regarding the *decision-making style* findings, in Study 3, the rational style emerged as a significant positive predictor of both employee job performance and the IWPQ. In essence, individuals who favour this style thoroughly look for and logically evaluate the available options. These individuals base their decisions on vigilance and logic. They make their decisions analytically, logically evaluating their alternatives, which could well explain why this style is associated with performance. These results support Yaakobi (2017) as well as Russ et al.'s (1996) findings with regards to the positive relationships between this style and employee performance. In other words, they give weight to the argument that this style is the best to use to make decisions (Janis & Mann, 1977). Moreover, in this study, it was found that the rational style was adopted by the participants the most, a style that was also most favoured in Khasawneh et al.'s (2011), which was conducted on a Jordanian sample as well.

For the avoidant decision-making style, in Study 3, this style emerged as a significant negative predictor of the IWPQ. In essence, individuals who favour this style are more likely to be indecisive, anxious and they postpone making decisions, which in turn, may negatively impact on their performance. This is in accord with Russ et al.'s (2006) study, which also found negative links between this style and employee performance.

As for the findings from the regression analysis from Study 2 - focusing on employee performance in association with all scales from the big five, team roles, conflict management styles, and decision-making - the conscientiousness personality trait from the big five emerged as the only significant positive predictor, whereas, agreeableness emerged as the only significant negative one.

As formerly highlighted, the conscientiousness results concur with previous studies carried out by Barrick and Mount (1991), Barrick et al. (1993), Barrick et al. (2001), Frink and Ferris (1999), Hough (1992), Hough et al. (1990), Kappe and van der Flier (2010), Ones and Viswesvaran (1997), Sackett and Wanek (1996), Salgado (1997) and Salgado's (1998) studies.

On the other hand, the agreeableness findings are not in accord with former studies that either reported positive correlations (Tett et al., 1991) or no relationships between both variables (Gellatly & Irving, 2001). An explanation of this unexpected finding could be connected to various other facets that take part in impacting the employee performance. For instance, the context and culture of the organisation where the data collection was conducted, particularly, in relation to the values and beliefs of the individuals, teams and organisation as whole (Padhi, 2017; Tett et al., 1999). Further, the nature of the job descriptions, the different responsibilities, as well as roles, are other facets that could potentially impact performance (Tett et al., 1999). Another explanation of this non-replicated finding could be related to the fact that agreeable individuals tend to doubt their decisions (Erjavec, et al., 2019) and are inclined to seek assistance from others before making any decisions (Dalal & Brooks, 2013), and accordingly, do not perform well. Whilst these interpretations are viable, the reason behind this relationship is not clear and would need further research to examine it. This result among the very many findings in this research that mirrored previous research, could just be a false positive.

Taken together, these results highlight that out of all the individual differences constructs, the big five instrument presents the strongest associations with employee performance. This finding is in line with the separate regression models that were reported previously. In these individual models, conscientiousness emerged as the strongest positive predictor of employee performance, whilst, agreeableness emerged as the only significant negative one.

9.1.2.2 Job satisfaction findings

Results from the regression analysis for job satisfaction from both studies were numerous. Regarding the *big five*, in Study 3, the results for agreeableness emerged as being the only significant positive predictor. This could be attributed to the fact that agreeable individuals tend to be warm, forgiving, helpful, kind, polite, cooperative and generous. This significant positive finding is in accord with Templer's (2012) study that was conducted on a collectivist society, i.e. in Singapore. Essentially, agreeable individuals in these types of societies are encouraged to

develop friendly and peaceful relationships, for which they get rewarded and this, in turn, increases their job satisfaction (Templer, 2012). In fact, given it transpired that the most used trait by Jordanians in this study was agreeableness, this aligns with what was reported in Schmitt et al.'s (2007), in which Jordan was found to be one of the most agreeable nations.

In relation to neuroticism from the big five, in Studies 2 and 3 this trait emerged as the only negative significant predictor of job satisfaction. Individuals who tend to be neurotic portray nervousness, insecurities and moodiness and consequently, may get stressed out easily when facing challenging situations. All of which may contribute to increasing the levels of dissatisfaction. The significant negative findings from both studies are in line with those from Judge et al. (2002) as well as Matzler and Renzl's (2007) study. Further, they are in accord with Templer's (2012) study, which was conducted on a collectivist society.

Regarding the *conflict management styles* results, explicitly, the problem-solving style in Study 3, emerged as a significant positive predictor. Individuals who are inclined to use this style tend to communicate their priorities, needs as well as making exchanges and trade-offs. Expressing ideas and thoughts makes these individuals feel fulfilled, which in turn, increases their levels of satisfaction. This finding aligns with results from Chen et al.'s (2012) study, which was conducted on a collectivist society. Moreover, as previously mentioned, the study from this general population sample adopted the problem-solving style the most, which was also similar to the Jordanian study that was carried out by Al-Hamdan et al. (2014). Hence, this may explain why this trait impacts job satisfaction the most.

For the *decision-making styles* findings, in Study 3, the rational style was the only significant positive predictor of job satisfaction. Clearly, rational individuals are inclined to search for information and are often analytical and objective. In order to increase satisfaction levels, important decisions should only be taken after thinking deeply about them and after analysing the alternatives. The significant finding from this study supports Hariri (2011) and Hariri et al.'s (2016) work, for which they found that the rational style is correlated with job satisfaction. Additionally, as previously mentioned, the rational style was adopted the most in this study as in that of Khasawneh et al. (2011) study, also carried out in Jordan and hence, reinforces the association between this style and job satisfaction in this particular context.

Regarding the avoidant decision-making style, this emerged as a significant negative predictor in Study 2 and Study 3. This can be linked to the idea that employees who prefer to use this style postpone making decisions, often find it hard to make them and they are constantly looking for more information. Furthermore, this result is in accord with findings that reported relationships between this style and stress (Thunholm, 2008), depression (Leykin & DeRubeis, 2010) and anxiety (Maner & Schmidt, 2006), all of which contribute to increasing the levels of dissatisfaction (Wood & Highhouse, 2014).

With regards to the findings from the regression analysis from Study 2 for job satisfaction, in association with all scales from the big five, team roles, conflict management styles, and decision-making, the neuroticism personality trait from the big five emerged as the only significant negative predictor. Individuals that tend to be neurotic may feel anxious, lonely, stressed, and sad (McCrae & Costa, 1986), which could explain why this style is associated with low job satisfaction as found in Judge et al. (2002) as well as Matzler and Renzl's (2007) studies. Overall, these findings indicate that from all the individual differences constructs, the big five tool displays the strongest associations with job satisfaction. This finding is similar to the separate regression models that were conducted previously. In these models, neuroticism emerged as the strongest negative predictor of job satisfaction.

9.1.2.3 Climate for innovation findings

Results from the regression analysis for climate for innovation from both studies were multitudinous. For the *big five*, the results for the agreeableness trait were similar for both studies, with it emerging as a significant positive predictor. This personality trait portrays individuals who are cooperative, helpful, warm, kind, polite and forgiving. Therefore, it would make sense for this trait to show significant links with climate for innovation, as Jordan is a collectivist society where individuals tend to be caring and cooperative. Thus, being warm and friendly may contribute to bringing a positive climate to the team at the workplace. Furthermore, in Jordan, there is also the cultural expectations element, whereby the cultural behaviours play a significant role in shaping identity and future relationships in society (Jansen, 2010). Notably, this finding needs to be viewed with caution as the alpha value that was obtained for this trait was slightly lower than the cut-off criterion.

Regarding the neuroticism trait from the big five, in Study 2, this emerged as the only significant negative predictor of climate for innovation. This significant finding may be attributed to the idea that neurotic individuals tend to feel lonely, down, sad and can easily feel stressed out. Further, individuals who tend to be neurotic can feel anxious whilst working in a high-task oriented team climate. They may also feel uncomfortable working in an atmosphere where they are being evaluated, as they may get worried about not meeting expectations (Burch & Anderson, 2004). All of which explains why this trait could negatively impact on climate for innovation.

For the *conflict management styles* results, in Studies 2 and 3, the problem-solving style emerged as the only significant positive predictor of climate for innovation. Problem solvers develop harmonious relationships, which as a consequence, create positive psychological environments that open the door for individuals to express their feelings and thoughts in an atmosphere that is safe. Hence, dealing with issues in a healthy manner and thus, coming up with new and innovative ideas. Moreover, problem solvers focus on developing shared concerns about tasks and are constantly searching for new information to work on the issues experienced, hence generating high quality task performance. Additionally, problem solvers often focus on the big picture, which enables them to achieve the team's objectives and visions. Accordingly, attributes like these may explain the reason behind the positive associations between this style and climate for innovation. These findings support those of Açıkgöz and İlhan (2015), who found positive correlations between climate at work and problem solving, specifically, between innovation orientation (i.e. similar to the support for new ideas dimension in the TCI instrument) and goal orientation (i.e. similar to the task orientation dimension in the TCI).

For the *decision-making styles* findings, the rational style emerged as a significant positive predictor of climate for innovation in Study 2 and Study 3. This style describes individuals who are logical, systematic and are constantly looking for information. These team members are determined to make use of the new ideas, pursue a group effort to achieve goals and they use norms and means of doing work positively. This finding is in line with Açıkgöz et al.'s (2014) study, which found associations between members using the rational style and climate for innovation. Unlike employee performance and job satisfaction, the rational style emerged as being significant for climate for innovation. This could be attributed to the aforementioned fact that, in Jordan, there

are cultural expectations such that cultural behaviours govern both the identity of the individual as well as future relationships with others in society (Jansen, 2010).

Regarding the avoidant decision-making style, in Study 3, this scale emerged as a significant predictor of climate for innovation. Individuals who prefer to engage in this style are more likely to be anxious and depressed (Batool, 2007). Hence, they may find it challenging to be visionary and contribute to bringing up ideas that will motivate their co-workers. Further, individuals with this style may dislike interacting and participating with others to make decisions. Moreover, often may not succeed in delivering adequate task performance owing to their lack of motivation to do so. Also, due to the fact that these individuals tend to get stressed and feel anxious (Russ et al., 2006), they may well not have the ability to support others in innovating and thus, improving the work climate. All of these highlights why the avoidant style appeared to have negative relationships with climate for innovation.

In relation to the findings from the regression analysis from Study 2 in which the big five, team roles, conflict management styles, and decision-making styles were regressed onto climate for innovation, the agreeableness personality trait from the big five emerged as the only significant positive predictor, while, neuroticism emerged as the strongest significant negative one. These findings could be explained by the fact that agreeableness features individuals that are collaborative, supportive, and friendly, which could clarify why this personality trait is related to climate for innovation, especially that Jordan is a collectivist society where individuals are more likely to be warm and helpful (Hofstede, 2019). Accordingly, being agreeable may play a role in bringing a positive, safe, engaging and supportive atmosphere to the workplace. On the other hand, neurotic individuals are characterised by their feelings of distress, unsafety, and withdrawal. All of these may negatively affect the climate for innovation at work, because having these negative feelings may make them unable to work in high task-oriented team climate, support themselves and others to innovate, or feel safe to participate in team events and achieve their goals (Burch & Anderson, 2004). All in all, it is evident that the big five instrument shows the strongest associations with climate for innovation. This finding mirrors the previous separate regression models that were carried out. In these models, agreeableness emerged as the strongest significant positive predictor, whilst, neuroticism emerged as the only significant negative one.

Overall, the findings from this study contribute to the literature of business psychology, in general and to Jordan in particular, by indicating the positive and negative correlates of employee performance, job satisfaction, and climate for innovation in a Middle Eastern context.

9.1.2.4 Unanticipated findings

An unexpected, yet similar, pattern of findings from Study 2 and Study 3 was revealed for the avoiding conflict management style. This scale did not emerge as a significant negative predictor of employee performance, job satisfaction or climate for innovation. Further, in Study 2, the alpha value obtained for this scale was slightly lower than the cut-off criterion. It is possible that the absence of significance is related to the fact that this style falls under the umbrella of uncooperative behaviours. Further, as previously mentioned in this research as well as in that of Al-Hamdan et al. (2014), which took place in Jordan, the least adopted style by participants was the avoiding style. This can be explained by the fact that Arabs, including Jordanians, are mostly expressive and verbal (Ajami, 1981; Almaney, 1981; Patai, 1983), being inclined to sort out their problems through communication and discussion (Hofstede, 2019; Kozan, 1991) rather than avoiding them.

As previously mentioned also, the cultural expectations in Jordan are of paramount importance and define the identity of the individuals as well as the trajectory of their relationships. Hence, Jordanians may feel embarrassed to convey such characteristics (Jansen, 2010). Further, given Jordanians like to consider themselves as being hospitable (Shryock, 2004), this leaves no room for them to engage in such behaviour. Moreover, the avoiding style is considered a vague strategy, thus being open to several interpretations. *For example, a conflict party who consistently downplays the importance of the conflict issue may do this in order to avoid the issue and to reduce interactions to a minimum. The opponent, however, may perceive such behaviour as a cunning way to get one's way, to buy time and to impose one's will on others (i.e. forcing). Perhaps avoiding, more than any of the other conflict management strategies, involves behaviours that are difficult to judge and make accurate understanding of underlying intentions (De Dreu et al., 2001, p.662).* Thus, these explanations could have also played a role in influencing the avoiding findings.

Notably, the *team roles* findings from Study 2 revealed insignificant findings from the shipping and logistics company for employee performance, job satisfaction and climate for innovation. Regarding employee performance, the organiser and doer roles did not emerge as significant predictors. Moreover, the doer role did not turn out to be a reliable scale. For job satisfaction, the

regression model was insignificant, whilst for climate for innovation, the innovator role did not emerge as a significant predictor. Given all of these insignificant findings, team roles appeared as a less important construct and thus, was excluded from Study 3.

It can be concluded that examining the team roles instrument in relation to employee performance, job satisfaction and climate for innovation cannot provide robust indications regarding the most and least effective team role in relation to these employment aspects. A potential reason could be attributed to the idea that the team roles scales somewhat overlap, for example, the team builder and connector scales both focus on the concept of developing relationships. Similarly, the doer and organiser roles focus on structuring and completing the tasks. Likewise, the challenger scale stresses on exploring the different aspects of an event and takes into consideration the different alternatives, all of which have common ground with the innovator scale, which focuses on bringing up new ideas that will enable the team to handle new challenges.

9.2 Theoretical and practical implications for evidence-based practice

The business psychology field intertwines theory and practice together as both are mutually beneficial, thus making the investigation of individuals and organisations more effective (ABP, 2019). *Evidence-based practice is a particular approach or more accurately a set of approaches to incorporate evidence into practice decisions (Briner & Rousseau, 2011, p.6)*. Clearly, this research adopted a purely quantitative, psychometric lens, thus, it covered the evidence-based part of this approach and provided new information that could be introduced to the individual differences and business psychology practice. Thus, it can guide the practices of the organisations by translating its instruments and findings into services and products that could be used by employees and organisations. Overall, evidence helps in backing up information that indicate that interventions could be effective, and also assists in executing actions in a specific way (Baughman et al., 2011). Accordingly, in this section, the theoretical and practical implications of this research are presented. How this thesis builds on and contributes to the literature is demonstrated, whilst the practical implications of the outcomes for individuals, teams and organisations are also addressed, specifically, with regards to how evidence from the findings of this research can be fed back to organisations.

This thesis, which has presented the findings of an investigation into the individual differences in organisations that are associated with employee performance, job satisfaction and climate for innovation, contributes to the literature in a variety of ways. Firstly, this research builds on the former Western research that measured: (1) the big five, (2) team roles, (3) conflict management styles, (4) decision-making styles, and (5) climate for innovation. Specifically, BFI-10, BFI-44, TREO, DUTCH, the GDMS, and the TCI have been investigated. In Study 1, the factorial structure for these instruments was supported in Jordan's Middle Eastern context, except for BFI-10. In sum, the research has extended the literature by identifying the similarities and differences in the findings regarding these instruments between Jordan, which is a collectivist country in the Middle East and individualistic countries, as found in the West.

Establishing the factorial structure of these instruments in Jordan was essential as it provided a robust base for all subsequent analyses. Regarding which, this work allows for future research to involve adopting these instruments in Jordan, as the relationship between the observed variables and their underlying latent constructs has been verified. Moreover, with the confirmation of the factorial structures presented here, it is hoped for the business psychology research field to start generating more relevant research and replications. Indeed, advancements in the business psychology research, particularly, learning and development, selection and assessment, coaching, and talent management in Jordan are greatly needed as these areas are underresearched in this country.

A limiting element for the research published in Jordan to date, is that researchers have used well-known measures from previous research published in Western countries without investigating first the factorial structure of these instruments. In other words, the validity and reliability of the instruments used in such research are open to question. Confirming the appropriateness of the structure of the instruments, which has been pursued in the current study, has improved these two aspects of the results. Whilst the studies that investigated the factorial structure has to a certain extent some limitations, nevertheless, they may provide specific indications for business psychology research in Jordan.

In practical terms, these instruments could be used by practitioners in Jordan in organisational settings especially that there is a lack in relation to evaluating the validity of these instruments in the Jordanian culture. Notably, all analyses suggest that the BFI-44 has the biggest impact on

employee performance, job satisfaction, and climate for innovation. Therefore, when selecting psychometric tests for use in Jordanian companies, practitioners could consider tests that measure constructs based on the big five factor model. Tests of other constructs may be considered on the basis of how much additional variance these explain, over and above the big five, for the specific contexts and outcomes the practitioner is concerned with.

There is also a limited understanding in Jordanian organisations regarding core roles in business psychology, specifically the ones related to: (i) learning and development (Al-Qudah, Osman, Halim, & Al-Shatanawi, 2014), (ii) selection and assessment (Groh, McKenzie, & Vishwanath, 2015), (iii) coaching and (iv) talent management (Al-Qeed, Khaddam, Al-Azzam, & Atieh, 2018). The below subsections present insights on how this research could be integrated into these roles.

9.2.1 Learning and development

The training and development practice is a relatively new concept to Jordan within the human resources (Al-Qudah et al., 2014), industrial and occupational fields. Furthermore, most organisations in Jordan do not have established and well-organised training programmes (Altarawneh, 2005) nor do they have a high percent of skilled employees (Groh et al., 2015) and teams. Therefore, providing employees and teams with trainings to inform them about their personality traits, team roles, conflict management styles, and decision-making styles will assist them in developing their knowledge, skills, and abilities, which in turn will positively affect the performance of the organisation (Subramaniam et al., 2011). In a similar vein, delivering trainings will also enhance the behavior and performance of the employees (Lamba & Choudhary, 2013). Further, trainings play a role in improving the psychological climate of the company, thus, resulting in changing the perception of the employees about the culture, efforts, as well as performance within the organisation (Bates & Khasawneh, 2005). Overall, the validated instruments of this research can be used to educate employees in Jordanian organisations about their personality traits, team roles, conflict management styles, and decision-making styles. The employees could also gain an understanding from these tools about their performance, satisfaction and their perception of climate at the company.

There is only a small proportion of highly educated and competent managers in majority of organisations (Altarawneh, 2005). Thus, the findings from this research could also be integrated

within the managerial training programs of junior, middle and top management that aim to gain an understanding about the personality traits, team roles, conflict management styles, and decision-making styles of their team members, alongside their strengths, and behavioral inclinations. Managers having insights about their team members portfolios (Mathisen, Einarsen, & Mykletun, 2011) - from using tools that have been empirically assessed - could help these leaders in their practice to become more people oriented, connect effectively with their team members, and develop competent and high performing teams. This understanding could also assist them in being more aware of their own behavioral preferences, strengths, areas of improvements and triggers. Furthermore, it could help them in adapting their managerial style according to the personality profiles of their team members. This in return will enable them to better comprehend their team members, unlock and extend the potential of the team, and accordingly optimise the tasks and work of the team (Belbin, 2012).

Ultimately, delivering trainings to individuals, teams, and managers about their personality preferences, roles, and styles could potentially create a common language and shared knowledge about the individual differences of the employees in the organisation. All of these may play a role in providing more harmonious environments through decreasing misunderstandings, miscommunications, conflicts between individuals and teams, and making rational and well informed decisions (Belbin, 2020). This would consequently bring positive outcomes to areas related to performance, satisfaction, and climate for innovation. In addition to this, diagnostic work could be carried out in order to understand the personality characteristics and negative behaviours within teams, during conflict, and whilst making decisions, that may lead to low performance, job dissatisfaction, and unhealthy work environment. Based on this diagnosis, interventions and learning programmes could be designed to overcome these limitations and enable the individuals and teams to thrive at the workplace. In particular, solutions and learning programmes with a specific focus on the needs of each individual profile as well as each team report could be developed accordingly.

9.2.2 Selection and assessment

On an individual level, adapting the research instruments in Jordanian organisations could increase the likelihood of matching the characteristics of the potential candidate with the job (person-job

fit) within the recruitment and selection department (Suwanti, Udin, & Widodo, 2018) thus, increase employability. This matching may result in increasing the employee performance (Suwanti et al., 2018), job satisfaction (Kristof-Brown, Zimmerman & Johnson, 2005) and climate for innovation (Suwanti et al., 2018). In particular, this could benefit the labour market of Jordan as this country is characterised with long job-hunting durations, companies facing challenges in finding compatible and competent candidates for the vacancy, and having high rates of unemployment (Groh et al., 2015). The official unemployment rate in Jordan is approximately 14.7% (UNESCO, 2019) with other non-governmental organisations reporting a 20% unemployment rate (Alhamwan, Mat, & Muala, 2015). In fact, psychometric measures provide an opportunity to decrease the person-job mismatch (Groh et al., 2015). These measures present to the employer thorough information about the candidates beyond what has been included in the CV (Groh et al., 2015). These psychometrics can help in assessing and identifying the personality traits, team roles, conflict management styles, and decision-making styles of the candidates. They can also provide insights about the performance and job satisfaction levels of potential employees, as well as their perception of climate at work.

On a team level, in order for teams to perform better and develop a multifunctional team, an assessment of the team role-profiles of individuals working within the organisation could be carried out. This assessment would lead to determining the roles that need to be added to complete the team. A consequence of this identification, the right individuals with specific team roles could be selected accordingly. This can help improve the recruitment process and more importantly, create coherent, balanced, successful and structured teams (Belbin, 2012). This will potentially improve the level of performance, satisfaction and climate for innovation within the organisation.

9.2.3 Coaching

The coaching field in Jordan is still at its infancy, and has not been thoroughly researched. As such, the instruments utilised in this research could be used by coaching practitioners in Jordan, to broaden their knowledge about the different individual differences constructs (i.e. the big five, team roles, conflict management styles, and decision making styles). The instruments could also be used to assist the coachees in deepening their self-awareness, extending their understanding of their behaviour and preferences, as well as improving their performance at work. In fact,

personality tests are known for their wide and important contribution to coaching (Passmore, 2012). These instruments can present objective information that will help the individuals and teams develop through increasing their apprehension about their personality preferences, roles in teams, and how they handle conflicts and make decisions. These tests could highlight and clarify why they flourish in specific tasks and why they face difficulties in others whilst working independently or within groups. In return, this will empower the individuals and teams to cope and overcome their difficulties. It will also help them develop positive changes in their behavior, and ultimately find ways to manage their tasks and team work more efficiently (Bourne, 2008). Overall, these instruments could widen the coaching practice in using psychometrics in Jordan through broadening the self-insights of the employees in organisations. Indeed, working within teams, facing conflicts, and making decisions are inevitable and take place frequently during the daily interactions.

9.2.4 Talent management

Due to the lack of having natural resources in Jordan, the country relies heavily on its human resources (Irtaimah, Al-Azzam, & Khaddam, 2016). Individual workers and teams in organisations in Jordan within both the private and public sectors tend to have a small proportion of talent and skill, and often suffer from low performance. Prominently, private and public firms in Jordan still need to acknowledge more how to deal with their current talents and how to unveil their hidden ones. Jordanian institutions attract talents and tend to expect high performance and achievement, however, without placing a great emphasis on the skills and characteristics of these candidates (Al-Qeed et al., 2018). Thus, it could be helpful for Jordanian organisations to understand the personalities of their employees and team members and develop their talent. This will help companies survive, expand and maintain their competitive advantage. It is also crucial to attract, employ, pursue, improve and retain employees, particularly, those with significant talents, in order to create value (Horváthová, 2011) and achieve the strategic goals of the corporation (Nankervis, 2013).

A starting point for this could potentially revolve around using the validated instruments of this thesis to assist in identifying and assessing the personality traits, team roles, conflict management styles, and decision-making styles of potential candidates, alongside considering the possibility of

retaining and developing the current employees. This may provide an opportunity for compatible individuals to fill the available positions (Irtaimah et al., 2016) and unlock their creative potential (Al-Lozi, Almomani & Al-Hawary, 2018). In return these employees may start working in a more efficient and effective manner (Irtaimah et al., 2016) whilst working in teams, facing conflicts, or making decisions. This may perhaps lead to flourishing the organisation as a whole (Irtaimah et al., 2016) in aspects related to employee performance, job satisfaction and climate for innovation.

In relation to the three conceptual models that were developed that display the individual differences (i.e. the big five, team roles, conflict management styles, decision-making styles) that are associated with employee performance, job satisfaction and climate for innovation, their theoretical and practical importance should not be underestimated as well. The results from this research have implications for business psychology and human resource management in various areas of practice. Primarily, the most and least effective characteristics for: (i) employee performance; (ii) job satisfaction; and (iii) climate for innovation in Jordan's Middle Eastern context have been identified. This can provide better understanding of the behaviour of employees, in particular, in relation to the positive and negative characteristics of individuals in organisations. In other words, the results presented in this thesis could be utilised to inform the individual differences and business psychology literature. For example, the individual differences and employee performance findings could foster enhancement of organisational performance as employees are the most important assets in organisations. That is, in order for the performance of the organisation to flourish, individual performance needs must be addressed first (Vosloban, 2012). In general, the individual differences and job satisfaction results could contribute to knowledge regarding transformational leadership (Braun, Peus, Weisweiler, & Frey, 2013), well-being (Nielsen et al., 2013), quality of work life (Lee, Back, & Chan, 2015) and turnover (Tarigan & Ariani, 2015) in organisations. Also, the individual differences and climate for innovation findings could be utilised to promote an innovation culture (Anderson & West, 1998). Clearly, identifying the strengths and development areas of the characteristics of the individuals at work can facilitate the process of allocating the tasks and the responsibilities (Ones et al., 2007), which can positively influence the performance and satisfaction of employees as well as the climate at work.

In addition, this research has involved drawing together fundamental concepts from the disparate fields of individual differences and business psychology. It was proposed that by investigating which individual differences are associated with employee performance, job satisfaction and climate for innovation, new understanding on the relationships would be acquired, which has been the case. Specifically, it is anticipated that the results from this research will benefit business psychology and individual differences research in Jordan.

In practical terms, it is hoped that practitioners in the business psychology field will take note of the findings and provide employees, teams, and organisations with unbiased advice supported theoretically and empirically, as per the recommendations of the ABP. In particular, the findings could inform practice in core areas of business psychology relating to: (i) psychometric testing, (ii) selection and assessment, (iii) organisational development and (iv) learning and development. Notably, these areas have been targeted in the *Route to Certification in Business Psychology* (ABP, 2019).

Psychometric testing

The adopted psychometric tests address valuable traits that can provide organisations with an evidence-based platform that can aid in understanding clearly the behaviour of their employees. Further, the findings can assist managers in understanding the personality of their employees, accordingly, results from the completed questionnaires can be uploaded on a database that can be accessed by the managers. This would enable managers to diagnose and comprehend the challenges that revolve around low performers, dissatisfied employees and unhealthy climates at work, as highlighted by the ABP (ABP, 2019), thereby being able to identify solutions for overcoming these problems.

Importantly, the team roles profiles map out important information for team management that enable managers to handle the profile of their team and identify any blind spots. In addition, the conflict management style findings can help managers tackle certain situations involving conflict that may take place between employees at work. This could be done by providing the manager, first, with information about the different conflict management styles and then, by presenting the personality styles portfolio of the team to the manager. Furthermore, the decision-making style findings can be embedded within the work of the managerial functions as this entails a great deal of decision-making. Additionally, the decision-making style instrument can serve the performance

evaluation cycle as it also requires making important decisions, thus, individuals with specific styles could be held responsible for such decision situations.

Selection and assessment

The psychometric tests adopted that have been empirically tested can also be used in practice throughout the selection and assessment process for the purposes of providing an overall evaluation of the applicant and thus, allowing for the selection of the best fit for the position (Ones et al., 2007). This strategy will involve presenting a general overview of the personality of the applicant, areas of strengths, areas to develop as well as the role of the employee in teams, the style of dealing with conflicts and making decisions. Using psychometrics can provide insights that can help recruiters in backing up, supporting and confirming the interview particularly in outcomes related to employee performance, job satisfaction and climate for innovation. All of which may lead to improvement in the process of selecting potential employees.

Organisational development

The findings could be incorporated into practice within organisational development programmes. Specifically, the conceptual models of this research could be embedded within the talent management, succession planning (Lounsbury, Sundstrom, Gibson, Loveland, & Drost, 2016) and promotion schemes (Moutafi, Furnham, & Crump, 2007). The adapted instruments could enhance the process of decision-making relating to these aspects, as the instrument's present the personality profile and behaviour of the individual, thus, adding employees to the talent pool based on their personality profile, as well as promoting and transferring employees to the new positions according to the role that works the most with their character. Therefore, these personality profiles can be utilised as a starting point to design and implement interventions for change. In addition, these personality profiles could be incorporated into the operational planning process by distributing the tasks in projects according to the personality styles of the employees. Moreover, the findings could be linked with the key work competencies associated with the role and in return distributing the tasks in a manner that matches the personality profile of the employee.

Fundamentally, the employee performance findings could be utilised in performance management and appraisal settings to support the evidence base for a strengths-based approach. This is an area of human resource management practice that the Chartered Institute of Personnel and

Development has identified as lacking in high quality research. Hence, action plans could be constructed that would enhance the performance of employees at work. This approach is in line with the ideas suggested in this thesis as it proposes that individuals can improve from understanding and building their strengths (CIPD, 2017). Accordingly, managers could have one to one conversations with their employees on what went well, the reasons behind it and how this can be repeated. The conversations can be initiated by understanding the strong traits that lie within the individual which can be identified from the personality tests adopted in this thesis.

The job satisfaction findings could be used as a vehicle to identify dissatisfied employees and consequently, plan interventions to motivate them and to reduce stress at work, thereby enhancing their well-being. Also, these findings could serve as a window to understanding the underlying reasons that lead to presenteeism, as this concept has been found to be influenced by the behaviour of supervisors at work (Gilbreath & Karimi, 2012). Additionally, these job satisfaction findings could be a starting point for organisational interventions, particularly towards changing the work environment, as they can provide guidance for organisations with regards to enhancing morale, motivation and the goal achievement (Sageer, Rafat, & Agarwal, 2012) of employees. Further, interventions on an organisational level could also take place aimed at increasing job satisfaction levels and employee health in the workplace. Moreover, the climate for innovation findings can be utilised in areas relating to organisational culture and for improving the working environment through, for instance, creating workspaces for employees that fit their personality style (e.g. creating quiet spaces for introverted individuals).

Learning and development

The results of this evidence-based research can be included in the learning and development initiatives in organisations. For instance, the findings could guide the process of designing training materials and educating employees. Therefore, in the case of embedding the adapted instruments within the work of the learning and development department, specifically, within the trainings and workshops of the organisations, employees can understand more their personalities and behaviour at work, as their portfolios can facilitate the process of self-reflection and growth, duly, utilising the instruments as an individual diagnostic tool to understand their role in teams, during conflicts, and while making decisions. These instruments can also give them insights about their performance and satisfaction levels. Further, they can provide them with information about their

perception of their team climate. Individuals could be encouraged to reflect on ways to make the best use of their strengths, to address their weaknesses, think about how others view them and to develop action plans to improve their performance. Educating employees about their personality traits, roles and styles would enable individuals with high scores on the positive correlates to provide some guidance to those with high scores on the negative ones (e.g. conscientious individuals can share knowledge with neurotically oriented ones on how to perform the tasks). Also, these personality profiles can help trainers to prepare and customise their training and interact with the attendees according to their personality traits, roles, and styles which will consequently increase their level of engagement and motivation.

In sum, the research outcomes could be used to advise on the most and least effective characteristics for employee performance, job satisfaction and climate for innovation. Moreover, they could be utilised to diagnose challenges connected to low performance, job dissatisfaction and unhealthy work climates. All of which could be tackled by considering the designed conceptual models in this thesis that were evaluated by providing an empirical evidence from Jordan.

9.3 Limitations and proposals for future research

Whilst this thesis has addressed some gaps in the literature, it does have several limitations that should be noted. First, for this research, the individual differences that are associated with employee performance, job satisfaction and climate for innovation from a wide base of participants from Jordan were investigated. While this is adequate and similar to the majority of previous research in the field, including other variables to test the role they play, in particular culture, culture may bring more direction and additional conclusions. Clearly, culture is one of the important aspects that individuals take into consideration in order to adjust to their environment (Han et al., 2016). Individuals from collectivist societies, may develop an interdependent self-concept, which will impact on the sense of identity of individuals in these cultures (Lalljee & Angelova, 1995; Triandis, 1989). This means that the self is connected with other important individuals or social groups instead of simply being focusing on one's own traits and preferences (Markus & Kitayama, 1991). Hence, future research could benefit from replicating this study, whilst also including countries from both collectivist and individualistic cultures. For, the findings would allow for

comparisons between both types of culture, thus leading to deeper understanding of how this aspect shapes the relationships between individual differences, and employee performance, job satisfaction and climate for innovation.

Second, the data was collected through self-reports, and hence, is liable to be criticised in relation to the social desirability issue found in psychological research. Regarding which, some researchers argue that individuals tend to respond in a way that presents them in a positive light (Pedregon et al., 2012). However, there is evidence that self-report measures are not impacted by social desirability (De Dreu et al., 2001; Hogan, 2005a, 2005b; Salgado & Tauriz, 2014). Further, in this research participants were informed that their responses were anonymous and confidential, thus, assuring them that their answers will not be traced by the organisations they work for. Self-reporting, however, remains the most favoured and frequent method for measuring personality in the personality psychology discipline (Kagan, 2007; Robins, Tracy, & Sherman., 2007; Vazire, 2006). This method is often used as “*no one else has access to more information than oneself*” (Paulhus & Vazire, 2007, p. 2007). Further, individuals may well have more accurate (McDonald, 2008) and detailed information about themselves that others may not observe and know about (Paulhus & Vazire, 2007). Moreover, Donaldson and Grant-Vallone (2002) pointed out that: “*one should not automatically assume that self-reports are the inferior source of data in workplace research*” or “*that co-worker or supervisor reports are necessarily better than self-reports*” (p. 257). Despite this, it is compelling that future research regarding testing the factors of interest of this thesis in Jordan to include other measures, such as 360-degree observations, supervisory ratings and other objective measures to compare and evaluate the findings.

Third, the research was cross-sectional design and thus, it did not allow for causal inferences (Levin, 2006). An ideal study aimed at investigating which individual differences are associated with employee performance, job satisfaction and climate for innovation, would examine a sample of employees over time through adopting a longitudinal design in order to measure change. This design can contribute to understanding the changes that may take place across time for the same employees. It also offers the benefit of providing a sequence of specific trends and eliminates recall bias from respondents through gathering data prospectively and before having details about a potential upcoming event. Further, it accounts for the individual factors that could affect the study such as the age at the time of assessment and period of time (Caruana et al., 2015). However, the

cross-sectional methodology is one of the most commonly used designs in the industrial and organisational psychology fields (Rogelberg et al., 2008), as it enables the measurement of several variables. Moreover, Costa (1996) proposed that in majority of cases, self-reports of personality presented in organisational contexts are valid. Nonetheless, future research would benefit from including a longitudinal element and following the same respondents over a period of time. This can be done to examine trends as well as cause and effect relationships between the individual differences constructs in association with the outcome variables of this research which are employee performance, job satisfaction, and climate for innovation. This would provide a richer understanding over a prolonged duration of time about which individual differences are the most and least effective predictors of these outcome variables. In addition, future studies may also benefit from carrying out a longitudinal quasi-experimental investigation (Wong et al., 2012) through including an experimental group that receives an intervention (e.g. a training about individual differences), and a control group. This design could exclude possible internal validity threats such as instrumentation effects and yield more unbiased results (Steiner, 2017).

Fourth, all the instruments used were in English, however, Arabic is the first language used in Jordan. Essentially, as explained previously, this was done as English is the dominant language used in organisations, especially in written correspondence, such as emails, surveys, database, reports, websites, presentations and software. The English instruments were also considered as this research investigates individual differences in organisations, thus, this has provided a space for studying the organisational context in the workplace language. In fact, while personality is fundamentally stable, employees may behave differently in various contexts (e.g. work, family and friends) (Robinson, 2009). Moreover, the use of English language is increasing in Jordan, whilst that of Arabic is decreasing (Hamadan & Hatab, 2009). Further, the instruments were not translated to Arabic to avoid issues that translators often face during the translation process such as translating terms and expressions that have various meanings in Arabic (Harrison, 1988). In fact, translations may not always warrant an equivalent content to the original instrument (Brislin, 1970, Sechrest & Fay, 1972) and unclear translations may impact the reliability of the instrument (Khalaila, 2013). However, future research would benefit from translating the instruments used in these studies to Arabic and replicate this research again in order to compare the differences.

Lastly, the BFI-44 factorial structure presented an adequate fit for the shipping and logistics company and a tolerable fit for the general population sample that could be improved. The adequate fit findings suggest that this model is useful. It appears that the concepts of BFI-44 are accessible to employees that work in big companies. Hence, the tolerable fit findings from the general population sample may have occurred as a result of the random variation across organisations. Further, these tolerable results could have emerged due to using this instrument in the language in which it was published in (i.e. English language). While this was done in order to avoid translation inadequacies, future studies would benefit from using an Arabic version of BFI-44 (Al Ansari & AlAli, 2018) and then comparing the differences. It would also be useful for future research to consider alternative measures for assessing the big five in business contexts, such as the Neo-Pi-3 developed by Costa & McCrae (2010) to examine the personality of individuals and then compare the findings of the different instruments.

9.4 Final conclusions

This research has involved presenting an investigation of the structure of the instruments used in this research as well as the individual differences that are most and least relevant for studying employee performance, job satisfaction and climate for innovation. Taken together, the findings reported in this research are of importance to the business psychology, human resource management and individual differences literature and practice. Specifically, the findings can potentially add to the literature in several ways. Firstly, the factorial structure of BFI-10, BFI-44, TREO, DUTCH, the GDMS, and the TCI have been examined in the Jordanian context. The obtained findings were consistent with previous research that found a five factor model for BFI-44, a six factor model for TREO, a five factor model for DUTCH, a five factor model for the GDMS and a five factor model for the TCI. The inadequate fit findings for BFI-10 are in line with those of Kunnel-John et al. (2019) in India, which, like Jordan is a collectivist society. Moreover, the positive and negative correlates of employee performance, job satisfaction and climate for innovation have been presented by carrying out a quantitative study, first, on a shipping and logistics company in Jordan and then, this was rolled out to the general population. The majority of the findings on individual differences that are associated with employee performance, job satisfaction and climate for innovation have been demonstrated as being robust.

The outcomes of this research can inform the practice in several ways. The findings can support the promotion of evidence based-practice in core areas of business psychology relating to psychometric testing, selection and assessment, organisational development and learning and development. Accordingly, it is hoped that the thesis findings will inform the literature and practice of business psychology generally and in Jordan, in particular. They could provide individual, team, and organisational growth, as they have delivered clearer understanding of the positive and negative characteristics that impact on these aspects of firm operations. Moreover, the findings could assist researchers and practitioners in the business psychology and human resource management fields in developing more effective models for investigating employee performance, job satisfaction and climate for innovation.

Appendices

Appendix 1. Material for Study 1

Appendix 1a. Participant information sheet (time1)

PARTICIPATION INFORMATION SHEET

Individual Differences in Organisations

Researcher: Suhair Mereish

Supervisor: Dr. Anna Doering

You are being invited to take part in a research about business psychology. This study is about individual differences in organisations. This research will potentially result in improving the performance and quality of the working life of employees in the organisation, improving the flow and use of information, increasing innovation, and enhancing the behavior of employees.

This research is being undertaken as part of the researcher's Business Psychology PhD programme at the University of Westminster.

In the study, you will complete a questionnaire. The purpose of the questionnaire is to diagnose the current position of the organisation with regards to individual differences and teamship.

Please note:

- Your participation in this research is entirely voluntary.
- You have the right to withdraw at any time without giving a reason.
- You have the right to ask for your data to be withdrawn as long as this is practical, and for personal information to be destroyed.
- You do not have to answer particular questions on the questionnaire if you do not wish to do so.
- Your responses will normally be made anonymous and will be kept confidential. No individual will be identifiable through any of the collected data, written reports of the research, or any other publication arising from it.
- All computer data files will be encrypted and password protected. The researcher will keep files in a secure place and will comply with the requirements of the Data Protection Act.
- All hard copy documents will be kept securely and in a locked cupboard, wherever possible on University premises. Documents may be scanned and stored electronically. This may be done to enable secure transmission of data to the university's secure computer systems.
- If you wish you can receive information on the results of the research. Please indicate on the consent form if you would like to receive this information.
- The researcher can be contacted during and after participation by email (w1511259@my.westminster.ac.uk).
- If you have a complaint about this research project you can contact the project supervisor, Dr. Anna Doering by e-mail (A.Doering@westminster.ac.uk) or by telephone (0207 911 5000 extension 64836).

Appendix 1b. Consent form (time 1)

Consent Form

Title of the Study: Individual Differences in Organisations

Lead Researcher: Suhair Mereish

I have been given the Participation Information Sheet and/or had its contents explained to me. Yes No

I have had an opportunity to ask any questions and I am satisfied with the answers given. Yes No

I understand I have a right to withdraw from the research at any time and I do not have to provide a reason. Yes No

I understand that if I withdraw from the research any data included in the results will be removed if that is practicable (I understand that once anonymised data has been collated into other datasets it may not be possible to remove that data). Yes No

I would like to receive information relating to the results from this study. Yes No

I wish to receive a copy of this Consent form. Yes No

I confirm I am willing to be a participant in the above research study. Yes No

I note the data collected may be retained in an archive and I am happy for my data to be reused as part of future research activities. I note my data will be fully anonymised. Yes No

Participant's Name: _____

Signature: _____

Date: _____

This consent form will be stored separately from any data you provide so that your responses remain anonymous.

I confirm I have provided a copy of the Participant Information Sheet approved by the Research Ethics Committee to the participant and fully explained its contents. I have given the participant an opportunity to ask questions, which have been answered.

Researcher's Name:

Signature:

Date:

Appendix 1c. Debriefing sheet (time 1)

Researcher: Suhair Mereish

Email: w1511259@my.westminster.ac.uk

Project Supervisor: Dr. Anna Doering

Email: A.Doering@westminster.ac.uk

Debriefing sheet

Debriefing for a study on: Individual Differences in Organisations

Individual differences focus on the differences between individuals, their interpretations of the situations they encounter, and what drives them to start operating. Further, it enables the individuals to understand themselves and the people around them more. Duly, individual differences in the workplace has stimulated experimenters and head of departments.

The purpose of this study is to examine the impact of individual differences (personal behavioral preferences) in organisations. This research will potentially result in improving the performance and quality of the working life of employees in the organisation, improving the flow and use of information, increasing innovation, and enhancing the behavior of employees.

Thank you for agreeing to participate in this study. The questionnaire you answered revolved around individual differences and teamship. The collected information will remain *strictly confidential*, and will be analysed using quantitative methods. The results from these questionnaires will assist in diagnosing the current position of the organisation with regards to individual differences and teamship.

If you would like to learn more about this research please check the additional reading section below.

Again, thank you for taking part in this study. If you have further questions, please contact the researcher on w1511259@my.westminster.ac.uk . In addition, if you have any concerns about any aspect of the study, you may contact the project supervisor, Dr. Anna Doering by e-mail (A.Doering@westminster.ac.uk) or by telephone (0207 911 5000 extension 64836). If you would like to receive a copy of the results we can email them to you at the end of the study.

Additional Reading:

- Benton, S. (2005) Every Individual Is the Exception to the Rule. The Association for Project Management Yearbook, 6, 32-36.
- Benton, S. (2016). The Bpsy Business Psychology Model: A Personal View. (in Press).

Appendix 1d. BFI-10, TCI and TREO questionnaire (time 1)

Individual Differences in Organizations

This study is about the impact of individual differences in organizations. If you chose to take part in this study, you will be asked to fill in a questionnaire with regards to individual differences and teamship.

What do I have to do for this survey?

1. If you decided to participate, you will first be asked a few demographic questions (age, sex and so on).
2. Following this, you will be asked questions regarding the impact of individual differences in organisations.

Key Information

- This questionnaire has 58 questions and takes around 10 - 15 minutes.
- Participation is entirely voluntary, and you have the right to withdraw at any time without having to give a reason.
- Please answer all questions.
- Your responses will be anonymous, and treated with full confidentiality as outlined in the Data Protection Act 1998, and information will not be shared with the employers or the companies.
- Benefits: you will get a better understanding of your personal behavioral preferences.
- Risks: apart from the time invested into completing this questionnaire, there are no risks for the participants that differ from risks encountered in everyday life.

Who is in charge of this research?

The study has been approved by the University of Westminster Business Psychology Department Ethics Committee. It is based at the University of Westminster in the UK.

If you have read the information above, and give your consent to participate under these conditions, please circle the "I wish to take part in the study" statement.

- a. I wish to take part in this study
- b. I do not wish to take part in this study

Section 1: Demographics

1. Please state your day of birth -----
2. Please state first two letters of your fathers name -----
3. Please state first two letters of your last name -----
4. Are you male or female?
 - a. Male
 - b. Female
5. What is your age in years? -----
6. In which country do you currently reside? -----
7. Please state the name of the company you currently work for -----
8. Please state the department you currently work at -----
9. Please state your job title -----
10. Please state the number of years you have been with the company you are currently working at -----

Section 2: Individual Differences in Organisations

Section 2.1: Big Five Inventory

Here are a number of characteristics that may or may not apply to you. Please circle the most appropriate response to you for each question.

I see myself as someone who..	Disagree Strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
1. is reserved	1	2	3	4	5
2. is generally trusting	1	2	3	4	5
3. tends to be lazy	1	2	3	4	5
4. is relaxed, handles stress well	1	2	3	4	5
5. has few artistic interests	1	2	3	4	5
6. is outgoing, sociable	1	2	3	4	5
7. tends to find fault with others	1	2	3	4	5
8. does a thorough job	1	2	3	4	5
9. gets nervous easily	1	2	3	4	5
10. has an active imagination	1	2	3	4	5

Section 2.2: Team Climate Inventory

This part concerns how much participation there is in your team. Please circle the most appropriate response to you for each question.

Participation in the Team	Disagree Strongly	Disagree	Neither agree nor disagree	Agree	Agree Strongly
1. We have a 'we are in it together' attitude	1	2	3	4	5
2. People keep each other informed about work-related issues in the team	1	2	3	4	5
3. People feel understood and accepted by each other	1	2	3	4	5
4. There are real attempts to share information throughout the team	1	2	3	4	5

This part deals with attitudes towards change in your team. Please indicate how strongly you agree or disagree with each of the following statements as a description of your team by circling the appropriate number.

Support for New Ideas	Disagree Strongly	Disagree	Neither agree nor disagree	Agree	Agree Strongly
1. People in this team are always searching for fresh, new ways of looking at problems	1	2	3	4	5
2. In this team we take the time needed to develop new ideas	1	2	3	4	5
3. People in the team co-operate in order to help develop and apply new ideas	1	2	3	4	5

This part of the questionnaire is concerned with the objectives of your team. The following statements concern your understanding of your team's objectives. Circle the appropriate number to indicate how far each statement describes your team.

Vision	Not at all			Somewhat			Completely
1. To what extent do you think your team's objectives are clearly understood by other members of the team?	1	2	3	4	5	6	7
2. How far are you in agreement with these objectives?	1	2	3	4	5	6	7
3. To what extent do you think your team's objectives can actually be achieved?	1	2	3	4	5	6	7

4. How worthwhile do you think these objectives are to the team?	1	2	3	4	5	6	7
---	---	---	---	---	---	---	---

This part is about how you feel the team monitors and appraises the work it does. Consider to what extent each of the following questions describes your team. Please circle the response which you think best describes your team.

Task Orientation	To a very little extent			To some extent			To a very great extent
1. Are team members prepared to question the basis of what the team is doing?	1	2	3	4	5	6	7
2. Does the team critically appraise potential weaknesses in what it is doing in order to achieve the best possible outcome?	1	2	3	4	5	6	7
3. Do members of the team build on each other's ideas in order to achieve the best possible outcome?	1	2	3	4	5	6	7

Section 2.3: Team Role Experience and Orientation Questionnaire

Please circle the most appropriate response to you for each question.

as a member of different teams	Disagree Strongly	Disagree	Neither agree nor disagree	Agree	Agree Strongly
1. I'm comfortable being critical of my teammates	1	2	3	4	5
2. I like it when we keep busy and get things done	1	2	3	4	5
3. I like to challenge peoples' assumptions	1	2	3	4	5
4. I like to be the one that sorts out the details of a team project	1	2	3	4	5
5. I like to be the one who decides who will do which tasks on a team	1	2	3	4	5
6. I'm always ready to support a good suggestion in the common interest of the team	1	2	3	4	5
7. I like to try out new ideas and approaches	1	2	3	4	5
8. I can be counted on when a task needs to be done	1	2	3	4	5

9. I'm comfortable dealing with interpersonal conflicts and helping people work through them	1	2	3	4	5
10. I enjoy coordinating team efforts with people or groups outside of the team	1	2	3	4	5
11. I can be counted on to spread ideas between my team and people outside of my team	1	2	3	4	5
12. I'm comfortable being the spokesperson for a team	1	2	3	4	5
13. I'm often the first to volunteer for a difficult or unpopular assignment if that is what the team needs	1	2	3	4	5
14. I like to be the one who keeps track of how well my team is doing	1	2	3	4	5
15. I bring a sense of organization to any job a team undertakes	1	2	3	4	5
16. I get bored when we do the same task the same way every time	1	2	3	4	5
17. I'm not afraid to question my teammates' authority	1	2	3	4	5
18. I typically find out what is going on outside my team and share that with my teammates	1	2	3	4	5
19. I like coming up with new ways that our team can accomplish our tasks	1	2	3	4	5
20. I like helping different kinds of people work effectively together	1	2	3	4	5
21. I'm comfortable producing and sharing new ideas with my team	1	2	3	4	5
22. It bothers me when I see teammates getting frustrated or depressed	1	2	3	4	5
23. I'm always committed to my team tasks	1	2	3	4	5
24. I can typically provide a strong rationale to refute ideas that I believe are unsound	1	2	3	4	5

Appendix 1e. Participant information sheet (time 2)

PARTICIPATION INFORMATION SHEET

Individual Differences in Organisations

Researcher: Suhair Mereish

Supervisor: Dr. Anna Doering

You are being invited to take part in a research about business psychology. This study is about individual differences in organisations. This research will potentially result in improving the performance and quality of the working life of employees in the organisation, improving the flow and use of information, increasing innovation, and enhancing the behavior of employees.

This research is being undertaken as part of the researcher's Business Psychology PhD programme at the University of Westminster.

In the study, you will complete a questionnaire. The purpose of the questionnaire is to diagnose the current position of the organisation with regards to conflict management styles and decision-making styles.

Please note:

- Your participation in this research is entirely voluntary.
- You have the right to withdraw at any time without giving a reason.
- You have the right to ask for your data to be withdrawn as long as this is practical, and for personal information to be destroyed.
- You do not have to answer particular questions on the questionnaire if you do not wish to do so.
- Your responses will normally be made anonymous and will be kept confidential. No individual will be identifiable through any of the collected data, written reports of the research, or any other publication arising from it.
- All computer data files will be encrypted and password protected. The researcher will keep files in a secure place and will comply with the requirements of the Data Protection Act.
- All hard copy documents will be kept securely and in a locked cupboard, wherever possible on University premises. Documents may be scanned and stored electronically. This may be done to enable secure transmission of data to the university's secure computer systems.
- If you wish you can receive information on the results of the research. Please indicate on the consent form if you would like to receive this information.
- The researcher can be contacted during and after participation by email (w1511259@my.westminster.ac.uk).
- If you have a complaint about this research project you can contact the project supervisor, Dr. Anna Doering by e-mail (A.Doering@westminster.ac.uk) or by telephone (0207 911 5000 extension 64836).

Appendix 1f. Consent form (time 2)

Consent Form

Title of the Study: Individual Differences in Organisations

Lead Researcher: Suhair Mereish

I have been given the Participation Information Sheet and/or had its contents explained to me. Yes No

I have had an opportunity to ask any questions and I am satisfied with the answers given. Yes No

I understand I have a right to withdraw from the research at any time and I do not have to provide a reason. Yes No

I understand that if I withdraw from the research any data included in the results will be removed if that is practicable (I understand that once anonymised data has been collated into other datasets it may not be possible to remove that data). Yes No

I would like to receive information relating to the results from this study. Yes No

I wish to receive a copy of this Consent form. Yes No

I confirm I am willing to be a participant in the above research study. Yes No

I note the data collected may be retained in an archive and I am happy for my data to be reused as part of future research activities. I note my data will be fully anonymised. Yes No

Participant's Name: _____

Signature: _____

Date: _____

This consent form will be stored separately from any data you provide so that your responses remain anonymous.

I confirm I have provided a copy of the Participant Information Sheet approved by the Research Ethics Committee to the participant and fully explained its contents. I have given the participant an opportunity to ask questions, which have been answered.

Researcher's Name:

Signature:

Date:

Appendix 1g. Debriefing sheet (time 2)

Researcher: Suhair Mereish

Email: w1511259@my.westminster.ac.uk

Project Supervisor: Dr. Anna Doering

Email: A.Doering@westminster.ac.uk

Debriefing sheet

Debriefing for a study on: Individual Differences in Organisations

Individual differences focus on the differences between individuals, their interpretations of the situations they encounter, and what drives them to start operating. Further, it enables the individuals to understand themselves and the people around them more. Duly, individual differences in the workplace has stimulated experimenters and head of departments.

The purpose of this study is to examine the impact of individual differences (personal behavioral preferences) in organisations. This research will potentially result in improving the performance and quality of the working life of employees in the organisation, improving the flow and use of information, increasing innovation, and enhancing the behavior of employees.

Thank you for agreeing to participate in this study. The questionnaire you answered revolved around individual differences and teamship. The collected information will remain *strictly confidential*, and will be analysed using quantitative methods. The results from these questionnaires will assist in diagnosing the current position of the organisation with regards to conflict management styles and decision-making styles.

If you would like to learn more about this research please check the additional reading section below.

Again, thank you for taking part in this study. If you have further questions, please contact the researcher on w1511259@my.westminster.ac.uk . In addition, if you have any concerns about any aspect of the study, you may contact the project supervisor, Dr. Anna Doering by e-mail (A.Doering@westminster.ac.uk) or by telephone (0207 911 5000 extension 64836). If you would like to receive a copy of the results we can email them to you at the end of the study.

Additional Reading:

- Benton, S. (2005) Every Individual Is the Exception to the Rule. The Association for Project Management Yearbook, 6, 32-36.
- Benton, S. (2016). The Bpsy Business Psychology Model: A Personal View. (in Press).

Appendix 1h. BFI-44, the DUTCH and GDMS questionnaires (time 2)

Individual Differences in Organisations

This study is about the impact of individual differences in organisations. If you chose to take part in this study, you will be asked to fill in a questionnaire with regards to individual differences.

What do I have to do for this survey?

1. If you decided to participate, you will first be asked a few questions about the code of the participant.
2. Following this, you will be asked questions regarding your personality traits and styles at work.

Key Information

- This questionnaire has 92 questions and takes around 15 - 20 minutes.
- Participation is entirely voluntary, and you have the right to withdraw at any time without having to give a reason.
- Please answer all questions.
- Your responses will be anonymous, and treated with full confidentiality as outlined in the Data Protection Act 1998, and information will not be shared with the employers or the companies.
- Benefits: you will get a better understanding of your personal behavioural preferences.
- Risks: apart from the time invested into completing this questionnaire, there are no risks for the participants that differ from risks encountered in everyday life.

Who is in charge of this research?

The study has been approved by the University of Westminster Business Psychology Department Ethics Committee. It is based at the University of Westminster in the UK.

If you have read the information above, and give your consent to participate under these conditions, please circle the "I wish to take part in the study" statement.

- a. I wish to take part in this study
- b. I do not wish to take part in this study

Section 1: Code of the Participant

1. Please state your day of birth -----
2. Please state first two letters of your family name -----
3. Please state first two letters of your Middle name -----

Section 2: The Big Five Inventory (BFI-44)

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? Please circle a number next to each statement to indicate the extent to which you agree or disagree with that statement.

I see myself as someone who...	Disagree Strongly	Disagree a Little	Neither Agree nor Disagree	Agree a Little	Agree Strongly
1- Is talkative	1	2	3	4	5
2- Tends to find fault with others	1	2	3	4	5
3- Does a thorough job	1	2	3	4	5
4- Is depressed, blue	1	2	3	4	5
5- Is original, comes up with new ideas	1	2	3	4	5
6- Is reserved	1	2	3	4	5
7- Is helpful and unselfish with others	1	2	3	4	5
8- Can be somewhat careless	1	2	3	4	5
9- Is relaxed, handles stress well	1	2	3	4	5
10- Is curious about many different things	1	2	3	4	5
11- Is full of energy	1	2	3	4	5
12- Starts quarrels with others	1	2	3	4	5
13- Is a reliable worker	1	2	3	4	5
14- Can be tense	1	2	3	4	5
15- Is ingenious, a deep thinker	1	2	3	4	5
16- Generates a lot of enthusiasm	1	2	3	4	5
17- Has a forgiving nature	1	2	3	4	5
18- Tends to be disorganised	1	2	3	4	5

19- Worries a lot	1	2	3	4	5
20- Has an active imagination	1	2	3	4	5
21- Tends to be quiet	1	2	3	4	5
22- Is generally trusting	1	2	3	4	5
23- Tends to be lazy	1	2	3	4	5
24- Is emotionally stable, not easily upset	1	2	3	4	5
25- Is inventive	1	2	3	4	5
26- Has an assertive personality	1	2	3	4	5
27- Can be cold and aloof	1	2	3	4	5
28- Perseveres until the task is finished	1	2	3	4	5
29- Can be moody	1	2	3	4	5
30- Values artistic, aesthetic experiences	1	2	3	4	5
31- Is sometimes shy, inhibited	1	2	3	4	5
32- Is considerate and kind to almost everyone	1	2	3	4	5
33- Does things efficiently	1	2	3	4	5
34- Remains calm in tense situations	1	2	3	4	5
35- Prefers work that is routine	1	2	3	4	5
36- Is outgoing, sociable	1	2	3	4	5
37- Is sometimes rude to others	1	2	3	4	5
38- Makes plans and follows through with them	1	2	3	4	5
39- Gets nervous easily	1	2	3	4	5
40- Likes to reflect, play with ideas	1	2	3	4	5
41- Has few artistic interests	1	2	3	4	5
42- Likes to cooperate with others	1	2	3	4	5
43- Is easily distracted	1	2	3	4	5
44- Is sophisticated in art, music, or literature	1	2	3	4	5

Section 3: The Dutch Test for Conflict Handling (DUTCH)

Read each statement in this self-assessment and indicate how well the statement reflects the way you tend to act in a conflict with someone else. You need to complete each item honestly to get the best estimate of your preferred conflict handling style.

When I have a conflict at work, I do the following:	Not at All		Somewhat		Very Much
1. I give in to the wishes of the other party	1	2	3	4	5
2. I try to realize a middle-of-the road solution	1	2	3	4	5
3. I push my own point of view	1	2	3	4	5
4. I examine issues until I find a solution that really satisfies me and the other party	1	2	3	4	5
5. I examine ideas from both sides to find a mutually optimal solution	1	2	3	4	5
6. I avoid a confrontation about our differences	1	2	3	4	5
7. I concur with the other party	1	2	3	4	5
8. I emphasize that we have to find a compromise solution	1	2	3	4	5
9. I search for gains	1	2	3	4	5
10. I stand for my goals and other's goals and interests	1	2	3	4	5
11. I avoid differences of opinion as much as possible	1	2	3	4	5
12. I try to accommodate the other party	1	2	3	4	5
13. I insist we both give in a little	1	2	3	4	5
14. I fight for a good outcome for myself	1	2	3	4	5
15. I work out a solution that serves my own as well as others' interests as good as possible	1	2	3	4	5
16. I try to make differences loom less severe	1	2	3	4	5
17. I adapt to the other parties' goals and interests	1	2	3	4	5
18. I strive whenever possible towards a fifty-fifty compromise	1	2	3	4	5
19. I do everything to win	1	2	3	4	5
20. I try to avoid a confrontation with the other	1	2	3	4	5

Section 4: The General Decision-Making Style (GDMS)

Listed below are statements describing how individuals go about making important decisions. Please indicate whether you agree or disagree with each statement.

	Disagree Strongly	Disagree a Little	Neither Agree nor Disagree	Agree a Little	Agree Strongly
1. When I make decisions, I tend to rely on my intuition	1	2	3	4	5
2. I rarely make important decisions without consulting other people	1	2	3	4	5
3. When I make a decision, it is more important for me to feel the decision is right than to have a rational reason for it	1	2	3	4	5
4. I double-check my information sources to be sure I have the right facts before making a decision	1	2	3	4	5
5. I use the advice of other people in making my important decisions	1	2	3	4	5
6. I put off making decisions because thinking about them makes me uneasy	1	2	3	4	5
7. I make decisions in a logical and systematic way	1	2	3	4	5
8. When making decisions, I do what seems natural at the moment	1	2	3	4	5
9. I generally make snap decisions	1	2	3	4	5
10. I like to have someone to steer me in the right direction when I am faced with important decisions	1	2	3	4	5
11. My decision making requires careful thought	1	2	3	4	5
12. When making a decision, I trust my inner feelings and reactions	1	2	3	4	5
13. When making a decision, I consider various options in terms of a specified goal	1	2	3	4	5
14. I avoid making important decisions until the pressure is on	1	2	3	4	5
15. I often make impulsive decisions	1	2	3	4	5
16. When making decisions, I rely upon my instincts	1	2	3	4	5

17. I generally make decisions that feel right to me	1	2	3	4	5
18. I often need the assistance of other people when making important decisions	1	2	3	4	5
19. I postpone decision making whenever possible	1	2	3	4	5
20. I often make decisions on the spur of the moment	1	2	3	4	5
21. I often put off making important decisions	1	2	3	4	5
22. If I have the support of others, it is easier for me to make important decisions	1	2	3	4	5
23. I generally make important decisions at the last minute	1	2	3	4	5
24. I make quick decisions	1	2	3	4	5
25. I usually have a rational basis for making decisions	1	2	3	4	5

Appendix 2. Material for Study 2

Appendix 2a. Participant information sheet

Participant Information Sheet

Individual Differences in Organisations

You are being invited to take part in a research with a focus on business psychology. This study aims to understand individual differences, climate for innovation, job satisfaction and employee performance in organisations. It is a part of a PhD project at University of Westminster conducted by Suhair Mereish, and supervised by Dr Anna Doering, Professor Tom Buchanan and Dr Kathryn Waddington.

What will I be asked to do?

- You will also be asked to complete some demographic questions and a short questionnaire about individual differences, climate for innovation, job satisfaction and employee performance. Completing them will take around 30 minutes.

This research is being conducted in accordance with the University of Westminster Code of Ethical Conduct, and the BPS Code of ethics. These documents are available online:
<https://www.bps.org.uk/news-and-policy/bps-code-ethics-and-conduct>
<https://www.westminster.ac.uk/research/research-framework/research-ethics>

Please note:

- Participation is entirely voluntary.
- The anonymized data will only be available to members of the research team.
- No identifiable data will be known to the researcher or published.
- You have the right to withdraw at any time without giving a reason.
- You have the right to ask for your data to be withdrawn, and for personal information to be destroyed.
- You do not have to answer particular questions if you do not wish to.
- No identifiable data will be published.
- If you wish you can receive information on the results of the research. The researcher can be contacted by emailing w1511259@my.westminster.ac.uk
- All computer data files will be encrypted and password protected. The researcher will keep files in a secure place and will comply with the requirements of the general data protection regulations.
- If you wish you can receive information on the results of the research. Please indicate on the consent form if you would like to receive this information.
- If you have a complaint about this research project you can contact the project supervisor, Dr. Anna Doering by e-mail (A.Doering@westminster.ac.uk) or by telephone (0207 911 5000 extension 64836).

Appendix 2b. Consent form

Consent Form

Title of the Study: Individual Differences in Organisations

Lead Researcher: Suhair Mereish

In signing this consent form I am agreeing to the following, and that my participation has been explained to my satisfaction - please tick each box below, as appropriate:

My participation in this research is on an entirely voluntary basis	<input type="checkbox"/>
I am able to stop at any point during the process without having to provide an explanation.	<input type="checkbox"/>
Once I have taken part, I am still able to withdraw my data at any point until the research has been published/submitted as part of my research project, or has been anonymised.	<input type="checkbox"/>
I do not have to answer all questions asked, and I can decline to answer any questions as I see fit.	<input type="checkbox"/>
My data will be anonymised, and all identifying features will be removed so that my contribution will not be identifiable when reporting this research.	<input type="checkbox"/>
My data will be securely stored, and destroyed in accordance with the Data Protection Act, 2018 in the UK.	<input type="checkbox"/>
My identity, contact details and the information that I provide will be treated confidentially and in accordance with the University of Westminster ethical guidelines and British Psychological Society code of human research ethics.	<input type="checkbox"/>
The duty of confidentiality is not absolute and in exceptional circumstances this may be overridden by more compelling duties such as to protect individuals from harm.	<input type="checkbox"/>
The data from this study may be used for future research, and may undergo secondary analysis. Future research may be related or unrelated to the goals of this study.	<input type="checkbox"/>

I have read the information in the participation sheet, and I am willing to act as a participant in the above research study

Appendix 2c. Debriefing sheet

Researcher: Suhair Mereish

Email: w1511259@my.westminster.ac.uk

Project Supervisor: Dr. Anna Doering

Email: A.Doering@westminster.ac.uk

Debriefing sheet

Debriefing for a study on: Individual Differences in Organisations

Individual differences focus on the differences between individuals, their interpretations of the situations they encounter, and what drives them to start operating. Further, it enables the individuals to understand themselves and the people around them more. Duly, individual differences in the workplace has stimulated experimenters and head of departments.

The purpose of this study is to examine the relationships between individual differences, climate for innovation, job satisfaction, and employee performance. This research will potentially result in increasing job satisfaction, improving the climate for innovation, and increasing job performance.

Thank you for agreeing to participate in this study. The questionnaire you answered revolved around individual differences, climate for innovation, job satisfaction and employee performance. The collected information will remain *strictly confidential*, and will be analysed using quantitative methods. The results from these questionnaires will assist in diagnosing the current position of the organisation with regards to individual differences, climate for innovation, job satisfaction, and employee performance.

If you would like to learn more about this research please check the additional reading section below.

Again, thank you for taking part in this study. If you have further questions, please contact the researcher on w1511259@my.westminster.ac.uk . In addition, if you have any concerns about any aspect of the study, you may contact the project supervisor, Dr. Anna Doering by e-mail (A.Doering@westminster.ac.uk) or by telephone (0207 911 5000 extension 64836). If you would like to receive a copy of the results we can email them to you at the end of the study.

Additional Reading:

- Judge, T. A., Heller, D., & Mount, M. K. (2002). Five-factor model of personality and job satisfaction: A meta-analysis. *Journal of applied psychology, 87*(3), 530.
- Barrick, M. R., & Mount, M. K. (1991). The big five personality dimensions and job performance: a meta-analysis. *Personnel psychology, 44*(1), 1-26.

Appendix 2d. All questionnaires

Section 1.1: Personality Traits

Personality Traits

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? Please select a number next to each statement to indicate the extent to which you agree or disagree with that statement.

I see myself as someone who...	Disagree Strongly	Disagree a Little	Neither Agree nor Disagree	Agree a Little	Agree Strongly
1- Is talkative	1	2	3	4	5
2- Tends to find fault with others	1	2	3	4	5
3- Does a thorough job	1	2	3	4	5
4- Is depressed, blue	1	2	3	4	5
5- Is original, comes up with new ideas	1	2	3	4	5
6- Is reserved	1	2	3	4	5
7- Is helpful and unselfish with others	1	2	3	4	5
8- Can be somewhat careless	1	2	3	4	5
9- Is relaxed, handles stress well	1	2	3	4	5
10- Is curious about many different things	1	2	3	4	5
11- Is full of energy	1	2	3	4	5
12- Starts quarrels with others	1	2	3	4	5
13- Is a reliable worker	1	2	3	4	5
14- Can be tense	1	2	3	4	5
15- Is ingenious, a deep thinker	1	2	3	4	5
16- Generates a lot of enthusiasm	1	2	3	4	5
17- Has a forgiving nature	1	2	3	4	5
18- Tends to be disorganised	1	2	3	4	5
19- Worries a lot	1	2	3	4	5
20- Has an active imagination	1	2	3	4	5
21- Tends to be quiet	1	2	3	4	5

22- Is generally trusting	1	2	3	4	5
23- Tends to be lazy	1	2	3	4	5
24- Is emotionally stable, not easily upset	1	2	3	4	5
25- Is inventive	1	2	3	4	5
26- Has an assertive personality	1	2	3	4	5
27- Can be cold and aloof	1	2	3	4	5
28- Perseveres until the task is finished	1	2	3	4	5
29- Can be moody	1	2	3	4	5
30- Values artistic, aesthetic experiences	1	2	3	4	5
31- Is sometimes shy, inhibited	1	2	3	4	5
32- Is considerate and kind to almost everyone	1	2	3	4	5
33- Does things efficiently	1	2	3	4	5
34- Remains calm in tense situations	1	2	3	4	5
35- Prefers work that is routine	1	2	3	4	5
36- Is outgoing, sociable	1	2	3	4	5
37- Is sometimes rude to others	1	2	3	4	5
38- Makes plans and follows through with them	1	2	3	4	5
39- Gets nervous easily	1	2	3	4	5
40- Likes to reflect, play with ideas	1	2	3	4	5
41- Has few artistic interests	1	2	3	4	5
42- Likes to cooperate with others	1	2	3	4	5
43- Is easily distracted	1	2	3	4	5
44- Is sophisticated in art, music, or literature	1	2	3	4	5

Section 1.2: Job Satisfaction

The following questions ask about your satisfaction at work. Please select the most appropriate response to you for each question.

	Delighted	Pleased	Mostly Satisfied	Mixed	Mostly Dissatisfied	Unhappy	Terrible
1. How do you feel about your job?	1	2	3	4	5	6	7
2. How do you feel about the people you work with – your coworkers?	1	2	3	4	5	6	7
3. How do you feel about the work you do on your job – the work itself?	1	2	3	4	5	6	7
4. What is it like where you work, the physical surroundings, the hours, the amount of work you are asked to do?	1	2	3	4	5	6	7
5. How do you feel about what you have available for doing your job – I mean equipment, information, good supervision, and so on?	1	2	3	4	5	6	7
6. How do you feel about the pay and fringe benefits you get, and the security of your job?	1	2	3	4	5	6	7

Section 1.3: Employee Performance

The following questions ask about your performance at work. Please select the most appropriate response to you for each question.

	Much Worse	Somewhat Worse	About the Same	Somewhat Better	Much Better
1. Compared to other people who do the same or similar kind of work that you do how well would you say you do your job?	1	2	3	4	5

	Much Less	Somewhat less	About the Same	Somehwhat More	Much More
2. Compared to other people who do the same or similar kind of work that you do, how much work would you say you do?	1	2	3	4	5

Section 1.4: Team Roles

Please circle the most appropriate response to you for each question.

as a member of different teams	Disagree Strongly	Disagree	Neither agree nor disagree	Agree	Agree Strongly
1. I'm comfortable being critical of my teammates	1	2	3	4	5
2. I like it when we keep busy and get things done	1	2	3	4	5
3. I like to challenge peoples' assumptions	1	2	3	4	5
4. I like to be the one that sorts out the details of a team project	1	2	3	4	5
5. I like to be the one who decides who will do which tasks on a team	1	2	3	4	5
6. I'm always ready to support a good suggestion in the common interest of the team	1	2	3	4	5
7. I like to try out new ideas and approaches	1	2	3	4	5

8. I can be counted on when a task needs to be done	1	2	3	4	5
9. I'm comfortable dealing with interpersonal conflicts and helping people work through them	1	2	3	4	5
10. I enjoy coordinating team efforts with people or groups outside of the team	1	2	3	4	5
11. I can be counted on to spread ideas between my team and people outside of my team	1	2	3	4	5
12. I'm comfortable being the spokesperson for a team	1	2	3	4	5
13. I'm often the first to volunteer for a difficult or unpopular assignment if that is what the team needs	1	2	3	4	5
14. I like to be the one who keeps track of how well my team is doing	1	2	3	4	5
15. I bring a sense of organization to any job a team undertakes	1	2	3	4	5
16. I get bored when we do the same task the same way every time	1	2	3	4	5
17. I'm not afraid to question my teammates' authority	1	2	3	4	5
18. I typically find out what is going on outside my team and share that with my teammates	1	2	3	4	5
19. I like coming up with new ways that our team can accomplish our tasks	1	2	3	4	5
20. I like helping different kinds of people work effectively together	1	2	3	4	5
21. I'm comfortable producing and sharing new ideas with my team	1	2	3	4	5
22. It bothers me when I see teammates getting frustrated or depressed	1	2	3	4	5
23. I'm always committed to my team tasks	1	2	3	4	5
24. I can typically provide a strong rationale to refute ideas that I believe are unsound	1	2	3	4	5

Section 1.5: Conflict Management Styles

Read each statement in this self-assessment and indicate how well the statement reflects the way you tend to act in a conflict with someone else. You need to complete each item honestly to get the best estimate of your preferred conflict handling style.

When I have a conflict at work, I do the following:	Not at All		Somewhat		Very Much
1. I give in to the wishes of the other party	1	2	3	4	5
2. I try to realize a middle-of-the road solution	1	2	3	4	5
3. I push my own point of view	1	2	3	4	5
4. I examine issues until I find a solution that really satisfies me and the other party	1	2	3	4	5
5. I examine ideas from both sides to find a mutually optimal solution	1	2	3	4	5
6. I avoid a confrontation about our differences	1	2	3	4	5
7. I concur with the other party	1	2	3	4	5
8. I emphasize that we have to find a compromise solution	1	2	3	4	5
9. I search for gains	1	2	3	4	5
10. I stand for my goals and other's goals and interests	1	2	3	4	5
11. I avoid differences of opinion as much as possible	1	2	3	4	5
12. I try to accommodate the other party	1	2	3	4	5
13. I insist we both give in a little	1	2	3	4	5
14. I fight for a good outcome for myself	1	2	3	4	5
15. I work out a solution that serves my own as well as others' interests as good as possible	1	2	3	4	5
16. I try to make differences loom less severe	1	2	3	4	5
17. I adapt to the other parties' goals and interests	1	2	3	4	5
18. I strive whenever possible towards a fifty-fifty compromise	1	2	3	4	5
19. I do everything to win	1	2	3	4	5
20. I try to avoid a confrontation with the other	1	2	3	4	5

Section 1.6: Decision Making Styles

Listed below are statements describing how individuals go about making important decisions. Please indicate whether you agree or disagree with each statement.

	Disagree Strongly	Disagree a Little	Neither Agree nor Disagree	Agree a Little	Agree Strongly
1. When I make decisions, I tend to rely on my intuition	1	2	3	4	5
2. I rarely make important decisions without consulting other people	1	2	3	4	5
3. When I make a decision, it is more important for me to feel the decision is right than to have a rational reason for it	1	2	3	4	5
4. I double-check my information sources to be sure I have the right facts before making a decision	1	2	3	4	5
5. I use the advice of other people in making my important decisions	1	2	3	4	5
6. I put off making decisions because thinking about them makes me uneasy	1	2	3	4	5
7. I make decisions in a logical and systematic way	1	2	3	4	5
8. When making decisions, I do what seems natural at the moment	1	2	3	4	5
9. I generally make snap decisions	1	2	3	4	5
10. I like to have someone to steer me in the right direction when I am faced with important decisions	1	2	3	4	5
11. My decision making requires careful thought	1	2	3	4	5
12. When making a decision, I trust my inner feelings and reactions	1	2	3	4	5
13. When making a decision, I consider various options in terms of a specified goal	1	2	3	4	5
14. I avoid making important decisions until the pressure is on	1	2	3	4	5
15. I often make impulsive decisions	1	2	3	4	5
16. When making decisions, I rely upon my instincts	1	2	3	4	5

17. I generally make decisions that feel right to me	1	2	3	4	5
18. I often need the assistance of other people when making important decisions	1	2	3	4	5
19. I postpone decision making whenever possible	1	2	3	4	5
20. I often make decisions on the spur of the moment	1	2	3	4	5
21. I often put off making important decisions	1	2	3	4	5
22. If I have the support of others, it is easier for me to make important decisions	1	2	3	4	5
23. I generally make important decisions at the last minute	1	2	3	4	5
24. I make quick decisions	1	2	3	4	5
25. I usually have a rational basis for making decisions	1	2	3	4	5

Section 1.7: Climate for Innovation

Please circle the most appropriate response to you for each question.

Participation in the Team	Disagree Strongly	Disagree	Neither agree nor disagree	Agree	Agree Strongly
1. We have a 'we are in it together' attitude	1	2	3	4	5
2. People keep each other informed about work-related issues in the team	1	2	3	4	5
3. People feel understood and accepted by each other	1	2	3	4	5
4. There are real attempts to share information throughout the team	1	2	3	4	5

Support for New Ideas	Disagree Strongly	Disagree	Neither agree nor disagree	Agree	Agree Strongly
1. People in this team are always searching for fresh, new ways of looking at problems	1	2	3	4	5
2. In this team we take the time needed to develop new ideas	1	2	3	4	5
3. People in the team co-operate in order to help develop and apply new ideas	1	2	3	4	5

Vision	Not at all			Somewhat			Completely
1. To what extent do you think your team's objectives are clearly understood by other members of the team?	1	2	3	4	5	6	7
2. How far are you in agreement with these objectives?	1	2	3	4	5	6	7
3. To what extent do you think your team's objectives can actually be achieved?	1	2	3	4	5	6	7
4. How worthwhile do you think these objectives are to the team?	1	2	3	4	5	6	7

Task Orientation	To a very little extent			To some extent			To a very great extent
1. Are team members prepared to question the basis of what the team is doing?	1	2	3	4	5	6	7
2. Does the team critically appraise potential weaknesses in what it is doing in order to achieve the best possible outcome?	1	2	3	4	5	6	7
3. Do members of the team build on each other's ideas in order to achieve the best possible outcome?	1	2	3	4	5	6	7

Section 2.1: Demographics

1. Please state your day of birth (i.e. 1 – 31; e.g. 15) -----
2. Please state first two letters of your fathers name -----
3. Please state first two letters of your last name -----
4. Are you male or female?
 - a. Male
 - b. B. female
5. What is your age in years? -----
6. What is the highest qualification of education you currently have to date? -----
 - a. High school graduate, diploma or equivalent
 - b. Bachelor's degree
 - c. Master's degree
 - d. Professional degree
 - e. Doctorate degree
7. Please state the department you currently work at -----
8. Please state your job title -----
9. Please state the number of years of employment with the company you are currently working at -----
10. Please state the number of years of employment overall -----

Appendix 3. Material for Study 3

Appendix 3a. Participant information sheet

Participant Information Sheet

A Survey of Individual Differences in the Workplace

You are being invited to take part in part in a research about business psychology. This study is about individual differences in organisations. The study is conducted by Suhair Mereish, as a part of my PhD project at Westminster University supervised by Dr Anna Doering, Professor Tom Buchanan and Dr Kathryn Waddington.

What will I be asked to do?

- You will be asked questions about your demographics such as age, gender...etc. Then, you will be asked to answer questions about your personality traits, your perception of your team, as well as your satisfaction and performance levels.
- The survey should take around 15 minutes to complete.
- You will be given the opportunity to add your email address and enter in a draw to win one of thirteen \$48 amazon vouchers.

The aim of this study is to get a deeper insight and understanding individual differences, climate for innovation, job satisfaction and employee performance.

This research is being conducted in accordance with the University of Westminster Code of Ethical Conduct, and the BPS Code of ethics. These documents are available online:
<https://www.bps.org.uk/news-and-policy/bps-code-ethics-and-conduct>
<https://www.westminster.ac.uk/research/research-framework/research-ethics>

Please note:

- Participation is entirely voluntary.
- You have the right to withdraw at any time without giving a reason.
- You have the right to ask for your data to be withdrawn, and for personal information to be destroyed.
- You do not have to answer particular questions if you do not wish to.
- No identifiable data will be published.
- Your email addresses will be kept in a separate file that will be printed out and secured in a locked filing cabinet in University of Westminster staff office. These will be shredded once the draw has taken place.
- If you wish you can receive information on the results of the research. The researcher can be contacted by emailing w1511259@my.westminster.ac.uk
- If you have a complaint about this research project you can contact the project supervisor, Dr. Anna Doering by e-mail (A.Doering@westminster.ac.uk) or by telephone (0207 911 5000 extension 64836).

Appendix 3b. Consent form

Consent Form

Title of the Study: A Survey of Individual Differences in the Workplace

Lead Researcher: Suhair Mereish

In signing this consent form I am agreeing to the following, and that my participation has been explained to my satisfaction - please tick each box below, as appropriate:

My participation in this research is on an entirely voluntary basis	<input type="checkbox"/>
I am able to stop at any point during the process without having to provide an explanation.	<input type="checkbox"/>
If you change your mind about participating, you have the right to stop at any time without giving a reason. Data you have already submitted in this study will not be analysed.	<input type="checkbox"/>
Once you have indicated your consent at the end of this study, it will no longer be possible to withdraw your data, as you are responding anonymously.	<input type="checkbox"/>
I do not have to answer all questions asked, and I can decline to answer any questions as I see fit.	<input type="checkbox"/>
My data will be anonymised, and all identifying features will be removed so that my contribution will not be identifiable when reporting this research.	<input type="checkbox"/>
My data will be securely stored, and destroyed in accordance with the Data Protection Act, 2018 in the UK.	<input type="checkbox"/>
My identity, contact details and the information that I provide will be treated confidentially and in accordance with the University of Westminster ethical guidelines and British Psychological Society code of human research ethics.	<input type="checkbox"/>
The duty of confidentiality is not absolute and in exceptional circumstances this may be overridden by more compelling duties such as to protect individuals from harm.	<input type="checkbox"/>
The data from this study may be used for future research, and may undergo secondary analysis. Future research may be related or unrelated to the goals of this study.	<input type="checkbox"/>

I have read the information in the participation sheet, and I am willing to act as a participant in the above research study

Appendix 3c. Debriefing sheet

Researcher: Suhair Mereish

Email: w1511259@my.westminster.ac.uk

Project Supervisor: Dr. Anna Doering

Email: A.Doering@westminster.ac.uk

Debriefing sheet

Debriefing for a study on: A Survey of Individual Differences in the Workplace

Individual differences focus on the differences between individuals, their interpretations of the situations they encounter, and what drives them to start operating. Further, it enables the individuals to understand themselves and the people around them more. Duly, individual differences in the workplace has stimulated experimenters and head of departments.

The purpose of this study is to examine the relationships between individual differences, climate for innovation, job satisfaction, and employee performance. This research will potentially result in increasing the job satisfaction of employees in the organisation, improving the climate for innovation, and increasing job performance.

Thank you for agreeing to participate in this study. The questionnaires you answered revolved around individual differences, climate for innovation, job satisfaction, and employee performance. The collected information will remain *strictly confidential*, and will be analysed using quantitative methods. The results from these questionnaires will assist in understanding individual differences in relation to climate for innovation, job satisfaction, and employee performance.

If you would like to learn more about this research please check the additional reading section below.

Again, thank you for taking part in this study. If you have further questions, please contact the researcher on w1511259@my.westminster.ac.uk . In addition, if you have any concerns about any aspect of the study, you may contact the project supervisor, Dr. Anna Doering by e-mail (A.Doering@westminster.ac.uk) or by telephone (0207 911 5000 extension 64836). If you would like to receive a copy of the results, we can email them to you at the end of the study.

Additional Reading:

- Judge, T. A., Heller, D., & Mount, M. K. (2002). Five-factor model of personality and job satisfaction: A meta-analysis. *Journal of applied psychology*, 87(3), 530.
- Barrick, M. R., & Mount, M. K. (1991). The big five personality dimensions and job performance: a meta-analysis. *Personnel psychology*, 44(1), 1-26.
- Anderson, N. R., & West, M. A. (1998). Measuring climate for work group innovation: development and validation of the team climate inventory. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 19(3), 235-258.

Appendix 3d. All questionnaires

A Survey about Individual Differences in the Workplace

Section 1: Demographics

1. Are you male or female?
 - a. Male
 - b. Female
2. What is your age in years? -----
3. Please indicate your ability to speak English in one of the following categories:
 - a. Very well
 - b. Well
 - c. Not well
 - d. Not well at all
4. What is the highest qualification of education that you currently have to date?
 - a. High school graduate, diploma or the equivalent
 - b. Bachelor's degree
 - c. Master's degree
 - d. Professional degree
 - e. Doctorate degree
5. Please state the industry of the company you currently work for -----
8. Please state the number of years of employment with the company you are currently working at ----
9. Please state the number of years of employment overall -----

Section 2.1: Personality Traits

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? Please select a number next to each statement to indicate the extent to which you agree or disagree with that statement.

I see myself as someone who...	Disagree Strongly	Disagree a Little	Neither Agree nor Disagree	Agree a Little	Agree Strongly
1- Is talkative	1	2	3	4	5
2- Tends to find fault with others	1	2	3	4	5
3- Does a thorough job	1	2	3	4	5
4- Is depressed, blue	1	2	3	4	5
5- Is original, comes up with new ideas	1	2	3	4	5
6- Is reserved	1	2	3	4	5
7- Is helpful and unselfish with others	1	2	3	4	5
8- Can be somewhat careless	1	2	3	4	5
9- Is relaxed, handles stress well	1	2	3	4	5
10- Is curious about many different things	1	2	3	4	5
11- Is full of energy	1	2	3	4	5
12- Starts quarrels with others	1	2	3	4	5
13- Is a reliable worker	1	2	3	4	5
14- Can be tense	1	2	3	4	5
15- Is ingenious, a deep thinker	1	2	3	4	5
16- Generates a lot of enthusiasm	1	2	3	4	5
17- Has a forgiving nature	1	2	3	4	5
18- Tends to be disorganised	1	2	3	4	5
19- Worries a lot	1	2	3	4	5
20- Has an active imagination	1	2	3	4	5
21- Tends to be quiet	1	2	3	4	5
22- Is generally trusting	1	2	3	4	5

23- Tends to be lazy	1	2	3	4	5
24- Is emotionally stable, not easily upset	1	2	3	4	5
25- Is inventive	1	2	3	4	5
26- Has an assertive personality	1	2	3	4	5
27- Can be cold and aloof	1	2	3	4	5
28- Perseveres until the task is finished	1	2	3	4	5
29- Can be moody	1	2	3	4	5
30- Values artistic, aesthetic experiences	1	2	3	4	5
31- Is sometimes shy, inhibited	1	2	3	4	5
32- Is considerate and kind to almost everyone	1	2	3	4	5
33- Does things efficiently	1	2	3	4	5
34- Remains calm in tense situations	1	2	3	4	5
35- Prefers work that is routine	1	2	3	4	5
36- Is outgoing, sociable	1	2	3	4	5
37- Is sometimes rude to others	1	2	3	4	5
38- Makes plans and follows through with them	1	2	3	4	5
39- Gets nervous easily	1	2	3	4	5
40- Likes to reflect, play with ideas	1	2	3	4	5
41- Has few artistic interests	1	2	3	4	5
42- Likes to cooperate with others	1	2	3	4	5
43- Is easily distracted	1	2	3	4	5
44- Is sophisticated in art, music, or literature	1	2	3	4	5

Section 2.2: Job Satisfaction

The following questions ask about your satisfaction at work. Please select the most appropriate response to you for each question.

	Terrible	Unhappy	Mostly Dissatisfied	Mixed	Mostly Satisfied	Pleased	Delighted
1. How do you feel about your job?	1	2	3	4	5	6	7
2. How do you feel about the people you work with – your coworkers?	1	2	3	4	5	6	7
3. How do you feel about the work you do on your job – the work itself?	1	2	3	4	5	6	7
4. What is it like where you work, the physical surroundings, the hours, the amount of work you are asked to do?	1	2	3	4	5	6	7
5. How do you feel about what you have available for doing your job – I mean equipment, information, good supervision, and so on?	1	2	3	4	5	6	7
6. How do you feel about the pay and fringe benefits you get, and the security of your job?	1	2	3	4	5	6	7

Section 2.3: Employee Performance

The following questions ask about your performance at work. Please select the most appropriate response to you for each question.

	Much Worse	Somewhat Worse	About the Same	Somewhat Better	Much Better
1. Compared to other people who do the same or similar kind of work that you do how well would you say you do your job?	1	2	3	4	5

	Much Less	Somewhat less	About the Same	Somewhat More	Much More
2. Compared to other people who do the same or similar kind of work that you do, how much work would you say you do?	1	2	3	4	5

Individual Work Performance Questionnaire (IWPQ)

The following questions relate to how you carried out your work during the past 3 months. In order to get an accurate picture of your conduct at work, it is important that you complete the questionnaire as carefully and honestly as possible. If you are uncertain about how to answer a particular question, please give the best possible answer

	Seldom	Sometimes	Regularly	Often	Always
1. I was able to plan my work so that I finished it on time	0	1	2	3	4
2. I kept in mind the work result I needed to achieve	0	1	2	3	4
3. I was able to distinguish main issues from side issues	0	1	2	3	4
4. I was able to carry out my work well with minimal time and effort	0	1	2	3	4
5. I planned my work optimally	0	1	2	3	4

Section 2.4: Conflict Management Styles

The following questions ask about your conflict management style at work. Please select the most appropriate response to you for each question.

When I have a conflict at work, I do the following:	Not at All		Somewhat		Very Much
1. I try to realize a middle-of-the road solution	1	2	3	4	5
2. I examine issues until I find a solution that really satisfies me and the other party	1	2	3	4	5
3. I avoid a confrontation about our differences	1	2	3	4	5
4. I emphasize that we have to find a compromise solution	1	2	3	4	5
5. I stand for my goals and other's goals and interests	1	2	3	4	5
6. I avoid differences of opinion as much as possible	1	2	3	4	5
7. I insist we both give in a little	1	2	3	4	5
8. I examine ideas from both sides to find a mutually optimal solution	1	2	3	4	5
9. I try to make differences loom less severe	1	2	3	4	5
10. I strive whenever possible towards a fifty-fifty compromise	1	2	3	4	5
11. I work out a solution that serves my own as well as others' interests as good as possible	1	2	3	4	5
12. I try to avoid a confrontation with the other	1	2	3	4	5

Section 2.5: Decision Making Styles

Listed below are statements describing how individuals go about making important decisions. Please indicate whether you agree or disagree with each statement.

	Strongly Disagree	Disagree a little	Neither agree nor disagree	Agree a little	Strongly Agree
1. I double-check my information sources to be sure I have the right facts before making decisions	1	2	3	4	5
2. I avoid making important decisions until the pressure is on	1	2	3	4	5
3. I put off making decisions because thinking about them makes me uneasy	1	2	3	4	5
4. I make decisions in a logical and systematic way	1	2	3	4	5
5. I often put off making important decisions	1	2	3	4	5
6. My decision making requires careful thought	1	2	3	4	5
7. I postpone decision making whenever possible	1	2	3	4	5
8. When making a decision, I consider various options in terms of a specified goal	1	2	3	4	5
9. I generally make important decisions at the last minute	1	2	3	4	5
10. I usually have a rational basis for making decisions	1	2	3	4	5

Section 2.6: Climate for Innovation

This part concerns how much participation there is in your team. Please select the most appropriate response to you for each question.

Participation in the Team	Disagree Strongly	Disagree	Neither agree nor disagree	Agree	Agree Strongly
1. We have a 'we are in it together' attitude	1	2	3	4	5
2. People keep each other informed about work-related issues in the team	1	2	3	4	5
3. People feel understood and accepted by each other	1	2	3	4	5
4. There are real attempts to share information throughout the team	1	2	3	4	5

This part deals with attitudes towards change in your team. Please indicate how strongly you agree or disagree with each of the following statements as a description of your team by selecting the appropriate response to you.

Support for New Ideas	Disagree Strongly	Disagree	Neither agree nor disagree	Agree	Agree Strongly
1. People in this team are always searching for fresh, new ways of looking at problems	1	2	3	4	5
2. In this team we take the time needed to develop new ideas	1	2	3	4	5
3. People in the team co-operate in order to help develop and apply new ideas	1	2	3	4	5

This part of the questionnaire is concerned with the objectives of your team. The following statements concern your understanding of your team's objectives. Please select the appropriate response to you to indicate how far each statement describes your team.

Vision	Not at all			Somewhat			Completely
1. To what extent do you think your team's objectives are clearly understood by other members of the team?	1	2	3	4	5	6	7
2. How far are you in agreement with these objectives?	1	2	3	4	5	6	7
3. To what extent do you think your team's objectives can actually be achieved?	1	2	3	4	5	6	7

4. How worthwhile do you think these objectives are to the team?	1	2	3	4	5	6	7
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This part is about how you feel the team monitors and appraises the work it does. Consider to what extent each of the following questions describes your team. Please select the response which you think best describes your team.

Task Orientation	To a very little extent			To some extent			To a very great extent
1. Are team members prepared to question the basis of what the team is doing?	1	2	3	4	5	6	7
2. Does the team critically appraise potential weaknesses in what it is doing in order to achieve the best possible outcome?	1	2	3	4	5	6	7
3. Do members of the team build on each other's ideas in order to achieve the best possible outcome?	1	2	3	4	5	6	7

Please add your email address if you would like to enter the draw to win one of twelve \$48 vouchers from amazon:

Appendix 4. Correlations between the BFI-44 subscales - Study 2

	Openness	Conscientiousness	Extraversion	Agreeableness	Neuroticism
Conscientiousness	.438**				
Extraversion	.317**	.252**			
Agreeableness	.201**	.373**	.103		
Neuroticism	-.221**	-.322**	-.067	-.449**	
Mean	3.94	4.04	3.53	3.78	2.88
SD	.597	.585	.649	.520	.774

*p< 0.01.

Appendix 5. Correlations between TREO subscales - Study 2

	Organiser	Doer	Challenger	Innovator	Team Builder	Connector
Doer	.647**					
Challenger	.495**	.515**				
Innovator	.633**	.605**	.470**			
Team Builder	.627**	.664**	.506**	.703**		
Connector	.677**	.574**	.455**	.589**	.600**	
Mean	3.89	4.22	3.70	4.22	4.20	3.80
SD	.749	.642	.625	.724	.639	.779

*p< 0.01.

Appendix 6. Correlations between the DUTCH subscales - Study 2

	Problem Solving	Compromising	Yielding	Forcing	Avoiding
Compromising	.560**				
Yielding	.142*	.246**			
Forcing	-.011	-.063	.051		
Avoiding	-.010	.160*	.270**	.059	
Mean	4.03	3.58	2.81	3.21	2.99
SD	.696	.693	.769	.902	1.008

*p< 0.01.

Appendix 7. Correlations between the GDMS subscales - Study 2

	Rational	Intuitive	Dependent	Spontaneous	Avoidant
Intuitive	.004				
Dependent	.184**	-.090			
Spontaneous	-.239**	.436**	-.059		
Avoidant	-.218**	.226**	.275**	.292**	
Mean	4.13	3.42	3.58	3.00	2.67
SD	.616	.759	.828	.788	.931

*p< 0.01.

Appendix 8. Correlations between the TCI subscales - Study 2

	Support for new Ideas	Participative Safety	Vision	Task Orientation
Participative Safety	.644**			
Vision	.481**	.497**		
Task Orientation	.690**	.645**	.602**	
Mean	3.58	3.74	5.03	4.66
SD	.928	.838	1.160	1.399

*p < 0.01.

Appendix 9. Correlations between BFI-44 subscales - Study 3

	Openness	Conscientiousness	Extraversion	Agreeableness	Neuroticism
Conscientiousness	.169*				
Extraversion	.330**	.193**			
Agreeableness	.167**	.303**	.133**		
Neuroticism	-.140**	-.388**	-.299**	-.340**	
Mean	3.97	3.87	3.51	3.94	2.86
SD	.572	.575	.633	.539	.791

*p< 0.01.

Appendix 10. Correlations between the DUTCH subscales - Study 3

	Problem Solving	Compromising	Avoiding
Compromising	.539**		
Avoiding	.001	.236**	
Mean	4.11	3.57	2.99
SD	.628	.664	1.057

*p< 0.01.

Appendix 11. Correlations between GDMS subscales - Study 3

	Avoidant	Rational
Rational	-.228**	
Mean	2.73	4.22
SD	.985	.590

*p< 0.01.

Appendix 12. Correlations between TCI subscales - Study 3

	Support for new Ideas	Participative Safety	Vision	Task Orientation
Participative Safety	.667**			
Vision	.559**	.580**		
Task Orientation	.590**	.545**	.575**	
Mean	3.60	3.86	5.19	4.85
SD	.865	.785	.998	1.244

*p< 0.01.

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