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**Occupational Burnout Among Omani Physicians Across Different Stages of Their Career**

**Al Alawi, M.**

A commentary submitted as a partial fulfilment for the award of Doctor of Philosophy by Published Work Degree in Psychology awarded by the University of Westminster.

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# *Occupational Burnout Among Omani Physicians Across Different Stages of Their Career*

*A Commentary Submitted as a Partial Fulfilment for the Award of
Doctor of Philosophy by Published Work Degree in Psychology
College of Liberal Arts and Sciences
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**Preface**

Reflecting on my experience as an individual from Omani and Islamic culture, a husband of a physician, and a psychiatrist, understanding and mitigating occupational burnout have always been at the forefront of my interests. Observing my colleagues' suffering from occupational burnout, often unknowingly, alongside my struggle with burnout and the alarming international data, have driven my collaborative research in this area over the last seven years. This endeavour yielded twelve publications submitted for the PhD by published work degree in occupational psychology. In this commentary, I critically synthesise the golden thread linking these publications, which aimed to address the burnout phenomenon among Omani physicians from various dimensions. I also highlight the original contributions to the field of occupational psychology from theoretical and practical aspects focusing on cross-cultural dimensions. This focus underlines the role of cultural factors in shaping our experience and expression of psychological phenomena such as burnout. Throughout the commentary, I identify limitations and future directions related to the published work.

# Acknowledgement

 Writing this commentary has been an intriguing and inescapably challenging journey during which significant learning, reflexivity, and growth have occurred. All this could not have happened without the support of my loving family and the collaboration of remarkable colleagues. Additionally, I received valuable supervision and companionship from Dr Waddington and Dr Matthewman, for whom I would like to convey my profound appreciation and gratitude for their guidance and mentorship.

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**Abstract**

The occupational psychology literature indicates that physicians are at an elevated risk of burnout and mental distress. Notably, there is a lack of contribution to this field from Arabic and Islamic cultures. This commentary critically analyses the contribution of twelve published papers to the field of occupational psychology, focusing primarily on stress, health, and wellbeing. The overarching aim is to examine the scale and determinants of occupational burnout among Omani physicians across various stages of their careers using quantitative research methods. Following an introduction and contextualisation, the synthesis of published work proceeds in three chapters. Firstly, four published papers report how mental health and psychological distress are conceptualised among Omani healthcare workers and the public. Secondly, five publications address occupational burnout, the overlap with depressive symptoms, and psychological distress during the COVID-19 pandemic. Thirdly, three publications focus on burnout moderators among young Omani physicians: personality traits, emotional intelligence, and preparedness for hospital work. The findings revealed that burnout is common among Omani physicians, particularly during residency training. Long working hours and pre-clinical stage predicted burnout in regression analysis. However, the prevalence rates in our setting were lower than those reported in the international literature. Also, the published work highlighted the adverse effects of mental health stigma, prevalent in Oman, on willingness to disclose and seek help for psychological distress. Besides, the results highlighted the relationship between surgical speciality and psychoticism. Also,

emotional intelligence correlated with specific demographic, including the female gender, while Omani physicians who graduated from international medical school endorsed a high level of preparedness for clinical work. Considering the methodological and theoretical limitations of the published work, conducting a prospective mixed-methods study is vital to scrutinise the burnout construct and its discriminant validity from clinical depression while paying attention to the cross-cultural factors. Moreover, future work should investigate factors improving work engagement and mitigating burnout in the Omani healthcare setting. The publications make an original contribution to the knowledge by culturally re-contextualizing burnout research and advancing the literature on occupational burnout via analysis of: (i) the magnitude and correlates of burnout in Omani physicians; (ii) moderating variables such as personality traits, emotional intelligence; and (iii) preparedness for clinical work. From a practical aspect, the published work has informed several initiatives and interventions to promote wellness and mitigate burnout at both the individual and organisational levels in Oman.

## Chapter 1-Introduction

The introductory chapter lays out the contextual ground for the published work. It begins with an overview of the candidate's credentials, training of Omani physicians, and gaps in knowledge and practice which motivated the research. Then, it presents the theoretical positioning of the published work, the literature review of occupational burnout, and the operationalisation of the burnout phenomenon. The chapter ends with critically evaluating the main conceptual approaches and the overlap between depression and burnout.

## Contextualisation

This section describes my training, roles, and credentials pertinent to the current synthesis (see Box.1). Further, it will summarise the training of Omani physicians in general and emphasise the impetus of the published work.

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**BOX.1** *Summary of Candidate's Career and Credentials*

- 2005, Joined Medical School at Sultan Qaboos University (SQU), Oman.
- 2012, Graduated with a Doctor of Medicine (MD) degree.
- 2013, Completed an internship at different hospitals in Oman.
- 2018, Obtained speciality certificate in psychiatry from Oman Medical Specialty Board (OMSB) after five years of training.
- 2020, Became a member of The Royal College of Psychiatrists, UK.
- 2021, Completed a two-year fellowship in Consultation-Liaison Psychiatry at Queen's University, Canada.
- 2021, Appointed as consultation liaison psychiatry lead, SQU hospital.
- 2021, Appointed as a trainer in the (OMSB) psychiatry training program.
- 2022, Appointed as a member of research subcommittee at OMSB psychiatry training program.
- 2022, Appointed as the chairperson of the academic subcommittee at the OMSB psychiatry training program.

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Noteworthy, throughout residency training, fellowship, and membership journey, I have had formal, didactic, and hands-on research training by local and international experts in research and epidemiology. Besides, the opportunity of working under the supervision of and publishing with well-recognized clinicians and scientists in psychology and psychiatry (Al-Alawi et al., 2020; Al Alawi et al., 2018) has cumulatively enriched my; research skills, collaboration, and reflexivity. Here, reflexivity refers to "an awareness that the researcher and the object of study exist in a mutual relationship. Thus, reflexivity calls for attention to how thinking comes to be, how it is shaped by pre-existing knowledge, and how research claims are made" (Whitaker & Atkinson, 2019, p. 2).

Being a consultation-liaison psychiatrist and a trainer in the psychiatry residency program gives me a unique opportunity to get in touch with, train, and supervise the next generation of Omani psychiatrists. Further, these two positions ensure continuous professional development through professional and academic courses, formal and informal peer reviews, conferences, and grand rounds.

Also, throughout the years of training and practice, I have been actively involved in academic and training duties related to physicians' wellbeing, interpersonal skills development, and career counselling. With the above career synopsis mentioned, I share with my colleagues- the Omani physicians- typical training trajectories and challenges described below, along with gaps and needs that motivated the published work.

 In Oman, most physicians go through the career path shown in Figure 1 before becoming consultants in their respected specialities. And as I navigated my career,

stemming from a clinician-scientist viewpoint, I realised that medical professionals were at an elevated risk of developing occupational burnout throughout their training and work stages. Moreover, I have seen and assessed many medical colleagues struggling with occupational burnout, clinical depression, and anxiety at the hospital's staff wellness centre and student's mental health clinic (SQU, 2022).

**Figure 1.**

*Career Path of Omani Physician*

Medical School (6-7 Years)

Internship (1 Year)

Residency Speciality Training (4-6 Years)

Specialist Physician (variable period)

Clinical Fellowship (1-3 Years)
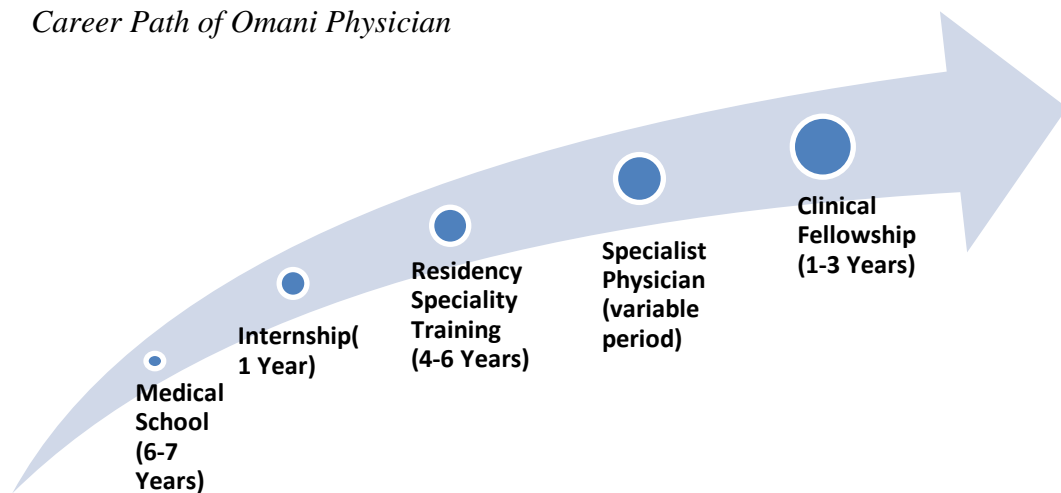
Globally, burnout among doctors is undoubtedly an emerging challenge, impacting healthcare systems, patient care, and patient safety (Rodrigues et al., 2018). Therefore, I appreciate the need to investigate burnout's scale and risk factors. I also realised the necessity to leverage career counselling concerning speciality choice and preparedness for clinical work since many Omani doctors face avoidable burnout and lose years of their careers due to career regret (Dyrbye et al., 2018). However, looking at the current literature in this field, research covering psychological health, occupational burnout, and determinants of mental wellbeing stems mainly from Western, Educated, Industrialised, Rich, and Democratic cultures (Rad et al., 2018).

Being consistently aware of the above and given the lack of research work exploring

this in Oman (Chemali et al., 2019), I have led and been involved in research projects,

along with my colleagues, addressing these gaps in the occupational psychology

literature within which the published work is situated.

**Theoretical Positioning of the Published Work**

The published work is located within and contributes to the research in

occupational psychology in the broad field of wellbeing and work (BPS, 2019), with

a particular focus on stress, health, and wellbeing. This provides the context for the

commentary as a broad-based, critical, and scientific understanding of both positive

and negative aspects of workplace wellbeing and the investigation of individual and

organisational factors (BPS, 2019). While the submitted work could be viewed as

interdisciplinary (mental health, sociology, occupational psychology, medical

education), it is primarily positioned in occupational psychology due to its broader

scope and relevance.

Although discussing the nuances of the terminology describing occupational

psychology is out of the scope of this commentary, it would be helpful to highlight

that the name occupational psychology- which I will employ throughout the

commentary- is what's been used in the United Kingdom. In contrast, industrial and

organisational psychology has been the official description of the speciality in the

United States. Whereas in Europe, it is common to use the term work or work and

organisational psychology (Carruthers, 2000). Other names include business

psychology, organisational psychology, and industrial psychology (Carruthers, 2000).

Noteworthy, the variability in the terminologies partly reflects the breadth of: (i) occupational psychology, as a discipline that draws insights from other branches of psychology, and (ii) related literature (Rudolph et al., 2021). Next, the following section discusses the complex and rapidly evolving literature pertinent to physician burnout.

**Background and Literature Review**

This section examines the literature on physician occupational burnout with a primary focus on the: impacts, prevalence, and causes. Further, it discusses the definition and operationalisation of the burnout phenomenon while highlighting the main literature gaps.

The occupational psychology literature is replete with burnout investigations related to magnitude, correlates, individual and organisational impacts, and mitigative interventions (Aydemir & Icelli, 2013; Bianchi et al., 2020; Canu et al., 2021; De Simone et al., 2021; Hillert et al., 2020; van der Wal et al., 2018). At the organisational level, occupational burnout leads to a lack of commitment, suboptimal patient care and withdrawal from work (Hamidi et al., 2018; Hodkinson et al., 2022). The withdrawal process sometimes includes reactions such as increased tardiness, absenteeism, decreased work performance and career disengagement (Hodkinson et al., 2022; Riggio & Porter, 2003). At an individual level, burnout has been associated with detrimental effects on physical, psychological, financial, and familial aspects (Hamidi et al., 2018; Peasley et al., 2020). Healthcare organisations experience profound consequences from workforce burnout (Sharifi et al., 2021). Moreover,

work-related burnout can spill over into an individual's personal life. Unlike other industries, where dissatisfied workers can often get relief by switching jobs or employers, the challenging nature of healthcare systems makes it difficult for physicians to leave. This is due to: (i) the costs and time associated with having to become accredited and licensed again; (ii) the emotional and financial capital characterising physicians' relationships with their clients; and (iii) the significant investment in education and training render changing careers arduous (Chemali et al., 2019).

It is well acknowledged that the medical profession is a high-risk occupation associated with burnout (Riggio & Porter, 2003). Substantial evidence also indicates high rates of burnout among healthcare professionals across various phases of their careers (Erschens et al., 2019; Naji et al., 2021; Prentice et al., 2020). However, there is a noticeable variation in the prevalence of burnout across these studies. The heterogeneity in the prevalence of burnout among healthcare professionals arose partly from the controversy surrounding the construct validity and reliability of burnout case definition across time, specialities, and cultural contexts (Rodrigues et al., 2018). For instance, a search of the major databases, including Medline, ERIC, Ovid, Embase, PsycINFO, and Cochrane Database of Systematic Reviews, from 1980 until October 2021 revealed that rates of burnout among medical students, residents, and physicians ranged between 5-80% (De Simone et al., 2021; Doraiswamy et al., 2021; Kesarwani et al., 2020). This relates to the typology of burnout research over the past five decades in which the majority of the studies investigated the prevalence and associated factors. In contrast, the minority attempted to scrutinise the concept's

psychological and physiological symptomatology, psychometric dimensions, and

biomarkers (Heinemann & Heinemann, 2017).

Regarding correlates of burnout, several individual and work-related factors

were found to be consistently associated with burnout, including surgical specialities,

female gender, younger age, previous mental health difficulties, increased workload,

on-call shifts, and the unpredictable nature of trainee's responsibilities (Panagioti et

al., 2017; Zhou et al., 2020). Specifically, several organisational factors could lead to

stress and, eventually, burnout. These include crowded and noisy working spaces, job

insecurity, poor interpersonal relationships, and exhausting working shifts (Steptoe-

Warren, 2013). Also, poor communication within the organisation, unclear

organisational objectives, lack of career development, role conflict and ambiguity,

and job inflexibility contribute to burnout occurrence (Zhou et al., 2020).

 However, most studies did not sufficiently consider workplace variables associated

with burnout; therefore, future studies need to assess and report on all the critical

factors, such as cultural considerations. Notably, the literature on occupational

burnout in the medical profession has predominantly come from western populations,

with a sparse contribution from eastern countries (Chemali et al., 2019; Gelfand et al.,

2017). To that end, the Journal of Applied Psychology, on its anniversary in 2017,

published a paper on how cross-cultural occupational psychology has evolved over

100 years. This seminal paper acknowledged that while significant evolution of cross-

cultural occupational psychology literature has occurred, there is a gap and lack of

contribution from the Arabic culture (Elbarazi et al., 2017; Gelfand et al., 2017). In

sum, considering the ubiquitous and detrimental nature of burnout and the

heterogeneity in prevalence rates, one could argue for the need for a cross-cultural contribution that aids in understanding this phenomenon among physicians worldwide. In line with this, defining and operationalising the burnout construct has been a challenging task that the following sub-section will review.

**Definition and Operationalization of Burnout**

The absence of a consensual definition of occupational burnout makes a reliable investigation into the magnitude of the problem challenging. Therefore, the Network on the Coordination and Harmonization of European Occupational Cohort sought to define occupational burnout, with the central aim of harmonising the definition of occupational burnout as a health outcome in medical research (Canu et al., 2021). Following a rigorous systematic review and semantic analysis, the consensually approved definition was "in a worker, occupational burnout or occupational physical AND emotional exhaustion state is an exhaustion due to prolonged exposure to work-related problems"(Canu et al., 2021, p.11). While the task force followed a thorough methodological rigour, several caveats could be highlighted. First, the review excluded grey literature and cross-sectional studies, which may provide cross-societal and cultural insights into the definition. Second, there was a selection bias in the task force, which did not include experts outside Europe and America. Furthermore, the nature of work is not specified in the definition. Burnout was equated with a combination of emotional and physical exhaustion; however, this assertion invokes the following questions:
 -what about the other kinds of exhaustion?

- and what specifically is emotional exhaustion?

-how to differentiate it from mental exhaustion?

- does exhaustion caused by long-term exposure to work-related difficulties include cognitive exhaustion? which frequently manifests as typical burnout symptoms like impaired concentration and muddled thinking. Unfortunately, these questions remain unanswered. In brief, the exact nature of exhaustion and the domain in which it reveals itself remains unclear. Additionally, the definition of burnout in this context lacks a proper theoretical framework.

Taken together, the burnout conceptual conundrum has not yet been fully resolved. Nevertheless, over the last four decades, several occupational burnout assessment measures were developed, reflecting the heterogeneous conceptualisations and lack of consensus on the definitions of burnout, as well as the caveats of the initial measures. Eight out of twelve available scales are considered valid for assessing occupational burnout (O'Connor et al., 2018). These include the Maslach Burnout Inventory (MBI) (Maslach et al., 1981), the Copenhagen Burnout Inventory (CBI) (Kristensen et al., 2005), the Oldenburg Burnout Inventory (OLBI) (Demerouti et al., 2001), the Occupational Social Context (OCS) (Glisson et al., 2008), the Professional Quality of Life Measure (ProQOL) (Stamm, 2010), the Psychologist Burnout Inventory (PBI) (Ackerley et al., 1988), the Pines' Burnout Measure (BM) (Malakh-Pines et al., 1981), and the Children Services Survey (CSS) (Glisson & Hemmelgarn, 1998). The CBI, MBI, OLBI, BM, and PBI have mostly been studied and showed variable psychometric properties and cross-cultural validity, see Tables 1 &2.

**Table 1**
*Description of Burnout Scales*

| | Maslach Burnout Inventory | Burnout Measure | Psychologist Burnout Inventory | OLdenburg Burnout Inventory | Copenhagen Burnout Inventory |
|---|---|---|---|---|---|
| The primary Author and Year of Publication | C. Maslach, 1981 | A. Pines, 1981 | G. D. Ackerley, 1988 | E. Demerouti, 1999 | T.S. Kristensen, 2005 |
| Country and Original language | United States of America, English | United States of America, English | United States of America, English | Germany, German | Denmark, Danish |
| The initially studied Population | Workers with a regular contact with other people | General Population | Psychologists | General Population | Population Working in Human Service |
| Subscales/ factors | Emotional Exhaustion, Depersonalisation, Personal accomplishment | Physical Exhaustion, Emotional Exhaustion, Mental Exhaustion | Control, Support, Negative Clientele, Over Involvement | Exhaustion, Disengagement | Personal Burnout, Work-related Burnout, Client-Related Burnout |

**Table 2**

*Systematic Review of Psychometric Properties for Five Burnout scales According to Consensus-based Standards for the selection of health Measurement Instruments (COSMIN)[a]*

| COSMIN psychometric properties | Maslach Burnout Inventory | | Burnout Measure | | Psychologists Burnout Inventory | | OLdenburg Burnout Inventory | | Copenhagen Burnout Inventory | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Overall rating[b] | Quality of evidence[c] | Overall rating | Quality of evidence | Overall rating | Quality of evidence | Overall rating | Quality of evidence | Overall rating | Quality of evidence |
| Content validity | ± | Very low | – | Very low | – | Very low | + | Moderate/Low | + | Moderate |
| Structural validity | + | Moderate | – | Very low | + | Moderate | + | Moderate/Low | – | Very low |
| Internal consistency | + | High | + | Moderate | – | Very low | + | Moderate | + | Moderate |
| Reliability | – | Very low | + | Moderate | – | Very low | – | Very low | – | Very low |
| Measurement error | – | Very low | – | Very low | – | Very low | – | Very low | – | Very low |
| Criterion validity | – | Very low | – | Very low | – | Very low | – | Very low | – | Very low |
| Construct validity | – | Very low | – | Very low | – | Very low | + | Moderate/Low | + | Moderate |
| Responsiveness | – | Very low | – | Very low | – | Very low | – | Very low | – | Very low |

Note. From "Psychometric properties of burnout measures: A systematic review." by Shoman, Y., et al. (2021). *Epidemiology and Psychiatric Sciences, 30*, E8 (doi:10.1017/S2045796020001134). Copyright 2021 by Cambridge University Press.

[a]COSMIN is an initiative of an international multidisciplinary group of scholars with expertise in qualitative research, psychometrics, epidemiology, and health care aimed at evaluating and ensuring the methodological quality of psychometric studies.

[b] Sufficient psychometric assessment, +, insufficient psychometric assessment, -, inconsistent psychometric assessment, ±.

[c] According to the Grading of Recommendations Assessment, Development and Evaluation (GRAD) (Guyatt et al., 2008), there are four levels for the quality of evidence: very low, low, moderate, and high. The GRAD assesses the risk of bias, consistency, directness, and precision of studies of each scale.

The MBI has been the most frequently used measure of occupational burnout in general and healthcare professional research (Canu et al., 2021). Emotional exhaustion is often represented as the core symptom of burnout syndrome in the MBI, but also of depression. And the depersonalisation subscale represents the core of the burnout construct (Büssing & Glaser, 2000). Additionally, scholars argued that the other two subscales of the MBI, depersonalisation and personal accomplishment, should not be defining elements of occupational burnout (Kristensen et al., 2005). Another limitation related to the internal validity is the inconsistency in the subscale(s) cut-off scores, determining the case-ness of occupational burnout. This caveat could partly explain the noticeable difference in the rate of occupational burnout prevalence reported by healthcare literature globally. Despite its limitations, some researchers have considered the MBI the gold standard measure of occupational burnout (Shoman et al., 2021), which justifies its use as a measure of burnout in my published work.

In total, several burnout assessment scales have been developed with variable psychometric properties, subscales, and limitations, and which draw upon several interrelated conceptual frameworks. These will be reviewed in the next section.

**Review and Critical Evaluation of the Core Theoretical Approaches**

This section enumerates the origins of the burnout construct and the major theoretical frameworks while weaving a critical account. It also discusses the main conceptual and clinical debates, especially the overlap between burnout and depression. The section ends with reflections and future directions.

*Construct's Origin*

In the 1970s, the concept of burnout was introduced to the occupational psychology literature by Freudenberger (1989). Earlier, Freudenberger (1974) observed his own burnout syndrome while working in the free clinic movement. He utilised the dictionary's definition for burnout: "to fail, wear out, or become exhausted by making excessive demands on energy, strength, or resources" (1974, p.159). He also highlighted various somatic, psychological, and behavioural manifestations of burnout and suggested ways to ameliorate them, including reducing workload and limiting working time to nine hours. Nonetheless, examining Freudenberger's definition phenomenologically and psychometrically reveals significant commonality with other psychological constructs such as depression and anxiety (Bianchi et al., 2018).

*Pioneering and Empirical Phases of Burnout Construct Research*

Stemming from Freudenberger's work, the term spread to other healthcare and social service fields. During the early examinations of the phenomenon, Maslach noted that social service workers used the term burnout to describe job-driven

psychological difficulties (Maslach, 1978). What also emerged from Maslach's initial exploratory work were three basic dimensions of the burnout experience:

- an overwhelming feeling of exhaustion

- feelings of cynicism and detachment from the job

- a sense of ineffectiveness and lack of accomplishment

Since then, various theoretical frameworks have been put forward to explain the development of burnout. The earliest models took a sequential approach on the assumption that there was an underlying set of stages to develop burnout. The sequential conceptualisation of burnout stages emerged from exploratory qualitative interviews with human service workers in the late 1970s (Maslach & Schaufeli, 2018). First, workers experience an ever-growing and demanding workload, which drains emotional resources leading to emotional exhaustion. To cope with overload, they begin to detach themselves from their work, develop negative reactions to the job and treat people in callous and cynical ways –depersonalisation. If the situation persists, the person begins questioning their ability to do the job and experiences feelings of inadequacy and reduced personal accomplishment. The underlying assumption in this sequential process model is that the occurrence of one dimension precipitates the development of subsequent ones. The link between the first two dimensions has received more empirical support than the link between the second and third. Further, the empirical support for the above theoretical framework came from research that relies primarily on cross-sectional studies and statistical causal modelling; nonetheless, some longitudinal studies have provided empirical evidence

for the sequential model of burnout (Cooper & Quick, 2017; Leiter et al., 2014).

Conversely, recent prospective data did not support the above sequential evolution of occupational burnout and suggested a complex, bidirectional and dynamic interaction between occupational stress and symptoms of burnout (Guthier et al., 2020; Vammen et al., 2019).

Subsequent burnout models were predicated on theories about job stress and imbalances that result in burnout eventually (Maslach & Schaufeli, 2018). The first of these models was the transactional one, which functioned as the conceptual bridge that linked sequential stages and imbalances. The three stages in this model are a) the emergence of job stressors in the form of an imbalance between work demands and personal resources, b) individual strain (an emotional response of exhaustion and sense of anxiety), and c) defensive coping (changes in attitudes and behaviour, such as greater cynicism) (Cherniss & Cherniss 1980). Nonetheless, few studies have provided empirical support for this transactional model (Burke et al., 1984; Maslach & Schaufeli, 2018; Schaufeli & Enzmann, 1998).

**Conceptual Frameworks**

*Job-Person Misfit Model*

Building on the Person-Environment Fit model (French, 1974; French Jr, 1973), Leiter and Maslach revisited theoretical models and empirical evidence focusing on job stress and burnout to primarily decipher organisation's related factors predicting burnout through the Job-Person Misfit model (Leiter & Maslach, 1999). This theory was based on integrating both individual and environmental factors. It

relates the individuals with six job environment domains: 1) workload, 2) control, 3) reward, 4) community, 5) fairness, and 6) values. These six dimensions are assessed with the Areas of Work-life scale. When there is a mismatch between the person with some or all of these six domains, burnout will manifest (Maslach et al., 2001). However, the number of areas that should be affected before burnout ensues is unclear. Yet, one could think of several mediators and moderators contributing to or buffering against the mismatch, such as an individual's personality traits, value system and resilience. For instance, reflecting on the domain of control from a future physician's perspective, being well prepared for clinical work improves the sense of control and potentially buffers against burnout. Certainly, capitalising on these domains in healthcare organisations is key where stress is inevitable.

### *Job Demand-Resources Model*

Concerning the next model, which drew upon Maslach's conceptualisation and Lee et al. systematic review related to predictors of burnout (Lee & Ashforth, 1996), Bakker and Demerouti developed the Job Demand-Resources (JD-R) Model in 2006. The JD-R aimed to understand the occupational burnout process (Bakker & Demerouti, 2007). The JD-R model states that when job demands are high, and job resources are low, stress and burnout are common. Conversely, a resourceful job can offset the effects of extreme job demands and encourage motivation and engagement. Within this model, several factors may represent viable resources for healthcare workers, such as social cohesiveness, psychological safety, colleague support, and the individual level of emotional intelligence (Tesi, 2021). However, despite being

widely employed and empirically studied, this model does not elaborate on the specific psychological and physiological mechanisms of burnout. Besides, the distinction between job demands and resources is not clear-cut in that lack of recourses can become a job demand. Finally, the JD-R model is limited because it did not sufficiently incorporate personal factors.

*Demand-Control Theory*

Related to the JD-R model is the demand-control, interactional, theory of work stress (De Jonge et al., 1999; Karasek, 1979). This theory emphasises two critical parameters: job demands and job decision latitude (room to manoeuvre and autonomy at work). According to this model, a high-strain job is a consequence of high demands and a low decision latitude (Karasek, 1979). The model received relatively limited empirical support due to several theoretical and methodological limitations. These include disregarding personal differences in coping and vulnerability and overlooking major debates on the organisational power structure (De Jonge et al., 1999).

*Effort-Reward Imbalance Model*

Lastly, the effort-reward imbalance (ERI) model is another interactional model of work stress (Siegrist et al., 1986). The ERI model emphasises the importance of the reciprocity between occupational efforts/demands and rewards/gains (Siegrist, 2017). According to the (ERI) model, high effort and low reward conditions cause occupational stress (Siegrist, 2002). And overcommitment trait moderates the relationship between the imbalance and stress (van Vegchel et al.,

2005). The ERI models predicted several health outcomes, including the risk of coronary heart disease (Siegrist et al., 1986). The model, however, did not receive consistent empirical support (van Vegchel et al., 2005). Also, it has received little attention in the context of the work-life nexus (Kinman & Jones, 2008; Navabi & Pourmiri, 2021).

Noteworthy, the ERI model overlaps other models including areas of work-life, job demand and control, and job demand and resources (Mo et al., 2022).  For instance, ERI and JD-R models emphasise the importance of balancing effort/demand with resources, which include various forms of reward.

Altogether, the above-mentioned theoretical frameworks, despite their limitations, indicated the complex and multifaceted nature of burnout phenomena. These theoretical frameworks provided the foundation for the published work. Moving forward, detailing what constitutes personal and organisational resources is key to disentangling the aetiology of the phenomenon.

### Personal Factors Associated with Occupational Burnout

Several researchers have approached the aetiology of burnout by looking at personal and environmental factors. Aydemir & Icelli (2013) listed various risk factors associated with burnout. They defined risk factors as "internal or external causes that increase an individual's chance of developing a disease". They divided risk factors into two: 1) environmental risk factors, such as work-related variables, and 2) individual risk factors, including personality traits and emotional intelligence (Aydemir & Icelli, 2013). Various demographic variables have also been associated

with burnout, including female gender, age, workload, speciality, marital status, living situation, and career level (Garrosa, 2006; Nassar, 2014). Nevertheless, the caveat of looking at these risk factors associated with burnout individually might be oversimplifying a complex phenomenon. Hence, to maximise the predictive utility of these factors to diagnose and manage burnout, I would argue for the importance of nesting these risk factors within their contexts and viewing them in a matrix through the lenses of the existing theoretical frameworks.

**Summary of Conceptualization and Validity Debates**

Although addressing unresolvable job-related burnout is a fundamental predicament for occupational psychologists, relying on the current burnout constructs to achieve this task might be challenging. There are four highly debated issues related to burnout, and these issues are:

-(a) what constitutes a case of burnout remains unclear and contested,

-(b) the basic conceptualisation and operationalisation of burnout are ill-aligned,

-(c) burnout is unlikely to be the specifically job-induced syndrome that it has been posited to be,

-and (d) the discriminant validity of the burnout construct has not been established, especially when depressive illness emerges.

Furthermore, several theoretical models of burnout could not be substantiated empirically alongside the dearth of studies examining the utility of the concept in the

clinical and societal realms (Demerouti et al., 2021). Hence, the following subsection

explores the debate regarding clinical depression and burnout overlap.

**Burnout and Depression Overlap**

Moving to another vital discourse, researchers, including occupational

psychologists and psychiatrists, have debated whether burnout and depression are

orthogonal constructs for several decades (Verkuilen et al., 2021).

*Evidence For the One Construct Argument*

This contested issue is driven partly by their overlapping features (e.g., loss of

pleasure and poor concentration), the heterogeneity of depression, and the lack of

discriminant validity of the burnout construct (Bianchi et al., 2018; Bianchi et al.,

2016). Many studies in this area failed to separate the two constructs using factor

analysis and showed that burnout lacks syndromic unity at the statistical level

(Bianchi et al., 2020; Rotenstein et al., 2020). These studies found emotional

exhaustion, the main phenomenological manifestation of burnout, to be more

correlated with depression than other burnout subscales. Despite using robust

statistical analysis, the main empirical caveat, from my perspective, is that these

studies rely mainly on the patient health questionnaire-9 (PHQ-9) to define

depression, and this is problematic given its variable psychometric characteristics

(Verkuilen et al., 2021). Some authors have supported the notion of a bi-directional

relationship (Guthier et al., 2020; Vammen et al., 2019), while Bianchi et al. (2021)

ascertain that both are the same construct, with burnout being a presenting symptom

of depression. The claim that burnout may represent a phase in the course of a depressive disorder reduces depression to its clinical picture only.

### *Evidence For the Two Constructs Argument*

Axiomatically speaking, the above perspectives presuppose that we know/agree upon what clinical depression is, albeit this assumption could be challenged from a clinician's point of view. Clinical and scientific evidence suggests that a DSM-based diagnosis of major depressive disorder is, disconcertingly, unreliable, and invalid (Stoyanov & Maes, 2021). Conversely, a recent systematic review concluded that, although burnout and clinical depression are highly correlated, they represent distinct conditions (Koutsimani et al., 2019). Nonetheless, the studies included in the reviews were primarily cross-sectional; however, a cohort design is required to ascertain temporal causality. Also, studies using biomarkers would aid in drawing such distinctions. Indeed, preliminary evidence focusing on genetics, and biomarkers of burnout supports the orthogonality of the two conditions (Bakusic et al., 2020). Hence, the next steps may consider designing a prospective study using a clinical assessment for depression in those with significant occupational burnout to establish (a) robust psychometric properties of burnout assessment tools and (b) investigate the clinical relevance of assessing such a phenomenon. It is also essential to examine societal aspects, given that many burnout studies found extremely high prevalence rates and that burnout is widely discussed in many industrialised countries.

*My Clinical Reflections*

As a psychiatrist who has assessed individuals with clinical depression and occupational burnout, and has experienced burnout, I could argue that burnout is different from clinical depression from diagnostic and management standpoints. I have seen burnout as a contributing factor for, and one of the consequences of a depressive illness, but both conditions can also be mutually exclusive. Symptoms such as anhedonia, general hopelessness, guilt, impairment of social and personal functions and suicidal thoughts are experienced mainly by individuals with depression, not occupational burnout (Oquendo et al., 2019). Furthermore, a depressed person is more likely to have a family history of mood disorders than an individual with burnout. From a management standpoint, burnout symptoms usually improve once occupational challenges are resolved. However, for people suffering from clinical depression, it usually takes more than an occupational modification. Therefore, I would suggest that efforts should not only be focused on whether to medicalise burnout; instead, they should strive to understand its personal meaning and the context in which this phenomenon emerges. Furthermore, even mental disorders with established diagnostic criteria, such as depression and anxiety, are debated to date and have shown low interrater reliability and questionable diagnostic validity (Lieblich et al., 2015). As such, we may benefit more from agreeing that this phenomenon signals underlying dysfunctions at the occupational and personal levels, and, pragmatically, this is what matters when providing a needed intervention.

**Conclusion and Summary**

   To summarise, this introductory chapter sought to contextualise the published work comprehensively. It began with an overview of the candidate's journey and then discussed the origins of the published work and its location within occupational psychology. After that, occupational burnout literature, operationalisation of the burnout phenomenon, and core conceptual approaches were reviewed. The literature indicates the omnipresent and detrimental nature of occupational burnout among physicians and healthcare systems. Besides, the main themes that emerged from examining the literature are the lack of cross-cultural contributions, heterogeneity of burnout prevalence, multifactorial aetiology, debated construct validity of occupational burnout and inter-related conceptualisations. The chapter ended with the discourse on burnout and depression overlap-yet to be disentangled- and future directions. Next, the following chapter discusses the published work's epistemological foundations and research question, as well as the relevance of the scientist-practitioner model to the current synthesis.

**Chapter 2-Epistemological Position, Research Question and The Scientist–**

**Practitioner Model**

This chapter briefly outlines the ontological and epistemological bases of the published work. Then, it moves to lay out the overriding research question and discusses the importance of the scientist-practitioner model. Finally, the chapter presents the critical appraisal tools which will be used to evaluate the published work in the following chapters.

**Epistemological Position and Research Question**

The published work is based on an empirical quantitative methodology. This paradigm builds on a modified objectivist epistemology and critical realism ontological assumptions. At its core, critical realism maintains a view that the world is real and is affected by processes that may manifest differently according to the context (Ellaway et al., 2020). Epistemologically, the modified objectivist ethos pursues the truth while appreciating the difficulty of encapsulating it and attaining total objectivity (Bhaskar, 2020; McMurtry, 2020). However, whilst it attempts to circumvent positivist epistemological shortcomings, the modified objectivist approach still suffers from the debated axioms of objectivism: (i) objective external reality, (ii)the subject-object distinction, (iii)and value-free social science. On the other hand, I recently began to realise the relevance of constructivist epistemology in psychiatric science and practice. A good example is the co-construction of certain psychiatric diagnoses and disputed labels, such as orthorexia nervosa (Fixen & Cheshire. 2022, pp. 147-170). The historical development of psychiatric diagnoses

demonstrated unequivocally that each historical period creates its own psychiatric object of inquiry based on social, moral, financial, and aesthetic standards (Marková & Berrios. 2016).

That said, examining the scope and risk factors of a psychological construct such as burnout requires a careful inquiry across societies, cultures, and geography. Hence, the overarching research question of the published work was:

- what is the magnitude of and the contributing factors for occupational burnout among medical doctors across different stages of their career in Oman.

To answer this central question, the published work focused on the investigation of five interrelated objectives:

1. Evaluate the attitude towards psychological health and illness in the context of the Arabic and Omani culture among healthcare trainees compared to public perception.

2. Assess the prevalence and correlates of burnout and depression among medical students and physicians in Oman.

3. Decipher the relationship between emotional intelligence and burnout among medical trainees in Oman.

4. Explore the role of personality traits on speciality choices among medical residents in Oman.

5. Assess the perception of preparedness for clinical work among medical trainees.

Conceivably, achieving the published work objectives is relevant to the agenda of a scientist-practitioner (S-P) within occupational psychology. Hence, the next section will highlight the convergence between the S-P model in occupational psychology and the clinician-scientist paradigm in psychiatry.

**The Scientist–Practitioner Model**

Particularly, the published work fits within the scientist–practitioner approach in the field of occupational psychology concerning the health, stress, and wellbeing of the human resources of the healthcare system (Shoenfelt et al., 2020). Notably, the scientist-practitioner model in occupational psychology has a significant resonance/synergy with the clinician-scientist approach in psychiatry. Both emphasise the necessity of bridging the gap between science and practice using a systematic scientific investigation (Noble et al., 2020). Additionally, providing holistic psychiatric care requires a clinical and theoretical understanding of the bi-directional relationship between one's mental health and occupation (Greenberg et al., 2022). Besides, as a researcher and practising psychiatrist, I commit to promoting evidence-based practice, continuous professional development, and critical inquiry and appraisal as foundations for advancing the fields.

**Critical Appraisal Tools**

In the following chapters, the published work will be discussed and critically appraised according to the principles of "the Strengthening the Reporting of Observational Studies in Epidemiology" (STROBE) guidelines (Aghazadeh-Attari et

al., 2018; Von Elm et al., 2007) and Critical Appraisal Skills Program (Critical Appraisal Skills, 2021) (see Box.2).

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**BOX.2** *Key Critical Appraisal Questions According to STROBE and CASP*

- **Introduction and Background:** Did the study explain the scientific background and rationale for the investigation being reported?
- **Objectives:** Did the study state specific objectives, including any prespecified hypotheses? and are these objectives **S**pecific, **M**easurable, **A**ttainable, **R**elevant and **T**ime-bound (SMART)?
- **Methods:** Did the study state the design, setting, participants, sample size estimation, sampling approach, data collection process, outcome measures, the validity and reliability of the outcome measure, and the statistical analysis? was the study design appropriate? did the study discuss
  ethical considerations?
- **Variables:** Did the study Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers? give diagnostic criteria, if applicable.
- **Bias:** Did the study state the sources of bias and confounding and how to address them?
- **Results:** How precise the results were? were all outcomes of interest reported? are the confidence intervals reported? were the results generalisable?
- **Interpretation and Implication:** How critically the findings were discussed in relation to the existing evidence? what were the limitation and future directions? did the study provide any contribution to knowledge and practice?

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## Conclusion and Summary

In brief, the current chapter describes the underlying philosophical stance of the research paradigm guiding the published work. Also, it stated the central research question about occupational burnout among Omani physicians and elaborated on the S-P model's relevance to the synthesis. In the end, this chapter presented the tools

and principles based on which the publications are critically reviewed in the coming

chapters.

**Chapter 3-Perception and Attitude Towards Psychological Illnesses Through**

**Omani Socio-Cultural Lens**

Despite the conceptual and empirical debates, it is possible to agree that occupational burnout has psychological origins and manifestations. Hence, based on a bottom-up approach, it is imperative to decipher how psychological health and ailments are perceived in a given society before examining occupational burnout rate and determinants. Such an effort is critical to understanding occupational burnout's experience and expression by physicians. Therefore, this chapter discusses the contributions of four submitted papers focusing on Omani physicians' perceptions and attitudes toward psychological health and illnesses- see Table 3. The physician's perception of mental health will be examined within the broader conception of Omani society. The chapter includes the following sections: rationale and objectives, methods, and discussion of the main results. It ends by highlighting the cardinal conclusions, limitations, and future directions.

**Table 3**

*Overview of Publications Discussed in Chapter Three*

| | Title | Aim | Setting | Participants and Sample Size | Independent Variables | Outcome Measure | Results |
|---|---|---|---|---|---|---|---|
| (Al-Alawi et al., 2017a) | Public perception of mental illness in Oman | Exploring the attitudes of Omani people toward people with mental illnesses (PWMI) | All Regions of Oman | The public, 601participants | Age, gender, occupation, rural vs urban living, contact with PWMI | The Attitude toward Mental Illness Questionnaire | Urban vs rural living and previous encounters with PWMI significantly correlate with attitudes. |
| (Al Alawi et al., 2016) | Perception of Stigma among Attendees of Tertiary Care Psychiatric Clinic in Oman | Examine the level of perceived stigma experienced by people with mental illnesses | Out-patient clinic | People with mental illnesses attending the clinic, 197 participants | Age, gender, level of education, employment, and marital status. Clinical diagnosis | The modified version of the 42 patients' stigma scale | Participants are afraid of disclosure and experienced more discrimination than the positive aspects |
| (Qubtan et al., 2015) | The attitude of Medical Students at Sultan Qaboos University toward Psychiatry | Assess the attitude of medical students at Sultan Qaboos University (SQU) toward Psychiatry | Medical School at SQU | Medical Students at SQU, 269 participants | Gender, clinical level, completion of psychiatry rotation, contact with PWMI | The 30 items Attitude toward Psychiatry survey | Medical students have a positive attitude toward psychiatry, BUT it was not favoured as a future career. |
| (Al-Mashrafi et al., 2020) | Determinants Affecting the Perception of Mental Health Problems among Residents at Oman Medical Specialty Board (OMSB) | Decipher the factors associated with the perception towards mental health problems | Oman Medical Specialty Board | Residents in training at OMSB, 170 participants | Age, gender, speciality, level of training, history of mental illness, contact with PWMI | Attitude towards mental health problems (ATMHP) questionnaire | Gender and contact with a person with mental illness were significant variables affecting the resident's perception. |

**Rationale and Objectives**

      The conceptualisation of psychological health and illness is best viewed through the socio-cultural lens and the underlying philosophy of the time. Such conceptions shape the attitude towards, and stigma related to psychological complaints. Moreover, according to a systematic review, attitude and stigma are vital determinants of help-seeking for psychological distress and burnout among health professionals (Clement et al., 2015). Also, substantial evidence suggests that occupational burnout is viewed as a stigmatised condition akin to mental disorders (Bianchi et al., 2016; Solmi et al., 2020). Therefore, in a society such as Oman, where stigma toward psychological distress is prevailing (Al-Alawi, et al., 2017a), occupational burnout would be perceived as a stigmatised condition. And this could lead to help-seeking hesitancy among sufferers. Moreover, we could also anticipate the under-reporting of such a phenomenon among Omani healthcare professionals. Hence, this may partly explain the difference in the prevalence rates of occupational burnout between Omani and Euro-American studies (Clement et al., 2015).

The published work addressed here builds on the theoretical and conceptual frameworks in Chapter 1 as well as modified labelling theory, social-cognitive theory, "what matters the most" theory, and public stigma theory (Angermeyer & Dietrich, 2006; Corrigan & Watson, 2002; Erikson, 1994; Goffman, 2009; Scott, 2017; Weller & Grunes, 1988; Yang et al., 2007). Based on the insights from the above theoretical approaches and relevant literature, the publications deciphered the impact of several factors on the perception of and attitude towards mental illness (Al-Alawi, et al., 2017a). These factors include urban-rural dichotomy, gender, age, private versus

public sectors, and social contact with individuals suffering from mental disorders. In addition, the research examined the level of perceived self-stigma and self-disclosure about psychological distress among people attending mental health clinics (Al Alawi et al., 2016). Finally, among medical students and residents in training, it was relevant to investigate how future doctors and potential psychiatrists would perceive this speciality and relate to those affected by mental disorders (Al-Mashrafi et al., 2020; Qubtan et al., 2015). In total, these objectives attempt to capture physicians' multidimensional perspectives of psychological health and illness. Consequently, this could affect how occupational burnout is experienced and communicated. Furthermore, based on the JD-R model, societal mental health literacy is a pivotal resource enabling help-seeking behaviours and recovery from burnout (Bakker & de Vries, 2020).

**Methods**

Overall, the publications were based on cross-sectional and quantitative analysis. The studies included mixed random and convenient sampling approaches of the public, medical students, patients suffering from mental illnesses, and medical residents. Each of these sampling methods has its advantages and disadvantages, as elaborated elsewhere (Etikan & Bala, 2017). For example, the convenient sampling approach may threaten the external validity of the results due to selection bias. Regarding assessment measures used to gauge the attitude toward mental illness and stigma, face validity, and internal reliability were assessed in most publications but not construct validity. The lack of construct validation casts suspicion on the study results (Shoman et al., 2021).

Regression analysis was conducted to determine the independent predictors of favourable and unfavourable attitudes toward people with mental disorders and stigma. Noteworthy, in multivariate inferential statistics, the regression model is considered a reliable tool to test the effect of independent factor(s) on a dependent variable. However, its output could be misleading, especially in the case of unmet regression model assumptions and odds ratios related to the misestimation of effect sizes (Chukhrova & Johannssen, 2019; Uanhoro et al., 2021).

Considering research ethics, all publications, including those in chapters 4 and 5, stated that they followed the Helsinki Declaration-Ethical Principles of Medical Research, which is detailed elsewhere (World Medical Association, 2013).

**Discussion of the Main Results**

This section begins by exploring the results of public and then patient attitudes. Afterwards, the discussion navigates the results of publications exploring the attitude of medical students and residents in training.

*Public' Attitude and Perception*

Looking at the findings, the four studies have shown that stigma toward: (i)mental illness, (ii)people with mental disorders and (iii)psychiatry is rife in Omani society and among physicians. Regarding public attitude, the urban-rural dichotomy correlated with the attitude toward mental illness, where people from rural areas seem to have a less favourable attitude (Al-Alawi et al., 2017a). This finding could be due to the widespread belief in supernatural forces causing psychological distress and mental health illiteracy in the rural part of Oman (AL-Sawafi et al., 2021). Further,

until the last three decades, most Omanis lived in rural regions; however, recent affluence has triggered urbanisation. Urban areas may have an amalgamation of different spheres of life and people of different ethnic and racial backgrounds. Therefore, it is conceivable that Omanis in an urban setting have learned to be tolerant to and accepting of those who are different, including those with mental illness. This finding may extend the theoretical models of stigma by proposing a more complex interaction between culture and geography, within the same society, in shaping the perception of mental illness.

Additionally, the younger age group, 20-30 years, tends to harbour less favourable attitudes towards people with mental illnesses. Although the trend was insignificant statistically, it is worth noting. Such endorsement differs from the studies reported from the Euro-American populations (Jorm & Oh, 2009), where negative attitudes toward the mentally ill increased with age. Building on the "what matters the most" theory of stigma (Yang et al., 2007), this finding may be explained by the paradoxical effect of the self-focus trend among the young in Oman, given the socio-demographic transition in the recent two decades (Al-Sinawi et al., 2012). For instance, living with an individual experiencing mental illness could be perceived as time, attention and resource-draining, therefore hampering the realisation of one's full potential. Consequently, a person pursuing self-actualisation might perceive such contact negatively. Nevertheless, this explanation alone is far from elaborating on the underlying process shaping the young's attitude toward mental illness in a rapidly changing society. Thus, this study calls for in-depth qualitative inquiries to scrutinise these findings.

### People with Mental Illnesses' Self Stigma and Help-Seeking

Regarding self-stigma, Al Alawi et al. (2016) indicated that people, including healthcare professionals, suffering from psychological illness are less likely to disclose and seek help compared to people from western cultures (Krendl & Pescosolido, 2020). This results from perceived self-stigma and fear of being stigmatised by others (Al Alawi et al., 2016). Further, it seems more acceptable in Oman for people with psychological distress or burnout to seek help from traditional healers instead of mental health professionals. This is due to, in part, the prevailing cultural belief in black magic "jin" and "evil eye" being inflicted on them by someone such as a co-worker. Noteworthy, such belief is ubiquitous among the well-educated, including physicians (Al-Adawi, 2017).

In the context of occupational burnout, self-stigma may reflect the belief that individuals who suffer from burnout are viewed as less competent than those who do not (Jennings et al., 2015). Occupational burnout stigmatisation, like mental disorders stigmatisation, can be understood through the lens of social-cognitive stigma theory. According to this model, society creates stereotypes about specific groups, which leads to prejudice and discrimination (Corrigan, 2018). Although the published work did not measure the burnout stigma precisely, several tools have been developed in the last five years to measure the stigma associated with burnout (May et al., 2020).

### Medical Students and Residents in-Training's Perception and Attitude

While medical students and residents endorsed a positive stance towards psychiatry as a medical speciality, the majority didn't consider it as a career choice

(Al-Mashrafi et al., 2020; Qubtan et al., 2015 ). Such a tendency could be driven, in part, by the courtesy stigma of being identified with mentally ill people (Corrigan, 2018). An extrapolation of this finding is that Omani healthcare professionals might be reluctant to seek help and disclose their occupational stress. Additionally, they may resort to somatising instead of psychologising their suffering (Al-Alawi et al., 2017a).

Regarding gender, male medical residents expressed a negative view of how their community and family perceive psychological disorders. Additionally, males were more likely to endorse the stigma associated with the presence of a person with mental illness in the family (Al-Mashrafi et al., 2020). Several regional and international studies have reported similar findings (Corrigan, 2018). Such a trend could be interpreted in the context of gender socialisation theory. Based on the theory, males are generally expected to be emotionally strong, self-dependent, and phlegmatic (Solmi et al., 2020). Such expectations of society may perpetuate an antagonistic stance toward mental illness. Cross-culturally, Arabic males usually endorse a negative view of mental illness because of the shame associated with the diagnosis. And this shame does not affect the individual only; it indeed extends to the whole tribe. On the other hand, contact with a relative or a friend who had a mental disorder moderated a favourable stance towards psychological disorders. This result agrees with the international literature indicating the importance of acquaintance to foster a genuine understanding of people with psychological illnesses (Thornicroft et al., 2016). Notably, this observation has guided several interventions to promote occupational health and wellbeing among physicians in Oman. For instance,

individuals who struggled with or recovered from occupational burnout share their experiences with others. Factors such as male gender, urban versus rural living, and low disclosure tendency should be considered when promoting occupational wellbeing and mitigating burnout among Omani physicians.

**Limitations, and Future Directions**

Overall, the four published articles shared several conceptual and methodological limitations. First, regarding conceptual limitations, the applied conceptual approaches and most of the instruments were not developed, translated, and empirically examined in Arabic culture. Future work exploring how stigma and attitude are constructed and enacted would be vital for evaluative and mitigative approaches. Furthermore, while the published work assessed the correlation between attitude and certain socio-demographic variables, it did not examine specific hypotheses. This critique can be addressed by carefully assessing the literature and the relevant socio-cultural variables to construct pertinent hypotheses. Second, concerning the methodological limitations, exploring one's perception, which evaluates a subjective endorsement, is likely to be biased by social desirability. In the future, this shortcoming can be addressed by conducting studies utilising implicit attitude tests (Sandhu et al., 2019), experimental and qualitative research methods. Further, the internal validity of the two studies was threatened by the low response rate, underpowered, and the lack of rigorous psychometric validation of the assessment tools considering the Arabic culture (Al-Alawi et al., 2017a; Al Alawi et al., 2016). The external validity was affected by the lack of random selection of the

participants in some studies (Al Alawi et al., 2016; Qubtan et al., 2015). Also, the cross-sectional study design has an inherent caveat related to variables relation, which is vulnerable to reverse, bidirectional effects, or confounding. Nevertheless, regression analysis helps address some of these challenges, such as adjustment for confounders.

**Conclusion and Summary**

In sum, despite the limitations, these four submitted publications lay the ground for a potential cross-cultural understanding of the experience and expression of occupational burnout. They could guide designing wellbeing promotion activities among healthcare professionals in Oman. Additionally, the publications informed the literature regarding the perception of mental illness in Arab and Islamic cultures. They also provided the occupational psychology field with knowledge about the conception of the psychological dimension of workers' health in a non-western society. Moving forward, the next chapter focuses on occupational burnout and depression among Omani physicians.

**Chapter 4-Burnout, Depression, and Psychological Distress During COVID-19**

Having previously discussed psychological health perception, this chapter reviews the published work on burnout among Omani physicians at various career stages. It evaluates the relationship between burnout and depression while highlighting cultural factors contributing to occupational burnout's causes and consequences (Al-Alawi et al., 2017c; Al-Hashemi et al., 2019; Al-Maashani et al., 2020). Furthermore, given the global mental health burden of the COVID-19 pandemic (Walton et al., 2020), two publications addressing psychological distress and tailored interventions, including a sample of Omani physicians, will be discussed here (Al-Alawi et al., 2021; Sinawi et al., 2020)- see Table 4. There are two critical reasons for including these two publications. First, serious repercussions of occupational burnout include depression and anxiety, which were assessed in the two COVID-19-related papers. Second, participants from the healthcare and public were included in these two studies, which allows for risk stratification and comparison. Also, it should be noted that the papers (Al-Alawi et al., 2017c; Al-Hashemi et al., 2019; Al-Mahrouqi et al ., 2022; Al-Maashani et al., 2020) represent the core of this commentary. The current chapter includes the following sections: rationale and objectives, methods, discussion of the main results with cross-cultural elucidation, and conclusion.

**Table 4**

*Overview of Publications Discussed in Chapter 4*

| | Title | Aim | Setting | Participants and Sample Size | Main Independent Variables | Outcome Measure | Results |
|---|---|---|---|---|---|---|---|
| (Al-Alawi, et al., 2017c) | Prevalence and determinants of burnout Syndrome and Depression among medical students at Sultan Qaboos University | Investigate the prevalence and determinants of Burnout and Depressive -Explored whether (High Emotional Exhaustion, High Cynicism and Low Academic Efficacy) would predict the presence of Depression | Medical school at SQU | Medical Students, 662 participants | Age, gender, Study phase, living arrangement, Extracurricular activities, Being under probation | The Maslach burnout inventory-Human Services Survey (MBI-SS) The Patient Healthcare Questionnaire (PHQ-9) | - The prevalence of Burnout Syndrome and Depressive Symptoms were 7.4% and 24.5%, respectively -The three-dimensional aspects of Burnout Syndrome predicted depression |
| (Al-Hashemi et al., 2019) | Burnout Syndrome Among Primary Care Physicians in Oman | assess the level of burnout among primary care physicians (PCPs) in Oman and explore risk factors | Primary care setting in Muscat | Primary care physicians, 190 participants | Age, gender, marital status, working hours, need for psychological help | MBI-Human Services Survey | - The prevalence was 6.3, and extended working hours > 40 was significant predictor |
| (Al-Maashani et al., 2020) | Prevalence and Correlates of Depressive Symptoms among Medical Students | Determine the prevalence and risk factors of depressive symptoms among medical students at SQU | Medical School at SQU | Medical Students, 197 participants | Age, gender, marital status, place of residence, family history of mental illness, history of substance use | (PHQ-9) | The prevalence of depressive symptoms was 41.3% -Female gender and family history of depression were risk factors |
| (Al-Alawi et al., 2021) | Efficacy of a Six-Week-Long Therapist-Guided Online Therapy Versus Self-help Internet-Based Therapy for COVID-19–Induced Anxiety and Depression: Open-label, Pragmatic, Randomized Controlled Trial (RCT) | Assess the efficacy of therapist-guided online therapy with that of self-help, internet-based therapy focusing on COVID-19–induced symptoms of anxiety and depression among individuals living in Oman | Public and healthcare | Member of public and healthcare workers, intervention group n=22, control group n=24 | gender, marital status, working in health care, financial strains, physical diseases, mental illness, drug misuse | - (PHQ-9) -Generalised Anxiety Disorder-7 Scale | Therapist-guided online therapy was found to be superior to self-help, internet-based therapy. |
| (Sinawi et al., 2020) | Predictors of psychological distress among the public in Oman amid the coronavirus disease 2019 pandemic | Investigate the prevalence and predictors of depression and anxiety among the public during the COVID-19 pandemic | Public and Healthcare | Members of the public and healthcare professionals | Gender, working in health care, financial strains, physical diseases, mental illness, drug misuse | The Patient Healthcare Questionnaire (PHQ-9) -Generalised Anxiety Disorder-7 | The prevalence of psychological distress was 30%. Being female, financial instability, being treated for mental illness and self-medication for coping with stress were independent predictors. |

**Rationale and Objectives**

The importance of these investigations, which draw on the previously discussed conceptual approaches, stems from the observed high influx of Omani physicians enduring occupational burnout, clinical depression, and anxiety. Additionally, there is a lack of cross-cultural contribution necessitating this research.

The objectives of the first three papers were to:

- assess the prevalence and predictors of burnout and depression

- and decipher whether the three dimensions of burnout would predict depression (Al-Alawi, et al., 2017c; Al-Hashemi et al., 2019; Al-Maashani et al., 2020).

The roles of various individual and organisational variables were explored, including age, gender, marital status, living arrangement, history of mental illness, phase of the study, working hours, and workload. While the above research objectives seem; Specific, Measurable, Attainable, Relevant, and Time-bound (SMART), terms such as depression and predictors have several implications. Depression, for instance, could refer to clinical depression, significant depressive symptoms assessed using a questionnaire, or mild depressive symptoms. However, in the publications, depression refers to self-assessed, questionnaire-based depressive symptoms, not clinical depression. Further, the term predictors imply a temporal and causal relationship between the explanatory variable and the outcome of interest, which could be achieved using a prospective, not cross-sectional, study design.

Concerning the final two papers which addressed the COVID-19 pandemic, this was

a two-stage project. The first study investigated the magnitude and correlates of

anxiety and depression among Oman healthcare workers and the public. The second

study addressed the need for adaptive, scalable, culturally sensitive, and effective

interventions to improve the increased levels of psychological distress arising from

the pandemic. Specifically, the second study assessed the efficacy of therapist-guided

online therapy versus self-help e-mails therapy focusing on COVID-19-induced

symptoms of anxiety and depression among individuals living in Oman, including

healthcare professionals (Al-Alawi et al., 2021; Sinawi et al., 2020). Remarkably, the

interventional study was one of the earliest investigations which examined the

hypothesis proposing the superiority of therapist-guided online therapy over self-help

in ameliorating COVID-19 invoked symptoms of anxiety and depression.

Overall, the five publications listed in Table 4 sought to approach burnout and related

conditions from different dimensions. To achieve this overall aim, the investigations

span various contexts, including the COVID-19 pandemic, using observational and

experimental methods as outlined in the next section.

**Methods**

Four of the five papers employed a cross-sectional design to examine the

prevalence and study the associations while adjusting for confounding variables using

regression analysis. For descriptive statistics, means, standard deviations and

frequency tables were used to summarise the data in each publication. The prevalence

rates were calculated by dividing the number of the cases by the total sample number (Spronk et al., 2019).

Overall, the published studies were powered adequately, using the OpenEpi online sample size calculator (Dean AG, 2003), with representative samples of participants to achieve the objectives of each study. The minimum required sample size calculation relied on the anticipated prevalence based on previous studies, 95% confidence limit, type 1 error of 5% and power of 80/%.

The sampling methods ranged from convenience sampling to a random cluster sampling approach (Taherdoost, 2016). Nonetheless, the generalizability and external validity of the results rely partly on the rigour of the sampling method, such as cluster sampling. Based on the study's aims, the participants varied in their qualifications. The participants ranged from medical students and residents in training to practising physicians.

For the two papers related to the pandemic, considering the need for scalable mental health interventions, the remodelling of healthcare delivery, and the challenge of in-person contact, an online method for recruiting participants, was used. The drawback of the sampling approach is the risk of selection bias. Nevertheless, more than 1500 participants were included in the observational stage of the project, while sixty consented to the experimental phase, and this sample size met the power requirements of the two studies.

**Assessment Measures**

The measure utilised in the studies to evaluate the presence of burnout was the Maslach Burnout Inventory (MBI). Compounding distress variable, such as depression, was screened with the Patient Health Questionnaire-9 (PHQ-9) administration. Characteristics of depression one experiences in one's environment have been indicated to play a crucial role in the experience of burnout. While they remain distinct constructs, the psychological distress in depression shares a close relationship and similar symptomology to burnout (Golonka et al., 2019). The two measures utilised are described and critically assessed below:

*Maslach Burnout Inventory (MBI).*

Three of the research studies used a full-length implementation of the original version of the 22-item MBI, designed to measure feelings of burnout among individuals working in human services jobs, like physicians and students. For a participant to be considered as suffering from Burnout, all the three mean scores of emotional exhaustion, cynicism, and professional efficacy had to be: > 66th percentile, > 66th percentile, and < 33 percentile, respectively (Wickramasinghe et al., 2018). While using these strict cutoffs might improve internal validity, the lack of diagnostic and predictive validation of these cut-offs and underestimation of burnout prevalence in a population with help-seeking hesitancy are two limitations. Furthermore, within the cultural context of Oman, where the emotional manifestation of distress is frowned upon, one must consider whether the MBI would be able to represent solely the presentation of burnout amongst the population. It might be

worthwhile to consider allied factors that contribute to the experience of burnout in the healthcare context, such as gender role, marital status, work shift pattern and work hours, compensation, specific location of work, years of work experience, perceived nature of support and speciality. Furthermore, MBI has several conceptual and psychometric limitations, including:

- mismatch between burnout concept and MBI operationalisation.

- unclear and inconsistent conceptual and theoretical relationship between the three MBI factors.

- lack of theoretical and empirical foundations for the initial MBI questionnaire development.

- restrictedness of burnout, according to MBI definition, to those who do "people work".

Given the above limitations of MBI, future work should consider using the Copenhagen Burnout Inventory, which explicitly avoids these conceptual and psychometric limitations (Kristensen et al., 2005).

### *Patient Health Questionnaire-9 (PHQ-9)*

The PHQ-9 comprises of 9-items and targets the diagnostic criteria for Major depression (American Psychiatric Association, 1980). This tool has been utilised extensively to study depression in the literature. The PHQ-9 was previously psychometrically examined among an Omani medical resident, with a cut-off score of ≥ 12, resulting in a sensitivity of 80.6% and a specificity of 94.0% for diagnosing clinical depression. In the submitted work, a cut-off score of ≥12 was used to define

those with significant depressive symptoms (Al-Ghafri et al., 2014). However, the cultural manifestation and nuances of depressive symptoms are overlooked when utilising a self-rated questionnaire. Thus, it can be theorised that within such light, it might be challenging to accurately observe or approach the possibility of depression in this highly regarded occupation. To address this limitation, future studies may consider mixed methods, clinical assessment and interpretive phenomenology to assess depression among Omani physicians without overlooking the cultural role in expressing depressive symptoms. Also, owning to their psychometric robustness, future work may consider utilising the Hamilton Rating Scale for Depression or Beck Depression Inventory to measure depressive symptoms (APA, 2019).

**Discussion of the Main Results**

**Figure 2**

*Prevalence of Occupational Burnout among Omani Physicians Across Consecutive Stages of Their Careers*
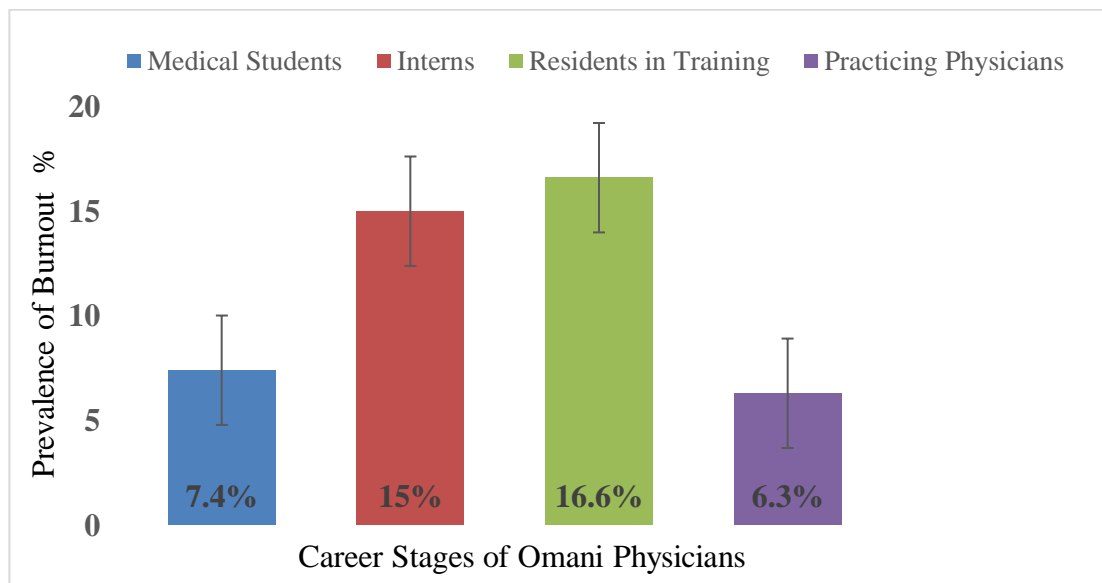
Collectively, the prevalence rate of burnout among Omani physicians has a bell shape- see Figure 1- which peaks between the stages of internship and residency training (Al-Mahrouqi et al., 2022; Al Subhi et al., 2020). This could reflect the well-known stressful nature of residency training and internship periods coupled with insufficient countervailing preparedness (Engelhardt et al., 2020). In addition, the lack of organization-based accessible, effective, and culturally sensitive wellness resources may contribute to this observation. Notably, however, Omani physicians' burnout rates are low compared to international literature. To elucidate this difference, one needs to consider cross-cultural factors that go above and beyond the heterogeneity of the participants and the validity of outcome assessment measures used by various studies. The cultural factors will be detailed in the next section of this chapter.

Looking at the determinants, logistic regression analysis revealed two independent variables associated with burnout. These are: being a medical student in the preclinical stage (Odds Ratio–OR 2.83, 95% Confidence Interval CI 1.45 – 5.54), and >40 working hours OR 0.025, 95% CI 0.845-0.00- with > 40 hours being the reference value. In addition, a recent publication I supervised and co-authored found that chronic medical diseases are linked to burnout among Omani medical interns (Al-Mahrouqi et al ., 2022). While these risk factors have been reported previously by the literature, highlighting the roles of the preclinical stage of medical school and chronic medical illness on the manifestation of burnout is an emerging insight. Besides, the present data showed that the three-dimensional aspects of burnout syndrome (high emotional exhaustion, cynicism, low professional efficacy) were

statistically significant predictors of the presence of depressive symptoms; OR 3.52, 95% CI 2.21-5.60, OR 3.33, 95% CI:2.10-5.28 and OR 2.07, 95%CI 1.32-3.24 respectively. In keeping with existing evidence, this result emphasises the seriousness of the burnout phenomenon and adds to the scientific discourse related to the conceptual overlap and validity of burnout as a construct. Regarding depression in medical students, the prevalence increased from 24.5% in 2017 to 40% in 2019. This trend resonates with global data (Tam et al., 2018). Possible explications include the recent changes in the medical school curriculum- strict criteria to move to the clinical stage- and rapid changes in Oman's socio-economic landscape.

Regarding the COVID-19 project, the first study alarmingly indicated that about 1 in 4 healthcare professionals had high levels of anxiety and depression, and females were at a higher risk. In the second study, the RCT, while both therapist guided and self-help therapies resulted in a reduction of anxiety and depression symptoms, the therapist-guided therapy had a statistically significant superior response. A considerable strength of the RCT is the eclectic and pragmatic intervention drawing on cognitive-behavioural therapy and acceptance and commitment therapy principles. Furthermore, it provides a confidential, feasible, and convenient tool for Omani physicians with help-seeking hesitancy. On the other hand, external validity and reproducibility of the findings are limited owing to the short follow-up period and the difficulty of ascertaining adherence to self-help intervention. Also, the placebo effect cannot be eliminated with the lack of a no-intervention arm and potentially suboptimal comparator.

To sum up, Omani physicians are at elevated risk of burnout and depression, compared to public, especially females, those in the preclinical stage, interns with chronic medical illnesses, and physicians working for long hours. These findings must be examined within the Omani socio-cultural realm, which will be discussed next.

**The Cross-Cultural Dimensions of Burnout in Oman**

The section elaborates on specific cultural factors that may impact occupational burnout's experience, expression, and help-seeking behaviours among Omani physicians.

*Collectivism*

Firstly, the Omani culture of collectivism, a double-sided sword, may contribute to the experience of burnout in the workplace, where the group's needs override personal ones, including the need for self-care and self-compassion (Al-Adawi, 2017). Self-compassion has been an emerging practice among Omanis in recent years. However, from a collectivist cultural perspective and a religious standpoint, intergroup connectedness and altruistic attitude have been prioritised more than self-care and self-compassion, with the latter being viewed as selfish. This is even more true for physicians who are expected to serve others altruistically and to be healers. As such, it is unsurprising that some physicians feel guilty when they engage in self-compassion. Consequently, physicians struggling with occupational burnout may be confronted with the difficult quandary of deciding between suffering

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in secret or self-disclosure and then enduring social ostracisation in a community where the organisation's cohesion and conformity are preponderant.

*High Power-Distance*

Secondly, in high power-distance cultures (Common, 2011), such as Oman, junior physicians cannot demand involvement in the decision-making process, hence lacking a sense of control. In addition, the lack of psychological safety renders it difficult for them to voice their dissent with managerial malpractice that contributes to work-related burnout.

*Patriarchy*

Further, masculinity-based cultures perpetuate occupational burnout (Sadriwala & Malik, 2021), and usually, Arabic countries fall into this category. While Oman does not belong entirely to masculinity-based cultures, at least because of the law in the nation emphasising gender equality, patriarchy is still rife. For instance, household duties in Omani society are highly gendered in favour of men (Sadriwala & Malik, 2021). Therefore, with their full-time job, female physicians are also expected to take on the responsibilities of their households, partners, and children.

*Uncertainty Avoidance*

In addition, the Omani culture exhibits high uncertainty avoidance which means individuals in this society have a low tolerance for ambiguity and uncertainty of future events (Moideenkutty et al., 2011). As a result, Omani organisations and

workplaces have strict rules, which are often formal, and rigid rules. Thus, the lack of organisational flexibility predisposes to burnout.

### The Beliefs

Furthermore, the belief in external supernatural forces, "Ji*nn*," "*Hasad*," and the evil eye, is common in Oman, where poor occupational performance and mental distress are attributed to these forces. Such attribution places the dysfunction outside the individual, and the individual's tribe, which helps avoid the shame associated with being psychologically weak. As a result, it would be acceptable, and often encouraged, for the person to seek help from traditional healers instead of psychologists or psychiatrists (Al-Sinawi et al., 2008). Adding to this, in the Islamic dictum, emotional disturbance, anxiety, and sadness may signify god's punishment for the disbelievers. Based on this belief, some physicians experiencing burnout in Oman would not consider professional help. Instead, they will turn to faith healers for redemption from their perceived sins and guilt.

Overall, despite the perpetuating role of these factors on burnout's manifestation, their mitigating potentials should be considered. For instance, in a collective society, one could easily leverage the appropriate level of social support to promote physician's resources. That said, this section elaborated on several societal-cultural and religious aspects which could inform burnout's conceptualisation and interventions.

**Conclusion and Summary**

To recap, this chapter reviewed five published research papers focusing on burnout, the overlap with depression, and COVID-19-related psychological distress in Omani physicians. The objectives, methods, and main results were highlighted in addition to cross-cultural insights. The chapter also identified several conceptual and methodological limitations. Particularly the necessity of employing mixed research paradigms and methods to capture the burnout phenomenon holistically. To this end, the next chapter will summarise three papers examining known moderators of occupational burnout among Omani physicians.

**Chapter 5-Moderators of Occupational Burnout: Studies Related to Personality Traits and Specialty Choice, Emotional Intelligence, and Preparedness for Clinical Work**

This chapter discusses three published papers focusing on moderators of occupational burnout. The chapter's layout differs compared to the previous two chapters. It will review each publication in separate sections, mainly due to their distinct conceptions. The first section reviews the study which examined the relationship between personality and speciality choice among Omani doctors during residency training. The second section focuses on the paper evaluating emotional intelligence and its relationship to burnout. Finally, the third section appraises the published work on preparedness for clinical work among young Omani doctors. Table 5 provides an overview of the publications discussed in the chapter.

**Table 5.**

*Overview of Publications Discussed in Chapter 5*

| | Title | Aim | Setting | Participants and Sample Size | Main Independent variables | Outcome Measure | Results |
|---|---|---|---|---|---|---|---|
| (Al-Alawi, et al., 2017b) | Influence of Eysenckian Personality Traits in Choice of Specialization by Young Omani Doctors | Explore the relationship between personality traits and speciality choice | Oman Medical Speciality Board | Residents in training, 255 participants from seventeen different specialities | Type of speciality, level of residency, age, and gender. | The Eysenck Personality Questionnaire-Revised (EPQ-R) | Significant associations between personality traits and certain choices of speciality-e.g., Surgery and high neuroticism |
| (Al Huseini et al., 2019) | Trait Emotional Intelligence and Its Correlates in Oman Medical Specialty Board Residents | Examine reliability, construct validity and correlates of the Trait Emotional Intelligence Questionnaire–Short Form | Oman Medical Speciality Board | Residents in training, 320 participants from seventeen training programs | Age, gender, living arrangements, socioeconomic status, residency level, and speciality. | Trait Emotional Intelligence Questionnaire–Short Form (TEIQueSF) | -TEIQueSF is reliable and valid. -High wellbeing scores in female trainees' High sociability score among those living in a rented house and having a high income |
| (Al Sinawi et al., 2017) | Perception of Preparedness for Clinical Work Among New Residents | Evaluate new residents' perceptions of their preparedness for clinical practice and examine the associated factors | Oman Medical Speciality Board | Residents in training at year one, 140 participants from seventeen training programs | Undergraduate medical school, graduation year length of the post-internship role as a general practitioner, and speciality type. | Preparedness for Hospital Practice Questionnaire (PHPQ) | Factors such as place of undergraduate study, training, and duration of internship significantly influenced the residents' perception of preparedness |

**Personality Traits and Specialty Choice– Al Alawi et al (2017c)**

Burnout is a multifaceted and complex construct. Several theories have been proposed to capture the multidimensionality of this phenomenon. These dimensions could be classified broadly into organisational and personal (Bakker & de Vries, 2021). From a personal standpoint, personality traits such as neuroticism and negative affectivity influence stress appraisal, coping, and the emergence of burnout (Bakker & de Vries, 2021). Furthermore, career choice regret among physicians has been found to predict burnout (Dyrbye et al., 2018; Tian et al., 2019). Therefore, from a scientist-practitioner perspective, exploring an evidence-based career counselling strategy, including personality assessment, is imperative. Such undertaking serves two primary goals. The first is risk mitigation of burnout, and the second is the prospect of work satisfaction, engagement, and productivity (Tisu et al., 2020). Hence, for the first time in Oman, one of the submitted papers investigated the relationship between personality traits and medical speciality choice among in-training resident physicians using The Eysenck Personality Questionnaire-Revised (1991). The primary hypothesis was that certain personality traits would correlate with specific specialities. However, the findings in the literature related to this inquiry are inconsistent and lack cross-cultural contributions. Methodologically, the Eysenck Personality Questionnaire was the outcome assessment owning to its biological foundations and construct validity (Eysenck, 1963). Nonetheless, the big five personality model- which represents a general taxonomy of personality traits- is a

comprehensive alternative compared to the three factors model (Borges & Savickas, 2002). This study included two hundred and fifty-five residents from 17 specialities via a convenient sampling method. This high number of specialities might have underpowered the study to detect associations and led to type 2 error. Specialities were classified into surgical, medical, and diagnostic to circumvent these constraints. On the second level of analysis, those specialities with less than ten participants were excluded from the analysis. Despite these constraints, and in keeping with existing literature, Omani residents who had chosen surgical specialities scored significantly higher on the psychoticism subscale. Orthopaedics had statistically significantly higher psychoticism and neuroticism scores than radiologists and psychiatrists, who scored the lowest in these two personality traits (Al-Alawi et al., 2017b). Although no distinctive personality profiles were unique to a particular speciality, certain personality traits were found to feature prominently in some specialities. Cluster analysis could help decipher this issue and provide a more comprehensive profile pertinent to a specific speciality, including gender, personality traits, age groups, and socioeconomic status. The present findings can inform future research into mechanisms to improve training, career counselling, and selection of medical students into various specialisations. Hence, this would accumulatively reduce the probability of burnout phenomena.

**Emotional Intelligence and Burnout- Al Huseini et al. (2019)**

Drawing on the job demands-resources model of burnout (Bakker & de Vries, 2021), emotional intelligence is a recognised moderating factor of burnout and work engagement across occupations (Schoeps et al., 2019; Shahid et al., 2018). The published work discussed in this section explored the construct of emotional intelligence among Omani medical residents, while another paper (Al Huseini et al., 2020) looked at its relationship with burnout. Relying primarily on MBI to assess burnout and TEIQueSF to evaluate emotional intelligence, several informative findings have emerged. First, the publications confirmed the reliability of the two assessment measures in our settings. Besides, the results indicate that females have reported high scores in the emotionality subscale. It also demonstrated a significant positive correlation between personal achievement and wellbeing. This partially supports the study's hypothesis, as there is a significant correlation between occupational burnout and emotional intelligence. Nevertheless, there were no significant correlations between other indices of emotional intelligence and other subscales of occupational burnout. This raises the question of whether the relationship between personal achievement and wellbeing is dynamic and bidirectional. Our findings are consistent with the international literature (Shahid et al., 2018). However, the degree to which emotional intelligence correlated with burnout is less pronounced. Therefore, if the findings from our work stand further scrutiny, one needs to examine the utility of emotional intelligence skills training among Omani residents to mitigate burnout and improve wellbeing.

As often is the case in psychosocial studies, various limitations could be pointed out and rectified in future work. Firstly, the investigated constructs are still debated conceptually and psychometrically- trait versus ability models of EI debate (Petrides et al., 2018). And the validity of those concepts is not apparent when used in different populations and linguistic groups. Secondly, the generalisation of this study is likely to be hampered by the fact that it utilised a cross-sectional approach, which is suboptimal for ascertaining causality. Future studies could use a prospective design. Thirdly, the study did not consider pre-existing mental disorders and personality traits, which may influence coping skills and self-perception of emotional intelligence levels.

### Preparedness for Clinical Work- Al Sinawi et al. (2017)

The third paper in this chapter investigates another facet of burnout among Omani medical graduates as they begin their residency training. It examined their perception of preparedness for clinical work. Internationally, the evidence suggests that a lack of proper preparedness for clinical work during medical school is a risk factor for future burnout (Engelhardt et al., 2020; Kanno & Koeske, 2010). Indeed, many studies (Cotel et al., 2021; Manzar & Kassem, 2021) found that medical school graduates have inadequate preparedness for clinical work. As such, conducting this research in Oman is warranted.

The study utilised a cross-sectional assessment using a Preparedness for Hospital Practice Questionnaire (PHPQ) covering different domains of clinical work, including interpersonal skills, communication, confidence in making decisions, and

understanding of the science of common diseases (Hill et al., 1998). The study included a sample of 140 graduates out of 160 eligible participants who had recently enrolled in different medical specialities. Forty per cent of the participants graduated from private and international medical schools that teach a problem-based medical curriculum, and the majority were from medical schools at Sultan Qaboos University. Overall, participants reported an acceptable level of perceived preparedness falling within the international range. However, graduates from international and private medical schools endorsed higher levels of clinical confidence and interpersonal skills compared to counterparts who studied at Sultan Qaboos University. These findings highlighted the advantage of a problem-based curriculum versus a traditional body system-based. Further, this paper was instrumental in informing the residency training programs to incorporate interpersonal skills-building workshops as a core training requirement for young Omani doctors.

This study, like previous work, has the limitations of cross-sectional analyses. Firstly, the self-reporting nature of the data and the use of a rating scale as the outcome measure may have led to inaccuracies related to the validity and reliability of the scale. It is well known that using rating scales may yield a global rating 'halo' effect and social desirability. Secondly, the data collection did not include objective tools such as the resident's portfolios or feedback from their clinical tutors. Despite these limitations, this study provided evidence-based data to inform a holistic curriculum design, which eventually contribute to the wellbeing of the healthcare workforce.

**Conclusion and Summary**

To sum up, this chapter revised the contributions and limitations of three publications that examined burnout's moderators. It highlighted the role of personality traits and emotional intelligence in shaping speciality choice and burnout experience, respectively. In the end, the chapter addressed the preparedness for clinical work among early-career medical graduates and how it might impact their clinical work and the future risk of burnout.

**Chapter 6-The Original Contribution and Conclusion**

This chapter first discusses the main conclusions, limitations, and future directions. Then, it states the original contributions to knowledge and practice made by the published work.

**Main Conclusions**

Literature, which comes primarily from Euro-American populations (Elbarazi et al., 2017; Sadriwala & Malik, 2021), indicates that physician burnout is widespread and detrimental to the workforce and healthcare organisations. Cross-cultural contribution is critical to comprehensively understanding, diagnosing, managing, and preventing occupational burnout. This commentary evaluated twelve interrelated publications on physician burnout in Oman. The publications attempted to answer the central question of the magnitude and risk factors of occupational burnout among Omani medical doctors at various stages of their careers. The key findings revealed that burnout is common among Omani physicians, particularly during residency training. In addition, long working hours and thepre-clinical stage predicted burnout in regression analysis. However, the prevalence rates in our setting were lower than those reported in the international literature. While several factors could explain this observation, including the conceptual overlap with depression and speciality differences, the role of Omani culture in shaping the conception, experience and expression of burnout should be considered. To that end, the published work also highlighted the adverse effects of mental health stigma, which is prevalent in Oman, on willingness to disclosing and seeking help for psychological distress. Further, the

publications explored constructs related to burnout, including the role of personality traits on speciality choice, emotional intelligence, and preparedness for clinical work. The results highlighted the relationship between surgical speciality and psychoticism. Also, emotional intelligence correlated with specific demographic, including the female gender, while Omani physicians who graduated from international medical school endorsed a high level of preparedness for clinical work. Lastly, two publications conducted during COVID-19 reported a high level of psychological distress among Omani physicians and indicated the feasibility of online therapy to mitigate such distress.

**Limitations and Future Directions**

Several limitations and areas of improvement have been identified. Specifically, addressing the methodological and theoretical caveats is paramount. With that goal in mind, I plan, at present, with my colleagues, a prospective mixed-methods study to scrutinise the burnout construct and its discriminant validity from clinical depression while paying attention to the cross-cultural factors (Shaw et al., 2020). Further, fostering compassion-based medical education is necessary for facing inevitable challenges in healthcare systems (Waddington, 2021). This could be achieved by first examining the perception and difficulties of promoting such a practice. Second, conducting an experimental study which investigates the impact of Omani physicians' self-compassion on burnout levels and wellbeing in general. Besides, due to burnout risk in medical school, encouraging student-led mental health initiatives would be a key to fostering wellbeing and peer support.

Building on the positive occupational psychology paradigm (Donaldson et al., 2019),

it is imperative to investigate factors improving work engagement and mitigating

stress in Omani healthcare settings. In line with this, one study, currently under peer

review, highlighted the mediating role of resilience in the relationship between the

presence of meaning in life and stress among medical students (Tamadhir Al-

Mahrouqi, 2021).

Moreover, continuing the dialogue with the stakeholders is key to achieving

supportive and less stressful healthcare systems. Noteworthy, in the last three years,

we have been reasonably successful in drawing the attention of the stakeholders to

introduce organisational-based and culturally sensitive wellness interventions

(OMSB, 2021).

**Contribution to Knowledge and Theoretical Perspectives**

Taken as a whole, the published work's original contribution to knowledge is:

- Adding a cross-cultural perspective to the research into the prevalence and

  correlates of physicians' burnout in the field of occupational psychology, and

- Filling the knowledge gaps in this field of study in Oman.

Specifically, it improves our understanding of how mental health and illness are

perceived outside western societies. Also, it advances the existing literature on

occupational burnout conceptions and the overlap with depression among healthcare

professionals via studying the magnitude, and risk factors, and moderating variables,

such as personality, emotional intelligence, and preparedness for clinical work.

Additionally, the submitted work contributes to the theoretical framework of

personality and occupational speciality research by providing data from non-western

countries on the relationship between medical career decision-making and

personality. Furthermore, the published work has been referred to, replicated, and

cited by researchers, both locally and internationally, as indicated in Table 6.

**Table 6**

*Description and Metrics of the Published Work*

| Paper and Year of Publication | Journal | Impact Factor [a] | Number of Citations [b] |
|---|---|---|---|
| (**Al-Alawi,** et al., 2017c) | Archives of Environmental & Occupational Health | 1.765 | 69 |
| (**Al-Alawi,** et al., 2017b) | Oman Medical Journal | 1.382 | 7 |
| (**Al-Alawi** et al., 2021) | JMIR Mental Health | 6.407 | 26 |
| (**Al-Alawi,** et al., 2017a) | The International Journal of Culture and Mental Health | 0.85 | 23 |
| (**Al Alawi** et al., 2016) | International Journal of Public Health and Safety | 0.84 | 11 |
| (Al Sinawi, **Al Alawi,** et al., 2017) | Oman Medical Journal | 1.382 | 5 |
| (Sinawi et al., 2020) | Psychology, Health & Medicine | 1.989 | 14 |
| (Al Huseini, **Al Alawi,** et al., 2019) | The Journal of Graduate Medical Education | 1.260 | 9 |
| (Qubtan et al., 2015) | International Journal of Public Health and Safety | 0.84 | 1 |
| (Al-Hashemi et al., 2019) | Oman Medical Journal | 1.382 | 6 |
| (Al-Maashani et al., 2020) | East Asian Archives of Psychiatry | .870 | 7 |
| (Al-Mashrafi et al., 2020) | Clinical and Experimental Psychology | Not available | 2 |

[a] According to the journals' official websites and SCImago Journal & Country Rank.

[b] According to google scholar.

**Contribution to Professional Practice**

*Mental Health Promotion*

The findings from the published research, indicating the prevailing mental health stigma and hesitancy in disclosure and help-seeking (Al Alawi et al., 2016), have informed several psychological health promotion activities in the Omani medical education system (Al Alawi, 2016). Data-driven mental health awareness campaigns, courageous dialogues and workshops aiming to destigmatise mental illness among Oman healthcare professionals have been conducted (Podcast, 2022; Television, 2016). As a result, for example, an Omani physician who suffered from burnout used expressive artwork to fight mental health stigma (see appendix A). The artwork portrays the psychological suffering of the Omani physician and the societal belief in supernatural forces as a cause for such suffering.

In addition, the medical school and Oman Medical Speciality Board have started promoting psychological health through student and resident wellness sections building partly on burnout and depression publications (Al Alawi, 2015).

*Physicians Development Workshops*

Moreover, communication skills, according to the J D-R model, are critical individual and organisational resources, as well as a preventative measure against burnout (Bakker & de Vries, 2021). Therefore, I have conducted, along with colleagues, regular stress management and communication skills workshops since 2015 (Al Alawi, 2022). Some of the contents of these workshops are predicated on

insights from emotional intelligence and burnout research (OMSB, 2018). In 2018, my colleagues and I collaborated with e-learning experts to develop a hybrid online and hands-on, culturally sensitive communication skills course for OMSB residents. Similarly, some of the modules in this course are inspired by the outcomes of the published work, for example, (a) the impact of emotional intelligence, (b)burnout, and (c) the internal dialogue on communication with patients and colleagues (see appendix B).

*Staff Wellness*

At present, my clinical duties include working at the students and staff wellness clinic at the Department of Behavioural Medicine. This clinic provides mental health assessments and interventions for students and staff struggling with psychological disorders, and burnout. The clinic's establishment was based on the noted increase in the number of students with mental disorders and the escalating trend in the prevalence of depression reported by the publications (Al-Alawi et al., 2017b; Al-Maashani et al., 2020). In line with these efforts, since June 2022, I have been appointed as a strategic planning committee member at Sultan Qaboos University hospital to formulate the operational goals for 2023. One of the five adopted goals, which I suggested, was promoting staff wellness. From a practitioner's perspective, this is vital to help developing organisational policies, and practices to modify work's context and content for promoting wellbeing and mitigating burnout (Steptoe-Warren, 2013).

*Career Counselling and Curriculum Development*

Moreover, the findings from the personality research, showing the relationship between certain traits and speciality, aided in guiding early career choices among medical professionals, helping them to make speciality choices (Al-Alawi, et al., 2017c). The results also helped stakeholders in medical education to develop robust career counselling services, including personality assessment. Such endeavours could eventually mitigate the risk of occupational burnout. Further, drawing partly on the results of the clinical preparedness paper emphasising the importance of clinical exposure (Al Sinawi et al., 2017), the medical school curriculum considered increased clinical placement for students.

*Online Therapy*

Lastly, considering the need for adaptive and effective interventions for COVID-19-induced psychological distress among physicians and the public, the randomised trial demonstrated (Al-Alawi et al., 2021), for the first time in the Arab World at least, the efficacy of online-delivered psychotherapy. Noteworthy, the RCT was awarded first place at the SQUH research day competition in February 2022, owing to its originality and contribution.

**Reflective Thoughts**

On a personal level, the importance of evaluating and modifying my epistemic position to approaching psychological concepts holistically cannot be overemphasised. Hence, improving and applying qualitative research skills are vital and, sometimes, an essential complement to the biomedical empirical approach.

Moreover, although the practice of reflexivity is primarily associated with the qualitative paradigm, in my estimation, it should be emulated by quantitatively oriented researchers. Indeed, insights drawn from qualitative paradigm and occupational psychology literature have challenged and modified my clinician-scientist stance toward psychiatry. Particularly I appreciate the limitations of current psychiatric nomenclature, the explanatory medical model, and the danger of overreliance on psychopharmacological interventions. In line with this mandate, I recently published a study protocol informed by insights from arts-based qualitative research (Chamberlain et al., 2018) and expressive writing paradigm to examine the impact of writing quality of life of Omani women with breast cancer (Al Alawi, 2021; Chu et al., 2020). Also, I co-authored a recently published qualitative study titled "A Promising Future for Tele-mental Health in Oman: A Qualitative Exploration of Clients and Therapists' Experiences"(Al-Mahrouqi, Al-Alawi, et al., 2022).

Ultimately, epistemic humility, transcending conceptual boundaries, continuous professional development, collaboration, and compassion form the bases for occupational wellbeing, growth, and impact.

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**Appendices**

**Appendix A: Artwork of Burnout from an Omani Physician Perspective**



**'Burnout'** by Dr Al Ghailani, permission was granted by Dr Al Ghailani to display his work. The piece illustrates the psychological pain experienced by the doctor as he takes the heavy stones through the complex and challenging healthcare system. The

crowding around this person reflects the belief in supernatural forces as an explanatory model for psychological distress in society.

**Appendix B: Example of the Communication Skills and Emotional Intelligence Workshop Outline**

Oman Medical Specialty Board
الطبية

المجلس العماني للاختصاصات

**Effective Communication Skills Workshop**

Dates: **29 & 30 /08/2018**

Target Group: New OMSB Residents

Venue: Al Razi Lecture Hall

| Time | Activity |
|------|----------|
| 8:30 - 9:45 | What is effective communications: (Interactive lecture)<br><br>**Presenter: Dr. Hamed Al Sinawi** |
| 9:45 - 10:15 | Emotional intelligence: a key element of internal and external communication<br>**Presenter: Dr. Mohammed Alawi** |
| 10:15 - 10:30 | **Break** |
| 10:30 - 11:30<br>Group work | **Group 1:** Breaking bad news　　　　　　**Facilitator:** Dr. Zahid Al Manthari<br><br>**Group 2:** Dealing with an angry patient or relatives　　**Facilitator:** Dr. Mohammed Al Alawi<br><br>**Group 3:** Communicating with children and parents　　**Facilitator:** Dr. Hussain Al Kindi<br><br>**Group 4:** Presentation skills　　　　　　**Facilitator:** Dr. Hamed Al Sinawi<br><br>**Group 5:** Emotional intelligence　　　　　**Facilitator:** Dr. Mohammed Al Alawi |
| 11:30 - 1:00 | **Group presentation & discussion** |

**Speakers & Facilitators:**

Dr. Hamed Al Sinawi

Dr. Mohammed Al Alawi

**Facilitators:**

Dr. Hussain Al Kindi

Dr. Zahid Al Mandari

**Appendix C: Researcher Digital ID**

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