

Dropout rates in undergraduate accounting degree programmes at a UK university: A 10-year longitudinal study

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The final definitive version in The International Journal of Management Education is available online at:

<https://doi.org/10.1016/j.ijme.2025.101253>

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Dropout Rates in Undergraduate Accounting Degree Programmes at a UK University: A 10-Year Longitudinal Study

Abstract

This study provides an analysis of 10 years' worth of dropout data from two undergraduate accounting programmes - Accounting & Finance and Forensic Accounting - at a UK university. The study explores whether dropout rates are consistent for different demographic groups. Data was collected from a population of 6,948 students over a period of 10 years, from 2011 to 2021. The results of this empirical analysis show a consistent pattern as to when and why the students dropout. First, reason identified for a student dropping out of an accounting degree is mainly due to academic failure. Second, the results show that students usually drop out either early or in the final stages of each academic year, across each level of the degree programmes. Third, the study also identifies significantly higher dropout rates among specific demographic groups, based on gender and ethnicity. Fourth, the results show that there is a difference in dropout rates between the two accounting programmes. This study will help to inform and enable the development of appropriate initiatives to prevent students from dropping out of accounting degree programmes.

Keywords: accounting education; dropout; academic failure; forensic accounting; diversity.

Highlights

- Students from a minority ethnic background have a higher dropout rate, relative to students from a non-minority ethnic background.
- The results suggest that the number of accounting students leaving their degrees is higher at the start and the end of each academic year across each level.
- The student **dropout percentage** for Forensic Accounting students is higher compared to the traditional accounting degree.
- Recommendations for best practice are that attention should be drawn **to students from a minority ethnic background** to help them from dropping out.

Dropout Rates in Undergraduate Accounting Degree Programmes at a UK University: A 10-Year Longitudinal Study

1. Introduction

This study empirically examines the reasons why undergraduate accounting students at a UK university leave or drop out, spanning a 10-year period (2011–2021). Data has been collected and analyzed from 6,948 students pursuing either an Accounting and Finance degree (AcF) or a Forensic Accounting (FA) degree. There is a variety in terminology which highlights the complex and multifaceted nature of student departure, which is influenced by a range of academic, personal, and institutional factors. Understanding all these nuances as to why students leave their accounting courses is the motivation of this study as it allows us as researchers to pinpoint when and why students might choose—or be compelled—to abandon their studies. The most popular terms for students abandoning their studies are “leave” and “drop out” and these terms are used interchangeably throughout the education literature (Everaert et al. 2024). Other terms that have been used include: “student withdrawal,” “attrition,” “premature termination of participation,” (Thalhammer et al., 2022; Aulck et al. 2016; Tight, 2020) and has been widely studied due to its implications for both students and educational institutions. Despite these myriad of different names, this study aims to examine the reasons behind why all accounting students have left their courses.

Universities in the UK face distinctive challenges with dropout rates and recruitment in all courses (including accounting), due to their focus on widening participation and support for diverse student populations. Students from disadvantaged backgrounds often must balance academic commitments with work and family responsibilities, therefore potentially contributing to higher dropout rates, relative to their peers (Thomas, 2002; Burke & McManus, 2011). Other factors such as financial constraints and varying levels of academic preparedness can further influence persistence, as students in these settings often encounter unique pressures affecting their educational outcomes (Yorke, 2004; Wilcox et al., 2005).

This study contributes to the literature on dropout issues in higher education by exploring the following three factors: first, the reasons, as to why undergraduate students discontinue their studies in an accounting degree programmes at a university in the UK; second, whether there are any differences in dropout rates among various demographic groups based on ethnicity and gender and third, whether there are any variations in dropout rates between a traditional AcF and an FA degree.

Also, it is widely acknowledged that there is a shortage of graduates entering the accounting profession (AICPA, 2023; Gabbing, 2019; Alanezi et al., 2016; Wells, 2015; Jackling et al., 2012). Therefore, identifying the root causes of attrition at the university level and implementing effective interventions will undoubtedly result in a greater number of graduates pursuing careers in accounting. However, the reasons behind dropouts are not well-documented or well-understood (Hodgen et al., 2023) due to the complexities surrounding dropouts (Kehm et al., 2019).

This study includes all students from the AcF and FA accounting programmes for the period 2011 to 2021, enabling patterns to be identified. The findings of this study are that academic failure is the primary cause of students dropping out. If a student fails a module on their course or starts to do badly, then they can feel the need to drop out and leave their course. The APA Dictionary of Psychology defines academic failure as:

any marked insufficiency or inadequacy in the area of scholarship or study, for example, when a learner does not achieve an expected competence. Contributing factors may include home environment and family, peers, economic context, learning environment and attributes of instruction, and individual characteristics.

According to this study's findings, academic failure can be at any stage of a student's time whilst at university. To determine statistically significant differences in dropout rates among specific groups, t-test were used to provide empirical results. The results indicate that students from underrepresented ethnic and gender backgrounds face a heightened risk of dropout relative to their white counterparts. Therefore, it is posited that there should be targeted interventions to support students from different backgrounds to help prevent failure and ultimately prevent dropouts.

2. Contributions of this study

Firstly, this study builds on existing theories of student attrition by contextualizing them within the academic and professional pathways of accounting. Traditional attrition models (e.g., Tinto's student integration model) often emphasize the roles of social and academic integration, personal motivation, and institutional support in predicting student dropout. Building on established theories such as Tinto's model of academic and social integration, this research highlights how specific factors interact uniquely within accounting programmes to influence students' decisions to persist or depart.

Secondly, using quantitative data, this study offers insight across gender and ethnic backgrounds as to who drops out and reasons why they do, out of a UK accounting programme. This study analyses the accounting programme further addressing a gap in the literature in that it also explores dropout rates across demographic variables (gender and ethnicity) across two specialization choices (e.g., AcF vs. FA)

Finally, this research has the potential to equip universities with a further understanding of students' behavior to reduce dropout. This contribution is especially timely for institutions in regulated environments, such as the UK, where compliance with retention-focused policies has become essential for funding and institutional standing. Such interventions may not only assist academic institutions in aligning with regulatory retention standards (e.g., those imposed by bodies like the UK's Office for Students) but also offer a basis for policies that effectively mitigate attrition within accounting departments. This study therefore highlights the need for varied support forms within accounting education that cater to diverse student backgrounds and specializations.

The above contributions provide insights about improving retention, inclusivity, and academic success within accounting programmes, and may provide insights and commitment to inclusivity in accounting education. The study proceeds as follows. The next section reviews the relevant literature, and the hypotheses are developed, followed by the research design. Next, the results are introduced. We also provide a brief discussion of the key problems emerging from the results. This is followed by recommendations and, finally, a conclusion.

3. Literature review

Universities are often seen as essential conduits for social mobility, especially for disadvantaged groups; the rising demand for higher education has also intensified financial and social pressures for students and policymakers, particularly in knowledge-based economies (Naseem et al., 2022; OECD, 2021). Within the field of accounting, this demand paradoxically coincides with a global decline in student enrolments, attributed to challenging economic conditions and a range of career alternatives available to prospective students (Dawkins, 2023; Oben & Van Rooyen, 2023; AICPA, 2019). This means therefore that attracting less students to accounting and then having the student dropout is leading to a potential long-term problem in having a reduced total number of accounting students worldwide.

These student dropout problems will affect all institutions, particularly through financial strain, reputational concerns, planning instability (Sánchez-Gelabert & Troiano, 2023; Marschall et al., 2023). Everaert et al. 2024 also mention the mental harm that students can suffer by dropping out due to increased financial pressures, feeling of failure, and family pressure. The effects of dropout are amplified in accounting programmes, where high dropout rates can undermine an institution's ability to sustain enrolments and secure programme funding (Delen, 2012). In the UK, new regulations introduced by the Office for Students (OFS) hold universities accountable for their dropout rates, even levying fines or restricting loan access for poor performance in retention (Hyndman & Liguori, 2022). This regulatory pressure adds complexity to the dropout landscape, highlighting the financial and reputational stakes associated with dropout in accounting programmes.

3.1 Dropout

Tinto's (1975) theoretical framework on student retention and departure offers a well-established lens for examining dropout, proposing that students' decisions to stay or leave are influenced by their academic and social integration within the university environment. According to Tinto, academic integration occurs through formal channels (e.g., course success and faculty support) and social integration occurs through informal social channels (e.g., peer associations). If a student cannot successfully navigate both of these channels, then the student will potentially dropout of their studies.

Tinto's reasons for dropout have been categorized into four themes, as demonstrated in Figure 1. The first theme, 'Internal,' is concerned about students' thought processes on their ability to achieve academic and social integration at the university. Other researchers have added to this theme by suggesting that a student might consider study conditions at the university (Kehm et al., 2019), and dropout even before they reach university (Bäulke et al., 2022). The second theme, 'Voluntary,' pertains to situations where a student transfers to another university or changes their subject, which is not considered a proper dropout (Kehm et al., 2019; Tinto, 1975) but a more voluntary aspect to leaving (Behr et al., 2020). The third theme, 'Personal' factors, refers to instances where a student decides to leave the university for employment or drops out due to financial constraints or household circumstances. The fourth theme, 'External' factors, highlights that students may dropout due to the possible negative perception they have gained about the course they are studying such as if the student feels it is relevant to warrant their time and attention or it is a waste of time and therefore are better dropping out.

<Insert Figure 1 here>

Tinto's work on student retention and departure since the 1970s has unquestionably achieved paradigmatic success. Tinto (1975) followed Spady's (1970, 1971) model, stating that social and academic integration are the two critical factors for student dropout (see Black, 2024; Towles and Spencer, 1993). Spady found that a student's decision to leave is complex and influenced by various factors, such as family background, integration into the university environment, faculty interaction, peer support, and academic achievement. Both Spady's and Tinto's work emphasize an understanding of how various forms of inequality and disadvantages can create barriers, and often these are overlooked. In this study, Spady's and Tinto's work provides a valuable lens for viewing dropouts in accounting degrees. Amidst an ongoing debate, numerous empirical studies on general university education have been conducted to gain a better understanding of university dropouts. These include research on early warning signals (Everaert et al., 2024), the optional nature of dropout (Bertola, 2023), motivation (Schnettler et al., 2020), reviews by Kehm et al. (2019), and books such as that by Kirp (2019).

Previous research on university dropouts **generally** has determined that social integration (Ishitani and Flood, 2018) and a sense of belonging to a university (Davis and Taylor, 2019) are essential in preventing dropout. **Social integration at university is considered difficult for students from low-income backgrounds. This is due to these students who often have unclear expectations and lower confidence levels when entering university in comparison to their more privileged peers** (Bertola, 2023; Reay et al., 2009; Cahalan and Perna, 2015). Working students face additional challenges as they attempt to balance their studies with work (Goldrick-Rab, 2016). First-generation university students are more at risk of dropping out than those with familial experience of university (Kim et al., 2021; Soria and Stebleton, 2012; Chen and Carroll, 2005). Furthermore, financial loan debt and unaffordability that lead to financial stress are often cited as reasons for dropout (Britt et al., 2017; Reay et al., 2009). Students from either low-income or first-generation backgrounds often lack the support networks and resources available to their peers, contributing to their heightened vulnerability to dropout (Cahalan and Perna, 2015).

Stephenson et al. (2020) identify at-risk students and the role of non-cognitive attributes, for example, low self-control, and students exhibiting these traits are less likely to continue with their studies. Further, factors identified are poor performance in mathematics during high school and poor academic performance in a student's first year of university as potential

indicators of dropout (for example, Brook and Roberts, 2021; Aulck et al., 2016; Rovira et al., 2017; Thammasiri et al., 2014; Delen, 2012).

Other literature on general university dropouts also shows the impact on dropout due to social and psychological impacts, including feelings of stigma and inadequacy among students who leave their programmes (Lacave et al., 2018). Social anxiety and reduced self-worth contribute not only to students' departure but also to ongoing mental health challenges, potentially disrupting their re-entry into education or the workforce (Ishii et al., 2018; Chemers et al., 2001). To ensure successful student retention, Grabsch et al. (2024) suggest that universities need to target specific communities and individuals. However, Lacave et al. (2018) note that even with interventions, it may sometimes be too late to prevent dropout.

3.2 Dropout in accounting

Dropout within accounting education is influenced by a complex interplay of academic, social, personal, and external factors (Kehm et al., 2019). Accounting education on dropout can be categorised themes similar to Tinto's work of: Internal (academic and social integration), personal motivation, and external factors.

Tinto's Internal theme is the most relevant. If the student is unable achieve academic integration, then this leads to poor academic performance (failure) which is viewed as a significant predictor of dropout, particularly in the technical field of accounting (Osman et al. 2017). Poor performance in early accounting courses is often linked to higher dropout rates, with students in financial accounting (FA) programmes appearing especially at risk due to the specialized knowledge required (Di Gabriele, 2009; Van Akkeren & Tarr, 2022). Tinto's framework suggests that academic success—or lack thereof—shapes students' integration trajectories, reinforcing the need to understand academic failure as an attrition trigger in accounting.

Reasons for this failure have been suggested poor mathematical ability (Yunker et al., 2009), prior academic achievement, inadequate skill sets, unsuitability for the role, as well as other demographic variables (Guney, 2009; Byrne and Flood, 2008; Springer and Borthick, 2007; Gammie et al., 2003; Gracia and Jenkins, 2003; Lane and Porch, 2002, Koh and Koh 1999. Oben and Van Rooyen in 2023 stated that a student's collective ability and skill set in relation to the demands of an accounting course at university is to blame for failure and then drop-out.

Financial pressures on students may disadvantage students who lack pre-existing familiarity or financial flexibility to seek additional support as they will have to work in order to support their families (Guney, 2009; Keels, 2013). Students could prioritize extracurricular activities as well as work, and that may contribute to dropout rates as they are not spending enough time on their studies (Beatson et al., 2021; Seow and Pang, 2014).

In the theme of personal motivation, low self-efficacy has been identified as a major barrier; students' lack of confidence in mastering rigorous accounting material appears to influence decisions to leave accounting programmes, especially in fields requiring high cognitive load (Roberts et al., 2023; Schoenfeld et al., 2017).

Several studies have explored external factors driving students away from accounting programmes. Key issues include perceptions of the accounting profession, marked by negative views of career prospects and work-life balance (Marriott & Marriott, 2003), as well as the curriculum's high technical demands (Zakaria et al., 2012).

4. Hypothesis Development

Expanding on Tinto's work, research by Meeuwisse et al. (2010) highlights that gender dynamics are particularly influential in shaping students' decisions to withdraw from university, underscoring the nuanced ways that demographic factors impact retention. Additional studies by Thomas (2016), Thammasiri et al. (2014), and Keels (2013), identify ethnicity, and gender as critical determinants of dropout, pointing to the compounded pressures faced by students from historically marginalized backgrounds. These findings collectively underscore that diverse cultural, ethnic, and gender identities bring unique challenges to retention, suggesting that Tinto's model may not capture the full complexity of dropout dynamics in multicultural institutions.

Studies on dropout can focus on students when they first enter University with what Everaert et al. 2024 describe as a "backpack" of variables such as age, gender and results before entering university. This study adds to the literature by considering not just data from students from their first year of study, but also data from all years of student study. This will allow universities to consider what interventions to put in across all years of the accounting degrees not just the first year. This will allow universities to reflect the work of Wakelan (2020) who stated that the earlier a university is aware of a student dropping out the longer the opportunity the university has to address the problem of student dropout.

Therefore, drawing on this insight, this study proposes to test the hypothesis that students from an underrepresented ethnic background, and students who are female, face a heightened risk of dropout relative to their white male counterparts in a multicultural university setting. Prior research further suggests that social and cultural backgrounds are intricately tied to students' academic performance and expectations (Maluenda-Albornoz et al., 2022), suggesting that these backgrounds may also predict retention outcomes. Accordingly, this research hypothesizes that accounting students from diverse social and ethnic backgrounds will likely drop out more than their white peers. By exploring this hypothesis, the study seeks to contribute a more nuanced understanding of retention that extends beyond the scope of Tinto's original model, offering insights essential for informing institutional policies within increasingly multicultural educational landscapes.

H1. Students that are female, and come from more diverse cultural and ethnic backgrounds are more likely to drop out compared to their male white counterparts.

This study's second hypothesis seeks to investigate whether significant differences exist in dropout rates between students enrolled in AcF programmes, and those in FA programmes. The literature presents the potential for two potential outcomes. First, The FA programme was created in response from both industry, and academics such as Alshurafat et al. (2020). The author emphasized the increasing demand to integrate FA into traditional accounting deliveries, to enhance pedagogic knowledge and extend accounting curriculums. As such, prior research suggests that FA students face unique academic challenges due to the need for specialised knowledge in fraud detection and an understanding of legal procedures, which are integral to FA practice (Di Gabriele, 2009; Van Akkeren & Tarr, 2022). Such demands, which often surpass those encountered in more conventional accounting pathways, could heighten academic strain and lead to higher dropout rates (Ekornes, 2022; Hartl et al., 2022).

Second, In contrast, AcF students typically engage in a more conventional curriculum focused on fundamental financial and managerial accounting principles. This streamlined curriculum may result in a comparatively lower risk of academic overload and thus lower dropout rates. Nonetheless, both AcF and FA programmes demand a combination of theoretical knowledge, technical proficiency, and interpersonal skills, such as creativity, communication, and social proficiency (Grant and Baden-Fuller, 2018). However, research by Jenö et al. (2023) suggests that when students in specialized programmes perceive their

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Let's say that FA is easier because does not require any critical thinking. We need the theory for this.

curriculum as highly complex, they may experience diminished motivation and self-efficacy, factors that can increase their dropout likelihood. Additionally, Maluenda-Albornoz et al. (2022) emphasize that socio-academic factors, including perceived curriculum difficulty and integration within the academic environment, can drive dropout decisions.

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Therefore, this study posits that FA students, owing to the distinct academic demands of FA, may have higher dropout rates compared to their AcF counterparts. By testing this hypothesis, the research aims to contribute by providing insights into how curriculum design and targeted support may mitigate dropout risks in high-demand accounting specializations. This leads to the second hypothesis:

H2. The dropout rates for AcF students are higher, compared to FA student

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5. Research design

5.1 Data

This study adopts an empirical, positivist approach. It is conducted via an analysis of secondary data collated by the university's administrative teams, a natural source of information (Stinebrickner and Stinebrickner, 2014) of students' demographics, including gender, ethnicity, and reason for leaving the accounting programme. Each student must write why they are leaving their course as part of the leaving mechanism. The research team categorized reasons for dropout in the undergraduate AcF and FA programmes over the period 2011-2021. Ethnicity data has been collected from the university administration database. University administrators collect the information of Chinese and (other) Asian students independently, because of partnerships that have been developed with Chinese universities. The research team has been granted ethical approval and clearance under the General Data Protection Regulation (GDPR).

In alignment with GDPR, each student is required to record their reason for leaving as part of a formal exit process, which the research team subsequently coded into standardized categories. This analysis spans a 10-year period (2011–2021) across the ACF and FA programmes, distinguishing dropout trends in the two programmes and facilitating longitudinal insights. Data is not collected beyond 2021, because following the 2021 census, student data has been recorded in line with the UK government's Ethnicity harmonised standard. Thus, a comparison of results is not achievable on a like-with-like basis beyond 2021.

This study also addresses a critical gap in the higher education and dropout literature by focusing exclusively on two professional accounting programmes over an extended period—a focus largely absent in prior foundational studies (e.g., Tinto and Cullen, 1973; Guney, 2009). Previous research has primarily targeted broader student populations or provided cross-sectional analyses, often without consideration for programme-specific dropout challenges within professional fields. By analyzing the complete student population within two accounting disciplines, this study enhances predictive validity (Gujarati, 2002) and provides a unique, detailed account of dropout patterns specific to accounting education.

Over the period analyzed, 6,948 students were enrolled, with 6,085 in the AcF programme and 863 in the FA programme. The university is a 'typical' post-92 university in the UK. Therefore, in terms of the demographics of students, the findings can be considered generalisable for similar universities in the UK and/or Europe. Dropout rates revealed distinctive patterns, with 5.1% (294 students) of AcF enrollees and 6.5% (53 students) of FA students failing to complete their studies. The final sample thus includes 347 students who withdrew over the decade, enabling robust statistical analysis of demographic and programmatic factors.

5.2 Methodology

The study's research design adopts an empirical approach towards the 10-year period covered here to include the timing and reasons why undergraduate students drop out. The coding scheme used in the analysis of the data is developed in an iterative way, following a deductive, inductive procedure of qualitative content analysis (Marshall & Rossman, 2016). In the first stage, codes and themes are generated based on the literature before coding the data (Adu, 2019). In addition to the analysis of the first hypothesis on the personal and situational dimensions, this study also focuses on the second hypothesis based on the analysis of course-specific dimensions. The population is divided into two groups: AcF and FA students. Next, t-tests are adopted to examine any relationship between ethnicity, gender, and dropout between the two groups. T-tests are used because they are shown to be established indicators of differences in a classroom environment based on a sample of more than 30 (Lim and Mali, 2021; Mali and Lim, 2021; Mali et al., 2023; Hill et al., 2008). A binary coding system is used where a dropout student is classified as 1. If a student does not drop out, the student is classified as 0. Additionally, a value of 1 is used if the student is female and 0 for male.

6. Results

Using the data collected by the university's administrative teams (Table 1), the overall results show a collective dropout of just below 5 percent (4.99%) of 347 students out of a total of 6,948 who entered the course. This is a cause for concern for this institution as the courses are losing an average of thirty students per academic year.

<Inset Table 1 here>

Analysis of the timing of when the students leave the course (Figure 2) indicated that a consistent ten-year pattern of dropout occurs at the start of the academic year, especially in levels 4 and 5, i.e., the first and second years, respectively. The largest spikes are at the end of the academic year, for example, in July. The key reason for dropouts at the academic year-end was that students received poor marks or could not proceed due to not passing their examinations, i.e., academic failure.

<Inset Figure 2>

The next set of results examines and explains the main reasons for students' dropout and how that dropout varies dramatically depending on which ethnic group they identify as belonging to. Table 2 reveals the primary reasons why students drop out of accounting courses.

<Inset Table 2 here>

6.1 Tinto factors

Since Tinto's theory of student departure, there has been little variation but much consensus as to why students drop out of their courses. There are two main reasons: a student's commitment to the university they belong to and their own personal commitment to study. The more students can integrate into their university from both an academic and social aspect, the more likely they are to stay on the course. Similarly, an accounting course should be no different. As shown in Figure 1, dropout reasons are categorised into four key areas - internal, voluntary, personal, and external factors. Below, we explain how we perceive the results, as a basis to offer suggestions to educators.

6.1.1 Internal factors

Internal factors primarily refer to academic challenges or issues directly related to student performance and engagement. The most significant internal factor identified in this study is academic failure. Although this study cannot identify why the students have failed, other

research has identified that academic failure is often associated with insufficient academic preparation, poor study habits, or failure to meet programme requirements (Osman et al. 2018; Koh and Koh 1999, Osman et al, 2018). To help prevent failure, we posit that academic support systems, such as tutoring and mentoring, may need to be strengthened, particularly for students in more specialized programmes like FA.

Another internal factor is the perception that the course is unsuitable. This reason was cited more often for FA students than for AcF students. This dissatisfaction may stem from a mismatch between students' expectations and the course content or career outcomes, highlighting the importance of clearer programme descriptions and better guidance to ensure alignment with students' academic and professional goals. For example, some students join with an incorrect skillset, believing that accounting requires strong analytical and numerical skills (Smith et al., 2020; Brooke and Roberts, 2021). Other pedagogic tools, for example, case studies (Pelzer et al., 2023), research-informed teaching intervention (Mali and Lim, 2022) and social media (Kainama, 2015) have been suggested as ways that improve a student's academic performance and hence reduce dropout. The integration of such tools may, therefore, have the potential to mitigate dropout rates.

6.1.2 Voluntary factors

Voluntary factors include reasons that reflect students' personal decisions to leave the program, often based on changing interests or life circumstances. A notable voluntary factor is the decision to transfer to another institution. Tinto (1975) suggests that an individual could perform well academically yet still drop out due to inadequate social integration within the institution. Since more AcF students transfer than FA students, this could reflect dissatisfaction with the course or a desire to pursue a different programme elsewhere. This potential outcome speaks to universities needing to better manage student expectations and ensure that students are well-informed before deciding to transfer. We observe that students sometimes stay at the university yet change their course. This indicates that some students may realize, midway through their studies, that their chosen programme does not align with their interests or career goals, leading them to switch to a different course to fulfill their educational goals (Kehm et al., 2019).

Also in this area, there is a small percentage of students who leave their courses entirely and enter the working world (Table 2). This suggests that some students prioritise immediate financial independence or career opportunities over continuing their education without undue

stress. Hence, these factors significantly shape young people's perspectives, which are influenced by their aspirations and economic environment.

6.1.3 Personal factors

Personal factors refer to individual circumstances often beyond the student's immediate control. Taking up employment, managing work and study commitments, health concerns, caring responsibilities, and financial reasons are well-documented student challenges in higher education (e.g., Tinto, 1975; Wilcox et al., 2005). Health reasons were cited as having a higher incidence among FA students. Health issues, both physical and mental, can significantly affect a student's ability to continue with their studies, especially in mentally demanding programmes like FA. Péng et al. (2022) highlight that health issues, particularly mental health challenges, are increasingly associated with dropout risk, as these conditions can reduce students' capacity to prioritize their studies, emphasizing the influence of mental health on academic persistence.

Domestic circumstances, such as caring responsibilities or family problems (Table 2), with FA students reporting slightly higher rates than AcF students. These personal responsibilities can interfere with academic focus and progress, necessitating flexible support systems that can accommodate students facing such challenges. Maternity was another personal factor influencing dropout, though it was only noted by AcF students and not FA students. Lastly, work commitments were cited and are especially pertinent for non-traditional students who balance academic work with full or part-time jobs. These issues are often exacerbated in fields requiring intensive study and practical applications, like accounting, where external demands can make it difficult for students to maintain their academic commitments.

6.1.4 External factors

External factors involve circumstances beyond the student's direct control, such as financial pressures or institutional limitations. Financially excluded (non-payment) students accounted for a slightly higher incidence among FA students (Table 2). This highlights many students' financial challenges, which may lead them to withdraw from their studies if they cannot meet financial obligations. Another external factor is the perception that university study was not what was expected, and this reason could be attributed to personal dissatisfaction; it can also be influenced by external factors such as unclear communication from the institution or unmet expectations regarding academic support. Finally, some students preferred not to disclose their reasons for leaving, which could reflect a range of external factors, such as financial pressures, institutional challenges, or personal reasons not fully communicated by the

students. It is a difficult balance for tutors to stress the commitment required to complete an accounting degree but not put students off due to their fear of the intense workload.

Additionally, this could be due to the inability to devote sufficient time and inadequate management of time, especially if the reasons are related to ill health, domestic circumstances, financial and work reasons, caring responsibilities, maternity (Table 1), and a lack of motivation, leading to higher dropout.

Our views as educators are that when a student starts to fail in either of the two accounting degrees, it becomes a vicious downward cycle that they then struggle to get out of. If they trail modules in any academic year, students will struggle, with additional pressure to not only try to pass their new-level modules but also to retake and pass their trailing modules. It could well be that they are missing or cannot grasp the core knowledge and understanding of the previous year's modules that they need for the next-level modules. Schoenfeld et al. (2017) suggest that if the student is sold on the idea of putting the right level of time, effort, and skill development into their degree, this will result in the student obtaining a good degree and, therefore, gaining good future job prospects, thus reducing dropout.

6.2 FA versus AcF

The data presented in Tables 3a and 3b reveal a small but notable difference in dropout rates, with FA experiencing a slightly higher percentage dropout rate of 6.14% compared to AcF at 4.83%. This difference is statistically significant at $p < 0.05$. When analyzing Hypothesis 2, which states that the dropout rates are significantly different between the two degrees, there is a concern that students are dropping out of the FA degree more than the AcF degree. This is unexpected given that students in the FA programme typically enter with higher academic averages and greater intrinsic motivation to specialize in this area. Hypothesis 2 could therefore be accepted, as these results suggest a concerning trend of higher attrition within FA. However, again, the key reason for dropping out of FA is academic failure (see Ajjawi et al., 2020; Li and Carroll, 2017).

<Inset Tables 3a and 3b>

Significant dropout rate disparities are observed across ethnic groups, with Arab students exhibiting the highest rates in both AcF and FA. This pattern suggests potential educational or support-related challenges unique to certain demographics. By contrast, Asian and White students demonstrate relatively lower dropout rates, particularly in AcF, indicating a need to examine further support structures or academic preparation disparities that might affect ethnic

groups differently within these programmes. The data also reveal subtle yet important gender-based differences in dropout rates. In the both the AcF and the FA programme, females show a lower dropout rate compared to males (4.90% vs. 4.70%), for the AcF programme and (6.30% vs. 5.80%) for the FA programme.

Given FA 's specialized nature, the higher dropout rate may be linked to the complexity of the curriculum, which includes legal frameworks, fraud detection techniques, investigative methods, and ethical considerations (ACFE, 2019). As Van Akkeren and Tarr (2022) and Curtis et al. (2009) argue, the cognitive demands associated with FA necessitate a level of technical skill and resilience that might be difficult for some undergraduate students to acquire quickly. We acknowledge that caution is required when interpreting the above result, which includes small samples. For example, one Arab represents a 100% dropout for FA, whilst 5 dropouts would represent 12.24% for AcF. However, with these limitations in mind, the above findings imply that while students may enroll in FA with strong motivations, the high technical and theoretical requirements might overwhelm them, particularly early in the programme. This aligns with the literature suggesting that an FA curriculum, while essential, requires careful pacing and a structured approach to introduce complex concepts without overwhelming students (Curtis et al., 2009). Implementing a more gradual progression through core FA topics, with early exposure to practical case studies or simplified scenarios, might improve dropout by reducing the initial cognitive load on students.

6.3 Comparison of dropouts by ethnicity and gender in total

In the first four columns of Table 4, descriptive statistics are provided for the programme completion and dropout numbers for students. The right two columns are the results of t-tests, comparing the dropout rates of both groups. The results from t-tests delineated in Panel A show that the dropout FA students are higher, compared to AcF, for the total (1.978*) and white student samples (2.172*). For Arab, Chinese, Other and Mixed groups, there are insufficient observations to conduct an analysis because there is not sufficient data to conduct empirical tests. For the Asian sample, the difference in dropout rates for AcF and FA students does not vary. Panels B and C also show that regardless of male (1.978*) or female (2.175*) partitioning, (total) FA students are more likely to drop out compared to AcF students. The above allows us to accept the second hypothesis.

<Inset Tables 4a, 4b and 4c>

6.4 Comparison of dropouts by ethnicity and gender in relation to white students

Table 5 compares the dropout rate among male/female students against the largest white male/female group. For the white student sample, 4.84% of males dropped out compared to a female dropout of 5.12%. T-test results show the percentage of Arab males dropping out is statistically significantly lower (-3.00***), compared to white counterparts. However, the percentage among Asian males (2.67**) and 'Other' males (1.80*) is higher at the 0.05 and 0.10 significance levels. These results indicate that they are more likely to drop out, relative to their white counterparts. The dropout t-test results for 'Mixed' and 'Chinese' male groups are -1.14 and 1.41, respectively and therefore are not considered to be statistically significant to the white student group.

When female student dropout rates are compared against the largest (white) ethnicity group, the results are varied: Asian and Chinese females are negative and statistically not significant. The dropout rate for Arab females is higher than the white student group and is statistically significant (6.58***). The 'Other' and 'Mixed' female categories present more complex scenarios. For the Other female group, the dropout rate of -1.64 indicates a slight retention advantage but the results are not statistically significant. Mixed females show a higher statistically significantly positive dropout rate of 1.93*.

Table 5, therefore shows critical disparities and inequalities in dropout rates by ethnicity and gender, highlighting the unique challenges faced by both male and female students across different ethnic groups. The results overall provide additional support for the first hypothesis, i.e., students from more diverse cultural, ethnic, and gender backgrounds are more likely to drop out than their white male/female counterparts.

<Inset Table 5>

6.5 Statement about the Covid period

The data for this study spans the Covid-19 period. An analysis was conducted to compare dropout rates before/during the Covid-19 period. However, we find that results before/during the Covid-19 period are not statistically different.

7 Discussion and Recommendations

The authors acknowledge that the most important question for the academic community can be to have asked students that have dropped out "how could we have better

supported you?”. However, due to three reasons, it is not practical/ethical to achieve this objective. First, due to data protection, we would not be able to contact any of the students that dropped out. Second, due to ethical considerations, we would not be able to interject in the student experience of students that were dropping out. More specifically, if students A and B-Z were dropping out, we could not for one month collect information about student A, and not collect information about student B-Z. The effect of this type of intervention could influence the decisions of students A-Z. Third, we are not aware of a mechanism in place that would categorise students as (potentially) dropping out. Therefore, it is not feasible to directly ask students that have dropped out or are thinking about dropping out “how could we have better supported you?”

We have however identified that failure is a strong reason as to why students dropout and we are the first paper (to our knowledge) that demonstrates that this theme of failure continues throughout the accounting programmes at all levels and occurs disproportionately to those students who are female and from an ethnically diverse background. Dropout rates negatively affect an institution’s reputation and funding, making strategies to prevent dropout and retain students critical for policymakers (Lacave et al., 2018; Delen, 2012). Universities in the UK face a unique challenge to widen participation in all courses, not just accounting. They also now are tasked with being run as a commercial operation and so therefore must recruit and keep students from diverse backgrounds in order help maintain their profitability and status. Yet students from disadvantaged backgrounds often must balance academic commitments with work and family responsibilities, are potentially are less prepared for University and these factors therefore potentially contribute to failure and higher dropout rates, relative to their peers. Therefore, this research suggests that dropout prevention policies should incorporate adaptive advising, specialized support systems, and curriculum modifications that resonate with these disadvantaged accounting students' unique social and academic challenges. However, all of this support costs time, money and resource all of which creates monetary pressure which few UK universities can afford.

This monetary pressure can even create an ethical consideration as to whether to allow failing students with trailing modules to continue their studies. Although there seems an obvious answer to fail the students and not allow them to progress to the next level until they have successfully completed their current level, there is the pressure to allow the students to remain (or progress) on the course as that allows extra income to be created for the university. Although there maybe extenuating circumstances for a particular student, allowing all failing students to continue to their next level of study with trailing modules from the previous level is a potentially flawed decision and risks exacerbating dropout rates. Students in such situations

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may face reduced university access, less contact time with tutors, and an overall diminished university experience, all of which could increase their likelihood of leaving.

Following Tinto's thematics, dropout can be categorised into the key areas of academic and social integration: commitment by the University towards student success and academic preparedness (Hepworth et al. 2018). Many of the studies in this area reflect that for a student to be successful in university life and hence prevent dropout, a sense of access, belonging and the ability to participate is required by the student, especially those from underrepresented communities (Hamshire et al., 2025; Kahu et al., 2022; Freeman et al., 2007; Tinto 1975). Other studies on student success and reducing dropout also find that there is a need for a student to have strong family support to help create resilience in the student (Chiramba and Nyoni 2024), support from their peers (Longfellow et al. 2018), and friends (Schreiner 2020).

Research that specifically focuses on success in accounting had similar findings that would help to prevent dropout. For example, there is a lot of research into the lack of academic preparedness, especially amongst first-year students (Joynt 2023, Baard et al 2010; Steenkamp et al. 2009, Du Plessis et al. 2005, Kidwell 2005, Makinen et al. 2004 and McInnis 2001). However, there are very few researchers that go beyond just focusing on the student's preparedness in accounting. One of the few that do is Byrne and Flood in 2005, who suggest that universities, in particular lecturers, should note first-year students' prior knowledge, assumptions and motivations help them with their studies and in turn help them to be successful in their studies and not a failure.

Shek and Chai (2020) suggest that rather than seeing struggling students as problematic, universities should focus on the students' strengths to motivate them and prevent dropout. Student engagement in the classroom is also necessary (Precourt and Gainor, 2019), linking a positive relationship between students' higher classroom attendance, frequency, and participation in class with better exam performance. Additionally, creating a supportive sub-culture for students, as suggested by Venuleo et al. (2016), has the potential to contribute to reducing dropout rates.

This UK university has an underrepresentation of female students, and students from non-majority ethnic backgrounds in accounting programmes. This trend is consistent with global research (Rogers and Creed, 2011; Cory et al., 2010). These anomalies of race and gender also exist in the accounting profession itself despite extensive efforts towards 'inclusion' (Bird et al., 2016; Dalton et al., 2014). For instance, Alanezi et al. (2016) claim that fewer females

are pursuing a career in accounting, and Iacone (2019) declares that only 9% of accountants and auditors in the US are African American. Thus, attracting students from diverse backgrounds has the potential to reflect social diversity and inclusion.

Pelzer and Nkansa (2022) commented on the underrepresentation of minorities in the profession despite the best efforts of professional bodies, accounting organizations, and accounting educators. Therefore, universities and the profession must find different ways to reach out to these groups and help them avoid dropping out of accounting courses. Factors influencing prospective students include understanding the subject, personal interest, earning potential, and job satisfaction (Oben and Van Rooyen, 2023). Creating social events can foster a culture of inclusion, which in turn can help prevent dropout (Marschall et al., 2023).

Supporting first-generation students requires special attention, too. They will have less insight and ability than their more advantaged peers (Clayton et al., 2009; David et al., 2003) and provide more support to avoid trailing modules and academic failure (Chen and Carroll, 2005). Mentorship programmes are another effective strategy for improving retention among underrepresented minority students. Buelow et al. (2018) highlight the critical role of mentorship in fostering academic success, particularly for minority students who may feel isolated or lack confidence in their ability to succeed. Some researchers suggest that to help underrepresented minority students undertaking accounting degrees, they should be assigned a mentor by accounting firms and other stakeholders to generate positive student experiences. A positive mentoring process gives minority students more information about the profession (Pelzer and Nksanka, 2022; Hermanson et al., 2016). Such experiences can improve any negative self-efficacy minority students may have in their ability to complete an accounting degree. According to Roberts et al. (2023), a good supportive mentor or role model could increase all students' self-efficacy, thus increasing the likelihood of a student staying on the course. We posit that establishing such programmes may also address the university's identification of strategies to reduce dropout among minority groups.

Student development theory has created positive outcomes in student retention. A study by Patterson et al. (2021) noted that retention can be improved for students from minority backgrounds by the introduction of social-belonging interventions via the use of video clips from previous students of different ages, races, and genders. Four key messages were conveyed to every student: feeling out of place, worries about making friends, unprepared for college, and that this feeling will disappear over time. However, universities need to be careful, as Carey (2004) warns that messages from students of different races and genders could

inadvertently reinforce stereotypes. Therefore, Carey recommends concentrating more on the students' background rather than race, as US statistics suggest that students from an underprivileged background only have a 1 in 7 chance of graduating (Bathmaker, 2021; Carey, 2004).

Students also choose to study accounting without a clear understanding of the course obtained earlier from career advice (Ahmed et al., 2017; Alanezi et al., 2016; Barac and Steyn, 2012). Therefore, researchers suggest that more contact is needed with high schools to increase the numbers applying to study accounting at university (Suryani, 2018; Sugahara et al., 2009; Low et al., 2008). This would help increase personal interest but potentially correct the hostile view that accounting is boring and dropping out does not establish excellent future work opportunities (Schoenfeld et al., 2017; Aminu and Timothyx, 2014; Zakaria et al., 2012; Van Wyk, 2011; Sugahara et al., 2008; Tan and Laswad, 2006; Gracia and Jenkins, 2002; Albrecht and Sack, 2000).

8 Limitations

Guney (2009) provides evidence that various characteristics apart from gender and ethnicity influence dropout rates, such as disability and family income. For this study, the student database does not provide this information, and hence, this is not included in the analysis. Future studies can be undertaken to determine whether additional student-specific variables can impact dropout. Another limitation is that the sample is the population of students from a single UK university, which may limit the generalizability of its findings to other institutions with different student populations, educational environments, or cultural contexts. The factors contributing to dropout rates could vary significantly across different universities or countries, especially considering the student body's diversity and financial circumstances.

Another limitation is that the study risks bias due to self-reporting. Students may underreport sensitive issues like financial difficulties, mental health struggles, or academic failures due to stigma or personal reluctance to share. This could lead to inaccuracies in understanding the true factors driving attrition, especially in complex or private matters. This study identifies failure as the main reason for students dropping out. It does not identify why the student fails as this was not available in the data. Therefore, future studies should be undertaken as to why and what reasons cause the student to fail. However, care must be taken here and such research asking why they failed may indeed prompt the student to leave. Also tracking

students down after they leave and their willingness to participate may be difficult due to sensitive issues or may cause embarrassment to the student.

Finally, the emphasis and focus on dropouts dominate the current scholarly discussion. However, Hoyt and Winn (2004) stress the significance of treating these students as a homogeneous group regarding their withdrawal. They encourage a more nuanced approach by classifying non-returning students into four subcategories: dropouts, stop-outs, opt-outs, and transfer-outs. This study recommends that future researchers develop empirical research based on these profiles at all levels of the accounting programme.

9 Future Research

This is a snapshot of one university in this dropout study and needs to be replicated to include other universities. Additionally, this study can be redesigned to include longitudinal qualitative data of students who have dropped out. The findings also highlight the limitations of relying solely on statistical significance. While the dropout rates are not statistically different, the practical implications of FA's higher attrition rate warrant further investigation. The alignment of curriculum demands with student preparedness and academic resilience should be critically assessed to ensure that avoidable challenges do not deter high-performing, motivated students. Moreover, based on evidence that the pattern of delivery can affect student performance (Roberts et al., 2022), future studies may investigate how front/backloading core subjects on academic programmes may affect student retention.

Future research could provide a more nuanced understanding of the interplay between personal and academic factors that contribute to student attrition. It should further investigate how sociocultural elements—such as family expectations, cultural attitudes towards education, and gender—affect academic persistence. This qualitative study could involve interviews or small focus groups with students from diverse ethnic and cultural backgrounds to explore their specific challenges, how these challenges influence their academic decisions, and ways universities can improve their retention and success. This approach would offer valuable insights into supporting students effectively.

10 Conclusion

This study empirically examines the factors contributing to the attrition of undergraduate accounting students at a UK university in the AcF and FA programmes over a decade (2011–2021). The study demonstrates that a complex interplay of internal, voluntary, personal, and external factors drives student dropout in the AcF and FA programmes. Academic failure is

the most significant factor, followed by voluntary decisions such as transferring to another institution or entering employment. Personal factors like health issues and domestic circumstances, as well as external factors such as financial difficulties, further exacerbate dropout rates. Understanding these factors can help universities design more targeted interventions, such as academic support, financial aid, and mental health services, to reduce dropout rates and improve student retention, particularly in specialised programmes like FA.

The study's results confirm Hypothesis 1, which posits that students from historically underrepresented ethnic and gender groups face distinct challenges affecting their retention and potential future success. Analysing dropout rates in AcF and FA programmes provides insights into Hypothesis 2, which posits that dropout rates significantly differ between these two accounting pathways. While the statistical evidence largely supports this hypothesis, critical evaluation reveals underlying complexities that challenge its practical implications. Significant disparities emerge when examining specific demographic groups. These findings highlight the importance of addressing broader systemic challenges, such as culturally responsive support structures and tailored interventions, to improve retention across diverse student populations.

Demographic factors, particularly ethnicity, offer a more critical lens. Differences in dropout rates become apparent when analysed by gender and ethnicity. For example, female students in FA exhibit marginally higher dropout rates than their male counterparts, though these differences are also not statistically significant, and dropout rates for Arab students are markedly higher across both programmes, indicating underlying socio-academic challenges rather than programme-specific factors.

There have been other investigations to try to establish which students may drop out of university (Lacave et al., 2018; Delen, 2012), but there is nothing as comprehensive as this study in accounting that captures the reasons, the timing, the ethnicity and gender backgrounds of the students in relation to how, when and why students drop out of AcF and FA courses, over the 10 years considered in this study. This study uses a comprehensive empirical analysis approach to investigate why students drop out, based on characteristics. Thus, this study provides insights to accounting educators to help them plan their available resources to focus on critical areas and times of the year to target specific, at-risk students and prevent them from leaving either in the first year, their second year, or even their final year of undergraduate study.

Disclosure statement: *The authors have no conflict of interest to declare.*

References

- Adu, P. 2019. A Step-by-Step Guide to Qualitative Data Coding. Routledge.
<https://doi.org/10.4324/9781351044516>
- Ahmed, K. A., Sharif, N., and Ahmad, N. 2017. Factors influencing students' career choices: empirical evidence from business students. *Journal of Southeast Asian Research*, 2017(2017), pp.1-15. <https://doi.org/10.5171/2017.722525>
- Ajjawi, R., Dracup, M., Zacharias, N., Bennett, S., and Boud, D. 2020. Persisting students' explanations of and emotional responses to academic failure. *Higher Education Research & Development*, 39(2), pp.185-199.
<https://10.1080/07294360.2019.1664999>
- Alanezi, F. S., Alfraih, M. M., Haddad, A. E., and Altaher, N. A. 2016. Factors influencing students' choice of accounting as a major: Further evidence from Kuwait. *Global Review of Accounting and Finance*, 7(1), pp.165-177.
<https://doi.org/10.21102/graf.2016.03.71.12>
- Albrecht, W. S., and Sack, R. J. 2000. Accounting Education: Charting the course through a perilous future. Accounting Education Series (No. 16). American Accounting Association.
- Alshurafat, H., Beattie, C., Jones, G., and Sands, J. 2020. Perceptions of the usefulness of various teaching methods in forensic accounting education. *Accounting Education*, 29(2), pp.177-204. <https://doi.org/10.1080/09639284.2020.1719425>.
- American Psychological Association (APA). 2023. Dictionary of Psychology. <https://dictionary.apa.org/academic-failure> (accessed 4 May 2023).

- Aminu, M., and Timothy, J. 2014. Career choice and academics performance of microbiology students in a Nigerian University. *International Journal of Science and Technology Educational Research* 5(5): 58–66. <https://doi.org/10.5897/IJSTER2013.0279>
- Association of Certified Fraud Examiners. 2019. ACFE Report to the nations archive. [Report to the Nations Archive](#)
- Association of International Certified Professional Accountants. 2019. Trends in the supply of accounting graduates and the demand for public accounting recruits. <https://www.aicpa.org/content/dam/aicpa/interestareas/accountingeducation/newsandpublications/downloadabledocuments/2019-trends-report.pdf> (accessed 5 June 2024).
- Association of International Certified Professional Accountants. 2023. Trends in the supply of accounting graduates and the demand for public accounting recruits. <https://www.thiswaytocpa.com/segmented-landing/trends-report/> (accessed 5 June, 2024).
- Aulck, L., Velagapudi, N., Blumenstock, J., and West, J. 2016 Predicting student dropout in higher education. *arXiv preprint arXiv:1606.06364*. <https://doi.org/10.48550/arXiv.1606.06364>
- Baard, R. S., Steenkamp, L. P., Frick, B. L., and Kidd, M., 2010. Factors influencing success in first-year Accounting at a South African university: The profile of a successful first-year Accounting student. *South African Journal of Accounting Research*, 24(1), pp.129-147. <https://doi.org/10.1080/10291954.2010.11435150>
- Ball, S. J., Reay, D., and David, M. 2002. 'Ethnic Choosing': Minority ethnic students, social class and higher education choice. *Race ethnicity and education*, 5(4), pp.333-357. <https://doi.org/10.1080/136133202200003087>
- Bathmaker, A. 2021. Constructing a graduate career future: Working with Bourdieu to understand transitions from university to employment for students from working-class backgrounds in England. *European Journal of Education*, 56(1), pp.78-92. <https://doi.org/10.1111/ejed.12436>

- Barac, K., and Steyn, B. 2012. The perspectives of South African distance-learning students on the accounting profession and accountants. *Journal for New Generation Sciences*, 10(1), pp.1-14. <https://hdl.handle.net/10520/EJC126838>
- Bäulke, L., Grunschel, C., and Dresel, M. 2022. Student dropout at university: A phase-orientated view on quitting studies and changing majors. *European Journal of Psychology of Education*, 37(3), pp.853-876. <https://doi.org/10.1007/s10212-021-00557-x>
- Beatson, N. J., de Lange, P., and Oosthuizen, H. 2021. A question of balance: study–work–life, perspectives from accounting students. *Pacific Accounting Review*, 33(3), pp.257-273. <https://10.1108/PAR-09-2020-0137>.
- Behr, A., Giese, M., Tegum Kamdjou, H., D., and Theune, K. 2020 *Dropping out of university: a literature review. Review of Education*, 8 (2), 614-652 [online]. <https://doi.org/10.1002/rev3.3202>.
- Bergin, L. 1983. Bergin, J.L., 1983. The Effect of Previous Accounting Study on Student Performance in the First College-Level Financial Accounting Course. *Issues in Accounting Education*, (1). [https://doi.org/10.1016/0748-5751\(83\)90025-8](https://doi.org/10.1016/0748-5751(83)90025-8)
- Bertola, G. 2023. University dropout problems and solutions. *journal of Economics*, 138(3), pp.221-248. <https://doi.org/10.1007/s00712-022-00814-7>
- Bird, A., Li, C., Madsen, P. E., and Ruchti, T. G. 2016. University-level recruiting and Black underrepresentation in the auditing profession. *SSRN Electronic Journal*
- Black, A. M. 2024 The role of bridging programmes in supporting student persistence and prevention of attrition: a UK case study. *Studies in Higher Education*, 49(9), pp.1519-1531. <https://doi.org/10.1080/03075079.2023.2269246>
- Britt, S. L., Ammerman, D. A., Barrett, S. F., and Jones, S. 2017. Student loans, financial stress, and college student retention. *Journal of Student Financial Aid*, 47(1), p.3. <https://files.eric.ed.gov/fulltext/EJ1141137.pdf>.

- Brook, S., and Roberts, M. 2021. What are the determinants of student performance on an undergraduate accounting degree?. *Journal of Further and Higher Education*, 45(9), pp.1224-1239. <https://10.1080/0309877X.2021.1882666>.
- Buelow, J. R., Barry, T., and Rich, L. E. 2018. Supporting learning engagement with online students. *Online Learning*, 22(4), pp.313-340. <https://doi.org/10.24059/olj.v22i4.1384>.
- Burke, P. J., & McManus, J. 2011. Art for a few: Exclusions and misrecognitions in higher education admissions practices. *Discourse: Studies in the Cultural Politics of Education*, 32(5), pp.699-712. <https://doi.org/10.1080/01596306.2011.620753>
- Byrne, M. and Flood, B. (2005). A study of accounting students' motives, expectations and preparedness for higher education. *Journal of further and Higher Education*, 29(2), pp.111-124. <https://doi.org/10.1080/03098770500103176>
- Byrne, M., and Flood, B. 2008. Examining the relationships among background variables and academic performance of first year accounting students at an Irish University. *Journal of accounting education*, 26(4), pp.202-212. <https://10.1016/j.jaccedu.2009.02.001>.
- Cahalan, M., and Perna, L. 2015. Indicators of Higher Education Equity in the United States: 45 Year Trend Report. *Pell Institute for the Study of Opportunity in Higher Education*. [ERIC - ED555865 - Indicators of Higher Education Equity in the United States: 45 Year Trend Report, Pell Institute for the Study of Opportunity in Higher Education, 2015](https://eric.ed.gov/?id=ED555865)
- Carey, K. 2004, A matter of degrees: Improving graduation rates in four-year colleges and universities. The Education Trust. Washington, DC.
- Chemers, M. M., Hu, L., and Garcia, B. F. 2001. Chemers, M.M., Hu, L.T. and Garcia, B.F., 2001. Academic self-efficacy and first year college student performance and adjustment. *Journal of Educational psychology*, 93(1), p.55. <https://10.1037/0022-0663.93.1.55>.
- Chen, X., and Carroll, C. D. 2005. First-Generation Students in Postsecondary Education: A Look at Their College Transcripts. Postsecondary Education Descriptive Analysis Report. NCES 2005-171. *National Center for Education Statistics*. <http://ies.ed.gov/pubsearch/pubsinfo.asp?pubid=2005171>.

- Clark, R. L., and Sweeney, R. B. 1985. Admission to accounting programs: Using a discriminant model as a classification procedure. *Accounting Review*, pp.508-518. <https://www.jstor.org/stable/246573>
- Clayton, J., Crozier, G., and Reay, D. 2009. Home and away: risk, familiarity and the multiple geographies of the higher education experience. *International Studies in Sociology of Education*, 19(3-4), pp.157-174.. <https://10.1080/09620210903524469>
- Chiramba, O., & Nyoni, P. (2024). Navigating systemic barriers: The role of family background in the experiences of historically marginalised students in South African higher education. *SARE*, p.104. [Microsoft Word - b29200 Full Issue.docx](#)
- Cohen, J. R., Dalton, D. W., Holder-Webb, L. L., and McMillan, J. J. 2020. An analysis of glass ceiling perceptions in the accounting profession. *Journal of Business Ethics*, 164, pp.17-38. <https://doi.org/10.1007/s10551-018-4054-4>
- Cory, S. N., Martinez, G., Reeves, T. E., and Antonio, S. (2010). African American high school students' perceptions of accountants. *SBAJ*, 10(1), pp.17-37. [African American High School Students Perceptions of the Accounting Profession](#)
- Curtis, M. B., Jenkins, J. G., Bedard, J. C., and Deis, D. R. 2009. Auditors' training and proficiency in information systems: A research synthesis. *Journal of information systems*, 23(1), pp.79-96. <https://10.2308/jis.2009.23.1.79>.
- Dalton, D. W., Cohen, J. R., Harp, N. L., and McMillan, J. J. 2014. Antecedents and consequences of perceived gender discrimination in the audit profession. *Auditing: A Journal of Practice & Theory*, 33(3), pp.1-32. <https://doi.org/10.2308/ajpt-50737>.
- David, M. E., Ball, S. J., Davies, J., and Reay, D. 2003. Gender issues in parental involvement in student choices of higher education. *Gender and Education*, 15(1), pp.21-36. <https://10.1080/0954025032000042121>.
- Davis, M., and Taylor, D. 2019. Regional study hubs: Increasing student engagement to support regional students facing high first-year attrition risk factors. A practice report. *Student Success*, 10(2), pp.79-90. <https://10.5204/ssj.v10i2.1312>.

- Dawkins, M. C. (2023). Declining enrollments—A call to action!. *Issues in Accounting Education*, 38(1), pp.9-18 <https://doi.org/10.2308/ISSUES-2022-088>
- Delen, D. 2012. Predicting student attrition with data mining methods. *Journal of College Student Retention: Research, Theory & Practice*, 13(1), pp.17-35. <https://doi.org/10.2190/CS.13.1.b>
- Diaz Lema, M., Vooren, M., Cannistrà, M., van Klaveren, C., Agasisti, T. and Cornelisz, I. 2024. Predicting dropout in Higher Education across borders. *Studies in higher education*, 49(1), pp.141-156 <https://doi.org/10.1080/03075079.2023.2224818>
- Dilnot, C., Macmillan, L. and Wyness, G. 2023. The path increasingly travelled: Vocational entry qualifications, socioeconomic status and university outcomes. *British Educational Research Journal*, 49(6), pp.1142-1160. <https://doi.org/10.1002/berj.3890>
- DiGabriele, J. A. 2009. Implications of regulatory prescriptions and audit standards on the evolution of forensic accounting in the audit process. *Journal of Applied Accounting Research*, 10(2), pp.109-121. <https://doi.org/10.1108/09675420910984673>.
- Du Plessis, A., Muller, H., & Prinsloo, P. (2005). Determining the profile of the successful first-year accounting student. *South African Journal of Higher Education*, 19(4), pp.684-698. <https://hdl.handle.net/10520/EJC37166>
- Ekornes, S. 2022. The impact of perceived psychosocial environment and academic emotions on higher education students' intentions to drop out. *Higher Education Research & Development*, 41(4), pp.1044-1059. <https://doi.org/10.1080/07294360.2021.1882404>
- Everaert, P., Opdecam, E. and Van Der Heijden, H., 2024. Predicting first-year university progression using early warning signals from accounting education: A machine learning approach. *Accounting Education*, 33(1), pp.1-26. <https://doi.org/10.1080/09639284.2022.2145570>
- Fisher, R. and Murphy, V. 1995. A pariah profession? Some student perceptions of accounting and accountancy. *Studies in Higher Education*, 20(1), pp.45-58. <https://doi-org.uow.idm.oclc.org/10.1080/03075079512331381790>.

- Fortin, A., Sauvé, L., Viger, C., and Landry, F. 2016. Nontraditional student withdrawal from undergraduate accounting programmes: A holistic perspective. *Accounting Education*, 25(5), pp.437-478. <https://doi.org/10.1080/09639284.2016.1193034>
- Freeman, Tierra M., Lynley Anderman, and Jane M. Jensen. 2007. Sense of belonging in college freshmen at the classroom and campus levels. *The Journal of Experimental Education*, 75(3), pp.203-220. <https://doi.org/10.3200/jexe.75.3.203-220>
- Gabbing, A. L. 2019. Warning signs about the future supply of accounting graduates. *The CPA Journal*, 89(9), pp.10-11. [Warning Signs about the Future Supply of Accounting Graduates - ProQuest](https://www.proquest.com/accounting/warning-signs-about-the-future-supply-of-accounting-graduates/docview/23845444)
- Gabre, H., and Kumar, G. 2012. The effects of perceived stress and Facebook on accounting students' academic performance. *Accounting and Finance Research*, 1(2), pp.87-100. <https://doi.org/10.5430/afr.v1n2p87>.
- Gammie, E., Jones, P., and Robertson-Millar, C. 2003. Accountancy undergraduate performance: A statistical model. *Accounting Education*, 12(1), pp.63-78. <https://doi.org.uow.idm.oclc.org/10.1080/0963928032000049384>.
- Gall, T. L., Evans, D. R., and Bellerose, S. 2000. Transition to first-year university: Patterns of change in adjustment across life domains and time. *Journal of social and clinical psychology*, 19(4), pp.544-567. <https://doi.org/10.1521/jscp.2000.19.4.544>
- Goldrick-Rab, S. 2016. Paying the price: College costs, financial aid, and the betrayal of the American dream. In *Paying the price*. University of Chicago Press. <https://doi.org/10.7208/9780226404486>
- Grabsch D. K., Sutro O'Brien L., Kirschner C., Chinnam D., Waddell Z., Leibowitz R., Madsen M. 2024. Characterizing nonreturning college students and their departure intentions. *Journal of College Student Retention: Research, Theory & Practice*, 26(1), pp.19-40. <https://doi.org/10.1177/15210251211056296>.
- Gracia, L., and Jenkins, E. 2002. An exploration of student failure on an undergraduate accounting programme of study. *Accounting Education* 11(1), pp.93-107. <https://doi.org/10.1080/09639280210153290>.

- Grant, R. M. and Baden-Fuller, C. 2018. How to develop strategic management competency: Reconsidering the learning goals and knowledge requirements of the core strategy course. *Academy of Management Learning and Education* 17(3): pp.322–338. <https://doi.org/10.5465/amle.2017.0126>
- Gujarati, D. N. (2002). Basic Econometrics 4th ed.
- Guney, Y. 2009. Exogenous and endogenous factors influencing students' performance in undergraduate accounting modules. *Accounting Education* 18(1): pp.51–73 <https://doi.org/10.1080/09639280701740142>.
- Hamshire, C., Benjamin, M., & Kit, A. S. S. (2025). What is the Role of Trust in Peer Support Schemes for Underrepresented Students?. *Teaching and Learning Inquiry*, 13, pp.1-16. <https://doi.org/10.20343/teachlearninqu.13.8>.
- Hartl, A., Holzberger, D., Hugo, J., Wolf, K., & Kunter, M. (2022). Promoting student teachers' well-being. *Zeitschrift für Psychologie*. <https://doi.org/10.1027/2151-2604/a000495>
- Hepworth, D., Littlepage, B., & Hancock, K. (2018). Factors Influencing University Student Academic Success. *Educational Research Quarterly*, 42(1), pp.45-61. [ERIC - EJ1205174 - Factors Influencing University Student Academic Success. Educational Research Quarterly, 2018](https://eric.ed.gov/?id=EJ1205174)
- Hermanson, D. R., Houston, R. W., Stefaniak, C. M., and Wilkins, A. M. 2016. The work environment in large audit firms: Current perceptions and possible improvements. *Current Issues in Auditing*, 10(2), pp.A38-A61. <https://doi.org/10.2308/ciia-51484>.
- Hill, C. J., Bloom, H. S., Black, A. R. and Lipsey, M. W. 2008. Empirical benchmarks for interpreting effect sizes in research. *Child development perspectives*, 2(3), pp.172-177. <https://doi.org/10.1111/j.1750-8606.2008.00061.x>.
- Hodgen, J., Taylor, B., Francis, B., Craig, N., Bretscher, N., Tereshchenko, A., Connolly, P. and Mazenod, A. 2023. The achievement gap: The impact of between-class

attainment grouping on pupil attainment and educational equity over time. *British Educational Research Journal*, 49(2), pp.209-230. <https://doi.org/10.1002/berj.3838>.

Hoeppli, T. 2014. The war on talent and financial skills shortage. *Professional Accountant*, 2014(1), pp.9-11. <https://hdl.handle.net/10520/EJC154098>

Hoyt, J. E., and Winn, B. A. 2004. Understanding retention and college student bodies: Differences between drop-outs, stop-outs, opt-outs, and transfer-outs. *NASPA journal*, 41(3), pp.395-417. <https://doi.org/10.2202/1949-6605.1351>

Hyndman, N., and Liguori, M. 2022. Framing the use of performance management in universities: the paradox of business disciplines. *Accounting, Auditing & Accountability Journal*, 36(4), pp.1194-1219. <https://doi.org/10.1108/AAAJ-08-2021-5423>

Iacone, A. 2019. Fifty years, little progress for black accountants. *Bloomberg Tax*, available at: <https://news.bloombergtax.com/financial-accounting/fifty-years-little-progress-for-black-accountants> (accessed 9 May 2023).

Ishii, T., Tachikawa, H., Shiratori, Y., Hori, T., Aiba, M., Kuga, K., and Arai, T. 2018. What kinds of factors affect the academic outcomes of university students with mental disorders? A retrospective study based on medical records. *Asian journal of psychiatry*, 32, pp.67-72. <https://doi.org/10.1016/j.ajp.2017.11.017>

Ishitani, T. T., and Flood, L. D. 2018. Student transfer-out behavior at four-year institutions. *Research in Higher Education*, 59, pp.825-846. <https://doi.org/10.1007/s11162-017-9489-4>

Jackling, B., de Lange, P., Phillips, J. and Sewell, J. 2012. Attitudes towards accounting: differences between Australian and international students. *Accounting Research Journal*, 25(2), pp.113-130. <https://doi.org/10.1108/10309611211287305#>.

Jeno, L. M., Nylehn, J., Hole, T. N., Raaheim, A., Velle, G., & Vandvik, V. 2023. Motivational determinants of students' academic functioning: The role of autonomy-support, autonomous motivation, and perceived competence. *Scandinavian Journal of Educational Research*, 67(2), pp. 194–211. <https://doi.org/10.1080/00313831.2021.1990125>

- Joynt, C. (2023). Factors that Influence First-year Students' Academic Performance in Introductory Accounting: a Systematic Literature Review and Avenues for Future Research. *International Journal of African Higher Education*, 10(1), pp.21-49.
- Kahu, Ella R., Nicole Ashley, and Catherine Picton. 2022. "Belonging in Higher Education: Familiarity, Interpersonal and Academic Belonging." *Student Success Journal* 13 (2): pp.10–20. <https://doi.org/10.5204/ssj.2264>.
- Kainama, M. S. 2015. The use of social media as pedagogic tool in accounting learning. *Research Journal of Finance and Accounting*, 6(20), pp.136-140. [RJFA-Vol.6 No.20 2015](https://doi.org/10.5204/ssj.2264)
- Keels, M. 2013. Getting Them Enrolled Is Only Half the Battle: College Success as a Function of Race or Ethnicity, Gender, and Class, *American Journal of Orthopsychiatry* 83(2–3), pp.310–22. <https://doi.org/10.1111/ajop.12033>.
- Kehm, B. M., Larsen, M. R., and Sommersel, H. B. 2019. Student dropout from universities in Europe: A review of empirical literature. *Hungarian Educational Research Journal*, 9(2), pp.147-164. <https://doi.org/10.1556/063.9.2019.1.18>
- Kidwell, K.S. (2005). Understanding the college first-year experience1. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, 78(6), pp.253-256. <https://doi.org/10.3200/TCHS.78.6.253-256>
- Kim, J., Miller, S. M., Hwang, J., and Olson, J. S. 2021. Female First-Generation College Students: A Review of Challenges and Successes. *Journal of Global Education and Research*, 5(2), pp.136-150. <https://doi.org/10.5038/2577-509X.5.2.1076>.
- Kirp, D. 2019. *The college dropout scandal*. Oxford University Press.
- Koh, Moy Yin, and Hian Chye Koh. 1999. The determinants of performance in an accountancy degree programme. *Accounting Education*, 8(1), pp.13-29. <https://doi.org/10.1080/096392899331017>

- Lacave, C., Molina, A.I. and Cruz-Lemus, J. 2018. Learning Analytics to identify dropout factors of Computer Science studies through Bayesian networks. *Behaviour and Information Technology* 37(10–11), pp. 993–1007.
<https://doi.org/10.1080/0144929X.2018.1485053>.
- Lane, A., and Porch, M. 2002. The impact of background factors on the performance of nonspecialist undergraduate students on accounting modules-a longitudinal study: a research note. *Accounting Education*, 11(1), pp.109-118.
<https://doi.org/10.1080/09639280210153308>
- Li, I. W., and Carroll, D. R. 2017. Factors influencing university student satisfaction, dropout and academic performance. *National Centre for Student Equity in Higher Education (NCSEHE)*, Perth: Curtin University, pp.1-56. [03LiUWA Formatted FINAL.pdf](#)
- Lim, H. J., and Mali, D. 2021. Can an intercultural rhetoric intervention improve academic performance? An exploratory study using Korean (EFL) students. *The International Journal of Management Education*, 19(3), p.100542.
<https://doi.org/10.1016/j.ijme.2021.100542>
- Longfellow Erica, Steve May, Linda Burke, and Diane Marks-Maran. 2008. “They Had a Way of Helping That Actually Helped’: A Case Study of a Peer-Assisted Learning Scheme.” *Teaching in Higher Education* 13 (1), pp.93–105.
<https://doi.org/10.1080/13562510701794118>.
- Low, M., Davey, H., and Hopper, K. 2008. Accounting scandals, ethical dilemmas and educational challenges. *Critical Perspectives on Accounting* 19(2): 222–254.
<https://doi.org/10.1016/j.cpa.2006.05.010>.
- McInnis, C. (2001). Researching the first year experience: Where to from here? *Higher Education Research and Development*, 20(2):105-114.
- Mäkinen, J., Olkinuora, E. and Lonka, K. (2004). Students at risk: Students' general study orientations and abandoning/prolonging the course of studies, *Higher Education*, 48:173-188.
- Mali, D., & Lim, H. (2021). How do students perceive face-to-face/blended learning as a result of the Covid-19 pandemic?. *The International Journal of Management*

Education, 19(3), 100552.
<https://doi.org/10.1016/j.ijme.2021.100552>

Mali, D., and Lim, H. J. 2022. Can the introduction of a research-informed teaching intervention enhance student performance and influence perceptions? *Accounting Education* 313: 322–346. <https://10.1080/09639284.2021.2014914>.

Mali, D., Lim, H. J., Roberts, M., & Fakir, A. E. (2023). An analysis of how a collaborative teaching intervention can impact student mental health in a blended learning environment. *The International Journal of Management Education*, 21(3), 100853.
<https://doi.org/10.1016/j.ijme.2023.100853>

Maluenda-Albornoz, J., Infante-Villagrán, V., Galve-González, C., Flores-Oyarzo, G., & Berríos-Riquelme, J. 2022. Early and Dynamic Socio-Academic Variables Related to Dropout Intention: A Predictive Model Made during the Pandemic. *Sustainability*, 142.
<https://doi.org/10.3390/su14020831>

Marriott, P., and Marriott, N. 2003. Are we turning them on? A longitudinal study of undergraduate accounting students' attitudes towards accounting as a profession. *Accounting Education* 122: 113–133. <https://doi.org/10.1080/0963928032000091738>

Marschall, M., Falk, S., and Klug, C. 2023. Social events, bridging courses, and academic skills trainings – participation in first-year courses and higher education dropout in Germany. *Studies in Higher Education* Dorchester-on-Thames: 1–16.
doi:10.1080/03075079.2023.2279246.

Marshall, C., and Rossman, G. B. 2016. *Designing Qualitative Research* 6th ed.. SAGE Publications, Inc.

Mbawuni, J., and Nimako, S. G. 2015. Modelling job-related and personality predictors of intention to pursue accounting careers among undergraduate students in Ghana. *World Journal of Education* 51: 65–81. <https://doi.org/10.5430/wje.v5n1p65>.

McInnis, C. (2001). Researching the first year experience: where to from here?. *Higher Education Research & Development*, 20(2), pp.105-114.
<https://doi.org/10.1080/07294360125188>

Meeuwisse, M., Severiens, S. E., & Born, M. Ph. 2010. Reasons for withdrawal from higher vocational education. A comparison of ethnic minority and majority

non-completers. *Studies in higher education*, 35(1), pp.93-111.
<https://doi.org/10.1080/03075070902906780>

Naseem, M., Chaudhary, K., and Sharma, B. 2022. Predicting freshmen attrition in computing science using data mining. *Education and Information Technologies*, 27(7), pp.9587-9617. <https://doi.org/10.1007/s10639-022-11018-3>

Oben, J. A., and van Rooyen, A. 2023. Social cognitive career theory and rural high school learners' intentions to pursue an accounting career. *Accounting Education*, 32(4), pp.445-478. <https://doi.org/10.1080/09639284.2022.2076564>

OECD. 2021. What Is the Total Public Spending on Education? In *Education at a Glance*, OECD Indicators: 268–281. OECD Publishing, Paris.
<https://doi.org/10.1787/b35a14e5-en>.

Osman, D., O'leary, C., Brimble, M., & Jahmani, Y. (2017). Factors that impact attrition and retention rates for accountancy diploma students: Evidence from Australia. *Business Education & Accreditation*, 8(1), pp.91-113. <https://ssrn.com/abstract=3025121>

Patterson Silver Wolf, D. A., Taylor, F., Maguin, E., and Asher BlackDeer, A. 2021. You are college material—You belong: An underrepresented minority student retention intervention without deception. *Journal of College Student Retention: Research, Theory & Practice*, 23(3), pp.507-522. <https://doi.org/10.1177/1521025119848749>

Pelzer, J. E. and Nkansa, P. 2022. Why Aren't More Minority Accounting Students Choosing Auditing? An Examination of Career Choice and Perceptions. *Accounting Education* 31(4), pp347–369. <https://doi.org/10.1080/09639284.2021.1991404>.

Pelzer, J. R. E. et al. 2023. Making the case for diversity: Exploring the use of case studies for underrepresented minorities in the accounting curriculum. *Issues in Accounting Education*, 38(3), pp.39-63. <https://doi.org/10.2308/ISSUES-2021-118>.

Precourt, E., and Gainor, M. 2019. Factors affecting classroom engagement and how engagement leads to a better learning. *Accounting Education* 28(1), pp.100–118. <https://doi.org/10.1080/09639284.2018.1505530>.

- Reay, D., Crozier, G., and Clayton, J. 2009. 'Strangers in paradise'? Working-class students in elite universities. *Sociology*, 43(6), pp.1103-1121. <https://doi.org/10.1177/0038038509345700>
- Roberts, M., Shah, N. S., Mali, D., Arquero, J. L., Joyce, J., and Hassall, T. 2022. The use and measurement of communication self-efficacy techniques in a UK undergraduate accounting course. *Accounting Education* 32(6) pp. 735–763. <https://doi.org/10.1080/09639284.2022.2113108>.
- Roberts, M., O'brien, T., Mali, D., & Reville, J. (2022). From a Year-Long Delivery Pattern to a One Semester Delivery Pattern, the Impact on Student Performance in a UK University. *Global Journal of Human-Social Science: G Linguistics & Education*, 22(G3), 37-45.
- Rogers, M. E., and Creed, P. A. 2011. A longitudinal examination of adolescent career planning and exploration using a social cognitive career theory framework. *Journal of Adolescence* 34(1), pp.163–172. <https://doi.org/10.1016/j.adolescence.2009.12.010>.
- Rovira, S., Puertas, E., and Igual, L. 2017. Data-driven system to predict academic grades and dropout. *PLoS one*, 12(2), p.e0171207. <https://doi.org/10.1371/journal.pone.0171207>.
- Sánchez-Gelabert, A. and Troiano, H. 2023. Compensatory advantage after the first year at university in the Catalan system: Between continuing, transferring and dropping out. *Studies in higher education*, pp.1–17. <https://doi.org/10.1080/03075079.2023.2281539>.
- Schoenfeld, J., Segal, G., and Borgia, D. 2017. Social cognitive career theory and the goal of becoming a certified public accountant. *Accounting Education* 26(2), pp.109–126. <https://doi.org/10.1080/09639284.2016.1274909>.
- Schnettler, T., Bobe, J., Scheunemann, A., Fries, S., and Grunschel, C. 2020. Is it still worth it? Applying expectancy-value theory to investigate the intraindividual motivational process of forming intentions to drop out from university. *Motivation and Emotion*, 44, pp.491-507. <https://doi.org/10.1007/s11031-020-09822-w>

- Schreiner, Laurie A. 2020. From surviving to thriving during transitions. *Thriving in transitions: A research-based approach to college student success*, pp.1-18.
- Seow, P. and Pan, G. 2014. A Literature Review of the Impact of Extracurricular Activities Participation on Students' Academic Performance. *Journal of Education for Business* 89(7), pp.361–366. <https://doi.org/10.1080/08832323.2014.912195>.
- Shek, D. T., and Chai, W. 2020. The impact of positive youth development attributes and life satisfaction on academic well-being: A longitudinal mediation study. *Frontiers in Psychology*, 11, p.2126. <https://doi.org/10.3389/fpsyg.2020.02126>
- Sin, C., Tavares, O. and Amaral, A. 2019. Accepting employability as a purpose of higher education? Academics' perceptions and practices. *Studies in Higher Education* 44(6), pp.920–931. <https://doi.org/10.1080/03075079.2017.1402174>.
- Smith, K. J., Haight, T. D., Emerson, D. J., Mauldin, S., and Wood, B. G. 2020. Resilience as a coping strategy for reducing departure intentions of accounting students. *Accounting Education* 29(1), pp.77–108. <https://doi.org/10.1080/09639284.2019.1700140>.
- Soria, K. M., and Stebleton, M. J. 2012. First-generation students' academic engagement and retention. *Teaching in higher education*, 17(6), pp.673-685. <https://doi.org/10.1080/13562517.2012.666735>
- Spady, W. G. 1970. Dropouts from higher education: An interdisciplinary review and synthesis. *Interchange*, 1(1), pp.64-85. <https://doi.org/10.1007/BF02214313>.
- Spady, W. G. 1971. Dropouts from higher education: Toward an empirical model. *Interchange* (2), pp.38–62. <https://doi.org/10.1007/BF02282469>.
- Springer, C. W., and Borthick, A. F. 2007. Improving performance in accounting: Evidence for insisting on cognitive conflict tasks. *Issues in Accounting Education*, 22(1), pp.1-19. <https://doi.org/10.2308/iace.2007.22.1.1>
- Steenkamp, L. P., Baard, R. S., & Frick, B. L. (2009). Factors influencing success in first-year accounting at a South African university: A comparison between lecturers' assumptions and students' perceptions. *South African Journal of Accounting Research*, 23(1), pp.113-140. <https://doi.org/10.1080/10291954.2009.11435142>

- Stephenson, C. R., Bonnes, S. L., Sawatsky, A. P., Richards, L. W., Schleck, C. D., Mandrekar, J. N., Beckman, T. J. and Wittich, C. M. 2020. The relationship between learner engagement and teaching effectiveness: A novel assessment of student engagement in continuing medical education. *BMC Medical Education* pp.201-403. <https://doi.org/10.1186/s12909-020-02331-x>.
- Stinebrickner, R., and Stinebrickner, T. 2014. Academic Performance and College Dropout: Using Longitudinal Expectations Data to Estimate a Learning Model. *Journal of Labor Economics* 32(3), pp.601–644. <https://doi.org/10.1086/675308>.
- Sugahara, S., Boland, G., and Cilloni, A. 2008. Factors influencing students' choice of an accounting major in Australia. *Accounting Education: an international journal*, 17(S1), pp.S37-S54. <https://doi.org/10.1080/09639280802009199>.
- Sugahara, S., Hiramatsu, K., and Boland, G. 2009. The factors influencing accounting school students' career intention to become a Certified Public Accountant in Japan. *Asian Review of Accounting*, 17(1), pp.5-22.. <https://doi.org/10.1108/13217340910956487>.
- Suryani, A. W. 2018. The supply shortage of accounting graduates in Indonesia: The public accounting firms perspective. *KnE Social Sciences*, pp.374-387. <https://doi.org/10.18502/kss.v3i3.1896>.
- Tan, L. M., and Laswad, F. 2006. Students' beliefs, attitudes and intentions to major in accounting. *Accounting Education: an international journal*, 15(2), pp.167-187. <https://doi.org/10.1080/09639280600787194>.
- Thammasiri, D., Delen, D., Meesad, P., and Kasap, N. 2014. A critical assessment of imbalanced class distribution problem: The case of predicting freshmen student attrition. *Expert Systems with Applications*, 41(2), pp.321-330. <https://doi.org/10.1016/j.eswa.2013.07.046>
- Thalhammer, V., Hoffmann, S., Hippel, A. V., and Schmidt-Hertha, B. 2022. Dropout in adult education as a phenomenon of fit. An integrative model proposal for the genesis of dropout in adult education based on dropout experiences. *European journal for Research on the Education and Learning of Adults*, 13(3), pp.231-246. <https://doi.org/10.25656/01:26830>

- Thomas, L. 2002. Student retention in higher education: the role of institutional habitus. *Journal of education policy*, 17(4), pp.423-442. <https://doi.org/10.1080/02680930210140257>
- Thomas, L. 2016. Developing inclusive learning to improve the engagement, belonging, retention, and success of students from diverse groups. In *Widening higher education participation* (pp. 135-159). Chandos Publishing. <https://doi.org/10.1016/B978-0-08-100213-1.00009-3>
- Tight, M. 2019. Student retention and engagement in higher education. *Journal of Further and Higher Education* 44(5) pp.689–704. <https://doi.org/10.1080/0309877X.2019.1576860>.
- Tinto, V. 1975. Dropout from Higher Education: A Theoretical Synthesis of Recent Research. *Review of Educational Research* 45(1) pp.89–125. <https://doi.org/10.2307/1170024>.
- Tinto V and Cullen J. 1973. Dropout in Higher Education: A Review and Theoretical Synthesis of Recent Research. <https://eric.ed.gov/?id=ED078802>
- Towles, D. E., and Spencer, J. 1993. The Tinto model as a guide to adult education retention policy. *Catalyst*, 4, p.V23N4. <https://scholar.lib.vt.edu/ejournals/CATALYST/V23N4/towles.html>
- Van Akkeren, J. K., and Tarr, J. A. 2022. The application of experiential learning for forensic accounting students: the Mock trial. *Accounting Education*, 31(1), pp.39-66. <https://doi.org/10.1080/09639284.2021.1960573>
- Van Wyk, E. 2011. A Note: The SAICA Part I Qualifying examinations: Factors that may influence candidates' success. *South African Journal of Accounting Research*, 25(1), pp.145-174. <https://doi.org/10.1080/10291954.2011.11435157>.
- Venuleo, C., Mossi and S. Salvatore. 2016. Educational subculture and dropping out in higher education: a longitudinal case study. *Studies in Higher Education*, 41(2), pp.321-342. <https://doi.org/10.1080/03075079.2014.927847>

- Walker, S. P. 2004. The genesis of professional organisation in English accountancy. *Accounting, Organizations and Society* 29(2), pp.127–156.
[https://doi.org/10.1016/S0361-3682\(02\)00031-4](https://doi.org/10.1016/S0361-3682(02)00031-4).
- Wells, P. K. 2015. New Zealand high school students' perception of accounting: How and why those perceptions were formed. *Accounting Education*, 24(6), pp.461-479.
<https://doi.org/10.1080/09639284.2015.1072727>.
- Wilcox, P., Winn, S., & Fyvie-Gauld, M. 2005. 'It was nothing to do with the university, it was just the people': the role of social support in the first-year experience of higher education. *Studies in higher education*, 30(6), pp.707-722.
<https://doi.org/10.1080/03075070500340036>
- Yunker, J. A., Yunker, P. J., and Krull, G. 2009. The influence of mathematical ability on performance in principles of accounting. *The Accounting Educators' Journal*, 19.
<https://www.aejournal.com/ojs/index.php/aej/article/view/101>
- Yorke, M. 2004. *Leaving early: Undergraduate non-completion in higher education*. Routledge. <https://doi.org/10.4324/9780203209479>
- Zakaria, M., Fauzi, W. N. A. W., and Hassan, S. J. 2012. Accounting as a choice of academic program. *Journal of Business Administration Research* 11, pp.43–52.
<https://doi.org/10.5430/jbar.v1n1p43>.