

DOI: 10.5281/zenodo.11032502

A SYSTEMATIC REVIEW OF THE DETERMINANTS OF UNIVERSITY DROPOUT: A COMPARISON BETWEEN INTERNATIONAL EXPERIENCE AND THE MENA REGION

Reem A. M. Al Hashmi^{1*}, Panagiotis D. Zervopoulos¹ and Hussein M. Elmehdi²

¹College of Business Administration, University of Sharjah, Sharjah, United Arab Emirates. Email: HYPERLINK "mailto:reemh@sharjah.ac.ae"reemh@sharjah.ac.ae, ORCID: <https://orcid.org/0009-0008-2076-7846>

²College of Business Administration, University of Sharjah, Sharjah, United Arab Emirates. Email: HYPERLINK "mailto:pzervopoulos@sharjah.ac.ae"pzervopoulos@sharjah.ac.ae, ORCID: <https://orcid.org/0000-0002-7112-6837>

³College of Sciences, University of Sharjah, Sharjah, United Arab Emirates. Email: HYPERLINK "mailto:hmelmehti@sharjah.ac.ae"hmelmehdi@sharjah.ac.ae, ORCID: <https://orcid.org/0000-0002-8536-190X>

Received: 28/05/2025
Accepted: 28/08/2025

Corresponding Author: Reem A. M. Al Hashmi
(reemh@sharjah.ac.ae)

ABSTRACT

University student dropout is a persistent global challenge, but the conditions that shape attrition vary significantly across regions. This review aims to compare determinants of university dropout across international and MENA contexts to inform more effective institutional policy. A total of 47 peer-reviewed empirical studies published between 2014 and 2024 were systematically selected from Scopus and ERIC. Studies were included based on predefined criteria and analyzed using thematic synthesis. The findings are organized into four domains: academic, socio-economic, institutional, and personal factors. International research highlights academic preparedness, student motivation, and institutional support as key drivers of retention. In contrast, MENA-based studies emphasize distinct structural barriers, including language-of-instruction mismatches, conditional scholarship policies, and limited curricular flexibility. These regional contrasts reveal the limitations of applying Western-derived dropout models in structurally and culturally different contexts. The review concludes that student retention efforts must be regionally adapted to reflect local policy conditions and sociocultural realities. It contributes to a more contextualized understanding of student attrition and offers evidence-based recommendations for institutional leaders and higher education policymakers.

KEYWORDS: University Dropout, Student Retention, MENA Region, Institutional Policy, Comparative Systematic Review, Higher Education, Regional Comparison, Student Success.

1. INTRODUCTION

University dropout presents a persistent challenge with wide-ranging consequences, from reduced human capital accumulation to institutional inefficiencies and national skill shortages. In both advanced and emerging economies, attrition disrupts individual mobility, organizational planning, and economic development (Shafiq et al., 2022; Uchida, 2018).

At the institutional level, dropout rates obstruct the efficient allocation of resources and complicate strategic planning (Fielding et al., 1998). This because students who withdraw or transfer without completing their degree courses still consume institutional resources and financial support that could be directed elsewhere. High attrition also undermines institutional reputations and weakens the enrollment pipeline (Naseem et al., 2022). Furthermore, faculty turnover and the lack of a cohesive learning environment often exacerbate the challenge of promoting retention (Bucklin et al., 2014; Rahmani et al., 2024).

At the macro level, high dropout rates threaten national development goals and economic productivity (Aina et al., 2022). Tertiary education is a crucial driver of innovation, labor market readiness, and sustainable development (Idoiaga Mondragon et al., 2023). When students fail to complete their degrees, the flow of highly skilled workers into the economy is disrupted.

While the consequences of university dropout are broadly consistent across regions, the underlying causes and effective responses are highly context specific. According to Aina et al. (2022), dropout rates for first-year students in OECD countries range from 6% to nearly 20%. Graduation timelines vary significantly as well, with fewer than 20% of students in the United Kingdom, Switzerland, and Ireland failing to graduate within the expected duration plus three years. In contrast, dropout rates remain above 40% in countries such as Brazil, Chile, and several European nations, including Slovenia, Belgium (French-speaking), Sweden, and Italy. These trends underscore the complexity of student persistence and the diverse challenges institutions face.

In the MENA region, dropout is similarly pressing but compounded by structural and policy-specific factors. Despite substantial public investment in higher education, retention outcomes remain modest. Over the past two decades, greater emphasis has been placed on expanding access rather than ensuring degree completion. At the same time, many educational systems have not adequately evolved to meet labor market demands. As Tzannatos et al.

(2016) argue, when systems fail to keep pace with economic change, the result is a misalignment between academic preparation and workforce readiness, driving student disengagement and attrition.

Empirical studies confirm that dropout in MENA is driven by interlinked personal, academic, and institutional factors. Al Falasi (Khaleej Times, 2017) reported a 14% dropout rate in UAE federal institutions, noting higher attrition in English-medium programs. This underscores the role of language and integration in retention (Ashour, 2020). In Saudi Arabia, dropout has been linked to poor academic performance and a host of institutional and personal factors (Nikolaidis et al., 2022). In Qatar, Hammoudi Halat et al. (2023) identified high school GPA and first-year academic performance as the most important predictors of retention, particularly among students of health sciences programs. Ebrahim et al. (2021), looking at universities in Bahrain, found that when students received help with core subjects like math, language, and science, they were more likely to stay enrolled. In light of this body of research, studies from the MENA region make it clear that solving the dropout problem means designing interventions that actually fit the realities of each local context.

Despite growing literature on university dropout, existing theoretical frameworks are predominantly based on Western contexts. Several recent systematic reviews have explored global trends in student attrition (e.g., Behr et al., 2020; Shafiq et al., 2022), yet few provide a comparative perspective that examines both international findings and the unique challenges faced in the MENA region. Comparative research analyzing how global dropout theories apply or fail to apply in the MENA region remains limited (Alizadeh, 2022). This is concerning given the region's demographic profile, rising youth population, and skill shortages.

This study focuses on empirically comparing dropout determinants across international and MENA contexts to support context-sensitive policymaking and institutional strategies.

This systematic review seeks to address this gap by asking

How do the determinants of university dropout differ between international and MENA contexts, and what implications do these differences hold for student retention policies and institutional practices?

Accordingly, this study conducts a qualitative meta-synthesis of dropout determinants identified in global and regional literature. To ensure rigor, a structured set of inclusion criteria was applied,

drawing peer-reviewed articles from major academic databases published between 2014 and 2024. Particular emphasis was placed on identifying personal, institutional, and contextual factors shaping student attrition across different environments.

This review is intended to inform policy design and institutional retention practices in the MENA region. By contrasting global findings with MENA-specific determinants, it offers a clearer understanding of which international policy approaches have been informally adopted or benchmarked, and where these may misalign with regional realities. The findings support universities and ministries in refining institutional policies, designing context-sensitive student support systems, and aligning academic structures with local socio-economic and labor market conditions.

The paper proceeds as follows: Section 2 outlines the theoretical framework, including definitions and major models of dropout. Section 3 details the methodological approach. Section 4 presents a comparative synthesis of dropout determinants across 35 international and 12 MENA studies (see Tables ES1 and ES2 in the Electronic Supplement). Section 5 discusses the findings, with embedded limitations, and Section 6 concludes with the study's implications.

2. THEORETICAL FRAMEWORK

2.1. Introduction to University Dropout

University dropout is typically understood as the early termination of academic studies prior to the completion of a degree. However, definitions in the scholarly literature vary, with distinctions often made between voluntary and involuntary dropout, institutional versus systemic departure, and temporary as opposed to permanent withdrawal (Aina et al., 2022; Raetze et al., 2022). Voluntary dropout occurs due to financial constraints, personal circumstances, or academic challenges, whereas involuntary dropout results from academic dismissal or disciplinary actions (Kennedy et al., 2019). Institutional dropout refers to students transferring to another university, while systemic dropout occurs when students leave higher education entirely (Nemtcan et al., 2022). These distinctions inform retention strategies tailored to different dropout profiles.

This section presents key theoretical frameworks commonly used to explain university dropout, organized into economic, sociological, psychological,

and cultural perspectives. These frameworks form the conceptual basis for later comparison between international models and MENA-specific findings.

2.2. Theoretical Perspectives

2.2.1. Economic Models

Economic theories can help us better understand how university students reach a decision about whether to continue or drop out of an academic program. One of the most popular economic theories that explore this issue is the Human Capital Theory, developed by Becker (1993). This theory suggests that students evaluate the costs of pursuing higher education, such as the cost of the tuition fees, lost income, and time spent to complete the degree, against its potential gains, including earnings, employability, and social status (Aina et al., 2022). This strategy of assessing the cost-effectiveness of pursuing higher education explains how students' motivation may shift based on their perceived return on investment.

In other words, if a student perceives that his or her chosen university program has little prospect of eventually leading to promising job opportunities in the future, they may reconsider whether the time and effort of completing the program are worth the costs (Montmarquette et al., 2001). Related models acknowledge that students often enter programs without full knowledge of their structure or outcomes and, therefore, tend to adjust their expectations as they gain relevant knowledge and experience (Bargmann et al., 2022; Becker, 1993).

In addition, self-confidence and personal circumstances, such as family commitments, finances, or health, can influence a student's evaluation of the costs and risks involved in pursuing university studies. The choice-under-uncertainty model attempts to explain how these perceived risks lead students to reassess and reconfigure their educational paths. In some cases, students may choose to withdraw from the program or transfer to a more suitable institution or major (Aina et al., 2022).

2.2.2. Sociological Models

One of the most influential sociological models of student dropout is Tinto's (1975) Student Integration Model, which draws on Durkheim's Theory of Suicide (Durkheim, 1951). Tinto proposed that academic and social integration shape students' likelihood of persisting. Academic integration relates to performance, intellectual development, and curricular alignment, while social integration reflects relationships with peers, faculty, and campus life. Students enter with particular goals and

backgrounds that are reshaped by institutional experiences. When these experiences are positive through faculty engagement, peer networks, or belonging, students become more committed and likely to persist (Ebrahim et al., 2021).

However, feelings of isolation or misfit can disrupt this integration and raise dropout risk. In contrast to Tinto's focus on institutional integration, Bean (1980) emphasized the influence of individual attributes. He considered factors such as students' family background, academic preparedness, and psychological tendencies including how they perceive their abilities and manage stress. These elements, when shaped by the university context, contribute to how students interpret their experience and whether they remain enrolled or choose to leave.

Bean also emphasizes external pressures. Older students, part-time learners, and those with jobs or family obligations may engage less socially, relying instead on institutional support and satisfaction with academic programs (Ashour, 2020). Both models stress that alignment between institutional culture and student expectations is key to retention, a foundation for initiatives like learning communities, first-year experiences, and targeted student support.

2.2.3. *Psychological Theories*

The Self-Determination Theory (SDT), which Deci and Ryan introduced in 1985, serves as an equally important psychological framework. The theory identifies Autonomy, Competence, and Relatedness as the fundamental psychological requirements for motivation. Students who maintain positive relationships with peers and faculty, believe in their academic abilities, and enjoy learning are more likely to demonstrate motivation, persistence, and engagement in their higher education studies.

Educational environments which meet these needs, according to SDT, create intrinsic motivation, deeper learning, and stronger academic goal commitment (Bernardo et al., 2016). Students tend to stay engaged in their studies when instructors value them, their work receives appreciation, and they receive personalized support.

Attention to psychological needs requires educational institutions to develop thoughtful curricula, instructional approaches, and support systems that fulfill these requirements. Learning environments that provide autonomy, help students build competence, and promote meaningful social interaction will enhance their chances of continued engagement. These conditions serve as essential factors for institutions seeking to enhance student persistence and reduce dropout rates.

2.2.4. *Cross-Cultural Perspectives*

Theories of cultural capital (Bourdieu, 1977) and acculturation (Berry, 1980) offer useful ways to examine how students' cultural backgrounds shape their academic and social integration in university settings. Cultural capital refers to knowledge, language fluency, and behavioral norms that are often valued in academic institutions. Students who possess these forms of capital, such as fluency in English or French and familiarity with academic expectations tend to navigate university life more easily. In contrast, those from traditional or marginalized backgrounds may encounter structural barriers that affect their participation and persistence (Bourdieu, 1977).

Berry (1980) proposed four strategies individuals adopt in cross-cultural situations: assimilation, separation, integration, and marginalization. Students who successfully integrate their cultural identity with institutional norms are more likely to experience academic well-being (Dias, 2022). However, exclusion caused by language difficulties, gender-based restrictions, or socioeconomic disadvantage can increase the likelihood of dropout (Nurius et al., 2023).

In the MENA context, these frameworks require adaptation to reflect the cultural, religious, and political factors that influence students' experiences. For students who encounter identity tension or environmental instability, academic success often depends on whether universities can affirm their backgrounds and reduce systemic stress (Duche-Pérez et al., 2024; Yin, 2022). A multi-level perspective is needed to better understand how personal, institutional, and societal forces intersect in such settings.

2.3. *Integration of Theoretical Perspectives*

Together, the economic, sociological, psychological, and cross-cultural perspectives reveal that university dropout is a multidimensional phenomenon shaped by both global patterns and regional specificities. While each framework provides valuable insights into students' experiences and persistence, no single theory offers a fully comprehensive explanation. Addressing this complexity especially in culturally diverse and evolving educational contexts such as the MENA region requires an integrated theoretical approach.

This integrative model recognizes that student retention and success are shaped by interconnected processes operating at multiple levels: individual, interpersonal, institutional, and societal. At the individual level, theories such as Self-Determination

Theory (Deci & Ryan, 1985) and Human Capital Theory (Becker, 1993) emphasize psychological needs, motivation, and perceived returns on investment. The interpersonal level draws on sociological models like Tinto (1975) and Bean (1980), which highlight academic and social integration, peer relationships, and support networks (Miller *et al.*, 2019). At the institutional level, policies, pedagogical practices, and campus environments interact with student characteristics to influence persistence (Jin & Cortazzi, 2017). Finally, at the societal level, cultural capital (Bourdieu, 1977) and acculturation theories (Berry, 1980) explain how broader economic, political, and cultural forces shape student trajectories.

An integrated perspective is especially vital in the MENA region, where cultural, linguistic, and socio-political dynamics intersect with under-researched factors such as gender norms, religious identity, and financial sponsorship. Synthesizing these domains offers a framework that better reflects the lived realities of students in both international and MENA contexts. These frameworks also informed the thematic organization of this review's findings into academic, socio-economic, institutional, and personal domains. These four thematic domains reflect recurring dimensions across both international and MENA studies and align with the multi-level model of student persistence outlined above.

3. METHODOLOGICAL APPROACH

This review used a structured approach to explore the reasons why students drop out of university, comparing international studies with those from the MENA region. It included peer-reviewed, English-language research articles published between January 1, 2014, and March 31, 2024. The studies were retrieved from Scopus and ERIC, both of which cover a wide range of higher education research across global and regional contexts.

The database searches were carried out on March 31, 2024. Boolean keyword combinations were applied to identify studies that addressed university dropout, student retention, and attrition. In Scopus, the search terms were applied to article titles, abstracts, and keywords, and included the following:

("university dropout" OR "student attrition" OR "academic withdrawal" OR "student retention" OR "student persistence" OR "higher education dropout") AND ("determinants" OR "factors" OR "causes" OR "predict*" OR "model*" OR "risk" OR "intervention" OR "early warning system" OR "data mining" OR "machine learning" OR "AI" OR

"classification" OR "regression" OR "analytics") AND ("higher education" OR "university" OR "college" OR "tertiary education")

Filtered by: peer-reviewed journal articles, English language, and publication years 2014–2024.

The ERIC search used a similarly structured query adapted to the platform's syntax and was limited to peer-reviewed journal articles focused on higher education, published in English between 2014 and 2024. The combined search retrieved over 1,400 records from ERIC and approximately 1,000 from Scopus.

A multi-stage screening process followed. The researchers conducted full-text assessments based on predefined inclusion and exclusion criteria, following duplicate removal and initial title/abstract screening. To be included, studies had to meet the following criteria: (1) Be either empirical studies focused on higher education settings that analyzed dropout determinants using predictive methods (e.g., regression, machine learning) or explanatory approaches (e.g., interviews, thematic analysis), or systematic or conceptual review studies that provided structured analyses of dropout-related factors; (2) Be published in peer-reviewed Q1 or Q2 Scopus-ranked journals between 2014 and 2024; and (3) Focus on in-person or hybrid learning contexts.

Studies were excluded if they focused on K–12 or vocational education, online-only formats (e.g., MOOCs), COVID-specific disruptions, or lacked analytical depth (e.g., descriptive-only surveys).

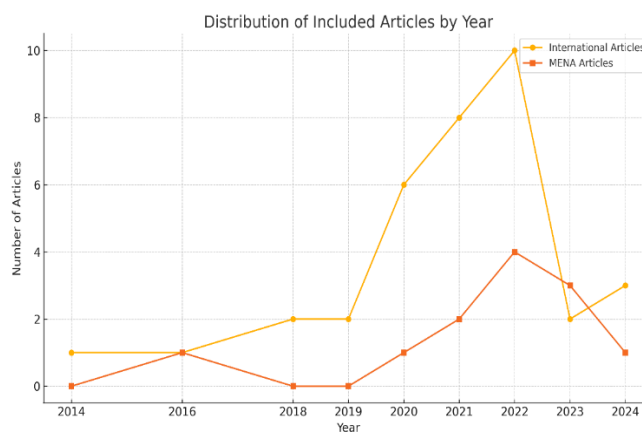


Figure 1: Distribution of Included International and MENA Articles by Publication Year (2014–2024).

In total, 47 studies were included: 35 from international contexts and 12 from the MENA region. The temporal distribution of the included articles is illustrated in Figure 1, showing publication trends across the past decade for both international and MENA studies.

All articles underwent thematic synthesis and were categorized into four dimensions: academic, socio-economic, institutional, and personal factors. Detailed methodological summaries and extracted findings are presented in Tables ES1 (international) and ES2 (MENA) in the Electronic Supplement.

4. THEMATIC COMPARISON OF DROPOUT DRIVERS IN HIGHER EDUCATION

4.1. Academic Factors

Academic performance and preparedness are consistently identified as central to student persistence across dropout research. Theoretical models such as Tinto's Student Integration Model emphasize academic integration as a key retention mechanism, while Bean and Metzner's framework highlights academic variables as particularly influential for non-traditional students, especially when academic experiences shape perceptions of institutional fit.

In international contexts, low first-year GPA, failed core courses, and insufficient credit accumulation are strongly correlated with attrition (Alvarado-Uribe et al., 2022; Gallego et al., 2021). Conversely, early success in foundational courses is associated with higher persistence (Shafiq et al., 2022). Academic preparedness, measured through high school GPA, entrance scores, and study habits, also predicts early retention (Gambini et al., 2024; Kocsis & Molnár, 2025). Misalignment between student interests and curriculum, such as mismatched majors or unanticipated academic demands can lead to withdrawal (Behr et al., 2020). Language barriers, particularly among linguistic minorities or international students, are an additional risk factor where limited fluency impairs engagement (Lorenzo-Quiles et al., 2023).

MENA-based studies echo the importance of early academic performance. Alturki and Alturki (2021) found that repeated failure in foundational courses closely predicts dropout (Albreiki et al., 2023; Hammoudi Halat et al., 2023). Academic preparedness is weakened by poor secondary education standards, lack of bridging programs, and grade inflation (Abdulghani et al., 2023; Ben Said et al., 2024). A pronounced challenge in the region is language of instruction: most universities teach in English or French, while students often graduate from Arabic-medium secondary schools. This linguistic mismatch increases academic difficulty, especially in programs requiring standardized English proficiency (Ebrahim et al., 2021; Nikolaidis et al., 2022; Oqaidi et al., 2022). Curriculum misalignment is also common, with students finding

gaps between high school preparation and university demands (Noaman et al., 2016).

While classical models emphasize academic integration, they do not account for the compounded barriers facing students in linguistically and structurally distinct contexts. In settings like the UAE and Bahrain, reliance on standardized English proficiency exams creates disadvantages for Arabic-educated students (Ashour, 2020; Ebrahim et al., 2021), and the lack of academic support services, such as tutoring or bridging initiatives further heightens attrition risks (Nikolaidis et al., 2022).

These findings suggest the need for targeted academic interventions in MENA universities. Institutions should focus on aligning university curricula with the competencies developed in secondary education, particularly in foundational STEM and language-based courses. Strengthening academic orientation programs and diagnostic assessments at entry can help identify students at risk and guide them toward early academic support. Rather than relying solely on high-stakes admission tests, universities could adopt more formative feedback mechanisms and modular remedial coursework that allow students to recover academic standing early in their studies.

4.2. Socio-Economic Factors

Socio-economic conditions remain central to understanding patterns of university dropout across both international and MENA contexts. Human Capital Theory posits that students weigh the costs and benefits of education, with dropout occurring when expected returns are low (Kim & Kim, 2018). Tinto's Student Integration Model includes socio-economic background as a key pre-entry factor shaping academic and social integration (Tinto, 1993). Bourdieu's theory of social and cultural capital further highlights how parental education and social class influence access to academic resources and educational aspirations (Bourdieu, 1977). Collectively, these frameworks stress that family income, social class, and financial support significantly affect student persistence.

Research across international literature shows that parental income together with occupation and education levels strongly determine student dropout rates. Students from lower-income families experience financial difficulties that force them to take part-time jobs which interrupts their academic concentration (Flores et al., 2022; Kocsis & Pusztai, 2020). Students whose parents have limited educational attainment face higher risks of attrition because they lack the academic guidance required to

succeed in university (Casanova et al., 2018; Cocoradă et al., 2021). Emotional and financial support from families helps buffer academic stress, enhancing retention (Behr et al., 2020). Other persistent factors include off-campus housing, inadequate transportation, and work-study conflict, all of which reduce time and energy available for learning (Cannistrà et al., 2022; Santos-Villalba et al., 2023). Ethnic and minority status adds further vulnerability, as these students often encounter barriers to integration and institutional support (Gairín et al., 2013; Fonseca & García, 2016).

By contrast, MENA studies point to a distinct set of socio-economic influences. In countries such as the GCC, public universities offer free tuition and stipends or scholarships (Ashour, 2020; Ebrahim et al., 2021). Although this eases financial burden, dropout still occurs when scholarships are lost due to unmet GPA or English proficiency requirements (Abdulghani et al., 2023; Oqaidi et al., 2022). As a result, Human Capital Theory's assumption that financial cost deters persistence is less applicable in these contexts. Familial expectations also shape student decisions. Male students may face pressure to financially support extended family, leading them to accept secure public sector jobs rather than complete a degree (Noaman et al., 2016). For female students, early marriage and childcare duties are key dropout triggers, especially when campuses lack adequate support services (Ashour, 2020).

These findings suggest that retention strategies in MENA universities should account for how financial structures interact with family obligations and gender norms. Institutions may consider redesigning scholarship policies to include academic support triggers before loss of funding and offer pathways for reinstatement. For students balancing work and study, flexible fee payment plans, and part-time enrollment options can alleviate pressure. Support services tailored to the specific financial vulnerabilities of male and female students, such as job placement advising or family-inclusive outreach can help align academic goals with household expectations and economic realities.

4.3. Institutional Factors

Institutional factors have long been theorized as central to student retention, especially through their role in shaping academic and social integration. Tinto's Student Integration Model remains the most widely applied in this regard, emphasizing faculty accessibility, teaching practices, and support structures as pivotal to student persistence. Bean and Metzner's model also incorporates the institutional

environment, particularly for non-traditional students whose decisions are influenced by institutional flexibility and support systems. Self-Determination Theory adds that supportive and autonomy-enhancing environments foster motivation and engagement.

International research consistently shows that well-resourced institutional environments reduce dropout risk. Academic advising, early-warning systems, and tutoring services are especially effective for at-risk students (Alvarado-Urbe et al., 2022; Peng & Zhang, 2021). Faculty pedagogy also matters: practice-oriented and interactive teaching enhances engagement, while rigid or lecture-heavy approaches correlate with student disengagement (Santos-Villalba et al., 2023). The physical and social learning environment including class size, resource availability, and campus infrastructure also impacts satisfaction and persistence (Kim & Kim, 2018). A sense of belonging and participation in extracurricular activities fosters academic motivation and institutional commitment (Arias et al., 2024).

MENA-based studies confirm many of these patterns but reveal distinct institutional features shaped by sociocultural and policy conditions. Institutional reputation, support service quality, and students' identification with the university positively influence persistence (Al Hassani & Wilkins, 2022). However, several MENA studies highlight institutional rigidity. Married students, working learners, and older enrollees often report difficulty accessing flexible schedules or tailored advising (Noaman et al., 2016). Language of instruction emerges as a major barrier: high-stakes English exams such as EmSAT are often prerequisites for program progression, yet many Arabic-educated students struggle in the absence of sufficient language support (Ebrahim et al., 2021). Teaching styles are frequently exam-oriented and lack differentiation, creating further challenges for first-generation or underprepared students (Alturki & Alturki, 2021; Ben Said et al., 2024; Nikolaidis et al., 2022).

These findings highlight the need for institutional policies in MENA universities that prioritize structural flexibility and instructional responsiveness. Institutions should accommodate students with complex life circumstances, such as married students or working adults by offering modular course designs and alternative scheduling. Faculty training that promotes active learning and responsiveness to student diversity can reduce disengagement, particularly among first-generation and underprepared learners. Institutional reforms

that increase procedural transparency, reduce bureaucratic bottlenecks, and include students in feedback loops may improve both engagement and persistence.

4.4. Personal Factors

Researchers in higher education have examined student dropout by drawing on various theories, including Tinto's model of student integration, Bean and Metzner's framework for non-traditional student attrition, Self-Determination Theory, and Human Capital Theory. These theories suggest that a student's motivation, emotional health, confidence, and personal circumstances all play a role in whether they stay enrolled and engaged with their institution.

Tinto emphasizes that failure to achieve academic and social integration increases dropout risk, particularly when personal challenges erode engagement. Bean and Metzner's model highlights the vulnerability of non-traditional students to external pressures such as family obligations or poor health. Self-Determination Theory stresses the role of intrinsic motivation and perceived autonomy, while Human Capital Theory frames dropout as a rational decision when constraints diminish expected educational returns. Berry's (1980) acculturation theory also provides insight into how students experience identity-related stress and disengagement when they feel culturally marginalized, particularly in academic settings that do not reflect their values or norms.

International research identifies a broad range of personal factors that contribute to student attrition. Psychological issues including anxiety, depression, and burnout consistently impair academic performance and student engagement (Lorenzo-Quiles et al., 2023; Santos-Villalba et al., 2023). Low motivation, especially when expectations clash with program realities, also drives disengagement (Lorenzo-Quiles et al., 2023). Social isolation and lack of belonging are similarly detrimental (Alvarado-Uribe et al., 2022). Personality traits like conscientiousness and resilience support persistence, while high neuroticism increases vulnerability (Heublein, 2014). Life events like marriage, parenthood, or family conflict can derail academic progress, especially without adequate institutional support (Santos-Villalba et al., 2023). Additionally, unmet expectations about the academic environment frequently result in dissatisfaction and eventual dropout.

MENA studies reveal similar personal factors but with distinct contextual contours. Psychological distress including anxiety and low self-worth

emerged as strong predictors of dropout, often stemming from academic pressure and social isolation (Abdulghani et al., 2023; Hammoudi Halat et al., 2023). Yet, mental health support remains limited and stigmatized, discouraging help-seeking (Abdulghani et al., 2023; Hammoudi Halat et al., 2023). Motivation also plays a central role: students genuinely interested in their programs showed greater persistence, whereas those swayed by parental expectations or societal prestige tended to disengage when facing academic obstacles (Noaman et al., 2016). Self-efficacy and confidence were critical, particularly for students unable to meet institutional or language standards (Albreiki et al., 2023; Alturki & Alturki, 2021; Nikolaidis et al., 2022). Structural barriers, such as inflexible academic systems or lack of accommodations for physical health conditions, further compound these risks (Ashour, 2020). Gendered family roles also shaped persistence—female students often left due to early marriage or caregiving duties, while male students prioritized employment, particularly in public-sector roles not requiring a degree (Ashour, 2020).

These findings underscore the importance of fostering psychologically safe and motivationally supportive environments. MENA universities should invest in de-stigmatizing mental health services by embedding wellness programs into orientation and advising structures, with culturally sensitive outreach. Career and program counseling should assess motivational alignment, helping students clarify personal goals before and during enrollment. For students navigating life-stage events like marriage, caregiving, or employment shifts, institutions should offer case-by-case accommodations through leaves of absence, re-entry pathways, or academic pacing options that enable long-term persistence.

5. DISCUSSION

This systematic review set out to examine the determinants of university student dropout, with particular attention to how these factors manifest in the MENA region in comparison to the international literature. While many global studies emphasize academic preparedness, institutional support, and student motivation, the MENA-focused literature reveals a distinct interplay between structural barriers, sociocultural norms, and region-specific institutional practices. These differences signal not only varying dropout drivers but also the limitations of applying Western-derived models without adaptation to local contexts.

In several reviewed MENA studies, dropout was

shaped not only by lack of student engagement, but also by institutional conditions such as English-medium instruction without adequate support, rigid academic progression, and GPA-based scholarship policies. These structural features often limited students' ability to persist, even when they were motivated or capable. Unlike the international literature, where early academic failure or low integration were primary triggers, MENA findings emphasized institutional inflexibility and policy misalignment as central barriers to retention.

Many MENA studies also pointed to the vulnerability of non-traditional students, such as married learners, working students, and older enrollees who encountered difficulty reconciling institutional demands with life responsibilities. The lack of flexible learning pathways, targeted advising, and psychological support services compounded dropout risks, even among students with strong motivation or academic capability. These findings highlight the need for institutional reforms that prioritize accessibility, student well-being, and program adaptability in the MENA region.

In contrast, international studies emphasized formalized retention policies that prioritize academic preparedness, structured advising, and student integration programs. These policies often assume student autonomy, mobility, and access to support systems. These conditions may not align with institutional realities in the MENA region. While such approaches have shown success in certain contexts, they frequently overlook external sociocultural influences such as family authority, language barriers, or restrictive scholarship models, that are more salient in MENA settings. This comparison highlights the need for retention strategies in MENA universities that critically evaluate which international policy logics are transferable, and where contextual adaptation is necessary.

Ultimately, this review not only consolidates the state of the field but also calls for increased attention to the regional, cultural, and institutional conditions that shape dropout. Researchers and policymakers must recognize that student attrition is not solely a matter of individual behavior or academic integration but often reflects systemic misalignments between students' lived realities and the design of higher education systems. Addressing these gaps requires context-sensitive research and policy frameworks that are attuned to the educational environments of the regions under study.

Despite its comprehensive scope, this review has several limitations. First, the inclusion of only English-

language, peer-reviewed journal articles may have excluded relevant regional research published in Arabic or in non-indexed outlets. Second, the imbalance between international and MENA studies (35 vs. 12) limits the generalizability of cross-regional comparisons. Third, inconsistent use of dropout terminology across studies complicated synthesis, especially when distinguishing between institutional and systemic attrition. Lastly, the exclusion of COVID-19-related studies, while intentional to avoid temporary anomalies, may have overlooked recent shifts in dropout patterns. These limitations underscore the need for continued region-specific research, especially into underexplored determinants such as gender-based access constraints, mental health stigma, scholarship policies, and post-graduation employment structures.

In addition to its comparative insights, this review contributes original value in three ways: first, by synthesizing international and MENA-specific findings to highlight cross-regional distinctions in dropout determinants; second, by translating these findings into policy-relevant themes that reflect institutional and cultural realities; and third, by identifying empirical gaps that future studies should address to improve student retention across diverse higher education systems.

6. CONCLUSION

This review identified both shared and context-specific determinants of university dropout across international and MENA settings. While global research frequently emphasizes academic performance, personal motivation, and institutional support, MENA-based studies underscore how structural constraints and sociocultural dynamics such as language-of-instruction policies, gender-based access limitations, and conditional scholarship requirements introduce constraints that are often absent or less emphasized in Western systems. By synthesizing findings from 47 peer-reviewed studies (12 from MENA and 35 from international contexts), this review offers a comparative perspective on student retention and emphasizes the need for institutional policies and support systems that reflect regional realities. These insights are particularly relevant for policymakers in the MENA region, where international policy models are frequently adopted without sufficient adaptation to local cultural, economic, and institutional conditions. Future research should build on these findings by designing culturally grounded interventions and strengthening institutional data systems to monitor dropout risk factors, track longitudinal student outcomes, and inform proactive retention strategies.

Acknowledgements: The authors gratefully acknowledge Prof. Ilhan Ozturk, Dean of the College of Business Administration at the University of Sharjah, for his academic guidance and constructive feedback during the development and review of this study.

REFERENCES

- Abdulghani, H. M., Alanazi, K., Alotaibi, R., Alsubeeh, N. A., Ahmad, T., & Haque, S. (2023). Prevalence of potential dropout thoughts and their influential factors among Saudi medical students. *SAGE Open*, 13(1), 21582440221146966. <https://doi.org/10.1177/21582440221146966>
- Aina, C., Baici, E., Casalone, G., & Pastore, F. (2022). The determinants of university dropout: A review of the socio-economic literature. *Socio-Economic Planning Sciences*, 79, 101102. <https://doi.org/10.1016/j.seps.2021.101102>
- Al Hassani, A. A., & Wilkins, S. (2022). Student retention in higher education: The influences of organizational identification and institution reputation on student satisfaction and behaviors. *International Journal of Educational Management*, 36(6), 1046-1064. <https://doi.org/10.1108/IJEM-03-2022-0123>
- Albreiki, B., Habuza, T., & Zaki, N. (2023). Extracting topological features to identify at-risk students using machine learning and graph convolutional network models. *International Journal of Educational Technology in Higher Education*, 20(1), 23. <https://doi.org/10.1186/s41239-023-00389-3>
- Alizadeh, A. (2022). The drivers and barriers of corporate social responsibility: A comparison of the MENA region and Western countries. *Sustainability*, 14(2), 909. <https://doi.org/10.3390/su14020909>
- Alturki, S., & Alturki, N. (2021). Using educational data mining to predict students' academic performance for applying early interventions. *Journal of Information Technology Education: Innovations in Practice*, 20, 121-137. <https://doi.org/10.28945/4835>
- Alvarado-Urbe, J., Mejía-Almada, P., Masetto Herrera, A. L., Molontay, R., Hilliger, I., Hegde, V., ... & Ceballos, H. G. (2022). Student dataset from Tecnológico de Monterrey in Mexico to predict dropout in higher education. *Data*, 7(9), 119. <https://doi.org/10.3390/data7090119>
- Arias, A., Linares-Vásquez, M., & Héndez-Puerto, N. R. (2024). Undergraduate dropout in Colombia: A systematic literature review of causes and solutions. *Journal of Latinos and Education*, 23(2), 612-627. <https://doi.org/10.1080/15348431.2023.2171042>
- Ashour, S. (2020). Analysis of the attrition phenomenon through the lens of university dropouts in the United Arab Emirates. *Journal of Applied Research in Higher Education*, 12(2), 357-374. <https://doi.org/10.1108/JARHE-05-2019-0110>
- Bargmann, C., Thiele, L., & Kauffeld, S. (2022). Motivation matters: predicting students' career decidedness and intention to drop out after the first year in higher education. *Higher Education*, 1-17. <https://doi.org/10.1007/s10734-021-00707-6>
- Bean, J. P. (1980). Dropouts and turnover: The synthesis and test of a causal model of student attrition. *Research in Higher Education*, 12(2), 155-187. <https://doi.org/10.1007/BF00976194>
- Becker, G. S. (1993). *Human capital: A theoretical and empirical analysis, with special reference to education* (3rd ed.). University of Chicago Press.
- Behr, A., Giese, M., Teguin Kamdjou, H. D., & Theune, K. (2020). Dropping out of university: A literature review. *Review of Education*, 8(2), 614-652. <https://doi.org/10.1002/rev3.3202>
- Ben Said, M., Hadj Kacem, Y., Algarni, A., & Masmoudi, A. (2024). Early prediction of student academic performance based on Machine Learning algorithms: A case study of bachelor's degree students in KSA. *Education and Information Technologies*, 29(11), 13247-13270. <https://doi.org/10.1007/s10639-023-12370-8>
- Bernardo, A., Esteban, M., Fernández, E., Cervero, A., Tuero, E., & Solano, P. (2016). Comparison of personal, social, and academic variables related to university drop-out and persistence. *Frontiers in Psychology*, 7, 1610. <https://doi.org/10.3389/fpsyg.2016.01610>
- Berry, J. W. (1980). Acculturation as varieties of adaptation. In A. M. Padilla (Ed.), *Acculturation: Theory, models and some new findings* (pp. 9-25). Westview Press.
- Bourdieu, P. (1977). *Outline of a theory of practice* (R. Nice, Trans.). Cambridge University Press. <https://doi.org/10.1017/CBO9780511812507>
- Bucklin, B. A., Valley, M., Welch, C., Tran, Z. V., & Lowenstein, S. R. (2014). Predictors of early faculty attrition at one Academic Medical Center. *BMC Medical Education*, 14, 1-7. <https://doi.org/10.1186/1472-6920-14-27>
- Cannistrà, M., Masci, C., Ieva, F., Agasisti, T., & Paganoni, A. M. (2022). Early-predicting dropout of university students: An application of innovative multilevel machine learning and statistical techniques. *Studies in Higher Education*, 47(9), 1935-1956. <https://doi.org/10.1080/03075079.2021.2018415>

- Casanova, J. R., Cervero, A., Núñez, J. C., Almeida, L. S., & Bernardo, A. (2018). Factors that determine the persistence and dropout of university students. *Psicothema*, 30(4), 408-414. <https://doi.org/10.7334/psicothema2018.155>
- Cocoradă, E., Curtu, A. L., Năstasă, L. E., & Vorovencii, I. (2021). Dropout intention, motivation, and socio-demographics of forestry students in Romania. *Forests*, 12(5), 618. <https://doi.org/10.3390/f12050618>
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. Plenum Press.
- Dias, D. (2022). The higher education commitment challenge: Impacts of physical and cultural dimensions on first-year students' sense of belonging. *Education Sciences*, 12(4), 231. <https://doi.org/10.3390/educsci12040231>
- Duche-Pérez, A. B., Vera-Revilla, C. Y., Gutiérrez-Aguilar, O. A., Chicana-Huanca, S., & Chicana-Huanca, B. (2024). Religion and spirituality in university students: A systematic review of the literature. *International Journal of Religion & Spirituality in Society*, 14(3). <https://doi.org/10.18848/2154-8633/CGP/v14i03/135-162>
- Durkheim, E. (1951). *Suicide: A study in sociology*. Glencoe, IL: The Free Press.
- Ebrahim, P., Al-Moumni, M., Al-Hattami, A., & Ali, A. (2021). A study of student attrition in the foundation year program of a teachers' college. *International Journal of Lifelong Education*, 40(3), 198-214. <https://doi.org/10.1080/02601370.2021.1931973>
- Fielding, A., Belfield, C. R., & Thomas, H. R. (1998). The consequences of dropouts on the cost-effectiveness of 16-19 colleges. *Oxford Review of Education*, 24(4), 487-511. <https://doi.org/10.1080/0305498980240405>
- Flores, V., Heras, S., & Julián, V. (2022). A new methodological framework for project design to analyse and prevent students from dropping out of higher education. *Electronics*, 11(18), 2902. <https://doi.org/10.3390/electronics11182902>
- Fonseca, G., & García, F. (2016). Permanence and dropout in university students: An analysis from organizational theory. *Revista de Educación Superior*, 45, 25-39. <https://doi.org/10.1016/j.resu.2016.06.004>
- Gairín, J., Muñoz, J. L., Galán, A., Sanahuja, J. M., & Fernández, M. (2013). Tutorial action plans for students with disabilities: A proposal to improve the quality of training in Spanish universities. *Revista Iberoamericana de Educación*, 63, 115-126. <https://doi.org/10.35362/rie630504>
- Gallego, M. G., Perez de los Cobos, A. P., & Gallego, J. C. G. (2021). Identifying students at risk to academic dropout in higher education. *Education Sciences*, 11(8), 427. <https://doi.org/10.3390/educsci11080427>
- Gambini, A., Desimoni, M., & Ferretti, F. (2024). Predictive tools for university performance: An explorative study. *International Journal of Mathematical Education in Science and Technology*, 55(3), 691-717. <https://doi.org/10.1080/0020739X.2021.2022794>
- Gold, G. D., & Naufal, G. S. (2012). Wasta: The Other Invisible Hand A Case Study of University Students in the Gulf. *Journal of Arabian studies*, 2(1), 59-73. <https://doi.org/10.1080/21534764.2012.686236>
- Hammoudi Halat, D., Abdel-Salam, A. S. G., Bensaid, A., Soltani, A., Alsarraj, L., Dalli, R., & Malki, A. (2023). Use of machine learning to assess factors affecting progression, retention, and graduation in first-year health professions students in Qatar: A longitudinal study. *BMC Medical Education*, 23(1), 909. <https://doi.org/10.1186/s12909-023-04887-w>
- Heublein, U. (2014). Student drop-out from German higher education institutions. *European Journal of Education*, 49(4), 497-513. <https://doi.org/10.1111/ejed.12097>
- Idoiaga Mondragon, N., Yarritu, I., Saez de Cámara, E., Beloki, N., & Vozmediano, L. (2023). The challenge of education for sustainability in higher education: Key themes and competences within the University of the Basque Country. *Frontiers in Psychology*, 14, 1158636. <https://doi.org/10.3389/fpsyg.2023.1158636>
- James-Hawkins, L., Al-Attar, G., & Yount, K. M. (2021). Young adult women's aspirations for education and career in Qatar: Active resistance to gendered power. *Sex Roles*, 85(5), 271-286. <https://doi.org/10.1007/s11199-020-01220-3>
- Jin, L., & Cortazzi, M. (2017). Practising cultures of learning in internationalising universities. *Journal of Multilingual and Multicultural Development*, 38(3), 237-250. <https://doi.org/10.1080/01434632.2015.1134548>
- Kennedy, B. L., Acosta, M. M., & Soutullo, O. (2019). Counternarratives of students' experiences returning to comprehensive schools from an involuntary disciplinary alternative school. *Race Ethnicity and Education*, 22(1), 130-149. <https://doi.org/10.1080/13613324.2017.1376634>

- Khaleej Times. (2017). New ratings system for UAE universities. Retrieved from <https://www.khaleejtimes.com/uae/new-ratings-system-for-uae-universities>
- Kim, D., & Kim, S. (2018). Sustainable education: Analyzing the determinants of university student dropout by nonlinear panel data models. *Sustainability*, 10(4), 954. <https://doi.org/10.3390/su10040954>
- Kocsis, Á., & Molnár, G. (2025). Factors influencing academic performance and dropout rates in higher education. *Oxford Review of Education*, 51(3), 414-432. <https://doi.org/10.1080/03054985.2024.2316616>
- Kocsis, Z., & Pusztai, G. (2020). Student employment as a possible factor of dropout. *Acta Polytechnica Hungarica*, 17(4), 183-199.
- Lorenzo-Quiles, O., Galdón-López, S., & Lendínez-Turón, A. (2023, March). Factors contributing to university dropout: A review. In *Frontiers in Education* (Vol. 8, p. 1159864). Frontiers Media SA. <https://doi.org/10.3389/feduc.2023.1159864>
- Miller, A. L., Williams, L. M., & Silberstein, S. M. (2019). Found my place: The importance of faculty relationships for seniors' sense of belonging. *Higher Education Research & Development*, 38(3), 594-608. <https://doi.org/10.1080/07294360.2018.1551333>
- Montmarquette, C., Mahseredjian, S., & Houle, R. (2001). The determinants of university dropouts: A bivariate probability model with sample selection. *Economics of Education Review*, 20(5), 475-484. [https://doi.org/10.1016/S0272-7757\(00\)00029-7](https://doi.org/10.1016/S0272-7757(00)00029-7)
- Naseem, M., Chaudhary, K., & Sharma, B. (2022). Predicting freshmen attrition in computing science using data mining. *Education and Information Technologies*, 27(7), 9587-9617. <https://doi.org/10.1007/s10639-022-11018-3>
- Nemtcán, E., Sæle, R. G., Gamst-Klaussen, T., & Svartdal, F. (2022, May). Academic self-efficacy, procrastination, and attrition intentions. In *Frontiers in Education* (Vol. 7, p. 768959). Frontiers Media SA. <https://doi.org/10.3389/feduc.2022.768959>
- Nikolaïdis, P., Ismail, M., Shuib, L., Khan, S., & Dhiman, G. (2022). Predicting student attrition in higher education through the determinants of learning progress: A structural equation modelling approach. *Sustainability*, 14(20), 13584. <https://doi.org/10.3390/su142013584>
- Noaman, A. Y., Luna, J. M., Ragab, A. H., & Ventura, S. (2016). Recommending degree studies according to students' attitudes in high school by means of subgroup discovery. *International Journal of Computational Intelligence Systems*, 9(6), 1101-1117. <https://doi.org/10.1080/18756891.2016.1256573>
- Nurius, P. S., Sefidgar, Y. S., Kuehn, K. S., Jung, J., Zhang, H., Figueira, O., ... & Mankoff, J. C. (2023). Distress among undergraduates: Marginality, stressors, and resilience resources. *Journal of American College Health*, 71(5), 1445-1453. <https://doi.org/10.1080/07448481.2021.1935969>
- OECD (2022). *Education at a Glance 2022: OECD Indicators*. OECD Publishing, Paris. <https://doi.org/10.1787/3197152b-en>
- Oqaidi, K., Aouhassi, S., & Mansouri, K. (2022). Towards a students' dropout prediction model in higher education institutions using machine learning algorithms. *International Journal of Emerging Technologies in Learning (ijET)*, 17(18), 103-117. <https://doi.org/10.3991/ijet.v17i18.25567>
- Peng, G., & Zhang, Y. (Jenny). (2021). Student retention and degree completion: The moderating effects of institutional factors. *International Journal of Public Administration*, 45(16), 1147-1155. <https://doi.org/10.1080/01900692.2021.1961149>
- Raetze, S., Duchek, S., Maynard, M. T., & Wohlgemuth, M. (2022). Resilience in organization-related research: An integrative conceptual review across disciplines and levels of analysis. *Journal of Applied Psychology*, 107(6), 867. <https://doi.org/10.1037/apl0000952>
- Rahmani, A. M., Groot, W., & Rahmani, H. (2024). Dropout in online higher education: A systematic literature review. *International Journal of Educational Technology in Higher Education*, 21(1), 19. <https://doi.org/10.1186/s41239-024-00450-9>
- Santos-Villalba, M. J., Alcalá del Olmo Fernández, M. J., Montenegro Rueda, M., & Fernández Cerero, J. (2023, January). Incident factors in Andalusian university dropout: A qualitative approach from the perspective of higher education students. In *Frontiers in Education* (Vol. 7, p. 1083773). Frontiers Media SA. <https://doi.org/10.3389/feduc.2022.1083773>
- Shafiq, D. A., Marjani, M., Habeeb, R. A. A., & Asirvatham, D. (2022). Student retention using educational data mining and predictive analytics: A systematic literature review. *IEEE Access*, 10, 72480-72503. <https://doi.org/10.1109/ACCESS.2022.3188767>

- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45(1), 89–125. <https://doi.org/10.3102/00346543045001089>
- Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). University of Chicago Press.
- Tzannatos, Z., Diwan, I., & Ahad, J. A. (2016, May). Rates of return to education in twenty-two Arab countries: An update and comparison between MENA and the rest of the world. *Economic Research Forum*, Working Paper (No. 1007).
- Uchida, Y. (2018). Education, social mobility, and the mismatch of talents. *Economic Theory*, 65(4), 575–607. <https://doi.org/10.1007/s00199-016-1027-7>
- Yin, L. (2022). From employment pressure to entrepreneurial motivation: An empirical analysis of college students in 14 universities in China. *Frontiers in Psychology*, 13, Article 924302. <https://doi.org/10.3389/fpsyg.2022.924302>