

Epistemological Beliefs and Academic Performance in Accounting Education: The Role of Motivational and Behavioural Mechanisms

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Abstract

This study examines the relationship between epistemological beliefs and academic achievement in accounting education, with particular attention to motivational and behavioural mechanisms. While epistemological beliefs have been widely studied in educational psychology, empirical evidence from business and accounting contexts remains limited. Using survey data from undergraduate students enrolled in a second-semester accounting course at a Hungarian university, the study investigates how multiple dimensions of epistemological beliefs are associated with course performance through class attendance, intrinsic motivation, and domain-specific self-confidence. Perceived external pressure is also examined, and gender differences are explored as a contextual factor.

The results indicate that epistemological beliefs are not uniformly related to academic achievement. Only beliefs concerning the complexity of knowledge show a direct association with performance, whereas other belief dimensions are linked to achievement indirectly through attendance, intrinsic motivation, and self-confidence. Among the mediators, class attendance emerges as a particularly important behavioural pathway. Gender does not moderate the identified mediation processes, which implies that the underlying relationships operate similarly for male and female students. Nevertheless, descriptive differences are observed, with female students reporting higher levels of perceived external pressure and male students reporting higher self-confidence.

By extending research on epistemological beliefs into accounting education, this study contributes to a more differentiated understanding of the mechanism through which learning-related beliefs are associated with academic performance in professional education contexts.

Keywords

epistemological beliefs, academic performance, intrinsic motivation, self-confidence, accounting education

1 Introduction

Education is widely acknowledged as a cornerstone of economic competitiveness and social development. The quality of education, including higher education, influences the cognitive skills of future professionals and contributes to the accumulation of knowledge capital that underpins long-run economic performance (Hanushek and Woessmann, 2015). Within this broader context, business and accounting education plays a central role, as it prepares graduates for careers in finance, auditing, and management, where analytical competence, professional judgement, and adaptability are essential.

Earlier research on academic achievement focused primarily on cognitive abilities and prior knowledge. More recent work, however, has increasingly highlighted the

role of beliefs, motivation, and self-regulatory behaviours in explaining variation in learning outcomes. In this study, learning-related beliefs are conceptualised as epistemological beliefs, defined as individuals' conceptions about the nature of knowledge and knowing (Hofer and Pintrich, 1997). Students who view knowledge as complex, evolving, and context-dependent are more likely to engage in deep learning and to persist in challenging academic tasks (Muis, 2004; Schommer, 1990), whereas more naive beliefs are often associated with surface learning approaches.

The relevance of epistemological beliefs is particularly pronounced in professional fields such as accounting. Contemporary accounting practice requires graduates not only to master technical rules but also to interpret

information, exercise judgement, and respond to regulatory and technological change. If students' epistemological beliefs form the basis of how they engage with complex material, regulate their learning, and evaluate their own competence, these beliefs may be indirectly related to academic performance and professional preparation. In this sense, epistemological beliefs provide a framework for linking micro-level learning processes to broader economic and organisational contexts.

Despite extensive research on epistemological beliefs in educational psychology and science education (Greene et al., 2010; Lonka et al., 2021), business and accounting education remains comparatively underrepresented. Existing studies suggest that the relationship between epistemological beliefs and academic achievement is domain-specific and often mediated by learning-related processes rather than uniform across contexts (Berding et al., 2017; Phillips, 2001). However, while motivation and self-regulatory behaviours are well-established predictors of academic achievement (Credé et al., 2010; Pintrich, 2004), they have rarely been examined explicitly as mechanisms through which epistemological beliefs influence performance, particularly in undergraduate accounting education.

Another underexplored issue concerns gender. Gender differences in academic motivation, self-beliefs, and learning experiences have been documented across disciplines (Else-Quest et al., 2010; Voyer and Voyer, 2014). In accounting, educational and professional contexts have sometimes been associated with gendered expectations regarding competence and performance (Kabalski, 2022). At the same time, empirical findings regarding gender-specific pathways linking epistemological beliefs to academic achievement remain mixed, and strong moderation effects are not consistently observed.

This study adopts an empirical and exploratory approach to examine how epistemological beliefs relate to academic achievement through motivational and behavioural processes in accounting education. Building on multidimensional models of epistemological beliefs (Hofer and Pintrich, 1997; Schommer, 1990), it investigates whether motivational and behavioural factors, specifically intrinsic motivation, domain-specific self-confidence, and class attendance, mediate the association between epistemological beliefs and course performance. Additionally, perceived external pressure is examined, while gender is treated as a contextual factor rather than a primary explanatory mechanism. By focusing on these relationships, the study contributes to a more differentiated understanding of learning-related processes in professional education contexts.

2 Literature review and hypotheses

2.1 Epistemological beliefs and academic outcomes

Epistemological beliefs refer to individuals' views about the nature of knowledge and the processes through which knowledge is acquired and justified (Hofer and Pintrich, 1997). Schommer (1990) conceptualised epistemological beliefs as a multidimensional construct, distinguishing belief dimensions related to the simplicity and certainty of knowledge, its source, the speed of learning, and beliefs about the nature of ability. Subsequent research has emphasised that epistemological beliefs are framed by educational experiences and may vary across domains, reflecting disciplinary norms and instructional contexts (Buehl and Alexander, 2005).

Empirical studies have linked more advanced epistemological beliefs to higher-quality learning strategies, stronger self-regulation, and improved academic outcomes (Greene et al., 2010; Muis, 2004). Importantly, these relationships are not uniform across belief dimensions. Evidence indicates that specific aspects of epistemological thinking may be more relevant than others, and that their association with academic achievement often operates indirectly through motivational and behavioural mechanisms (Lonka et al., 2021). In accounting education, existing studies suggest domain-specific pathways (Berding et al., 2017; Phillips, 2001).

Based on this literature, the present study examines the dimensional nature of the relationship between epistemological beliefs and academic achievement in accounting education.

Accordingly, the first hypothesis is formulated as follows:

- H1: epistemological beliefs are associated with academic performance in accounting education in a dimension-specific manner.

2.2 Motivational and behavioural mediators

Over the past three decades, epistemological beliefs have received increasing scholarly attention due to their documented influence on academic motivation, learning behaviours, and performance outcomes (Muis, 2004). Research on self-regulated learning suggests that these effects operate primarily through motivational and regulatory processes (Muis, 2007; Pintrich, 2004). Students who perceive knowledge as complex and evolving are more likely to adopt deep learning strategies, engage actively with learning materials, and persist in challenging tasks, which has been empirically linked to higher academic achievement (Greene et al., 2010).

Students' beliefs about knowledge affect academic behaviour, particularly the learning strategies students employ (Bråten and Strømsø, 2005). One behavioural indicator of such strategy use is class attendance, which can be interpreted as behavioural self-regulation, that is, students' intentional management of learning conditions and engagement (Pintrich, 2004). Meta-analytic evidence identifies attendance as one of the most reliable predictors of academic performance in higher education, often exceeding the explanatory power of conventional cognitive and metacognitive strategy measures (Credé et al., 2010).

More broadly, research suggests that epistemological beliefs relate to achievement through learning processes. Empirical work supports the mediating role of learning strategy use between epistemological beliefs and academic outcomes (Muis, 2007). Consistent with this, Tolhurst (2007) reported that more sophisticated beliefs are associated with deeper learning approaches, which in turn relate to higher performance, an interpretation that aligns with Biggs's (1979) seminal account of how motives and strategies are linked to the depth and structure of learning. However, whether class attendance is empirically consistent with a mediating role in the association between epistemological beliefs and academic achievement has received limited direct empirical attention.

Evidence from accounting education further supports this line of reasoning. Phillips (2001) demonstrated that beliefs about the complexity of knowledge were associated with accounting students' study strategies, particularly the ways in which information was consolidated during learning. These strategy differences were, in turn, related to academic performance and students' ability to generate integrative solutions to unstructured accounting problems. This finding underscores the relevance of epistemological beliefs for learning processes and performance in accounting-specific contexts.

Motivation, particularly intrinsic motivation, is widely acknowledged as a central determinant of learning processes. Intrinsic motivation refers to engaging in learning activities out of genuine interest and inherent satisfaction rather than external rewards or pressures (Ryan and Deci, 2000), and is consistently associated with deeper engagement and higher-quality learning outcomes. Prior research indicates that more sophisticated epistemological beliefs are positively related to intrinsic motivation, self-regulated learning, and academic performance (Hofer, 1994), and theoretical frameworks suggest that such beliefs relate to learning goals and regulatory processes (Hofer and Pintrich, 1997). Empirical evidence

further supports these links, demonstrating that epistemological beliefs are associated with motivation and achievement across educational contexts (Chen and Pajares, 2010).

Despite this extensive evidence in educational psychology, the mediating role of motivational factors in the relationship between epistemological beliefs and academic achievement remains underexplored in business education, particularly in accounting. Accounting-specific research suggests that domain-related beliefs and motivation are important predictors of student performance (Berding et al., 2017; Byrne and Flood, 2005; Eskew and Faley, 1988), yet these studies rarely examine motivational processes within an explicit epistemological framework.

Overall, prior research suggests that epistemological beliefs are unlikely to influence academic achievement directly, but rather through students' motivational orientations and learning-related behaviours. In professional learning contexts such as accounting education, behavioural engagement (e.g., class attendance) and motivational resources (e.g., intrinsic motivation and domain-specific self-confidence) represent plausible pathways linking epistemological beliefs to academic outcomes.

Based on these considerations, the second hypothesis is proposed:

- H2: the relationship between epistemological beliefs and academic performance is mediated by:
 - class attendance;
 - intrinsic motivation;
 - domain-specific self-confidence.

2.3 Self-confidence and perceived external pressure

Self-confidence in academic contexts refers to students' beliefs about their ability to successfully master learning tasks and is closely related to Bandura's (1997) concept of self-efficacy. A substantial body of research shows that higher levels of self-confidence are associated with greater persistence, more effective strategy use, and higher academic achievement across educational settings (Pajares, 2002). In cumulative and analytically demanding subjects such as accounting, self-confidence may be particularly important, as students are required to integrate abstract concepts, apply formal rules, and solve ill-structured problems.

Perceived external pressure captures the extent to which students experience expectations from parents, instructors, or their broader social environment to perform well academically. Within self-determination theory, such externally regulated demands are conceptualised as controlled forms of motivation, which may undermine intrinsic motivation and autonomous engagement (Ryan and Deci, 2000).

Empirical evidence suggests that externally driven academic pressure can increase anxiety and contribute to maladaptive learning behaviours, including avoidance and disengagement (Putwain et al., 2015). At the same time, findings regarding the direct association between external pressure and academic achievement remain mixed. Recent research indicates that academic stress is positively related to anxiety and burnout, while higher self-efficacy may buffer these negative effects (Gao, 2023).

Although self-confidence and perceived external pressure are well-established constructs in educational psychology, their roles in explaining academic achievement have been examined less systematically in business and accounting education. In particular, few studies have considered these motivational factors alongside epistemological beliefs within an integrated explanatory framework. Consequently, their contribution to accounting students' academic performance remains insufficiently understood.

Therefore, the third hypothesis is formulated as follows:

- H3: perceived external pressure is associated with academic performance.

2.4 Gender as a contextual factor

Gender differences in academic experiences and outcomes have been widely documented across educational domains. Evidence indicates that gender gaps in academic achievement vary by field, with female students often outperforming male students in language-related and social science subjects (Voyer and Voyer, 2014). Such differences have been partly attributed to gender-related variation in motivation, learning strategies, and self-related beliefs (Else-Quest et al., 2010).

Empirical research on epistemological beliefs provides mixed evidence regarding gender differences. Some studies report that female students exhibit more sophisticated beliefs in specific dimensions, such as justification of knowledge (Özkan and Tekkaya, 2011), whereas others find no systematic gender differences among university students (Tümekaya, 2012). Gender has also been discussed as a contextual factor shaping motivational experiences, including self-confidence and perceived academic pressure, particularly through differential exposure to evaluative expectations and stereotype-related concerns (Steele, 1997). However, direct empirical evidence for gender-specific moderation of epistemological belief–achievement relationships remain limited, especially in accounting education.

Given this mixed evidence, gender is treated in the present study as a contextual factor rather than a primary explanatory variable. The analysis therefore investigates potential

gender differences in the mediating relationships between epistemological beliefs and academic performance.

Consequently, the fourth hypothesis is proposed:

- H4: the mediating relationships between epistemological beliefs and academic performance differ by gender.

3 Research design and methodology

3.1 Research design and participants

This study employed a cross-sectional, correlational research design using an online questionnaire to examine the relationships between epistemological beliefs, learning-related factors, and academic performance in accounting education. Participants were first-year undergraduate students enrolled in an English-language Accounting II course at a Hungarian university. The second semester course was chosen to reduce potential confounding from initial cultural or linguistic adjustment effects common in the first semester, particularly among international students, for whom early academic performance may reflect adaptation processes rather than subject-related competence (Andrade, 2006; Montgomery, 2010).

Data was collected in spring 2025, after completion of the final exam and following grade release. The final analytical sample included 351 students (149 male, 202 female). Based on self-reported background information, participants were classified as Hungarian ($n = 292$), Hungarian students who had lived abroad for at least one year ($n = 23$), or international students ($n = 36$). Due to the small size of the latter two groups, the analyses focused on gender and motivational variables rather than cultural comparisons. Participation was voluntary and anonymous.

Several factors commonly associated with academic achievement, such as prior accounting knowledge, teaching quality, assessment difficulty, and academic anxiety, were not explicitly included as control variables in the statistical models. This decision reflects the exploratory focus of the study and the relatively standardised instructional context. All participants were enrolled in the same course, taught by the same instructor, and evaluated using an identical assessment structure, thereby reducing variation in instructional and evaluative conditions.

3.2 Measures and instruments

Epistemological beliefs were measured across five theoretically distinct dimensions adapted to the accounting context:

1. structure of knowledge, referring to perceptions of the complexity of knowledge;

2. justification of knowledge, capturing beliefs about the need for evidence and reasoning;
3. certainty of knowledge, reflecting perceived stability or unchangeability of knowledge;
4. source of knowledge, indicating where knowledge is believed to originate (e.g., authority versus personal construction);
5. applicability of knowledge, referring to beliefs about the practical relevance of accounting knowledge.

These dimensions draw on established epistemological frameworks (Hofer and Pintrich, 1997) and accounting-specific adaptations (Berding, 2018). Each dimension was assessed using a single item. Responses were recorded on a seven-point Likert scale, with higher scores reflecting more advanced epistemological beliefs. Although internal consistency cannot be assessed for single-item measures, prior methodological research supports their use for conceptually narrow and concrete constructs (Di et al., 2023; Gogol et al., 2014; Sarstedt and Wilczynski, 2009; Schmitt, 1996; Wanous et al., 1997). Intrinsic motivation was assessed using two adapted items from the Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich et al., 1991). Responses were recorded on the same seven-point scale and averaged to form a composite score. Although brief, this measure captures the core of intrinsic motivation in academic contexts. Domain-specific self-confidence was measured using a single item on a seven-point scale. This approach is supported in prior research on narrowly defined, context-specific constructs such as academic self-confidence (Di et al., 2023; Sarstedt and Wilczynski, 2009). Perceived external pressure was likewise assessed with a single item, capturing the extent to which students felt that their social environment outside the university expected strong academic performance. As with self-confidence, the construct was considered sufficiently concrete and context-bound to justify a single-item operationalisation. Four self-developed items were used to assess learning strategies in accounting. Their development was conceptually informed by established self-regulated learning frameworks (Pintrich and De Groot, 1990; Zimmerman, 2000). The items captured distinct, non-overlapping behaviours:

1. reviewing materials before class;
2. timing of exam preparation;
3. class attendance;
4. study format preferences (individual versus group).

These items were analysed separately rather than as a composite scale, as internal consistency estimates would

not be meaningful in this context (Schmitt, 1996). Academic performance was operationalised as students' final grade in the Accounting II course, measured on the Hungarian five-point grading scale (1 = fail, 5 = excellent). Course grades are widely used as reliable indicators of academic performance in higher education (Crédé et al., 2010). Gender was self-reported and served as a contextual moderator in the statistical analyses.

3.3 Analytical strategy

All statistical analyses were conducted using IBM SPSS Statistics 29 with the PROCESS macro (version 4.3.1; Hayes, 2023). The PROCESS tool was selected because it enables the estimation of mediation and moderated mediation models within a regression-based framework and provides bootstrapped confidence intervals for indirect effects. In this study, all PROCESS models were estimated using 5,000 bootstrap samples with 95% confidence intervals. Statistical significance was determined by whether the bootstrap confidence intervals (BootCI) excluded zero, following established recommendations for mediation analysis (MacKinnon et al., 2004).

In the mediation analyses, individual epistemological belief dimensions were specified as independent variables (X), academic achievement served as the outcome variable (Y), and class attendance, intrinsic motivation, and self-confidence were examined as potential mediators. Consistent with the exploratory focus of the study, mediators were retained for PROCESS analyses only if they exhibited significant bivariate associations with both epistemological beliefs and academic achievement. Gender was additionally examined as a moderator of selected associations.

Given the exploratory aim and single-item operationalisations, findings are interpreted as pattern evidence rather than precise effect estimation.

4 Results

4.1 Preliminary analyses

Prior to the conditional process analyses, preliminary descriptive statistics and distributional properties of the variables were examined. Shapiro–Wilk tests indicated significant deviations from normality for several variables, particularly across the five epistemological belief dimensions (all $ps < 0.001$). Accordingly, non-parametric tests were applied in the preliminary analyses. The subsequent PROCESS analyses were conducted using raw scores with bootstrapped confidence intervals, as the bootstrapping procedure does not require normally distributed variables.

Reliability was assessed for the intrinsic motivation construct, which consisted of two items. Internal consistency was satisfactory (Cronbach's $\alpha = 0.855$), exceeding commonly accepted thresholds in social science research (Field, 2018; Nunnally and Bernstein, 1994).

Gender-based group differences were examined to inform the exploratory moderation analyses. Mann–Whitney U tests revealed no significant gender differences in academic performance or in any of the epistemological belief dimensions (all p s > 0.05). However, female students reported significantly higher perceived external pressure ($p = 0.021$), whereas male students reported significantly higher self-confidence ($p = 0.025$). These differences motivated the inclusion of gender as a contextual factor in subsequent analyses.

To identify relevant mediators, bivariate associations between learning-related variables and academic performance were examined (Table A1 in Appendix). Among the learning strategy indicators, only class attendance showed a significant positive association with performance ($\rho = 0.254$, $p < 0.001$). Intrinsic motivation ($\rho = 0.185$, $p < 0.001$) and self-confidence ($\rho = 0.215$, $p < 0.001$) were also positively related to achievement. Given the exploratory aim and the need for model parsimony, these variables were retained as mediators in the conditional process analyses.

4.2 Direct associations with academic performance

Direct associations between the five epistemological belief dimensions and academic performance were examined prior to testing indirect pathways. A weak but statistically significant positive association was observed between the structure of knowledge dimension and performance ($\rho = 0.106$, $p = 0.048$). This finding suggests that students who perceived accounting knowledge as complex and requiring broad, contextual understanding tended to achieve slightly higher course grades.

No significant direct associations were found for the remaining epistemological belief dimensions. These findings indicate that the relationship between epistemological beliefs and academic achievement in accounting is dimension-specific rather than uniform (supporting H1).

Beyond epistemological beliefs, self-confidence showed a moderate positive association with academic performance ($\rho = 0.215$, $p < 0.001$). In contrast, perceived external pressure was not significantly related to performance ($\rho = 0.026$, $p = 0.628$), indicating the absence of a direct association at this level of analysis (H3 not supported).

4.3 Indirect pathways *via* motivational and behavioural mechanisms

The analyses indicated that epistemological beliefs were related to academic achievement through indirect pathways involving behavioural and motivational variables. The significant mediation pathways are summarised in Table 1.

Class attendance mediated the association between epistemological beliefs and performance for two belief dimensions. Specifically, both the source of knowledge and the structure of knowledge dimensions were indirectly related to academic achievement through attendance. The indirect effects were statistically significant for the source dimension and for the structure dimension, with the latter operating exclusively through class attendance (see Table 1), while the corresponding direct effects were non-significant, indicating an indirect-only mediation pattern according to established typologies (Hayes, 2022; Zhao et al., 2010).

Intrinsic motivation also functioned as a mediator for selected epistemological belief dimensions. Beliefs regarding the source of knowledge were indirectly associated with performance *via* intrinsic motivation (see Table 1). For the applicability of knowledge dimension, both an indirect effect through intrinsic motivation (see Table 1) and a weak negative direct association with performance were observed, indicating a competitive mediation pattern ($c' = -0.08$, $p = 0.034$).

Self-confidence mediated the relationship between several epistemological belief dimensions and academic achievement. Beliefs concerning the source of knowledge and the applicability of knowledge were positively associated with self-confidence, and the indirect effects *via* self-confidence were statistically significant (see Table 1). In contrast, stronger endorsement of justification beliefs

Table 1 Significant indirect effects of epistemological belief dimensions on academic performance

Independent variable		Indirect effect (<i>ab</i>) [95% BootCI]
<i>via</i> Class Attendance	Structure of knowledge	0.02 [0.003, 0.049]
	Source of knowledge	0.03 [0.009, 0.053]
<i>via</i> Intrinsic Motivation	Source of knowledge	0.04 [0.009, 0.075]
	Applicability of knowledge	0.04 [0.011, 0.068]
<i>via</i> Self-Confidence	Source of knowledge	0.03 [0.008, 0.055]
	Applicability of knowledge	0.02 [0.003, 0.044]
	Justification of knowledge	-0.02 [-0.038, -0.004]

Note: $N = 351$. Only significant mediation pathways are displayed.

was indirectly associated with lower academic performance through reduced self-confidence (Table 1). In all cases, the direct effects of these epistemological belief dimensions on performance were non-significant.

Overall, these results provide partial support for H2, as indirect effects were observed for selected belief dimensions and mediators, whereas no uniform mediation pattern emerged across all dimensions.

4.4 Gender as a contextual factor

Gender differences were observed in selected motivational variables, with female students reporting higher levels of perceived external pressure and male students reporting higher self-confidence. However, no consistent evidence emerged for gender-specific differences in the indirect pathways linking epistemological beliefs to academic achievement. The indices of moderated mediation were non-significant across models, indicating that the magnitude of the indirect effects did not differ systematically by gender.

These results demonstrate that gender did not moderate the indirect associations between epistemological beliefs and academic achievement in the present analyses (H4 not supported).

5 Discussion

The present study examines how epistemological beliefs are related to academic achievement in accounting education, with particular emphasis on motivational and behavioural mechanisms. The findings indicate that epistemological beliefs are not uniformly associated with performance but vary according to specific belief dimensions and operate primarily through indirect pathways.

Consistent with prior research, only beliefs concerning the structure of knowledge showed a direct association with academic achievement. Students who perceived accounting knowledge as complex and requiring broad, contextual understanding tended to achieve slightly higher performance. This selective effect aligns with earlier claims that specific dimensions of epistemological beliefs, rather than global belief orientations, are most relevant for explaining academic outcomes (Muis, 2004; Phillips, 2001), and with evidence from accounting education suggesting limited support for strong direct effects of epistemological beliefs on performance (Berding et al., 2017). The present findings therefore reinforce the importance of a dimension-specific approach to epistemological beliefs in professional education contexts.

Importantly, the results highlight the central role of motivational and behavioural mechanisms. Epistemological beliefs were primarily related to academic achievement through indirect pathways involving class attendance, intrinsic motivation, and self-confidence. The mediating role of attendance supports previous evidence that behavioural engagement is a robust predictor of academic success (Credé et al., 2010) and extends this logic to accounting education by demonstrating that epistemological orientations are reflected in concrete engagement behaviours. Students who view knowledge as constructed and complex (source and structure of knowledge) appear more likely to attend classes consistently, which in turn relates to improved performance.

Intrinsic motivation and self-confidence further emerged as key mechanisms linking epistemological beliefs to achievement. Beliefs regarding the source and applicability of knowledge were associated with higher intrinsic motivation, consistent with self-determination theory and earlier research linking advanced epistemological beliefs to more autonomous forms of motivation (Hofer, 1994; Ryan and Deci, 2000). The competitive mediation pattern observed for applicability suggests that a strong focus on practical relevance may simultaneously enhance motivation while showing a negative direct association with performance, potentially reflecting a tension between applied orientation and theoretical mastery in accounting education.

Self-confidence also played a pivotal mediating role. Beliefs that emphasise multiple knowledge sources and practical relevance (source and applicability of knowledge) were associated with higher self-confidence, which in turn related positively to performance. In contrast, strong endorsement of justification beliefs was linked to lower self-confidence and weaker achievement. This finding extends existing research on academic self-efficacy by suggesting that certain epistemological orientations may undermine confidence in domains where uncertainty and evaluative demands are salient. Such belief–confidence profiles have received limited attention in accounting education and warrant further investigation.

Gender differences were observed at the descriptive level, with female students reporting higher perceived external pressure and male students reporting higher self-confidence. However, no consistent evidence emerged for gender-specific differences in the mechanisms linking epistemological beliefs to academic achievement. This pattern aligns with mixed findings in the broader literature and supports treating

gender as a contextual factor rather than a primary explanatory variable in this domain. Overall, the results suggest that epistemological, motivational, and behavioural mechanisms operate similarly across genders in accounting education.

These findings underscore the importance of focusing on learning-related processes rather than direct belief–performance links when examining academic achievement in professional fields. By highlighting how epistemological beliefs relate to engagement, motivation, and self-confidence, the study contributes to a more nuanced understanding of student learning in accounting and supports the value of integrating psychological perspectives into research on business education.

6 Conclusions

This study examined how epistemological beliefs are linked to academic achievement in accounting education, with a focus on motivational and behavioural mechanisms. The findings show that epistemological beliefs are relevant for performance in a dimension-specific and primarily indirect manner. Only beliefs concerning the complexity of knowledge were directly associated with achievement, while several belief dimensions influenced performance through class attendance, intrinsic motivation, and self-confidence.

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By highlighting these indirect pathways, the study contributes to research on epistemological beliefs and self-regulated learning in professional education, suggesting that epistemological beliefs function primarily as antecedents of learning-related processes rather than as direct predictors of academic outcomes in accounting. From a practical perspective, the results indicate that instructional approaches fostering advanced epistemological beliefs and supporting behavioural engagement, such as regular class attendance, may contribute to improved student performance.

A limitation of this study is the reliance on single-item measures for the epistemological belief dimensions, necessitated by the need to minimise respondent burden in a classroom setting. Although such measures have been supported in previous methodological contexts, future research should aim to replicate these findings using multi-item scales to allow for internal consistency assessment.

Building on the present findings, future research could adopt longitudinal designs, more comprehensive measurement approaches, and more diverse institutional contexts in order to deepen understanding of how epistemological beliefs are associated with learning processes in accounting education.

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Appendix A

Table A1 Descriptive statistics and correlations

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
1. Academic performance	3.94	0.88										
2. Perceived external pressure	5.10	1.29	0.03									
3. Class attendance	4.42	0.86	0.25**	0.16**								
4. Justification of knowledge	4.58	1.49	−0.02	0.08	0.05							
5. Structure of knowledge	5.30	1.17	0.11*	0.13*	0.11*	0.06						
6. Certainty of knowledge	4.73	1.41	−0.03	0.11*	0.02	0.30**	0.06					
7. Applicability of knowledge	5.44	1.27	−0.05	0.16**	−0.04	−0.00	0.14**	−0.16**				
8. Source of knowledge	5.29	1.26	0.07	0.10	0.15**	0.00	0.17**	−0.01	0.35**			
9. Self-confidence	4.84	1.40	0.22**	−0.08	0.05	−0.14*	0.03	−0.09	0.13*	0.19**		
10. Intrinsic motivation	4.63	1.21	0.19**	0.08	0.19**	0.01	0.11*	−0.03	0.29**	0.37**	0.51**	

Note: *N* = 351; *M* = mean; *SD* = standard deviation. Coefficients are Spearman's rank correlations (ρ). Response scale ranged from 1 to 7, except for academic performance (1–5).

* $p < 0.05$

** $p < 0.01$