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Writing Motivation in Self-Regulated Learning: Evidence from Undergraduate Students

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Abstract

Academic writing requires students not only to possess writing knowledge but also to regulate how they approach and manage the writing process. This study examined undergraduate students' writing motivation, writing strategy use, and the relationship between these constructs through the theoretical lens of Self-Regulated Learning (SRL). A quantitative cross-sectional design was employed involving 111 undergraduate students from Universiti Teknologi MARA (UiTM), selected through convenience sampling. Data were collected using a structured questionnaire measuring writing motivation through self-efficacy and task value and writing strategy use through metacognitive, effort-regulation, cognitive, social, and affective strategies. Descriptive statistics and Pearson's product-moment correlation were used to analyze the data. The findings showed that students generally endorsed statements reflecting writing self-efficacy and task value and reported using strategies across all five dimensions of writing strategy use. Most importantly, writing motivation demonstrated a strong, positive, and statistically significant relationship with overall writing strategy use ($r = .811$, $p < .001$). The findings indicate that students who reported greater writing motivation also tended to report greater engagement with writing strategies. Viewed through SRL, the results highlight the interconnected motivational and strategic dimensions of undergraduate academic writing. The study suggests that writing instruction should extend beyond writing knowledge and conventions to support students in planning, monitoring, sustaining effort, seeking assistance, managing affect, and recognizing the value of writing. The findings are limited by the cross-sectional, convenience-sampling, and self-report design and do not establish causal relationships or writing performance outcomes.

Keywords: Academic Writing, Self-regulated Learning, Writing Motivation, Writing Strategy Use, Undergraduate Students

Introduction

Written communication is an important capability for university students because writing is central to academic learning and remains relevant beyond graduation. Students communicate ideas through assignments, reports, and projects, while employers continue to value written communication as a graduate competency. In the NACE Job Outlook 2025 survey, 77.1% of employers reported seeking written communication skills on candidates' résumés, with the corresponding figure remaining 72% in 2026 (NACE, 2025, 2026). More importantly, a notable employer-perception gap exists: 96.1% regarded communication as important, but only 53.5% rated recent graduates as proficient in it (NACE, 2025). These figures reinforce the continuing importance of developing students' written communication during undergraduate education.

Academic writing, however, requires more than knowledge of language and writing conventions. Students must plan, organize, monitor, revise, sustain effort, seek assistance, and manage emotions throughout the writing process. Writing can therefore be understood as a self-regulatory activity (Zimmerman & Risemberg, 1997) involving multiple strategic dimensions (Teng & Zhang, 2016; Raoofi & Maroofi, 2017). The practical concern addressed in this study is consequently students' writing strategy use and how they manage the writing process. This concern is increasingly relevant in digitally mediated environments, including the growing use of generative artificial intelligence, where students must still regulate their planning, monitoring, evaluation, and revision of writing (Lu et al., 2026).

Writing strategy use may also be associated with students' motivation. Within Self-Regulated Learning (SRL), motivational and strategic processes are interconnected components of learning (Pintrich, 1999, 2004). Writing research has similarly associated motivational beliefs with self-regulated writing strategies among undergraduate students (Raoofi & Maroofi, 2017; Teng, 2024). In this study, writing motivation comprises self-efficacy, reflecting students' beliefs in their capability to undertake writing tasks, and task value, reflecting the importance and value attached to writing. Both have been linked to students' writing experiences and regulatory processes (Sun & Wang, 2020; Yao et al., 2023; Teng & Zhan, 2023).

Previous research has established the multidimensional nature of self-regulated writing (Teng & Zhang, 2016), examined motivation and strategy use among Malaysian undergraduate ESL writers (Raoofi & Maroofi, 2017), and identified relationships between motivational beliefs and self-regulated writing strategies (Teng, 2024; Zhang & Dong, 2022). Building on this evidence, the present study examines writing motivation through self-efficacy and task value and writing strategy use through metacognitive, effort-regulation, cognitive, social, and affective strategies. Self-Regulated Learning Theory provides the overarching theoretical lens for understanding the relationship between students' writing motivation and their use of writing strategies (Pintrich, 1999, 2004; Teng & Zhang, 2016). The study does not test the complete SRL model, establish causality, or examine writing performance.

Although previous studies have shown that writing motivation is related to writing strategies, there are still some gaps in the existing research. Many studies have focused on specific motivational beliefs and writing strategies in relation to writing performance, language ability, task difficulty, or teaching methods. Therefore, more research is needed to understand the overall relationship between writing motivation and writing strategy use among UiTM undergraduate students. In this study, writing motivation includes self-efficacy and task value, while writing strategy use covers five areas: metacognitive, effort-regulation, cognitive, social, and affective strategies. Unlike studies that focus on writing performance or teaching interventions, this study examines how students' motivation is related to their use of writing strategies. The findings provide a better understanding of this relationship in the UiTM context and may guide future research to explore individual strategy dimensions and students' writing performance.

The study addresses the following research questions:
RQ1: What are the descriptive responses of undergraduate students regarding writing motivation?
RQ2: What are the descriptive responses of undergraduate students regarding writing strategy use?
RQ3: What is the relationship between writing motivation and writing strategy use among undergraduate students?

Literature Review

Writing Strategy Use in Academic Writing

Academic writing involves more than producing a grammatically acceptable final text; it requires students to regulate a series of activities throughout the writing process. Self-regulated writing has consequently been conceptualized as involving cognitive, metacognitive, behavioral, social, and motivational processes that enable writers to manage their learning and writing activities (Teng & Zhang, 2016). Writing research similarly shows that students need to coordinate planning, text generation, monitoring, revision, and management of available resources rather than depend on a single writing technique (Teng, 2022). More recent evidence from university writing contexts reinforces this multidimensional view, demonstrating that self-regulated writing strategies operate alongside learner characteristics such as self-efficacy and task demands (Teng & Zhan, 2023). Strategy use is therefore relevant to understanding not simply whether students complete academic writing tasks, but how they manage the demands involved in completing them. Recent undergraduate research continues to demonstrate variation and interrelationships among different dimensions of self-regulated writing strategy use (Zhang et al., 2026).

One important component of writing strategy use concerns the regulation of cognition. Cognitive strategies enable writers to generate, organize, elaborate, and transform information when constructing written texts, whereas metacognitive strategies allow students to plan, monitor, and evaluate the writing process (Teng & Zhang, 2016). These strategies are related but serve different regulatory purposes; students may possess techniques for developing content without necessarily monitoring effectively how those techniques are being used. Evidence from university writers indicates that self-regulation and self-efficacy can operate together when students manage complex academic writing tasks (Teng & Zhan, 2023). Intervention research further demonstrates that explicit attention to

self-regulation can strengthen students' strategic engagement with writing (Teng, 2022). More recently, strategy-based interventions among university students have produced improvements in self-regulated writing strategy use, providing additional evidence that regulatory writing practices can be developed rather than regarded as fixed learner characteristics (Wang et al., 2024).

Writing regulation, however, extends beyond cognitive and metacognitive activity. Students must also sustain effort when writing becomes difficult, seek assistance when their own resources are insufficient, and manage emotional reactions associated with demanding writing tasks. Raoofi and Maroofi (2017), in their study of Malaysian undergraduate ESL students, incorporated effort-regulation and affective strategies alongside cognitive and metacognitive writing strategies, demonstrating the relevance of these broader forms of regulation. Research on college writers has similarly shown that motivational-regulation strategies interact with self-regulated writing strategies and students' writing-related emotions (Zhang & Dong, 2022). From a broader SRL perspective, Pintrich (2004) conceptualized regulation as extending across cognition, motivation and affect, behavior, and context rather than being restricted to cognitive processing. Contemporary writing research continues to support this broader perspective, with Lu et al. (2026) finding differential changes in planning, text generation, revision, and self-monitoring among undergraduates exposed to a technology-supported writing environment.

The literature also indicates that students do not necessarily use all writing strategies equally or consistently. Differences can occur according to learning experience, task characteristics, educational stage, and the instructional environment. Teng and Zhan (2023), for instance, showed that task complexity operated together with self-regulation and self-efficacy in university academic writing, indicating that strategy use needs to be understood within the demands of particular writing situations. Zhang et al. (2026) likewise found moderate-to-high use of SRL writing strategies among 222 English-major undergraduates but identified differences associated with students' academic year, suggesting that regulatory engagement does not necessarily develop in a simple linear manner. Intervention evidence further demonstrates that writing-strategy use can change when students receive structured opportunities to regulate their learning (Wang et al., 2024). Similarly, the 2025 study of Chinese university freshmen found that reflective journals and writing portfolios produced different improvements in self-regulated writing-strategy use, suggesting that instructional conditions can shape students' regulatory engagement (Xu et al., 2025).

Taken together, these studies establish writing strategy use as a multidimensional and potentially developable aspect of academic writing. Importantly, the literature does not support treating strategy use simply as a checklist of techniques that students either possess or lack. Teng and Zhang (2016) demonstrated that different forms of regulation operate within a broader system of self-regulated writing, while Teng (2022) showed that strategic regulation can be influenced through instruction. Research involving Malaysian students has similarly established the relevance of multiple strategy categories within undergraduate writing (Raoofi & Maroofi, 2017). More recent intervention evidence indicates that changes in regulatory strategy use can occur together with changes in students' motivational beliefs (Xu et al., 2025). This latter finding is particularly important because it directs attention from

writing strategies alone toward the motivational conditions accompanying students' strategic engagement with writing.

Writing Motivation

Writing motivation represents another important aspect of students' engagement with academic writing because strategic action takes place within a motivational context. Within SRL research, students' beliefs about their capability and the value attached to an academic task have long been identified as relevant to the regulation of learning (Pintrich, 1999). Pintrich (2004) subsequently positioned motivational beliefs alongside cognitive, behavioral, and contextual regulation within his framework for understanding college learning. Writing-specific research has similarly shown that motivational characteristics operate alongside students' regulatory engagement rather than functioning independently from it (Teng, 2021). Recent intervention evidence among university writers continues to support this connection, showing that writing motivation and self-regulated writing-strategy use can change concurrently within particular learning environments (Xu et al., 2025).

Two motivational components are particularly relevant to the present research: self-efficacy and task value. Self-efficacy concerns students' beliefs about their capability to undertake a task, whereas task value concerns the importance, usefulness, interest, or value they associate with engaging in it. Pintrich (1999) identified both positive self-efficacy and task-value beliefs as motivational conditions capable of supporting self-regulated behavior. In writing research, Yao et al. (2023) found among 239 first-year undergraduates that students' integrated-writing self-efficacy was positively associated with their perceived task value, although self-efficacy was not significantly associated with actual writing performance. Teng and Zhan (2023) likewise demonstrated the relevance of writing self-efficacy within university academic writing, but situated it alongside self-regulation, proficiency, and task complexity rather than treating efficacy as an isolated determinant. More recent research involving undergraduates has shown that different aspects of writing motivation may respond differently to instructional experiences, with Lu et al. (2026) reporting increased writing interest but only slight gains in self-efficacy following GenAI-supported feedback practice.

This distinction between motivational beliefs and actual writing outcomes is important. Students' confidence in their writing does not constitute objective evidence that they write well, just as valuing a writing task does not necessarily guarantee successful performance. Yao et al. (2023) demonstrated this distinction particularly clearly: stronger self-efficacy was associated with greater perceived task value, but not significantly with writing performance. Teng and Zhan (2023), meanwhile, found that self-efficacy operated within a more complex model involving self-regulation, proficiency, and task characteristics. Raoofi and Maroofi (2017) similarly examined motivational and strategic variables together rather than assuming that motivation alone explained L2 writing outcomes. Intervention evidence from Teng (2022) further showed that improvements in task value and self-efficacy could accompany changes produced through self-regulation strategy instruction. Writing motivation should therefore be understood as part of students' engagement with writing rather than as a substitute for writing competence itself.

The motivational context of writing has become increasingly important as university writing environments change. Research on socially supported writing instruction has shown that

students' task interest, outcome expectations, goal orientations, and self-efficacy can develop through sustained writing experiences rather than remaining static across time (Yang et al., 2024). Similarly, SRL interventions using reflective journals and writing portfolios have produced changes in university students' motivational beliefs alongside changes in writing-strategy use (Xu et al., 2025). In a more contemporary technological setting, Lu et al. (2026) found that GenAI-supported feedback was associated with differentiated changes in undergraduate students' writing motivation and regulatory strategies rather than uniform improvement across all motivational and regulatory dimensions. Earlier strategy-based intervention evidence likewise demonstrated improvements in task value and self-efficacy following explicit self-regulation instruction (Teng, 2022). Collectively, these findings suggest that writing motivation is dynamic and closely embedded within students' experiences of managing writing tasks.

Relationship Between Writing Motivation and Writing Strategy Use

The relationship between writing motivation and writing strategy use is central to understanding why students may engage differently with similar academic writing requirements. The theoretical foundations of SRL suggest that motivational beliefs and regulatory behaviors are interconnected rather than independent components of learning. Pintrich (1999) proposed that self-efficacy and task value can facilitate students' use of cognitive, metacognitive, and resource-management strategies, while Pintrich (2004) positioned motivation and affect alongside cognition and behavior within the regulation of college learning. Writing-specific research has subsequently supported this connection. Raoofi and Maroofi (2017), studying 304 undergraduate ESL students in Malaysia, identified significant relationships involving motivational beliefs and multiple categories of writing strategies. Teng (2021) further demonstrated among university EFL writers that motivational beliefs and self-efficacy were associated with different dimensions of self-regulated writing strategy use.

Importantly, existing evidence suggests that the relationship is more complex than assuming that highly motivated students simply use more strategies. Different motivational beliefs may relate differently to particular forms of regulation. Teng (2021), for example, found differentiated relationships between motivational characteristics and dimensions of self-regulated writing strategies, suggesting that motivational constructs should not be treated as interchangeable. Yao et al. (2023) similarly demonstrated that self-efficacy was positively associated with perceived task value while finding no significant relationship between efficacy and actual integrated-writing performance. Research on integrated writing has also shown that motivated students who reported a stronger ideal L2 writing self and greater writing enjoyment tended to employ more writing strategies, although those motivational factors did not directly predict final writing performance (Zhang et al., 2023). Teng and Zhan (2023) likewise situated self-efficacy and strategy use within a more complex network involving task complexity and proficiency. These findings suggest that motivational beliefs may be particularly relevant to how students engage with writing, without necessarily producing a simple direct relationship with writing outcomes.

There are nevertheless important differences across the existing evidence. Some studies examine motivation and strategy use primarily as predictors or mediators of writing performance (Raoofi & Maroofi, 2017; Teng & Zhan, 2023), whereas others focus on changes

produced by particular instructional interventions (Teng, 2022; Xu et al., 2025). Studies also vary in their conceptualization of motivation, with some emphasizing self-efficacy and task value, others incorporating goal orientation, enjoyment, interest, or ideal writing selves (Teng, 2021; Zhang et al., 2023). Contemporary research has expanded further to examine motivation and regulatory strategies within GenAI-supported writing environments (Lu et al., 2026). Consequently, although the literature provides substantial evidence that motivation and writing regulation are connected, findings cannot be assumed to transfer uniformly across constructs, educational levels, writing contexts, and student populations.

This provides the empirical rationale for the present study. Rather than examining writing performance or evaluating an instructional intervention, the study focuses specifically on undergraduate students' reported writing motivation and writing strategy use. The Malaysian evidence of Raoofi and Maroofi (2017) provides an important foundation, but their study incorporated writing performance and several separate motivational and strategic predictors. Research from other university contexts has subsequently demonstrated connections between self-efficacy and self-regulated writing (Teng & Zhan, 2023), between broader motivational beliefs and writing strategies (Teng, 2021), and between changes in motivation and regulatory engagement under different instructional conditions (Xu et al., 2025). Recent evidence also indicates that these constructs remain relevant as students' writing environments evolve through technologies such as generative AI (Lu et al., 2026). The present study therefore adopts a deliberately focused approach by examining whether students' overall reported writing motivation is related to their overall reported writing strategy use, without assuming causal direction or writing-performance consequences.

Self-Regulated Learning as the Theoretical Foundation

Self-Regulated Learning (SRL) provides the overarching theoretical foundation for understanding the relationship between writing motivation and writing strategy use in the present study. SRL views learners as active participants who regulate their cognition, motivation, behaviour, and learning resources in pursuing academic goals. Pintrich (1999) positioned motivational beliefs, including self-efficacy and task value, alongside cognitive, metacognitive, and resource-management strategies within the self-regulatory process. This conceptualisation was subsequently extended by Pintrich (2004), who organised self-regulation across cognition, motivation and affect, behaviour, and context. In writing specifically, Teng and Zhang (2016) demonstrated that self-regulated writing incorporates multiple forms of strategic regulation rather than functioning as a single writing behaviour. Thus, SRL provides an appropriate theoretical lens because it accommodates both the motivational beliefs students bring to writing and the strategies they employ to manage the writing process.

The motivational component of the present study is represented by self-efficacy and task value, while writing strategy use is represented by metacognitive, effort-regulation, cognitive, social, and affective strategies. Self-efficacy reflects students' beliefs about their capability to undertake writing tasks, whereas task value concerns the importance and value they attach to writing. Within SRL, such motivational beliefs are relevant because students' regulation of learning takes place alongside judgments about capability and the value of engaging in a task (Pintrich, 1999). Writing research provides empirical support for this integration: Teng (2021) found that motivational beliefs and writing self-efficacy were associated with different

dimensions of self-regulated writing strategy use, while Zhang and Dong (2022) demonstrated relationships involving motivational regulation, writing strategies, and writing-related emotions. Teng and Zhan (2023) similarly positioned self-efficacy and self-regulated writing strategies within the same explanatory model of university academic writing. These studies support treating motivation and strategy use as related components of students' engagement with writing rather than as isolated processes.

Importantly, SRL does not require the relationship examined in the present study to be interpreted as unidirectional. Motivation may support students' willingness to initiate, sustain, and regulate writing, while experiences of successfully managing writing may also be associated with motivational beliefs. Strategy-based writing research has shown that changes in self-regulatory engagement can occur alongside changes in task value and self-efficacy (Teng, 2022), while longitudinal evidence indicates that motivational and strategic processes may develop dynamically during writing instruction (Teng et al., 2024). More recent intervention research has similarly reported concurrent changes in writing motivation and self-regulated strategy use (Xu et al., 2025). Accordingly, the present study does not position either writing motivation or writing strategy use as a causal antecedent of the other. Instead, SRL provides the theoretical justification for examining whether the two constructs are statistically related.

Based on this theoretical positioning, the conceptual framework (Fig. 2.1) comprises Writing Motivation, represented by self-efficacy and task value, and Writing Strategy Use, represented by metacognitive, effort-regulation, cognitive, social, and affective strategies. Writing Motivation is conceptually positioned as the independent variable and Writing Strategy Use as the dependent variable, with the arrow representing the proposed relationship between the constructs. Self-Regulated Learning Theory underpins both constructs as the overarching theoretical foundation. However, the correlational design of the present study does not establish a causal relationship between the constructs. This framework is consistent with Pintrich's (1999, 2004) integration of motivational and regulatory processes, Teng and Zhang's (2016) multidimensional conceptualisation of self-regulated writing, and subsequent empirical evidence linking motivational beliefs with writing strategy use (Teng, 2024). It therefore provides the theoretical basis for examining the relationship between writing motivation and writing strategy use specified in RQ3.

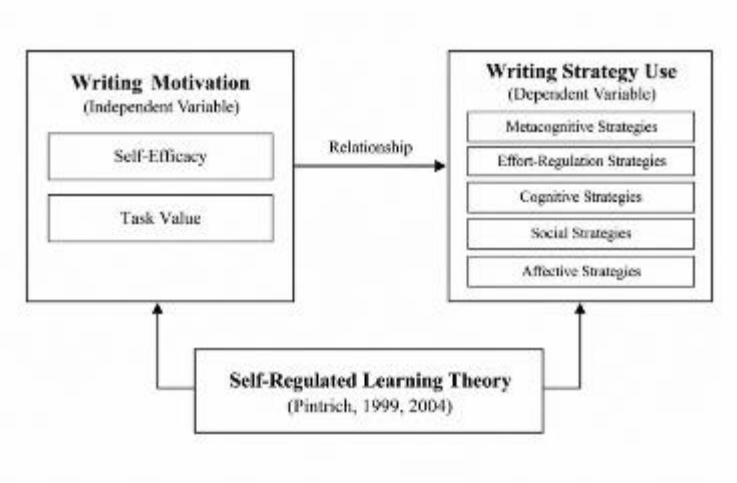


Figure 2.1 Conceptual framework of the study

Methodology

Research Design

This study employed a quantitative cross-sectional research design to examine writing motivation and writing strategy use among undergraduate students. The design was appropriate because the study sought to describe students' responses regarding the two constructs and to examine the relationship between writing motivation and writing strategy use at a single point in time. Cross-sectional designs allow variables to be examined within a defined population without manipulating the conditions under which they occur, while correlational analysis is appropriate when the objective is to determine the statistical association between measured variables (Creswell & Creswell, 2018; Salkind, 2018).

Data were collected using a structured self-administered questionnaire, with responses recorded on a five-point Likert scale. No variables were experimentally manipulated. Accordingly, although writing motivation is conceptually positioned as the independent variable and writing strategy use as the dependent variable in the conceptual framework, the statistical analysis examined the relationship between the two constructs rather than a causal effect. The cross-sectional design therefore does not permit conclusions regarding whether writing motivation causes changes in writing strategy use.

Participants and Sampling

The study involved 111 undergraduate students from Universiti Teknologi MARA (UiTM) who were recruited using convenience sampling. Convenience sampling involves recruiting participants who are accessible to the researcher and meet the characteristics relevant to the study (Etikan et al., 2016). In the present study, the participants were undergraduate students with experience completing written academic tasks as part of their university studies.

The participants represented three broad academic fields. Business Management students constituted 90% of the sample, followed by Science and Technology students (6%) and Social Sciences and Humanities students (4%). In terms of gender, 71% of the participants were female and 29% were male. A total of 111 usable responses were included in the analysis. Given the use of convenience sampling and the concentration of participants within Business Management, the sample should not be regarded as statistically representative of the wider undergraduate population.

Research Instrument

Data were collected using a structured questionnaire comprising measures of writing motivation and writing strategy use, together with demographic questions. Responses to the study items were recorded using a five-point Likert scale.

Writing strategy use was measured using items adapted from Raoofi and Maroofi (2017). The measure represented five dimensions of writing strategy use: metacognitive, effort-regulation, cognitive, social, and affective strategies. Metacognitive strategies involve planning, monitoring, evaluating, and revising writing activities, whereas effort-regulation strategies concern persistence and the maintenance of effort when writing becomes demanding. Cognitive strategies represent techniques used to process and develop written content, while social strategies involve obtaining assistance or feedback from others. Affective strategies concern students' attempts to manage emotions and feelings associated

with writing. This multidimensional representation is consistent with the broader self-regulated learning perspective, which recognizes that students employ different forms of cognitive, metacognitive, motivational, behavioral, and resource-management regulation during academic tasks (Pintrich, 2004; Teng & Zhang, 2016).

Internal consistency was assessed using Cronbach's alpha. The nine-item writing motivation measure demonstrated good internal consistency (α = .872), while the writing strategy use measure demonstrated excellent internal consistency (α = .962). Both coefficients exceeded the commonly accepted .70 criterion for internal consistency in social science research (Nunnally & Bernstein, 1994; Taber, 2018).

Data Collection Procedure

Data were collected using a self-administered questionnaire distributed to undergraduate students. Participants responded to demographic questions followed by items measuring writing motivation and writing strategy use. Responses to the study items were recorded using the five-point Likert scale. A total of 111 usable questionnaires were included in the final analysis. Participation in the study was voluntary, and the findings were analyzed and reported at the aggregate level.

Data Analysis

The data were analyzed using descriptive and inferential statistical procedures in accordance with the three research questions. Frequencies and percentages were used to describe the demographic characteristics of the participants.

To address RQ1, means and standard deviations were used to describe students' responses regarding writing motivation. Writing motivation was examined through items representing self-efficacy and task value. To address RQ2, means and standard deviations were used to describe students' responses regarding writing strategy use, represented by metacognitive, effort-regulation, cognitive, social, and affective strategy items. The mean represents the average response to an item, while the standard deviation indicates the variation in responses around that average (Field, 2018).

To address RQ3, Pearson's product-moment correlation coefficient was used to examine the relationship between overall writing motivation and overall writing strategy use. Pearson's correlation coefficient indicates the direction and strength of the linear association between two variables (Field, 2018). Statistical significance was evaluated at the .05 level.

Because the analysis examined overall writing motivation and overall writing strategy use, the correlation does not establish separate relationships between writing motivation and each of the five writing strategy dimensions. Furthermore, given the cross-sectional correlational design, the coefficient was interpreted as evidence of association rather than causation.

Results and Analysis

This section presents the findings according to the three research questions of the study. Descriptive statistics were used to examine undergraduate students' responses regarding writing motivation and writing strategy use, while Pearson's product-moment correlation was used to examine the relationship between the two constructs. The findings are presented in

four sections: participant profile, writing motivation, writing strategy use, and the relationship between writing motivation and writing strategy use.

Participant Profile

A total of 111 undergraduate students participated in the study. As shown in Table 1, female students constituted 71% of the participants, while male students represented 29%. In terms of academic discipline, the sample was predominantly represented by Business Management students (90%), followed by Science and Technology (6%) and Social Sciences and Humanities (4%).

Table 1

Demographic Profile of Participants

Characteristic	Category	Percentage (%)
Gender	Male	29
	Female	71
Academic discipline	Science and Technology	6
	Social Sciences and Humanities	4
	Business Management	90

Note. N = 111

The demographic distribution shows that the participants were predominantly female and that Business Management students constituted a substantial majority of the sample. The composition of the sample is therefore important when considering the scope of the findings, particularly their applicability to undergraduate students from other academic disciplines.

4.2 Descriptive Responses Regarding Writing Motivation

The first research question examined undergraduate students' descriptive responses regarding writing motivation. Writing motivation was represented by two components: self-efficacy and task value. Means and standard deviations were calculated for the nine motivation items, as presented in Table 2.

Table 2

Descriptive Statistics for Writing Motivation

Dimension	Code	Item	Mean	SD
Self-Efficacy	SEQ1	I am sure I can learn the skills taught in writing class well.	4.17	0.55
	SEQ2	I can do the hardest work in my writing class if I try.	4.11	0.70
	SEQ3	I can do almost all the work in writing class if I do not give up.	4.32	0.61
	SEQ4	If I have enough time, I can do a good job in all my writing work.	4.28	0.53
	SEQ5	Even if the work in writing is hard, I can learn it.	4.32	0.60
Task Value	TVQ1	I think learning writing is important.	4.59	0.61
	TVQ2	I find writing interesting.	4.19	0.61
	TVQ3	What I learn in writing is useful.	4.40	0.59
	TVQ4	Compared to other subjects, writing is useful.	4.18	0.65

Note. Responses were measured using a five-point Likert scale.

For self-efficacy, the item means ranged from 4.11 to 4.32. The highest means were recorded for SEQ3 (M = 4.32, SD = 0.61) and SEQ5 (M = 4.32, SD = 0.60). These items concerned students' perceived capability to continue working and learning even when writing was difficult. SEQ2 recorded the lowest mean (M = 4.11, SD = 0.70). Nevertheless, all five self-efficacy items recorded means above 4.00, showing generally favourable responses to the statements measuring writing self-efficacy.

For task value, the item means ranged from 4.18 to 4.59. TVQ1, which concerned the importance of learning writing, recorded the highest mean (M = 4.59, SD = 0.61). This was followed by TVQ3, concerning the usefulness of what students learn in writing (M = 4.40, SD = 0.59). The lowest mean was recorded for TVQ4 (M = 4.18, SD = 0.65), followed closely by TVQ2 (M = 4.19, SD = 0.61).

Overall, the descriptive results for RQ1 show that participants generally endorsed the statements concerning both self-efficacy and task value. However, because the available results are reported at the item level, the findings are interpreted descriptively rather than being used to classify participants into predetermined levels of low, moderate, or high writing motivation.

Descriptive Responses Regarding Writing Strategy Use

The second research question examined undergraduate students' descriptive responses regarding writing strategy use. Writing strategy use was represented by five dimensions: metacognitive strategies, effort-regulation strategies, cognitive strategies, social strategies, and affective strategies. The item-level means and standard deviations are presented in Table 3.

Table 3
Descriptive Statistics for Writing Strategy Use

Dimension	Code	Item	Mean	SD
Metacognitive	MWSQ1	I organize my ideas prior to writing.	4.13	0.63
	MWSQ2	I check my spelling.	4.24	0.59
	MWSQ3	I check my writing to make sure it is grammatically correct.	4.35	0.63
	MWSQ4	I evaluate and re-evaluate the ideas in my essay.	4.32	0.62
	MWSQ5	I monitor and evaluate my progress in writing.	4.19	0.60
	MWSQ6	I go through the planning stages in my writing.	4.20	0.64
	MWSQ7	I go through the revising and editing stages in my writing.	4.27	0.65
	MWSQ8	I go through the planning stages in my writing.	4.17	0.66
	MWSQ9	I go through the drafting stages in my writing.	4.19	0.63
	MWSQ10	I go through the revising and editing stages in my writing.	4.18	0.64
Effort Regulation	ERSQ1	I write a lot to develop my writing skills.	4.14	0.71
	ERSQ2	I often work hard to do well in my writing even if I do not like English writing tasks.	4.23	0.64
	ERSQ3	Even if the writing activities are difficult, I do not give up but try to engage in them.	4.28	0.57
	ERSQ4	I concentrate as hard as I can when doing a writing task.	4.16	0.64

Dimension	Code	Item	Mean	SD
Cognitive	CWSQ1	I use memorized grammatical elements such as singular and plural forms, verb tenses, prefixes and suffixes in my writing.	4.01	0.71
	CWSQ2	I put newly memorized vocabulary in my sentences.	4.06	0.61
	CWSQ3	In order to generate ideas for my writing, I usually engage myself in brainstorming.	4.09	0.63
	CWSQ4	I use different words that have the same meaning.	4.12	0.66
	CWSQ5	I use my experiences and knowledge in my writing.	4.25	0.59
	CWSQ6	I try to use effective linking words to ensure clear and logical relationships between sentences or paragraphs.	4.15	0.62
Social	SWSQ1	In order to generate ideas for my writing, I usually discuss the writing topic with a friend or classmate.	4.09	0.65
	SWSQ2	After revising and editing my essay thoroughly, I ask a friend or classmate to read and comment on it.	4.09	0.70
	SWSQ3	I try to identify friends or classmates whom I can ask for help in my writing.	4.08	0.65
	SWSQ4	When I have trouble writing my essay, I try to do it with my classmates or friends.	4.16	0.69
Affective	AWSQ1	I try to write an essay in class with confidence and ease.	4.08	0.63
	AWSQ2	I try to relax whenever I feel afraid of writing.	4.14	0.61
	AWSQ3	I encourage myself to write even when I am afraid of making mistakes.	4.25	0.59

Note. Responses were measured using a five-point Likert scale

For metacognitive strategies, item means ranged from 4.13 to 4.35. The highest mean was recorded for checking grammatical accuracy (MWSQ3, M = 4.35, SD = 0.63), followed by evaluating and re-evaluating ideas (MWSQ4, M = 4.32, SD = 0.62). Revising and editing (MWSQ7) also recorded a comparatively high mean (M = 4.27, SD = 0.65). The results show that participants generally endorsed statements concerning monitoring, reviewing, planning, and revising their written work.

For effort-regulation strategies, the highest mean was recorded for continuing to engage with writing despite difficulty (ERSQ3, M = 4.28, SD = 0.57). This was followed by working hard even when students did not like the writing task (ERSQ2, M = 4.23, SD = 0.64). ERSQ1 (M = 4.14, SD = 0.71) showed the greatest variation in responses among the four reported effort-regulation items.

For cognitive strategies, item means ranged from 4.01 to 4.25. Drawing upon previous experiences and knowledge when writing (CWSQ5) recorded the highest mean (M = 4.25, SD = 0.59), while using memorized grammatical elements (CWSQ1) recorded the lowest (M = 4.01, SD = 0.71). Other cognitive strategies, including using newly learned vocabulary, brainstorming, using synonymous words, and employing linking words, recorded means between 4.06 and 4.15.

For social strategies, means ranged from 4.08 to 4.16. Working with classmates or friends when experiencing difficulty with an essay (SWSQ4) recorded the highest mean (M = 4.16, SD = 0.69). The remaining items concerning discussion, peer comments, and seeking assistance from friends or classmates recorded closely clustered means between 4.08 and 4.09.

For affective strategies, item means ranged from 4.08 to 4.25. Encouraging oneself to continue writing despite fear of making mistakes (AWSQ3) recorded the highest mean (M = 4.25, SD = 0.59). Trying to relax when experiencing fear of writing (AWSQ2) recorded a mean of 4.14 (SD = 0.61), while writing with confidence and ease (AWSQ1) recorded a mean of 4.08 (SD = 0.63).

Taken together, the results for RQ2 show that participants endorsed items representing all five forms of writing strategy use. However, the available descriptive statistics are reported at the individual-item level rather than as composite means for each strategy dimension. The five dimensions should therefore not be ranked against one another, and the results do not establish that one strategy dimension was used more frequently than another.

Relationship between Writing Motivation and Writing Strategy Use

The third research question examined the relationship between writing motivation and writing strategy use among undergraduate students. Pearson's product-moment correlation was used to determine the direction and strength of the relationship between the two overall constructs. The results are presented in Table 4.

Table 4

Pearson Correlation between Writing Motivation and Writing Strategy Use

Variable	1	2
1. Writing Motivation	1	.811**
2. Writing Strategy Use	.811**	1

*Note. N = 111. *p < .001 (two-tailed)

The analysis revealed a strong, positive, and statistically significant relationship between writing motivation and writing strategy use, r = .811, p < .001. Students who reported greater writing motivation therefore also tended to report greater writing strategy use. The positive coefficient indicates that the two constructs varied in the same direction within the sample.
The result answers RQ3 by establishing a statistically significant positive association between overall writing motivation and overall writing strategy use. However, the analysis was correlational; therefore, the result does not establish that writing motivation caused greater writing strategy use. Similarly, it does not establish that greater strategy use caused greater motivation. Furthermore, because the correlation was calculated using the overall writing-strategy construct, the result does not establish separate relationships between writing motivation and the five individual strategy dimensions.

Discussion

The present study examined undergraduate students' writing motivation, writing strategy use, and the relationship between these two constructs within the theoretical perspective of Self-Regulated Learning (SRL). The findings provide three main points for discussion. First, students reported using strategies representing multiple aspects of the writing process.

Second, they generally endorsed statements reflecting writing self-efficacy and task value. Third, writing motivation was strongly and positively associated with overall writing strategy use. Together, these findings support the view that undergraduate writing involves not only the application of writing techniques but also motivational and self-regulatory processes that operate alongside students' engagement with writing tasks.

Writing Strategy Use as a Multidimensional Regulatory Practice

The findings for RQ2 indicate that students reported using strategies across all five dimensions examined in the study: metacognitive, effort-regulation, cognitive, social, and affective strategies. This multidimensional pattern is consistent with the view that writing requires students to regulate several aspects of the writing process rather than rely on a single strategy. Teng and Zhang (2016), for example, conceptualized self-regulated writing as comprising multiple strategic dimensions, including cognitive, metacognitive, social-behavioral, and motivational forms of regulation. Similarly, Raoofi and Maroofi (2017), in their study of undergraduate ESL students in Malaysia, examined metacognitive, cognitive, affective, and effort-regulation strategies as distinct aspects of L2 writing. More recent research has continued to demonstrate the multidimensional nature of self-regulated writing, with Zhang and Dong (2022) showing that strategic and motivational regulation operate alongside emotional experiences during writing. The present findings therefore reinforce the importance of understanding writing strategy use as a combination of regulatory practices rather than as a single writing behavior.

The item-level results provide further insight into how these regulatory practices were reflected in students' responses. Within the metacognitive dimension, checking grammatical accuracy, evaluating ideas, and revising and editing received comparatively stronger endorsement, suggesting that students attended to monitoring and reviewing their written work. Metacognitive regulation is particularly relevant to writing because writers must continually evaluate whether their developing text corresponds with their intended goals and adjust where necessary. Teng and Zhang (2016) identified metacognitive regulation as an important component of multidimensional self-regulated writing, while Teng and Zhan (2023) similarly positioned self-regulated writing strategies as part of the processes through which university students manage academic writing demands. From a broader SRL perspective, Pintrich (2004) also emphasizes monitoring and control as central regulatory processes through which learners manage their cognition and behavior during academic tasks. The present findings therefore suggest that students' reported writing practices extend beyond text production to include active monitoring and adjustment of their writing.

Effort-regulation and affective strategies add another dimension to this interpretation. Students reported continuing with writing despite difficulty and encouraging themselves to write even when they were concerned about making mistakes. These responses suggest that writing strategy use includes managing persistence and emotional experiences as well as managing the text itself. Pintrich (1999) argues that self-regulated learning involves sustaining engagement when academic tasks become difficult, while Zhang and Dong (2022) demonstrate that motivational regulation and writing strategies are intertwined with writing-related enjoyment and anxiety. Teng (2024) likewise identifies motivational regulation as one of the dimensions associated with students' broader self-regulatory engagement in EFL writing. Thus, the present findings support a broader understanding of writing strategy use in

which persistence and affect management form part of students' efforts to regulate the writing process rather than being treated as separate from writing behavior.

At the same time, the descriptive results should be interpreted cautiously. The study reports item-level means rather than composite means for each of the five strategy dimensions. It is therefore not possible to conclude that students used metacognitive strategies more frequently than cognitive, social, effort-regulation, or affective strategies. Instead, the findings show that students endorsed behaviors representing each dimension. This distinction is important because multidimensional models of writing regulation treat different strategy categories as related but distinguishable aspects of self-regulated writing (Teng & Zhang, 2016). Teng (2024) similarly found differences in the relationships between motivational beliefs and particular dimensions of SRL strategy use, while Teng and Zhan (2023) demonstrated that self-regulated writing strategies operate within a broader network of learner characteristics. Accordingly, the present results provide evidence of varied reported strategy use but do not establish a hierarchy among the five dimensions.

Writing Motivation in the Regulation of Writing

The findings for RQ1 show that students generally endorsed statements representing both self-efficacy and task value. Students expressed confidence in their ability to continue learning and completing writing tasks, even when these were difficult, and they also emphasized the importance and usefulness of learning to write. Within SRL, these motivational beliefs are relevant because students' decisions to initiate and sustain regulatory activity are connected to beliefs about their ability to perform a task and whether the task is worth undertaking. Pintrich (1999) specifically positions self-efficacy and task value as motivational components that can support engagement in self-regulated learning, while Pintrich (2004) integrates motivational beliefs with cognitive, behavioral, and contextual regulation. In writing research, Teng (2024) similarly found that motivational beliefs and different forms of writing self-efficacy were associated with multiple dimensions of SRL strategy use among undergraduate EFL writers. The present findings are therefore consistent with the theoretical positioning of motivation as an integral component of students' regulation of academic writing rather than as a construct detached from strategy use.

The task-value responses are particularly noteworthy. The strongest endorsement among the motivation items concerned the importance of learning writing, followed by the usefulness of what students learn through writing. This suggests that participants generally recognized writing as having academic value, even though recognizing its value does not necessarily mean that students experience writing as easy or intrinsically enjoyable. Raoofi and Maroofi (2017) included task value alongside self-efficacy when examining motivational processes in L2 writing among Malaysian undergraduates, demonstrating the relevance of value-related beliefs within the writing context. Teng (2024) also included task value as part of the motivational beliefs examined in relation to self-regulated writing strategies, while Pintrich (1999) distinguishes task value from perceptions of competence when explaining students' motivational engagement. Consequently, the present results suggest that students' writing motivation reflects both "Can I do this?", represented by self-efficacy, and "Is this worth doing?", represented by task value.

These findings should nevertheless not be interpreted as evidence that students were highly motivated in an absolute sense. The present study did not establish validated cut-off scores for categorizing writing motivation as low, moderate, or high. The findings instead describe how students responded to individual statements representing self-efficacy and task value. This distinction is important because motivational beliefs are multidimensional and may vary according to writing demands, learning contexts, and students' perceptions of particular tasks (Pintrich, 2004). Teng and Zhan (2023) further demonstrate that self-efficacy operates alongside task complexity and self-regulated strategy use in academic writing, while Teng (2024) shows that different motivational beliefs can relate differently to particular regulatory strategies. The present descriptive findings should therefore be understood as evidence of students' reported motivational beliefs within the context examined rather than as a fixed classification of their overall motivation.

Relationship Between Writing Motivation and Writing Strategy Use

The most important finding in relation to the conceptual framework is the strong positive relationship between overall writing motivation and overall writing strategy use ($r = .811$, $p < .001$). Students who reported greater writing motivation also tended to report greater use of writing strategies. This finding is theoretically consistent with SRL, which does not treat motivation and strategy use as independent learning processes. Pintrich (1999) argues that motivational beliefs can contribute to the initiation and maintenance of self-regulatory activity, while Pintrich (2004) conceptualizes motivation, cognition, behavior, and context as interconnected domains of regulation. Within writing specifically, Teng (2024) found that motivational beliefs and self-efficacy were associated with multiple dimensions of SRL strategies among undergraduate writers. The present finding extends this general pattern by showing a strong association between the overall writing motivations and writing strategy use constructs within the current undergraduate sample.

The relationship is also compatible with empirical writing research that has examined motivational and regulatory variables within the same learning process. Raoofi and Maroofi (2017) investigated self-efficacy, task value, writing strategies, and writing performance among 304 undergraduate ESL students in Malaysia, illustrating the relevance of examining motivational and strategic factors together in a Malaysian university context. Teng and Zhan (2023) subsequently demonstrated that self-efficacy and self-regulated writing strategies operated together within a model of academic writing, while Zhang and Dong (2022) showed that motivational regulation and self-regulated writing strategies interacted with students' emotional experiences of writing. Collectively, these studies support the broader proposition that students' motivational experiences and their strategic regulation of writing are interconnected rather than isolated aspects of writing engagement.

However, the magnitude of the correlation should not be interpreted as evidence that writing motivation causes students to use more writing strategies. The cross-sectional design establishes association but does not establish temporal or causal ordering. SRL theory provides a conceptual basis for expecting motivational beliefs to be relevant to strategic engagement (Pintrich, 1999), but writing experiences and successful regulatory activity may also coexist with or contribute to students' motivational beliefs. Teng and Zhan (2023), for example, demonstrate the interconnected roles of self-efficacy and self-regulation within academic writing, while Zhang and Dong (2022) show that motivational and strategic

regulation operate within a more complex system involving writing-related emotions. Accordingly, the present result should be interpreted precisely as a strong positive association between writing motivation and writing strategy use, not as evidence of a unidirectional causal pathway.

A further limitation of the correlation is that it was calculated using overall writing motivation and overall writing strategy use. The analysis therefore cannot determine whether motivation was more strongly related to metacognitive, effort-regulation, cognitive, social, or affective strategies. This distinction is theoretically meaningful because different motivational beliefs may relate differently to particular forms of writing regulation. Teng (2024), for example, examined the predictive relationships of motivational beliefs and self-efficacy across multiple SRL strategy dimensions rather than treating all strategies as interchangeable. Teng and Zhang (2016) likewise demonstrated the multidimensional structure of self-regulated writing strategies, while Pintrich (2004) conceptualized regulatory processes across different domains. Future research should therefore examine dimension-level relationships to establish whether self-efficacy and task value are differently associated with particular forms of writing strategy use.

Implications for Teaching and Learning

The findings have several implications for the teaching and learning of undergraduate academic writing. Most importantly, writing instruction should not be limited to teaching students how to produce grammatically correct text or organize academic content. Because students reported using metacognitive, cognitive, effort-regulation, social, and affective strategies, writing instruction may benefit from making these regulatory processes more explicit. Teng and Zhang (2016) demonstrate that self-regulated writing encompasses multiple dimensions of strategy, while Pintrich (2004) emphasizes the importance of helping learners monitor and control their learning processes. Research on strategy-based writing instruction further suggests that explicit attention to self-regulatory strategies can be incorporated into writing pedagogy rather than assuming that students will independently develop effective regulatory practices (Teng, 2022). Lecturers may therefore provide structured opportunities for students to plan, monitor, revise, seek feedback, manage their effort, and reflect on their approach to demanding writing tasks.

The strong relationship between writing motivation and the use of writing strategies also suggests that instructional support for writing should attend to both motivational and strategic dimensions. Encouraging students to use strategies without considering whether they believe they can successfully complete a writing task or perceive the task as worthwhile may provide only partial support for self-regulated writing. Pintrich (1999) emphasizes that motivational beliefs contribute to students' willingness to engage in and persist with regulatory activity, while Teng (2024) provides empirical evidence linking motivational beliefs and self-efficacy to different SRL writing strategies. Teng and Zhan (2023) similarly demonstrate that self-efficacy and self-regulated strategies operate together within academic writing. Thus, lecturers may complement explicit strategy instruction with learning experiences that provide attainable writing goals, constructive feedback, opportunities for successful task completion, and clear explanations of the academic and professional relevance of writing.

These implications are particularly relevant beyond dedicated writing or language courses because undergraduate students encounter writing through assignments, reports, projects, and other disciplinary tasks. Writing support can therefore be embedded within subject teaching by making the writing process visible rather than evaluating only the completed product. Students may, for example, be guided to establish writing goals, prepare an outline, monitor their progress, revise drafts, obtain peer or lecturer feedback, and reflect on strategies that were useful during the task. Such practices are consistent with SRL's emphasis on active monitoring and regulation (Pintrich, 2004) and with multidimensional approaches to self-regulated writing (Teng & Zhang, 2016). Strategy-based research further indicates that writing instruction can deliberately incorporate regulatory processes rather than leaving students to develop them incidentally (Teng, 2022). However, because the present study did not test an instructional intervention, these recommendations should be regarded as pedagogical implications derived from the findings and supporting literature rather than demonstrated effects of the present study.

Theoretical Contribution, Limitations, and Future Research

Theoretically, the study supports the use of Self-Regulated Learning as an overarching lens for examining writing motivation and writing strategy use together. The strong positive relationship between the constructs is consistent with Pintrich's (1999) proposition that motivation is closely connected with students' engagement in self-regulatory activity and with Pintrich's (2004) broader integration of motivational, cognitive, behavioral, and contextual regulation. The multidimensional strategy findings are also compatible with Teng and Zhang's (2016) conceptualization of self-regulated writing, while the relationship between motivation and strategy use corresponds with more recent evidence linking motivational beliefs, self-efficacy, and writing regulation (Teng, 2024). The contribution of the present study is therefore not to test the complete SRL model but to demonstrate that two theoretically connected components that writing motivation and writing strategy- use are strongly associated within the undergraduate context examined.

Several limitations should be considered when interpreting these findings. First, the study employed convenience sampling and the sample was heavily concentrated among Business Management students, limiting the extent to which the findings can be generalized to undergraduate populations across disciplines. Second, both writing motivation and writing strategy use were measured through self-report, meaning that the results represent students' perceptions of their motivation and strategic behavior rather than direct observations of writing activity. Self-regulated writing research has demonstrated the complexity and multidimensionality of strategic behavior (Teng & Zhang, 2016), while Teng and Zhan (2023) illustrate the value of considering writing strategies alongside other learner and task variables. Raoofi and Maroofi (2017) additionally incorporated a writing performance measure when examining motivational and strategic factors. In contrast, the present study did not measure writing performance, and no conclusion can therefore be drawn regarding whether students who reported greater motivation or strategy use produced better-quality writing.

Third, the cross-sectional design does not establish the direction of the relationship between writing motivation and writing strategy use. Longitudinal or intervention-based research would provide stronger evidence regarding how motivational beliefs and strategic writing

practices develop over time. Future studies could also examine the relationships between self-efficacy and task value separately and each of the five strategy dimensions, rather than relying solely on overall construct scores. Given evidence that different motivational beliefs may be associated with different forms of SRL strategy use (Teng, 2024), dimension-level analysis could provide a more precise account of the motivational processes associated with particular writing strategies. Future research may additionally combine questionnaires with writing-performance assessments, writing-process data, interviews, or observations to provide a more comprehensive understanding of how students regulate academic writing.

Overall, the findings suggest that undergraduate writing should be understood as both a motivational and strategic process. Students reported engaging with multiple forms of writing strategy use, while their writing motivation was strongly and positively associated with overall strategy use. Viewed through SRL, these findings highlight the importance of considering not only what students know about writing but also how they manage the writing process and the motivational beliefs accompanying that engagement. For teaching and learning, this means that supporting undergraduate writers may require attention to both the development of effective writing strategies and the motivational conditions that support students' sustained engagement with writing.

Conclusion

This study examined undergraduate students' writing motivation, writing strategy use, and the relationship between the two constructs through the lens of Self-Regulated Learning. The findings showed that students reported using metacognitive, effort-regulation, cognitive, social, and affective strategies in managing their writing and generally endorsed statements reflecting writing self-efficacy and task value. More importantly, writing motivation was strongly and positively associated with overall writing strategy use, indicating that students who reported greater motivation also tended to report greater engagement with writing strategies. These findings reinforce the importance of viewing undergraduate writing as both a motivational and strategic process and highlight the value of supporting students not only in developing writing skills but also in planning, monitoring, sustaining effort, seeking support, and managing affect during writing. Although the findings are bounded by the study's sampling, self-report, and cross-sectional design, they provide a basis for further research examining how specific motivational beliefs and writing strategies interact across different undergraduate contexts.

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