

The Mediating Role of Verbal Linguistic Intelligence in the Impact of Self-Efficacy and Academic Engagement on Academic Flow in Academic Writing

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This study examined the mediation role of verbal-linguistic intelligence in self-efficacy and the impact of academic engagement on academic flow in academic writing. Data from 213 students in the Department of English Education and English Literature of the University were collected using instruments such as GSE, UWES, MIDAS, and subjective flow measures and analysed with SEM. The instruments' validity was ensured through CR, AVE, and Cronbach's alpha. The study found no gender significant differences in the variables, and identified significant positive correlations among them, especially between academic engagement, verbal intelligence, and flow. Verbal linguistic intelligence played a mediator role, underscoring the importance of strategies to enhance it in the teaching of academic writing.

Keywords: academic engagement, academic flow, self-efficacy, verbal linguistic intelligence

INTRODUCTION

In academia, the dynamic relationship between self-efficacy, academic engagement, and academic flow, particularly in the writing domain, is a central concern that requires a thorough examination. Self-efficacy, or the individual's belief in their ability to accomplish tasks and achieve objectives Bandura (1977), has influenced academic success in various disciplines, including writing (Bulut, 2017; Kim & Nor, 2019). Similarly, academic engagement, characterised by the degree of attention, interest, and participation a student devotes to academic pursuits (Lei et al., 2018; Johnson & Stage, 2018), also plays a crucial role in fostering achievement.

The concept of academic flow, initially coined by Csikszentmihalyi (1990), is an optimal state of absorption and enjoyment in an activity that leads to a heightened sense of focus and total engagement. In the academic context, this flow state is closely related to improved learning outcomes and higher achievement (Adil & Ghayas, 2020; Goh & Yang, 2021). Research on academic flow in the context of writing is significant, as writing is a communication tool and a powerful cognitive instrument that enhances the learning process (Altunmakas & Bayyurt, 2019; Biber et al., 2020).

Despite these well-established connections, more literature is needed on the role of verbal-linguistic intelligence as a potential mediator in the relationship between self-efficacy, academic engagement, and academic flow in writing. Verbal linguistic intelligence, as part of Gardner's (1983) theory of multiple intelligences, denotes an individual's ability to use language effectively for expression and comprehension (Abdikarimova et al., 2021a). A growing body of research has suggested the integral role of verbal-linguistic intelligence in language learning (Ahmadian & Ghasemi, 2017; Alqatanani, 2017; Luo & Huang, 2019; Shakouri et al., 2016) and its potential impact on improving communication skills (Filiz, 2020a).

However, more is needed to know how verbal-linguistic intelligence interacts with self-efficacy, academic engagement, and academic flow, particularly in writing. Given the increasing emphasis on developing students' writing skills in academic settings, there is a pressing need to explore this uncharted territory. Understanding the mediating role of verbal-linguistic intelligence could shed light on effectively cultivating writing skills, thus improving academic performance and overall learning experiences.

This study aims to fill this gap by proposing a novel exploration of the mediating role of verbal-linguistic intelligence in the relationship between self-efficacy, academic engagement, and academic flow in the context of academic writing. By combining disparate strands of research on self-efficacy, academic engagement, academic flow, and verbal-linguistic intelligence, we aim to provide an integrated perspective that offers new theoretical insights and practical implications for educators and learners in promoting academic writing skills. Furthermore, the insights gleaned from this research could extend beyond the context of writing and inform pedagogy in other academic domains where linguistic intelligence plays a crucial role.

LITERATURE REVIEW

Self-Efficacy in Academic Contexts

Self-efficacy in academic contexts refers to students' beliefs in their ability to succeed in specific academic tasks or attain specific educational goals. This concept is deeply rooted in the theory of self-efficacy proposed by Bandura (1977), who argues that individuals' beliefs in their capabilities significantly affect their behaviour and motivation.

From a theoretical standpoint, self-efficacy is associated with other educational constructs such as flow (Adil & Ghayas, 2019; Alazzam et al., 2021), motivation (Özhan & Kocadere, 2020), emotions (Burić & Macuka, 2018), language learning strategies (Ahmadian & Ghasemi, 2017), and multiple intelligences (Ahmadian & Ghasemi, 2017; Alqatanani, 2017). Furthermore, it impacts various academic outcomes, including academic participation (Johnson & Stage, 2018; Lei et al., 2018), academic achievement (Kaburi, 2019; Manzano-Sanchez et al., 2018), and academic writing practises (Altınmakas & Bayyurt, 2019; Bulut, 2017).

Studies indicate that various strategies can be employed to enhance and improve self-efficacy. For example, teacher feedback (Ruegg, 2018), online learning interventions (Andersen & Sorensen, 2017), and active learning strategies (Lare Animasaun & Aramide Abegunrin, 2017) have been shown to contribute positively to self-efficacy beliefs. In the context of language learning, specific strategies such as verbal communication skills and speech etiquette can also contribute to the development of self-efficacy (Abdikarimova et al., 2021a).

Several studies have established a positive correlation between self-efficacy and academic performance (Chen, 2020; Kaburi, 2019; Manzano-Sanchez et al., 2018). This suggests that students possessing greater levels of self-efficacy typically exhibit superior academic performance. This relationship can be clarified by understanding that students with greater self-efficacy tend to immerse themselves more fully in their studies, display persistent effort when faced with difficult tasks, and employ more productive and successful learning tactics. In a time of increasing digital education, self-efficacy has also impacted online learning participation (Geng, 2022). High self-efficacy can help students better cope with the demands and challenges of online learning environments, which can enhance their academic achievement and learning engagement (Goh & Yang, 2021).

It is important to note that self-efficacy does not only affect academic performance; it also influences other aspects of the lives of students. For instance, it can influence their life satisfaction (Eryilmaz et al., 2021) and reduce the tendency to academic procrastination (Attia et al., 2020).

In summary, self-efficacy in academic contexts is fundamental to understanding students' academic motivation, engagement, and achievement. As such, improving students' self-efficacy beliefs can be crucial in promoting successful academic outcomes.

Academic Engagement in Academic Writing

Academic Engagement in Academic Writing is a multifaceted concept crucial in determining the effectiveness of learning experiences and student outcomes. This concept is about the degree to which students are involved in and enthusiastic about their academic work and the degree to which they feel connected to their educational institution and its academic community (Johnson & Stage, 2018; Lei et al., 2018).

This participation is vital in academic writing, where applying a variety of skills - critical thinking, clear communication, accurate referencing, and adherence to the conventions of academic discourse - is essential (Altınmakas & Bayyurt, 2019). Academic engagement in writing encompasses active involvement in learning and mastering these skills, dedication to writing, and participation in feedback and revision processes (Ruegg, 2018).

Several factors impact academic engagement in academic writing. The psychological concept of self-efficacy, or the belief in one's abilities to execute tasks or reach goals (Chen, 2020), is central to this process. For instance, a high level of self-efficacy in writing can increase students' engagement in writing, resulting in higher-quality writing and improved academic outcomes (Bulut, 2017; Saine & West, 2017). On the contrary, low self-efficacy in writing can lead to academic procrastination and lower-quality outcomes (Attia et al., 2020).

Moreover, flow, the mental state of being completely immersed and enjoying an activity, also contributes to academic engagement in writing (Adil & Ghayas, 2019; Eryilmaz et al., 2021). In an optimal flow state, students may experience increased concentration, enjoyment, and creativity in their academic writing tasks, leading to enhanced learning outcomes (Özhan & Kocadere, 2020b). On the contrary, lack of flow may result in disengagement, lower productivity, and less successful academic writing outcomes.

Other factors that play a role in academic engagement in writing include verbal communication skills (Abdikarimova et al., 2021b; Filiz, 2020), multiple intelligences (Ahmadian & Ghasemi, 2017; Alqatanani, 2017b; Pratiwi et al., 2018), effective learning strategies (Kim & Nor, 2019; Kozikoglu & Onur, 2019), and the usage of ICT-based interventions (Andersen & Sorensen, 2017).

Furthermore, the academic environment itself can impact engagement. For example, supportive teaching strategies, feedback mechanisms, and creating a sense of belonging can enhance students' engagement in their academic writing tasks (Johnson & Stage, 2018; Altınmakas & Bayyurt, 2019).

In conclusion, academic engagement in academic writing involves active and enthusiastic participation of students in their academic writing tasks. Various factors, including self-efficacy, flow, verbal communication skills, multiple intelligences, effective learning strategies, and supportive academic environments, influence this engagement level.

Academic Flow in Writing

The concept of Academic flow in academic writing relates to the seamless progression of ideas, logical content organisation, and a coherent and understandable structure in academic writing. This concept is essential to develop a compelling argument, maintain reader engagement, and demonstrate a deep understanding of the subject.

Flow in academic writing can be established through various techniques, such as using appropriate linking words and phrases, logical sequence of ideas, and consistent reference of sources (Altınmakas & Bayyurt, 2019). These techniques ensure that the text is logically connected and easily understandable, enhancing the reader's engagement and comprehension (Adil & Ghayas, 2019).

Furthermore, the concept of flow in academic writing can be linked to the theory of multiple intelligences (MI). Developed by Howard Gardner, the theory of MI suggests that individuals have different types of intelligence, including linguistic intelligence. Verbal linguistic intelligence encompasses the ability to perceive and comprehend spoken and written language, as well as the aptitude for acquiring and employing language to achieve specific objectives (Ahmadian & Ghasemi, 2017).

Individuals with high linguistic intelligence are likely to have a better flow in their academic writing, as they are sensitive to the nuances of language, can express their ideas clearly, and are adept at using language to persuade or inform (Shakouri et al., 2016). Thus, the concept of flow in academic writing

involves structural and organisational elements and is related to individual differences in linguistic intelligence and beliefs about self-efficacy (Luo & Huang, 2019).

In conclusion, academic flow in academic writing is a multifaceted concept that involves structural coherence, logical organisation, and seamless connection of ideas. Various factors influence it, including beliefs about self-efficacy and individual differences in linguistic intelligence. As such, fostering flow in academic writing can be seen as essential to enhance student engagement and improve academic performance.

The academic flow in academic writing can be described as the smooth and logical progression of ideas and arguments within a written work. It is a significant element in ensuring readability and understanding, allowing readers to follow the author's thoughts and reasoning without difficulty (Altınmakas & Bayyurt, 2019). In this context, the term 'flow' pertains to a psychological concept popularised by Csikszentmihalyi, characterised by a high degree of concentration and immersion in a task (Adil & Ghayas, 2019).

In academic writing, the flow is achieved through coherence and cohesion. Coherence refers to the logical arrangement of ideas, while cohesion refers to the grammatical and lexical linking within the text (Altınmakas & Bayyurt, 2019). Cohesion can be achieved through various methods, such as linking words and phrases, employing correct grammar and punctuation, and maintaining consistency in terminology and argumentation (Biber et al., 2020b).

Academic writing involves the confidence that a writer has in their writing skills and the ability to express their ideas effectively (Manzano-Sanchez et al., 2018). Flow also involves the writer's self-efficacy and engagement in the writing process. As defined by Bandura, self-efficacy refers to a person's belief in their ability to accomplish a specific task. A writer with high self-efficacy is more likely to persist through the challenges of the writing process and create a piece of work with a good flow (Burić & Macuka, 2018).

Academic flow in academic writing can be described as the seamless progression of ideas, supported by the effective use of coherence and cohesion strategies. The writer's self-efficacy and engagement influence the writing process. Ensuring good flow in academic writing helps enhance the text's readability and facilitates the reader's understanding of the argument being made.

The Mediating Role of Verbal Linguistic Intelligence

The concept of the mediating role of verbal linguistic intelligence involves the interplay between linguistic intelligence, academic self-efficacy, and student engagement, with linguistic intelligence serving as a bridge or mediator between these constructs.

Verbal linguistic intelligence, as conceptualized by Howard Gardner, is part of his theory of multiple intelligences. It pertains to the ability to skilfully employ language for expressive purposes, such as rhetoric or poetry, as well as to comprehend and interpret the language of others (Gardner, 1983; Luo & Huang, 2019). It involves skills such as the ability to use complex words and phrases, communicate fluently verbally, and make persuasive arguments or compelling narratives (Pratiwi et al., 2018b). In the realm of language acquisition, individuals with elevated verbal-linguistic intelligence demonstrate greater proficiency in activities related to reading, writing, and oral communication within the target language (Shakouri et al., 2016).

The mediating role of verbal-linguistic intelligence is its ability to influence the relationship between academic self-efficacy and student participation. Specifically, verbal-linguistic intelligence could enhance students' academic self-efficacy by giving them the linguistic tools and skills to express their thoughts, ideas, and understanding effectively. This increased self-efficacy promotes higher levels of student engagement by increasing their confidence to actively participate in learning activities (Filiz, 2020a).

For example, a student with solid verbal and linguistic intelligence may feel more capable of understanding and responding to academic readings or participating in class discussions (Ahmadian & Ghasemi, 2017). This belief in their abilities (i.e., academic self-efficacy) could lead to greater engagement in their classes and academic activities (Chen, 2020).

This mediating role of verbal-linguistic intelligence is of particular interest in the context of English language teaching, where the development of linguistic skills is central to student success (Abdikarimova

et al., 2021b). It also underscores the importance of cultivating students' verbal-linguistic intelligence as part of broader efforts to enhance their academic self-efficacy and engagement.

The "Mediating Role of Verbal Linguistic Intelligence" proposes that verbal-linguistic intelligence can bridge or enhance the relationship between academic self-efficacy and student engagement. This suggests that improving students' verbal-linguistic skills could be a promising strategy for boosting their confidence in their academic abilities and promoting higher levels of engagement in their learning.

Theoretical Model

The study of the relationship among self-efficacy, academic engagement, verbal linguistic intelligence, and academic flow in writing uncovers the nuanced interaction of these factors and their collective impact on student academic writing.

The impact of self-efficacy, which refers to an individual's confidence in their capabilities to accomplish tasks and overcome challenges, has been identified as a significant factor influencing academic achievement, particularly in the domain of writing (Kaburi, 2019; Kim & Nor, 2019). According to Altınmakas & Bayyurt (2019), self-efficacy influences the ability of students to engage and persist in the writing process, which is a crucial aspect in achieving academic flow in writing. Individuals with high self-efficacy tend to be more resilient and persistent when faced with challenges, such as those inherent in academic writing (Andersen & Sorensen, 2017).

Academic Engagement refers to the extent of active participation and emotional commitment that a student has towards their learning (Johnson & Stage, 2018). Engagement plays a vital role in influencing the quality of student learning experiences, including their ability to achieve flow states in academic writing (Shah & Cheng, 2019). Lei et al. (2018) found a positive correlation between engagement and academic achievement, indicating the potential of engagement to facilitate academic flow in writing, where students become fully immersed in the writing process.

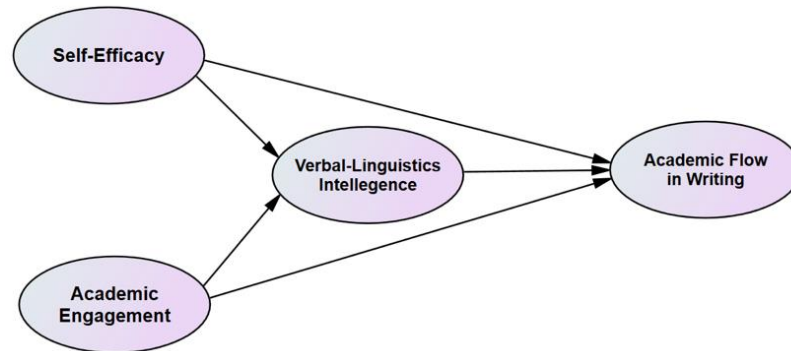
Verbal Linguistic Intelligence, as part of Howard Gardner's Multiple Intelligence theory, is the ability to use language effectively for expression and understanding (Ahmadian & Ghasemi, 2017; Filiz, 2020a). This ability enhances the ability of students to articulate ideas, making it essential to achieving flow in academic writing. Shakouri et al. (2016) found that verbal linguistics intelligence aids in recalling lexical items in second language acquisition, suggesting that it might also be beneficial in recalling and using vocabulary and language structures effectively in academic writing.

On the basis of the above, verbal linguistic intelligence could mediate the relationship between self-efficacy, academic engagement, and academic flow in writing. High self-efficacy can enhance the utilisation of one's linguistic intelligence (Pratiwi et al., 2018b). Similarly, academic engagement could be enriched through the effective use of language, potentially enhancing the student's capacity to achieve academic flow in writing (Goh & Yang, 2021).

It is essential to recognise the complex interplay of these factors. Each component, self-efficacy, academic engagement, and verbal-linguistic intelligence, does not act in isolation but interacts with the others to influence academic flow in writing. Therefore, pedagogical strategies to enhance academic writing should consider this intricate relationship to effectively foster the desired flow state. More empirical studies could provide more information on these associations, contributing to a deeper understanding of the mechanisms that underlie academic flow in writing.

This study constructs a theoretical model in which self-efficacy and academic engagement are the independent variables, verbal-linguistic intelligence serves as the mediator, and the dependent variable is academic flow in academic writing. The associations among these variables within this conceptual framework are depicted in Figure 1.

FIGURE 1
THE ASSOCIATIONS AMONG THESE VARIABLES



METHOD

Participants

The participants in this study consisted of students enrolled in the Departments of English Language Education and English Literature, specifically those who had taken or are currently taking a course in writing. This particular group of participants was selected because of the relevance of their academic experience to the research objectives. The total number of participants was 213, comprising 135 female and 78 male students, reflecting a gender distribution typical in many higher education settings. The selection of these participants was carried out randomly, ensuring that no bias was introduced in the process. This randomness also helped to improve the generalisability of the study findings. It is crucial to note that the pool of participants was quite diverse in terms of their academic progress. They came from different academic cohorts, specifically from their departments' second, fourth, sixth, and eighth semesters, which was in the even semester. This diversity in educational stages was intended to capture various experiences and perspectives related to the course.

Instruments

Self-Efficacy

The instrument commonly used to measure self-efficacy is the General Self-Efficacy Scale (GSE) (Burić & Macuka, 2018). This scale consists of items that assess individuals' beliefs in their ability to overcome challenges and achieve desired outcomes. The GSE provides a score that indicates an individual's overall self-efficacy level, with higher scores indicating greater self-efficacy. Participants rate their level of agreement with statements regarding their competence to handle various tasks and situations.

Academic Engagement

The Utrecht Work Engagement Scale (UWES) is often used to measure academic engagement (Lei et al., 2018). This scale assesses the energy, dedication, and absorption experienced by individuals in their academic tasks. It includes items that capture engagement's behavioral, emotional, and cognitive aspects. The UWES provides a score indicating the level of academic engagement, with higher scores reflecting higher levels of engagement. Participants rate their level of agreement with statements related to their academic involvement and emotional connection to their learning experiences.

Verbal Linguistic Intelligence

The Multiple Intelligence Developmental Assessment Scale (MIDAS) is a commonly used instrument to measure multiple intelligences, including verbal-linguistic intelligence (Alqatanani, 2017b). This instrument assesses an individual's strengths and weaknesses across various intelligences. It involves self-report measures in which individuals rate their abilities and preferences in linguistic tasks and activities

(Alqatanani, 2017a; Taniguchi et al., 2017; Filiz, 2020a). The MIDAS provides a comprehensive profile of an individual's intelligence, including verbal-linguistic intelligence, based on their responses (Alqatanani, 2017a; (Taniguchi et al., 2017); Filiz, 2020). To measure verbal linguistic intelligence, the researchers developed an instrument taking into account the components of verbal linguistic intelligence, which include Verbal Expression and Communication (VEC), Reading Comprehension and Vocabulary (RCV), and Language Learning and Adaptability (LLA) (Alqatanani, 2017a; (Filiz, 2020a).

Academic Flow in Writing

Although no specific instrument is mentioned in the provided reference, academic flow in writing can be assessed using self-report measures that capture the subjective flow experience (Altınmakas & Bayyurt, 2019). These measures typically include items related to perceived challenges and skills required in writing, the level of concentration and absorption experienced during writing, and the overall enjoyment and satisfaction derived from the writing process. Participants rate their experiences with these items and scores reflect the level of flow experienced during academic writing.

Research Procedures

The instruments were selected with care and, if required, validated to ensure their dependability and suitability for the study. Once the instruments were ready, 213 participants were recruited, consisting of 135 females and 78 males. Before participating in the study, informed consent was obtained to ensure compliance with ethical considerations. The participants were then given a comprehensive briefing on the instrument completion procedure. This session, which lasted approximately 15 minutes, was designed to ensure that all participants understood how to fill out the forms accurately and consistently. Clarifying the scoring mechanism was prioritised to reduce potential confusion during data collection. Subsequently, the self-efficacy instrument was distributed to participants, who were given 45 minutes to complete it. This procedure was repeated for the academic engagement instrument, the verbal-linguistic intelligence instrument, and the academic writing instrument, each of which had a completion time of 45 minutes.

Once all the forms were filled out, they were collected systematically to ensure accuracy and precise identification information. The completed forms were then organised and ready for data analysis. The collected data were thoroughly examined during the data analysis phase using the AMOS software structural equation modelling (SEM) method. SEM comprehensively examined the complex relationships between academic self-efficacy, academic engagement, verbal-linguistic intelligence, and academic writing flow. This phase was essential to produce the findings that were ultimately reported in the final research report.

In the final stages of the research process, the findings of the SEM analysis were interpreted. This resulted in the development of conclusions regarding the mediating role of verbal-linguistic intelligence in the effect of academic engagement and self-efficacy on theoretical flow in writing. These conclusions were included in a comprehensive research report detailing the study's methodology, findings, and implications.

Reliability and Validity

Reliability estimation in this investigation was measured using construct reliability by examining the value of the Composite Reliability Measure (CR) and the Average Variance Extracted Measure (AVE). The evaluation of internal consistency reliability was also conducted by testing the Cronbach's Alpha coefficient. The reliability coefficient of Cronbach's alpha ranges from 0 to 1, with a threshold coefficient of 0.60 to 0.70. Therefore, an instrument is said to be reliable if it has a CR value of ≥ 0.70 and an AVE value of ≥ 0.50 , as well as a Cronbach's alpha coefficient value of ≥ 0.70 . The results of the reliability evaluation can be viewed in Table 1.

**TABLE 1
RELIABILITY AND VALIDITY**

Variables	Items	Loadings	Cronbach's Alpha	AVE	CR
Self-Efficacy	Level	0.952	0.745	0.537	0.767
	Generality	0.607			
	Strength	0.579			
Academic Engagement	Vigour	0.921	0.931	0.820	0.932
	Dedication	0.868			
	Absorption	0.927			
Verbal Linguistics Intelligence	VEC	0.863	0.700	0.500	0.722
	RCV	0.541			
	LLA	0.619			
Academic Flow	Absorption	0.916	0.740	0.500	0.700
	Enjoyment	0.538			
	IM	0.464			

Table 1 shows that the values of the construct reliability coefficient of the measurement model on the scales of self-efficacy, academic engagement, verbal linguistic intelligence, and academic flow in academic writing all possess a CR value of 0.70, an AVE value of 0.50, and a Cronbach's Alpha value of 0.70. Consequently, it can be inferred that the four scales utilised in this research satisfactorily meet the requirements for a good estimate of the reliability of the measurement model.

FINDINGS

An independent sample t-test was used to compare the average scores for self-efficacy, academic engagement, verbal linguistic intelligence, and academic flow in academic writing between genders (refer to Table 2 for details). The results did not indicate statistically significant disparities between males and females in terms of Self-Efficacy ($t=1.29$; $p>.05$), Academic Engagement ($t=-1.500$; $p>.05$), Verbal Linguistic Intelligence ($t=-.856$; $p>.05$), and academic flow in academic writing ($t=-1.429$; $p>.05$). Thus, no apparent variations were found between the variables when contrasting the male and female groups.

**TABLE 2
RESULTS OF THE INDEPENDENT SAMPLES T-TEST**

Variables	Gender	N	Mean	SD	S.E	t-test	P
Self-Efficacy	Male	78	41.971	6.507	.736	.1291	.196
	Female	135	43.059	6.442	.554		
Academic Engagement	Male	78	39.102	9.846	1.114	-1.500	.135
	Female	135	41.214	9.932	.854		
Verbal Linguistic Intelligence	Male	78	38.205	5.333	.603	-.856	.393
	Female	135	38.851	5.303	.456		
Academic Flow	Male	78	39.282	6.741	.763	-1.429	.154
	Female	135	40.644	6.679	.574		

A Pearson correlation analysis was conducted, indicating a statistically significant association between self-efficacy and academic engagement with academic flow in writing, as well as verbal linguistic intelligence with academic flow in writing. The results presented in Table 3 demonstrate correlation coefficients ranging from .280 to .587 ($p<.05$), signifying a strong positive correlation between the

variables. In particular, the greatest correlation was found between academic engagement and academic flow in writing ($r=.587, p<.05$), followed by the correlation between verbal linguistics intelligence and academic low in academic writing ($r=.449, p<.01$). On the contrary, the weakest correlation was observed between self-efficacy and verbal linguistics intelligence ($r=.280, p<.01$).

TABLE 3
CORRELATION ANALYSIS BETWEEN VARIABLES

Variables	1	2.	3	4
SE	1	.525**	.280**	.335***
AE	.525**	1	.364**	.587***
VLI	.280**	.364**	1	.449***
AF	.335**	.587**	.449**	1

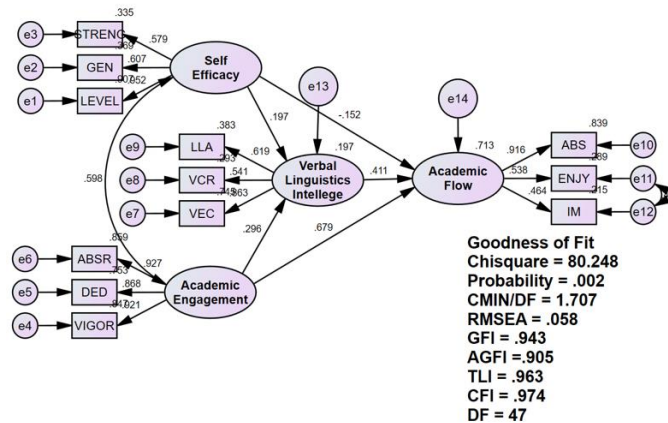
Note: * $p < .05$, ** $p < .01$, *** $p < .001$. SE=Self-Efficacy, AE= Academic Engagement, VLI= Verbal Linguistic Intelligence, AF= Academic Flow.

In this section, the fitness of the theoretical model was assessed using test indices such as Cmin / df, RMSEA, GFI, and AGFI. By synthesising various fitting indices (refer to Table 4), it was determined that the fitting indices for the theoretical model meet the respective evaluation standards. The theoretical model was reviewed in this segment of the study, using evaluation metrics such as Cmin/df, RMSEA, GFI and AGFI. The results of the goodness-of-fit parameter test can be viewed in Table 6.

TABLE 4
FITNESS INDEX OF THE THEORETICAL MODEL

Research Model	df	Chi-square	Probability	Cmin/df	RMSEA	GFI	AGFI	TLI	CFI
	47	80.248	.002	1.707	.058	.943	.905	.963	.974

FIGURE 2
STANDARDIZED PATH COEFFICIENTS IN RESEARCH MODEL



As evidenced in Table 5, the majority of the path coefficients were significant, with the sole exception the relationship between variables. Significantly positive effects were observed in several areas, including the impact of self-efficacy on verbal linguistics intelligence ($\beta=.341, p<.001$), the relationship between self-efficacy and academic flow in academic writing ($\beta=.347, p<.001$), and the association between academic engagement and verbal linguistics intelligence ($\beta=.195, p<.001$). Furthermore, the influence of AE on VIL

was found to be significant ($\beta=.397, p<.05$), and the effect of VLI on AF in academic writing was found to be remarkably positive ($\beta=.496, p<.001$).

TABLE 5
PATH COEFFICIENT OF THE COMPETITION MODEL

Path	β	B	S.E.	t	Support
SE → VLI	.341	.280	.081	4.235 ***	Adopt
SE → AF	.347	.335	.067	5.158 ***	Adopt
AE → VLI	.195	.364	.034	5.671 ***	Adopt
AE → AF	.397	.587	.038	10.529 ***	Adopt
VLI → AF	.496	.362	.085	5.836 ***	Adopt

Note: * $p < .05$, ** $p < .01$, *** $p < .001$. SE=Self-Efficacy, AE= Academic Engagement, VLI= Verbal Linguistic Intelligence, AF= Academic Flow.

TABLE 6
MEDIATION EFFECT TEST OF STRUCTURAL MODEL

Path	Estimate	S.E.	Z-value	P
SE → VLI → AF	.081	.042	1.912	0.05
AE → VLI → AF	.122	.037	2.672	0.00

The results of the mediation test indicate that verbal linguistic intelligence significantly mediates the effect between self-efficacy and academic flow in academic writing ($p \leq .05$). The variable of verbal linguistic intelligence also significantly mediates the contribution of academic engagement to academic flow in academic writing ($p \leq .05$).

DISCUSSIONS

The present study examined the potential differences between men and women in terms of self-efficacy, academic engagement, verbal linguistic intelligence, and academic flow in academic writing. The results of this study revealed no statistically significant distinctions between males and females concerning these variables (Abdikarimova et al., 2021a; Alazzam et al., 2021; Altınmakas & Bayyurt, 2019; Attia et al., 2020; Bulut, 2017; Eryilmaz et al., 2021; Kaburi, 2019; Lare Animasaun & Aramide Abegunrin, 2017; Lei et al., 2018; Manzano-Sanchez et al., 2018; Olivier et al., 2019; Roberts et al., 2020; Ruegg, 2018; Setyorini et al., 2019; Stubbs & Maynard, 2017; Wolverton et al., 2020; Yapo et al., 2021).

These findings align with previous studies that have likewise failed to identify notable gender differences in comparable domains (Ahmadian & Ghasemi, 2017; Alqatanani, 2017a; Geng, 2022; Luo & Huang, 2019; Shah & Cheng, 2019; Goh & Yang, 2021; Yavich & Rotnitsky, 2020).

The absence of significant differences in self-efficacy between men and women aligns with previous studies that have found no gender disparities in self-efficacy beliefs (Abdikarimova et al., 2021a; Lei et al., 2018; Roberts et al., 2020; Stubbs & Maynard, 2017; Wolverton et al., 2020). These findings challenge the assumption that males and females may differ in their confidence in their abilities to succeed academically. The lack of gender differences in self-efficacy suggests that both men and women have similar levels of belief in their academic capabilities.

Similarly, the nonsignificant disparities in academic engagement between males and females corroborate previous research that has also failed to find gender differences in this area (Alqatanani, 2017a; Lei et al., 2018; Olivier et al., 2019; Roberts et al., 2020; Wolverton et al., 2020). These findings imply that

both genders are equally engaged in their academic pursuits and demonstrate similar levels of commitment, participation, and involvement in their learning activities.

Furthermore, the absence of significant differences in verbal linguistic intelligence between men and women is consistent with previous studies that have reported no gender disparities in this cognitive domain (Filiz, 2020; Luo & Huang, 2019; Shakouri et al., 2016; Yavich & Rotnitsky, 2020). These findings challenge the notion that there may be inherent gender-based differences in linguistic abilities and suggest that both men and women possess similar levels of competency in verbal linguistic intelligence.

Similarly, the nonsignificant disparities in academic flow in academic writing between males and females align with previous research that has also failed to find gender differences in this aspect (Taniguchi et al., 2017). These findings imply that both males and females experience similar levels of optimal engagement, focus, and enjoyment while engaging in academic writing activities.

Moreover, the significant relationship identified by the Pearson correlation analysis signifies a meaningful connection among the variables of self-efficacy, academic engagement, verbal linguistic intelligence, and academic flow in the context of academic writing. These findings support the notion that these variables are interconnected and can influence each other (Adil & Ghayas, 2019; Eryilmaz et al., 2021; Goh & Yang, 2021; Jahan Faezeh & Mehrafzoon Dariush, 2019; Kozikoglu & Onur, 2019; Zumbrunn et al., 2020).

Additionally, the significant path coefficients indicate that verbal linguistic intelligence acts as a significant mediator between self-efficacy and academic flow in academic writing, academic engagement, and academic flow in academic writing. These findings imply that verbal linguistic intelligence is an essential factor in the interplay between self-efficacy and the other variables, impacting students' academic experiences and outcomes (Taniguchi et al., 2017). Verbal linguistics intelligence has been identified as a significant mediator between the effect of self-efficacy on academic flow in academic writing and the effect of academic engagement on academic flow in academic writing. This finding is supported by previous research in the field. Abdikarimova et al. (2021) emphasized the importance of developing students' verbal communication skills in English language teaching, which aligns with the concept of verbal linguistics intelligence. Ahmadian & Ghasemi (2017) investigated the links between language learning strategies, multiple intelligences, and self-efficacy, highlighting the potential role of verbal linguistics intelligence in enhancing self-efficacy. Additionally, Alqatanani (2017) explored the impact of multiple intelligences, including verbal intelligence, on improving EFL students' critical reading skills.

The literature extensively explores the role of self-efficacy in relation to academic flow. Studies such as Alazzam et al. (2021) and Attia et al. (2020) have demonstrated the positive relationship between self-efficacy and academic engagement, emphasizing the influence of self-efficacy on students' ability to cope with challenges and maintain a high level of engagement. Furthermore, Barker (2017), emphasized the role of self-efficacy in enhancing flow experiences on social networking sites, indicating that individuals with higher self-efficacy are more likely to experience flow.

On the other hand, the influence of academic engagement on academic flow has also been supported by previous research. Johnson & Stage (2018) highlighted the positive association between academic engagement and student success, indicating that students who are actively engaged in their academic tasks are more likely to experience a state of flow. Similarly, Goh & Yang (2021) examined the role of e-engagement and flow in the continuance of learning management systems, emphasizing the positive relationship between engagement and flow experiences.

Verbal linguistics intelligence acts as a mediator between self-efficacy and academic flow in academic writing due to several reasons. Firstly, verbal linguistics intelligence encompasses language proficiency, linguistic skills, and the ability to express oneself effectively in writing. Individuals with higher verbal linguistics intelligence may possess stronger writing abilities, which can contribute to a higher sense of self-efficacy in academic writing tasks (Filiz, 2020b). Moreover, individuals with high verbal intelligence tend to have a better understanding of language structures, vocabulary usage, and rhetorical strategies, which can enhance their confidence in writing tasks and contribute to a smoother flow experience (Luo & Huang, 2019).

Furthermore, verbal linguistics intelligence can facilitate effective communication and expression of ideas, which are crucial elements in academic writing. Students with higher verbal linguistics intelligence may find it easier to articulate their thoughts and ideas, resulting in a more fluent and coherent writing process. This enhanced ability to communicate effectively can contribute to a higher level of engagement and immersion in the writing task, thus promoting a state of flow (Eryilmaz et al., 2021). Additionally, individuals with strong verbal skills may possess a wider range of vocabulary and language resources, allowing them to engage more deeply with the academic content and express their understanding in a more sophisticated manner, leading to a heightened sense of flow (Altınmakas & Bayyurt, 2019).

While the findings of this study support the mediating role of verbal linguistics intelligence between self-efficacy and academic flow in academic writing, it is important to acknowledge the limitations and divergent findings in the literature. Some studies have reported inconsistent or weak relationships between linguistic intelligence and writing outcomes (Shakouri et al., 2016; Kozikoglu & Onur, 2019). These discrepancies may be attributed to various factors, such as the specific measures used to assess linguistic intelligence, the sample characteristics, and the contextual factors that influence writing performance.

Moreover, other factors beyond linguistic intelligence, such as personal beliefs, motivations, and academic contexts, can also impact self-efficacy, academic engagement, and academic flow in writing (Altınmakas & Bayyurt, 2019). Altınmakas & Bayyurt (2019) found that students' writing practices were influenced by multiple factors, suggesting a complex interplay of variables in the writing process. Therefore, while verbal linguistics intelligence plays a significant role as a mediator, it is essential to consider the multifaceted nature of academic writing and the diverse factors that contribute to self-efficacy, engagement, and flow.

CONCLUSION

This study finds no statistically significant difference between males and females regarding self-efficacy, academic engagement, verbal linguistic intelligence, and academic flow in the domain of academic writing. These findings challenge the assumption of gender disparities in confidence, engagement, and linguistic abilities. Both genders exhibit similar levels of belief in their academic capabilities, engagement, and verbal linguistic intelligence. Verbal linguistic intelligence plays a significant mediating role between self-efficacy and academic flow, as well as between academic engagement and academic flow in writing. It underscores the importance of developing language proficiency, writing skills, and effective communication in English language teaching, particularly for academic writing.

However, it is important to acknowledge the limitations and divergent findings in the literature. Some studies have reported inconsistent or weak relationships between linguistic intelligence and writing outcomes, suggesting the influence of other factors. Factors such as personal beliefs, motivations, and academic contexts should be considered when understanding self-efficacy, academic engagement, and academic flow in writing.

In summary, while this study highlights the role of verbal linguistic intelligence as a mediator, it is essential to recognize the complexity of academic writing and the potential impact of various factors beyond linguistic intelligence. Future research should further explore the interplay between linguistic intelligence, self-efficacy, academic engagement, and academic flow. Additionally, investigating specific instructional strategies to enhance verbal linguistic intelligence and promote academic flow in writing can provide valuable insights for English language teaching practices.

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