The Impact of Writing Self-Efficacy, Writing Apprehension, and Writing Motivation on Writing Performance: Examining Gender Differences

Abdelouahd Bouzar[1] & Khaoula El Idrissi[2]

[1,2] Sidi Mohammed Ben Abdellah University, Morocco
Correspondence: Abdelouahd Bouzar, Sidi Mohammed Ben Abdellah University, Morocco
Email: bouzarabdelouahd@gmail.com

Abstract

While writing performance has been linked to psychological factors, few studies have explored gender differences in this relationship, particularly in a Moroccan EFL context. This study delves into the complex dynamics of Moroccan EFL students' writing self-efficacy, anxiety, motivation, and performance, exploring gender differences in the relationships among these constructs. The Academic Writing Motivation Questionnaire (AWMQ), the Self-Efficacy for Writing Scale (SEWS), and the Second Language Writing Anxiety Inventory (SLWAI) were used in a cross-sectional study that drew data from 729 students (351 men and 378 females) from four different universities. The correlations between psychological characteristics and writing skill varied significantly among genders, according to Partial Least Squares Structural Equation Modeling (PLS-SEM). For females, writing apprehension showed a strong negative relationship with performance ($\beta = -0.567$, $p < 0.001$), while writing motivation demonstrated a positive relationship ($\beta = 0.206$, $p < 0.001$). Writing self-efficacy was negatively related to performance for females ($\beta = -0.338$, $p < 0.005$). For males, only writing self-efficacy showed a significant positive relationship with performance ($\beta = 0.130$, $p < 0.05$). The findings suggest that gender plays a crucial moderating role in how psychological factors influence writing performance, with females showing more pronounced relationships across all measured constructs. These results have significant implications for developing gender-sensitive writing instruction approaches in EFL contexts and highlight the need for differentiated pedagogical strategies that address the unique psychological profiles of male and female writers.

Keywords: Psychological Factors, Academic Achievement, English As A Foreign Language, Gender Disparities, Structural Equation Modeling

Introduction

Writing performance in academic contexts has consistently shown gender-related differences across various educational settings and cultural contexts. Research has demonstrated that females generally outperform males in writing tasks, with this advantage

appearing early in academic development and persisting through higher education (Pajares et al., 1999). However, the underlying psychological mechanisms that contribute to these differences remain complex and multifaceted, requiring careful examination of the interplay between cognitive, affective, and motivational factors.

The role of writing self-efficacy in academic performance has been extensively documented in the literature. Pajares and Johnson (1994) established that students' beliefs about their writing capabilities significantly predict their actual writing performance, with self-efficacy serving as a powerful mediator between ability and achievement. Subsequent research by Bruning et al. (2013) refined our understanding by identifying multiple dimensions of writing self-efficacy, including ideation, conventions, and self-regulation, each contributing differently to writing outcomes. Gender differences in writing self-efficacy present a particularly intriguing pattern, with studies showing mixed results regarding whether males or females report higher confidence levels (Pajares et al., 2001). Writing apprehension, conceptualized as the anxiety and avoidance behaviors associated with writing tasks, represents another critical factor influencing performance outcomes. Cheng (2004) developed the Second Language Writing Anxiety Inventory, revealing that writing anxiety operates through cognitive, somatic, and behavioral dimensions. Research consistently demonstrates negative correlations between writing apprehension and performance, with anxious writers showing decreased fluency, reduced complexity, and lower overall quality in their written products (Erkan & Saban, 2011). Gender differences in writing apprehension have been documented, though findings vary across contexts, with some studies reporting higher anxiety levels among females (Piniel & Csizér, 2015) while others suggest males experience greater writing-related stress (Alluhaybi, 2017).

Students' intrinsic interest in writing, their perseverance in the face of obstacles, and their readiness to engage in writing activities all make up writing motivation. Recognizing that motivated writers exhibit higher effort, seek out more difficult tasks, and show enhanced performance outcomes, Payne (2012) created the Academic Writing Motivation Questionnaire to capture these complex components of motivation. According to research by Pajares and Valiante (2001), women exhibit more favorable attitudes toward writing activities, better levels of motivation, and greater work engagement when compared to men.

The intersection of these psychological factors creates complex patterns of influence on writing performance. Recent research by Sabti et al. (2019) demonstrated significant correlations between writing anxiety, achievement motivation, and self-efficacy, suggesting that these constructs operate within an integrated system rather than as independent predictors. Furthermore, the mediating role of gender adds additional complexity, as Castro and Limpo (2020) found that the relationships between psychological factors and writing outcomes vary significantly between males and females. In the context of English as a Foreign Language (EFL) learning, these relationships become

even more intricate. Second language writers face additional challenges related to linguistic competence, cultural differences, and identity negotiation (Alluhaybi, 2017). Research in Moroccan EFL contexts has highlighted unique challenges faced by students, including limited exposure to authentic writing contexts, traditional pedagogical approaches, and cultural factors that may differentially affect male and female learners.

Despite extensive research on individual psychological factors affecting writing, limited attention has been paid to the simultaneous examination of writing self-efficacy, apprehension, and motivation within a comprehensive model that explicitly accounts for gender differences. This gap is particularly pronounced in North African EFL contexts, where cultural and educational factors may create unique patterns of relationships between these variables. Understanding these relationships is crucial for developing effective writing instruction approaches that address the specific needs of male and female EFL learners.

Methodology

The study used a myriad of approaches to data collection to engage different types of participants across various academic fields. Data were collected using a mixture of snowball sampling, convenience sampling, and purposive sampling methods. Convenience and purposive sampling techniques involved reaching out to S4 and S6 BA students of English Studies who were readily available in Moroccan Letters and Human Sciences Faculties at Sidi Mohammed Ben Abdellah, Moulay Smail, Mohammed 1st, and Ibn Tofail universities. These universities were chosen due to their proximity to Fez City, facilitating easier access. S4 and S6 students were selected because they had taken academic writing exams, including composition and paragraph writing. Instead of conducting a longitudinal study, a cross-sectional study was opted for, where students reported their writing grades at a particular time. Questionnaires were distributed to these students. The secondary distribution method involved using digital platforms, specifically WhatsApp and Facebook groups of the English department students from the mentioned universities.

Furthermore, the reach beyond the initial groups was amplified through resorting to the snowball sampling technique. Respondents and colleagues were encouraged to share the survey within their academic and personal circles.

Participants

The final sample consisted of 729 participants distributed across different demographic categories as shown in the table below:

Table 1: Demographic and Academic Background Categories

Demographic Category	Subcategory	Frequency
Age	18-20	210
	21-25	459
	26-30	32
	31-35	11
	More than 35	17
	Total	**729**
Gender	Male	351
	Female	378
	Total	**729**
Academic Year	4th semester	190
	6th semester	539
	Total	**729**

Instruments

Three scales measuring writing motivation, writing self-efficacy, and writing anxiety were utilized as data collection instruments in this study. The Academic Writing Motivation Questionnaire (AWMQ) developed by Payne (2012) served as the basis for the Writing Motivation scale. The AWMQ contains statements like "I enjoy writing even if my writing will not be graded," "I like to write down my thoughts," and "I like courses that give me more opportunities to write."

Adapted from Bruning et al. (2013)'s Self-Efficacy for Writing Scale (SEWS), the Writing Self-Efficacy scale asks participants to rate their ability to: "I can focus and keep writing even when it is difficult," "I can think of many ideas and words for my writing," and "I can write grammatically complete and correct sentences."

Extractions from Cheng's (2004) Second Language Writing Anxiety Inventory (SLWAI) were used to construct the Writing Apprehension scale. The SLWAI contains statements like "When writing compositions, I am not nervous at all," "When writing English compositions under time constraints, I feel my heart pounding," and "My thoughts become jumbled and my mind often goes blank." The items were evaluated using a 7-point Likert scale, where 1 indicates a strong disagreement and 7 means a strong agreement. For example, WA1, WA2 for writing anxiety, WM1, WM2 for writing inspiration, and WSE1, WSE2 for writing confidence were the initials used to code the elements on the scales.

Factor Analysis and Item Deletion

Factor analysis was conducted to assess the validity and reliability of the measurement instruments. Items with factor loadings below 0.6 were removed from the analysis to ensure adequate convergent validity.

Table 2: Factor Loadings and Reliability Tests Before and After Item Deletion

	Latent Variables	Indicators	Factor Loading	Cronbach's alpha	rho_a	AVE
Before Item Deletion	**Writing Apprehension**	WA1	-0.425	0.596	0.761	0.337
		WA2	0.419			
		WA3	0.418			
		WA4	0.106			
		WA5	0.500			
		WA6	0.780			
		WA7	0.798			
		WA8	0.814			
	Writing Motivation	WM1	0.615	0.771	0.787	0.291
		WM2	0.636			
		WM3	0.590			
		WM4	0.561			
		WM5	0.505			
		WM6	0.562			
		WM7	0.359			
		WM8	0.459			
		WM9	0.637			
		WM10	0.492			
		WM11	0.662			
		WM12	0.230			
	Writing Self-Efficacy	WSE1	0.512	0.788	0.805	0.350
		WSE2	0.598			
		WSE3	0.436			
		WSE4	0.632			
		WSE5	0.491			
		WSE6	0.611			
		WSE7	0.454			
		WSE8	0.754			
		WSE9	0.707			
		WSE10	0.634			
After Item Deletion (Final Version)	**Writing Apprehension**	WA6	0.887	0.826	0.855	0.739
		WA7	0.817			
		WA8	0.870			
	Writing Motivation	WM1	0.847	0.705	0.707	0.630
		WM2	0.778			
		WM11	0.753			
	Writing Self-Efficacy	WSE8	0.762	0.777	0.806	0.689
		WSE9	0.870			
		WSE10	0.855			

Data Analysis

Smart PLS-4, an application of Partial Least Squares Structural Equation Modeling (PLS-SEM), was put to use in this research. The usage of PLS-SEM has several advantages, such as its robustness with small sample numbers, its ability to simultaneously test the measurement and structural models, and its effectiveness with complex causal links in prediction models.

Research Questions and Hypotheses

This study was guided by the following research questions:
1. What is the relationship between writing self-efficacy and writing performance, and does this relationship differ by gender?
2. How does writing apprehension influence writing performance, and are there gender differences in this relationship?
3. What is the impact of writing motivation on writing performance, and does gender moderate this relationship?
4. Are there significant gender differences in overall writing performance across different academic writing courses?

Based on the literature review, the following hypotheses were formulated:
- **H1**: Writing self-efficacy positively predicts writing performance
- **H2**: Writing apprehension negatively predicts writing performance
- **H3**: Writing motivation positively predicts writing performance
- **H4**: Gender moderates the relationships between psychological factors and writing performance

Results
Measurement Model Assessment

The reliability assessment revealed that every construct demonstrated Cronbach's alpha coefficients exceeding the 0.700 threshold, alongside Composite Reliability (CR) scores surpassing 0.700, which suggests robust to excellent internal consistency (as shown in table 3). Furthermore, the average variance extracted (AVE) measurements for each construct exceeded the minimum requirement of 0.50, confirming satisfactory convergent validity. These findings indicate that the measurement items exhibited strong reliability and appropriate convergent validity.

To evaluate multicollinearity concerns, the Variance Inflation Factor (VIF) was calculated, with results showing all values remained under the conservative threshold of 5 and substantially lower than the maximum acceptable limit of 10. The assessment of discriminant validity employed multiple approaches: examination of factor cross-loadings,

application of the Fornell-Larcker Criterion, and calculation of Heterotrait-Monotrait Ratio (HTMT) values. The analysis revealed that items loaded more strongly on their designated factors compared to any alternative factors. Additionally, HTMT values remained beneath the 0.8 benchmark, providing evidence of satisfactory discriminant validity.

Table 3: Final Measurement Model Results

Latent Variables	Indicators	Factor Loading	Cronbach's alpha	rho_a	AVE
Self-Regulation	SR1	0.893	0.523	0.716	0.657
	SR3	0.763			
Writing Apprehension	WA6	0.887	0.826	0.855	0.739
	WA7	0.817			
	WA8	0.870			
Writing Motivation	WM1	0.847	0.705	0.707	0.630
	WM2	0.778			
	WM11	0.753			
Writing Self-Efficacy	WSE8	0.762	0.777	0.806	0.689
	WSE9	0.870			
	WSE10	0.855			

Gender Differences in Writing Performance

Independent samples t-tests were used to determine whether there were any significant variations in writing outcomes between the sexes in a range of academic writing courses. The results revealed significant differences between male and female students across multiple performance measures:

Table 4: Gender Differences in Writing Performance Measures

Performance Measure	Gender	N	Mean	Sig (Equal Variance assumed)
Overall Mark	Male	351	2.3708	.003
	Female	378	2.4352	.003
Baccalaureate Mark	Male	351	2.83	.000
	Female	378	3.03	.000
Paragraph Writing (Semester 1)	Male	345	2.55	.000
	Female	372	2.56	.000
Composition 1 (Semester 2)	Male	334	2.52	.000
	Female	367	2.61	.000
Composition 2 (Semester 3)	Male	332	2.67	.001
	Female	373	2.70	.001
Advanced Composition (Semester 4)	Male	261	2.73	.009
	Female	288	2.67	.009

Structural Model Results

The structural model analysis revealed significant gender differences in the relationships between psychological factors and writing performance. Multi-group analysis was conducted to examine these differences:

Table 5: Path Coefficients by Gender

Path Relationships	Males	Females
Writing self-efficacy → writing performance	0.130*	-0.338**
Writing apprehension → writing performance	0.055	-0.567***
Writing motivation → writing performance	-0.028	0.206***
***p<0.001; ** p<0.005; * p<0.05**		

Discussion

This study found that among Moroccan EFL students, there are complicated and gender-differentiated correlations between psychological factors and writing performance. There is strong evidence from the data that gender moderates the links between academic writing performance, writing motivation, writing anxiety, and writing self-efficacy.

Research Question 1: Writing Self-Efficacy and Performance

Significant gender variations were found in the correlation between writing self-efficacy and performance. According to classic self-efficacy theory, which states that having confidence in one's abilities improves performance outcomes, writing self-efficacy demonstrated a positive correlation with performance for male students ($\beta = 0.130$, p < 0.05). The results of this study corroborate those of Pajares and Johnson (1994), who also discovered a favorable relationship between confidence in one's own abilities and academic success in writing. Surprisingly, a negative correlation was found for female students ($\beta = -0.338$, p < 0.005), indicating that poorer performance scores were linked to increased self-efficacy views. The inverse relationship between self-efficacy and performance in females is a surprising finding that warrants further investigation. Some students may have an inflated sense of their own talents, which can cause them to put in less work and be less prepared for tests, which could explain this seemingly contradictory result. This could also mean that high-achieving female students are more self-aware of the difficulties of writing, leading them to have more negative or realistic views of their talents.

Research Question 2: Writing Apprehension and Performance

Writing apprehension showed significant effects only for female students ($\beta = -0.567$, p < 0.001), representing the strongest relationship observed in the model. This

substantial negative correlation indicates that as female students experience higher levels of writing anxiety, their performance decreases markedly. For male students, writing apprehension showed no significant relationship with performance ($\beta = 0.055$, $p > 0.05$), suggesting that males may be less susceptible to the debilitating effects of writing anxiety or may employ different coping mechanisms. This gender difference aligns with research by Cheng (2004) and supports the notion that anxiety affects cognitive processing differently across genders. The pronounced effect for females may reflect sociocultural factors in the Moroccan context, where female students may face additional pressure to excel academically while simultaneously managing social expectations about language proficiency.

Research Question 3: Writing Motivation and Performance

Writing motivation demonstrated a positive and significant relationship with performance for female students ($\beta = 0.206$, $p < 0.001$), indicating that motivated female writers achieve better academic outcomes. This finding corroborates previous research by Payne (2012) and supports motivational theories suggesting that intrinsic interest and engagement enhance learning outcomes. Conversely, male students showed no significant relationship between motivation and performance ($\beta = -0.028$, $p > 0.05$), suggesting that motivation alone may not be sufficient to drive performance improvements for males, or that other factors may mediate this relationship. This gender difference may reflect different learning orientations, with females potentially showing greater responsiveness to intrinsic motivational factors while males may be more influenced by external factors not measured in this study.

Research Question 4: Gender Differences in Overall Performance

The analysis of gender differences in writing performance across academic courses revealed significant differences favoring female students in most measures. Females consistently outperformed males in baccalaureate marks (3.03 vs. 2.83, $p < 0.001$) and showed advantages in most composition courses. This pattern aligns with international research trends showing female superiority in writing tasks and supports findings from previous studies in similar EFL contexts. However, the effect sizes were relatively modest, suggesting that while statistically significant, the practical differences may be less pronounced than the psychological factor relationships.

Theoretical Implications

These findings challenge traditional assumptions about the universality of psychological factor-performance relationships. The gender-differentiated patterns suggest

that cognitive and affective processes may operate differently for male and female EFL writers, necessitating gender-sensitive theoretical frameworks. The unexpected negative relationship between self-efficacy and performance for females highlights the complexity of confidence-performance relationships in academic contexts and suggests that cultural and contextual factors may moderate these relationships in ways not previously understood.

Pedagogical Implications

The results have significant implications for EFL writing instruction in Moroccan universities. For female students, interventions should focus on anxiety reduction techniques, realistic self-assessment training, and motivation enhancement strategies. Given the strong negative impact of writing apprehension on female performance, stress management and confidence-building activities may be particularly beneficial. For male students, interventions should target self-efficacy development and help them recognize the connection between effort and outcomes. The lack of significant motivation-performance relationships for males suggests that alternative motivational strategies may be needed.

Cultural Context Considerations

The findings must be interpreted within the specific cultural and educational context of Morocco. Traditional gender roles and educational expectations may contribute to the observed patterns, with female students potentially experiencing different types of academic pressure and support systems. The collectivistic nature of Moroccan society may also influence how individual psychological factors translate into academic outcomes, with social and familial expectations playing mediating roles.

Conclusions

This study provides compelling evidence for the complex and gender-differentiated relationships between psychological factors and writing performance in Moroccan EFL contexts. The findings demonstrate that writing self-efficacy, apprehension, and motivation operate differently for male and female students, with females showing more pronounced relationships across all measured constructs. These results challenge universal assumptions about psychological factor-performance relationships and highlight the need for gender-sensitive approaches to writing instruction. Future research should explore the underlying mechanisms that create these gender differences and investigate culturally appropriate interventions that address the unique psychological profiles of male and female EFL writers. The practical implications suggest

that effective writing pedagogy must account for gender differences in psychological factors and develop differentiated strategies that optimize learning outcomes for all students.

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