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Regular Article

The integration between metacognitive writing strategies and willingness to write: A way to expediate writing performance of Pakistani ESL learners a mixed-methods approach

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ABSTRACT

The prime objective of this study is to investigate the role of metacognitive writing strategies (MWS) in writing performance through the mediating role of willingness to write (WTW) among Pakistani English as a Second Language (ESL) learners. This study used a mixed-methods research design in which quantitative and qualitative methods are employed to achieve the research objective. In quantitative phase, questionnaire survey was employed to collect data from the respondents. Population of the study is the public universities in South Punjab, Pakistan. Questionnaires were distributed among the students of Bachelor of Science (BS) English among selected public universities by using stratified random sampling. 145 valid responses were received, and data analysis was carried out by using Partial Least Square-Structural Equation Modeling (PLS-SEM). In qualitative phase, semi-structured interviews were conducted to collect qualitative data. It is revealed that MWS have an influential role in writing performance. Furthermore, the presence of WTW is vital to get maximum benefit from MWS. Hence, the combination between MWS and WTW is crucial to increase writing performance of Pakistani ESL learners of English among public universities. This study has key contribution to the theory of metacognition by adding WTW. Findings provided valuable insights for universities to develop various strategies for Pakistani ESL learners.

1. Introduction

It was 1600 when the English came out to the Indian subcontinent (Fisher, 2006). British Merchants by the East India Company are considered as the source of English in the Indian subcontinent (Erikson, 2016). For a long period of 89 years from 1858 to 1947, Indian subcontinent was ruled over by the English people (Mills, 2006). With the emergence of the two independent countries; Pakistan and India from the Indian subcontinent in 1947, the British left immediately. Since 1947, the English language has been enjoying the status of the official language of Pakistan. Now in Pakistan, English has become the language of the military, media, government courts, and education. The role of the English language in the education system of Pakistan is vital (Shamim, 2011). English has become the medium of learning at every level; primary, middle, matriculation, secondary, bachelor, master, and doctorate levels of education in Pakistan (Mahboob, 2014). Therefore, English holds a prominent status.

In Pakistan, ESL learners faces numerous challenges, including limited access to the quality language resources and instructional materials, inadequate teacher training in actual writing pedagogy, and a curriculum that regularly prioritizes rote memorization over communicative competence (Shahid, Asif, & Muhammad, 2022). Furthermore, socio-economic disparities as well as regional language dominance can hinder students' English language development, affecting their writing proficiency. Likewise, the lack of various opportunities for authentic writing practice and criticism exacerbates these challenges, leaving many ESL writers struggling to express themselves cohesively and precisely in written English (Bhurgri, Sattar, Sultana, & Zehri, 2020). Addressing these obstacles needs a multifaceted approach that encompasses curriculum reform, teacher professional development, and the provision of reasonable learning resources and opportunities across diverse socio-cultural contexts in the context of Pakistan.

Despite the priority given to the English language, poor English writing performance is found among Pakistani ESL students (Akbar, Pathan, & Ali Shah, 2018; Saeed, Shaikh, John, Dehraj, & Sahito, 2020). In the Pakistani ESL context, the students lack English language skills

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(Dar & Khan, 2015). Recent statistics provided by International English Language Testing System (ILTS) demonstrated that Pakistani ESL learners of English are weak in writing as compared to other nations. ILTS reported the average, overall and individual band scores in 2021 from the top 40 nationalities. According to these statistics, Pakistani participants are weak in writing; the overall results highlighted that Pakistan has the 25th position among all top 40 nationalities in terms of writing (ILTS, 2021). It shows that Pakistani ESL learners of English are facing difficulties in writing, leading to lower writing performance. Because English writing skills are tremendously significant and simultaneously too challenging to learn than listening, speaking, and reading (El-Maghraby, 2021; Rodsawang, 2017; Waleed, Besher, Summaira, & Shazma, 2021). Therefore, specific strategies are needed to implement to promote writing performance of ESL learners of English in Pakistan. Number of previous studies proposed different strategies to promote writing performance (Aripin & Rahmat, 2021; Cahyono, Astuti, & Suryati, 2023), however, this study proposed that metacognitive writing strategies (MWS) are most significant to promote writing performance of Pakistani ESL learners of English.

Theory of metacognition proposed by Flavell (1979) asserts that, MWS such as planning, monitoring and evaluation are most significant to promote writing performance. However, MWS cannot improve writing performance of students until they are not willing to write. Therefore, according to the current study, willingness to write (WTW) is playing the role of mediating variable between MWS and writing performance. There are only few studies which addressed WTW (Fogarty & Ravenscroft, 1999; Hashemian & Farhang-Ju, 2022; Meletiadou, 2022; Sharrad & FARAVANI, 2021), however, these studies have not addressed WTW in relation to the MWS and writing performance. The direct relationship between MWS (i.e., planning, monitoring and evaluating) and WTW is the first time considered by the current study. Additionally, the relationship between WTW and writing performance was also ignored by previous studies.

Therefore, the prime objective of this study is to investigate the role of MWS in writing performance through the mediating role of WTW among Pakistani ESL learners of English. The objective of this study lead to the following research question: what is the role of MWS in writing performance through the mediating role of WTW among Pakistani ESL learners? The role of WTW between MWS and WTW has vital importance for academicians because this relationship contributed significantly to the literature. The literature often overlooks interplay between linguistic factors and writing performance, specifically in the context of Pakistani ESL learners. Therefore, this study breaks new ground by concentrating on the role of MWS and its influence on writing performance, with a precise emphasis on the mediating impact of WTW. By investigating into this unexplored territory, this study aims to shed light on how the mastery of MWS controls writing outcomes among Pakistani ESL learners. Furthermore, this study contributed to the theory of metacognition by proposing the important role of WTW along with the MWS to promote writing performance of Pakistani ESL learners of English. Theory of metacognition could not address the important role of WTW, therefore, according to the current study, theory of metacognition should be extended by adding the important role of WTW. Additionally, this study has major methodological contribution, as this study considered the relationship between MWS, WTW and writing performance by considering the mixed methods research design which is rarely implementation to address this new relationship. Although previous studies considered mixed methods, however, the role of WTW in relation to the MWS and writing performance is first time addressed by the current study. Ultimately, by clarifying the complicated relationship between MWS, WTW, and writing performance, this research investigation not only expands theoretical knowledge, but it also offers practical implications for vital design of language instruction programs tailored to the requirements of Pakistani ESL learners.

2. Literature review

2.1. Theoretical framework

The present study employed the theory of metacognition to support the relationship proposed in the current study framework, which is given in Fig. 1. This research is grounded on the metacognition theory presented by Flavell (1979) to support the role of independent variable (i.e., MWS) in dependent variable (writing performance). The theory of metacognition asserts that "knowledge and cognition are cognitive phenomena" (Flavell, 1979). According to Flavell (1979), there are two main elements of metacognition theory; the first is knowledge of cognition, and the second is based on the regulation of knowledge. These elements are consistent with MWS such as planning, monitoring, and evaluating. These strategies have significant role to promote writing performance of ESL learners of English as reported in previous studies (Qin & Zhang, 2019; M. F. Teng, Qin, & Wang, 2022; M. F. Teng & Yue, 2023). Therefore, by following the theory of metacognition, this study considered the MWS to improve writing performance of Pakistani ESL learners of English. However, MWS cannot improve writing performance without the willingness of ESL learners of English. This study proposed that WTW is mandatory to shift the positive role of MWS on writing performance. Hence, the role of WTW is highlighted in Fig. 1 as mediating variable.

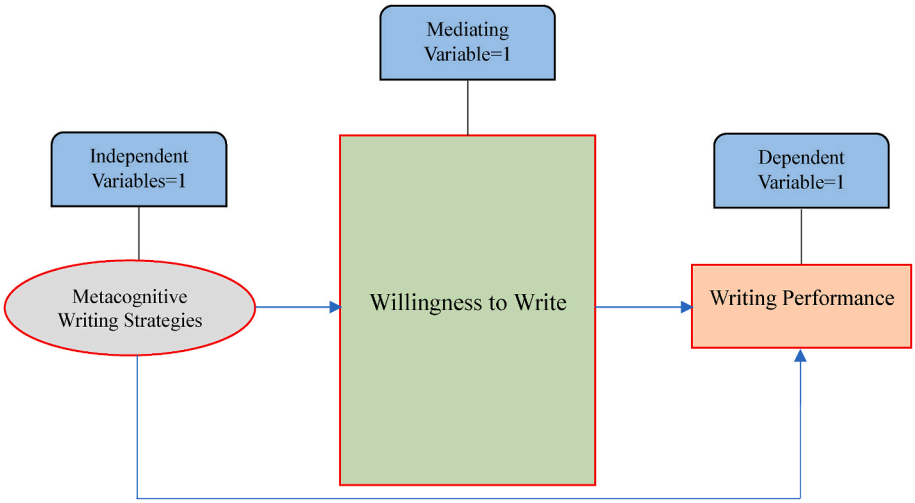


Fig. 1. Theoretical framework of the study showing the relationship between Metacognitive Writing Strategies, Willingness to Write and Writing Performance.

2.2. Hypotheses development

2.2.1. Relationship between metacognitive writing strategies and writing performance

The relationship of writing performance in relation to the first metacognitive strategy, namely, planning is discussed in the existing literature. According to Baaijen, Galbraith, and de Glopper (2014), there is a significant relationship between the planning of students in their writing performance to get good grades in class. Saddler and Graham (2007) also demonstrated that expert writers are more involved in planning their writing because they consider planning a significant factor for successful document writing. Similarly, F. Teng (2020) demonstrated that metacognitive learning strategies, including planning, are critical for the writing performance of those students who are learning English as a second language.

Furthermore, literature addressed the role of second metacognitive writing strategy; monitoring in relation to writing performance. Parker, Tindal, and Hasbrouck (1991) concluded that monitoring is appropriate for the writing performance of students that are slow learners. M. F. Teng, Wang, and Zhang (2022) reported that monitoring is an essential part of the self-regulation of writing skills and is useful for young English language learners. Furthermore, Wang (2017) discussed that self-assessment with appropriate monitoring could improve the writing skills of the students. Besides, Birjandi and Hadidi Tamjid (2012) revealed that self-assessment is key for students to monitor their writing performance, and teachers and peers can also monitor their work to improve their writing performance. According to Ratminingsih, Marhaeni, and Vigayanti (2018), the self-assessment dimension of monitoring is critical for the writing competence of the students.

In case of third metacognitive strategy, namely; evaluating, McCarthy, Meier, and Rinderer (1985) pointed out that self-efficacy is the key to self-evaluation, and it helps to improve the writing performance of individuals. Schunk (2003) concludes that self-evaluation and goal setting are appropriate strategies for students to improve their writing. Furthermore, Ross, Rolheiser, and Hogaboam-Gray (1999) also noted that the relationship between self-evaluation and narrative writing is significant. The self-evaluation is facilitating the young learners of Thailand to improve their English writing performance reasonably, as asserted by Suwanarak (2018). According to Olina and Sullivan (2004), the performance (reading and writing) of students increases when they have the ability of self-evaluation and teacher evaluation. Thus, it is proposed that;

Hypothesis 1. There is a significant relationship between MWS and writing performance.

2.2.2. Relationship between metacognitive writing strategies and willingness to write

MWS play an imperative role in academic writing (Goctu, 2017). To get better skills in academic writing, the role of MWS is vital. However, WTW is important to produce better writing. MWS can promote WTW among the writers, which is most important to produce quality writing. It is reported by Raoofi, Chan, Mukundan, and Rashid (2014) that various interviewees demonstrated a WTW long essays as well as texts; they stated making several efforts to write text which is based on writing strategies. Kaivanpanah, Ghonsooly, and Salari Beynabaj (2019) demonstrated that cognition with planning is critical for the learners to influence their WTW. It shows that writing depends on the willingness of the writer, which requires strategies to promote WTW.

Metacognitive strategies such as planning, monitoring, and evaluating can promote WTW among students. Planning by the students for writing encourages them to write. Planning, such as using a deliberate and organised approach to attempting a writing task and containing a writer's first thoughts in relation to any topic, has an important role in promoting willingness. Plakans (2008) states that planning before writing is important for writers. Similarly, monitoring and evaluating has a significant role in WTW. Monitoring strategy in students' writing also has vital importance to enhance willingness among the students. As it is highlighted by Cresswell (2000), monitoring is a significant way of improving autonomy in learning writing. Fahim, Hamidi, and Sarem (2013) pointed out that self-monitoring and teachers' assistance significantly influences the WTW of Iranian students. Nevertheless, evaluating as a metacognitive strategy also promotes WTW among students. De Bernardi and Antolini (2007) demonstrated that the students' willingness to argumentative writing is influenced by teachers' intervention for students' self-evaluation. Therefore, the WTW among writers needs various strategies. Few studies in the literature have examined WTW (Le, Cao, & Yaoyuneyong, 2019; Liang et al., 2019; Madeng & Palanukulwong, 2019; Sharrad & FARAVANI, 2021). However, these studies have not addressed WTW in relation to metacognitive strategies. Hence, it is hypothesized that;

Hypothesis 2. There is a significant relationship between MWS and WTW.

2.2.3. Relationship between willingness to Write and Writing Performance

This study highlighted that WTW has a relationship with writing performance. Better writing performance is linked with the willingness of the individuals. Students with a better level of willingness generally perform better in writing performance. Various investigations on writing performance exhibited the significance of writing and its connection with WTW. Several preceding studies also proved the vital relationship between WTW and writing performance. For instance, Rafiee and Abbasian-Naghneh (2020) reported that students' classroom writing is primarily based on their WTW. The willingness of students in the classroom can enhance their level of performance. The students must have a significant level of willingness for quality writing.

Very few existing studies have discussed the relationship between WTW and writing performance. Although willingness is discussed, most studies discussed in the context of 'willingness to communicate' (Al Amrani, 2022) and very rare studies discussed willingness in relation to 'writing'. Pourfeiz (2022) demonstrated that the relationship between WTW and writing performance is important because willingness influences learners' performance in the foreign language class. In foreign language class, the role of language is most crucial (Agustín-Llach, 2023; Rashidi & Esmaeeli, 2023). Meletiadou (2022) also emphasised that the learner's WTW and read is significant in their performance in class because they can easily correct their mistakes and evaluate their work. Furthermore, De Bernardi and Antolini (2007) concluded that for aggressive writing performance, the learners' willingness is necessary to facilitate the learners to perform well. Hence, there is a key relationship between WTW and writing performance which is highlighted in following hypothesis;

Hypothesis 3. There is a significant relationship between WTW and writing performance.

2.2.4. Mediating role of willingness to write

Prior research has established a link between MWS, WTW, and writing performance. The existing literature suggests that WTW may play a mediating role between MWS and writing performance. Building on this literature, the present study purposes to investigate the relationship between MWS, WTW, and writing performance in order to deliver further support for the hypothesized mediating role of WTW. This study considered the approach of Baron and Kenny (1986) to introduce WTW as mediating variable between MWS and writing performance. According to Baron and Kenny (1986), in order to introduce a mediating variable between independent and dependent variables, three relationships need to be significant: a) the relationship between the independent variable (MWS) and dependent variable (writing performance), b) the relationship between the independent variable (MWS) and mediating variable (WTW), and c) the relationship between the mediating variable (WTW) and dependent variable (writing

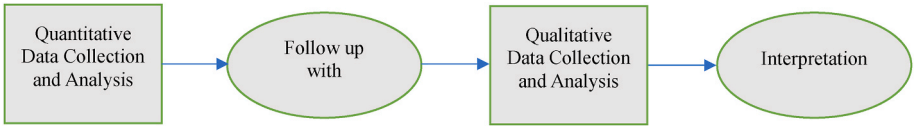


Fig. 2. Explanatory sequential design.
Source: Creswell (2002).

performance). It is identified from the literature; these three paths are significant which allow the use of WTW as mediating variable between MWS and writing performance.

This study proposed that the effect of MWS and writing performance is only possible if the students are willing to write. The quality of writing skills is primarily grounded in the interest of students in writing, which leads to willingness. Therefore, WTW is an important factor between metacognitive strategies and writing performance. It has the ability to mediate the relationship between MWS and writing performance. MWS positively affect WTW, and WTW further enhances writing performance. Consequently, it is hypothesized that;

Hypothesis 4. WTW mediates the relationship between MWS and writing performance.

3. Methodology

3.1. Research design

This study used a mixed-methods research design in which quantitative and qualitative methods are used to achieve research objectives. By employing a mixed-methods approach, this study addressed inquiries that are beyond the scope of either qualitative or quantitative methodologies alone. Furthermore, a mixed-methods design is superior over a quantitative design because it provides an opportunity for a study to inspect the notion from a wider as well as deeper outlook (Hammersley, 2000). For the quantitative research method, a questionnaire was used for data collection. While applying the qualitative method, semi-structured interviews were used. A sequential explanatory mixed-methods research design was employed to conduct this study as displayed in Fig. 2. In this research design, quantitative data collection and analysis was conducted initially. Then, qualitative data analysis was conducted (Creswell, 2002).

3.2. Participants and sample size

Data was collected from public sector university students of the Southern Punjab region of Pakistan. The rationale for considering only public sector universities lies behind the claim that most students studying in public sector institutes perform poorly in English writing tasks (Bilal, Tariq, Din, Latif, & Anjum, 2013). Furthermore, a study carried out by Garcia and Isabel (2018) also proved that, among Pakistani public and private educational institutions, the English language skills of students among public educational institutions are lower than those private educational institutions. Only public universities were selected in this study, and English departments of these universities was considered. Students of bachelor's degree (BS English) of first semester were considered in this study for data collection. The population of the current study is the first semester students of BS English which are 1000, approximately, in seven public universities of South Punjab. Furthermore, the current study used Krejcie and Morgan (1970) table to decide the sample size. According to Krejcie and Morgan (1970), if the population is 1000, then the sample size should be 278. Considering the population in the present study, 300 sample sizes were selected.

3.3. Scale development and pre-test

Three instruments were used to collect the quantitative data which include questionnaires and an English writing test. The questionnaire was used to measure metacognitive strategies and WTW. To measure MWS, scale was adapted from Zhang and Qin (2018, pp. 157–178). To measure WTW, the scale items were adapted from Madeng and Palanukulwong (2019). The complete questionnaire is presented in the Appendix. Writing performance was measured by using a writing test. Writing performance was measured with the help of a writing test. English writing test was assessed on the basis of five benchmarks. These include the content, organisation, cohesion, vocabulary, and mechanics of written English. Hence, students were asked to write a descriptive paragraph, and writing performance was assessed through content, organisation, cohesion, vocabulary, and mechanism. Furthermore, a pilot study was preferred to observe the reliability as well as validity of the questionnaire. 100 questionnaires were distributed among the respondents and 60 were received. Partial Least Square (PLS) was used to check the factor loadings, composite reliability (CR), convergent validity and discriminant validity. A few scale items were deleted because the factor loading was low.

In the case of qualitative instrument, this study developed the interview protocols. The primary reason for making the interview protocol as opposed to adopting or adapting it was the nature of this study. The qualitative section of this study intended to discover the elements behind the effect of MWS and WTW on the writing performance of the Pakistani ESL learner of English. Several earlier studies have been performed on MWS and writing performance that have gathered data using interviews; but none of them were consistent with this study's main research objective. Interview protocols are as follows;

Metacognitive Writing Strategies

(a) How does planning the paragraph structure while writing help you compose the text better?
(b) How does planning to make an outline while writing help you compose the text better?
(c) How does self-monitoring on choosing words and phrases carefully while writing help you compose the text better?
(d) How does self-monitoring on revision while writing help you compose the text better?
(e) How does self-evaluating the language while writing help you compose the text better?
(f) How does self-evaluating the organization of the text while writing help you compose the text better?

Willingness to Write

(a) How does willingness to take notes in English affect your English writing composition?
(b) How does WTW in English, irrespective of grammatical errors, affect your writing composition?
(c) How does WTW down what happens in your daily life in English affect your writing composition?
(d) How does willingness to practice writing in English affect your writing composition?

3.4. Data collection

The current study employed stratified random sampling, which is suitable for achieving maximum population representation. This

Table 1
Proportion of quantitative sample.

Sr. No.	University	Population	Percentage	Distributed Questionnaires
1	The Islamia University of Bahawalpur (IUB)	500	55.56%	167
2	The Government Sadiq College Women University Bahawalpur Pakistan (GSCWU)	100	11.11%	33
4	Bahauddin Zakariya University (BZU), Multan	300	33.33%	100
Total		900	100%	300

technique is selected because findings from the stratified random sample are more likely to be generalizable to the whole population because the sample reflects the population's diversity more precisely (Lohr, 2012, pp. 97–112; Sekaran & Bougie, 2016). Data were collected from seven public universities (stratas) of South Punjab, Pakistan. 300 questionnaires were distributed among the students of BS English first semester in selected public universities. 167 questionnaires were distributed in the Islamia University of Bahawalpur (IUB), 33 questionnaires were distributed in the Government Sadiq College Women University Bahawalpur Pakistan (GSCWU) and 100 questionnaires were distributed in Bahauddin Zakariya University (BZU), Multan. Informed consent was obtained before the distribution of questionnaires among the respondents. All participants gave their informed consent for inclusion before they participated in the study. The selected universities, population and number questionnaires distributed in each university are reported in Table 1. 160 questionnaires were returned, and 15 questionnaires were not complete. Therefore, 145 questionnaires were used for data analysis. After the questionnaire survey, same students were asked to write a descriptive assay on "memorable day of your life". For the qualitative phase, six semi-structured interviews were managed to gather qualitative data. A qualitative sample was selected through homogeneous purposeful sampling, as recommended by Creswell (2002).

4. Data analysis and findings

4.1. Quantitative phase

In the first part of data analysis, quantitative data analysis was carried out. To perform quantitative data analysis, initial data screening was carried out. In this process, missing value in data, outlier in the data and normality were considered. Table 2 highlighted the data statistics after data screening and indicates that data has no missing value. Furthermore, it was observed that data has no outlier. Normality of the data were considered by examining the values of Kurtosis and Skewness. It is apparent from Table 2, all the values of Kurtosis and Skewness are within ±7 and ± 2, respectively.

This study employed PLS to analyze the quantitative data. PLS is a most popular data analysis tool which has the ability to analyze the complex model (Hair, Hult, Ringle, & Sarstedt, 2016). This study carried out Structural Equation Modeling (SEM) to evaluate the data using PLS which is also applied by several studies on applied linguistics (Hair, Howard, & Nitzl, 2020; Shehzad, Ahmed, Razzaq, Akhtar, & Hasan, 2020; Shehzad, Razzaq, Dahri, & Shah, 2019a). It has the ability to analyze the complex models (Hair et al., 2016). Additionally, this study only has 145 responses which are comparatively low, therefore, PLS is suitable for small sample size (Hair et al., 2016). PLS measurement model given in Fig. 3 which was used to verify the reliability and validity. It is clear from Table 3; all the retained scale items have factor loading higher than 0.5 which is minimum threshold level to retain the

Table 2
Data statistics (missing value, mean, median, outlier, normality of data).

	No.	Missing	Mean	Median	Min	Max	SD	Kurtosis	Skewness
MWS1	1	0	2.981	4	1	5	1.191	−0.606	−0.541
MWS2	2	0	3.775	4	1	5	1.157	−0.51	−0.632
MWS3	3	0	2.911	4	1	5	1.148	−0.597	−0.469
MWS4	4	0	3.667	4	1	5	1.145	−0.589	−0.464
MWS5	5	0	3.719	4	1	5	1.133	−0.245	−0.67
MWS6	6	0	2.846	4	1	5	1.11	−0.016	−0.79
MWS7	7	0	3.67	4	1	5	1.183	−0.626	−0.539
MWS8	8	0	3.554	4	1	5	1.194	−0.462	−0.577
MWS9	9	0	3.66	4	1	5	1.161	−0.39	−0.622
MWS10	10	0	3.8	4	1	5	1.101	−0.113	−0.738
MWS11	11	0	2.9	4	1	5	1.121	−0.232	−0.653
MWS12	12	0	3.681	4	1	5	1.133	−0.204	−0.643
MWS13	13	0	3.681	4	1	5	1.102	−0.273	−0.608
MWS14	14	0	3.589	4	1	5	1.165	−0.491	−0.532
MWS15	15	0	2.999	4	1	5	1.072	−0.434	−0.542
MWS16	16	0	3.621	4	1	5	1.078	−0.491	−0.417
MWS17	17	0	3.66	4	1	5	1.102	−0.275	−0.545
MWS18	18	0	3.751	4	1	5	1.065	−0.337	−0.54
MWS19	19	0	3.765	4	1	5	1.091	−0.404	−0.598
MWS20	20	0	3.709	4	1	5	1.106	−0.365	−0.561
MWS21	21	0	2.891	4	1	5	1.044	0.029	−0.637
MWS22	22	0	3.789	4	1	5	1.088	−0.08	−0.707
MWS23	23	0	3.737	4	1	5	1.078	−0.391	−0.558
WTW1	24	0	3.677	4	1	5	1.09	−0.582	−0.411
WTW2	25	0	3.705	4	1	5	1.065	−0.179	−0.598
WTW3	26	0	3.67	4	1	5	1.074	−0.377	−0.524
WTW4	27	0	2.942	4	1	5	1.194	−0.806	−0.347
WTW5	28	0	3.449	4	1	5	1.149	−0.674	−0.37
WTW6	29	0	3.432	4	1	5	1.167	−0.733	−0.334
WTW7	30	0	3.54	4	1	5	1.109	−0.611	−0.397
WP	31	0	3.428	4	1	5	1.202	−0.856	−0.311

Note: Metacognitive Writing Strategies = MWS; Willingness to Write = WTW; Writing Performance = WP.

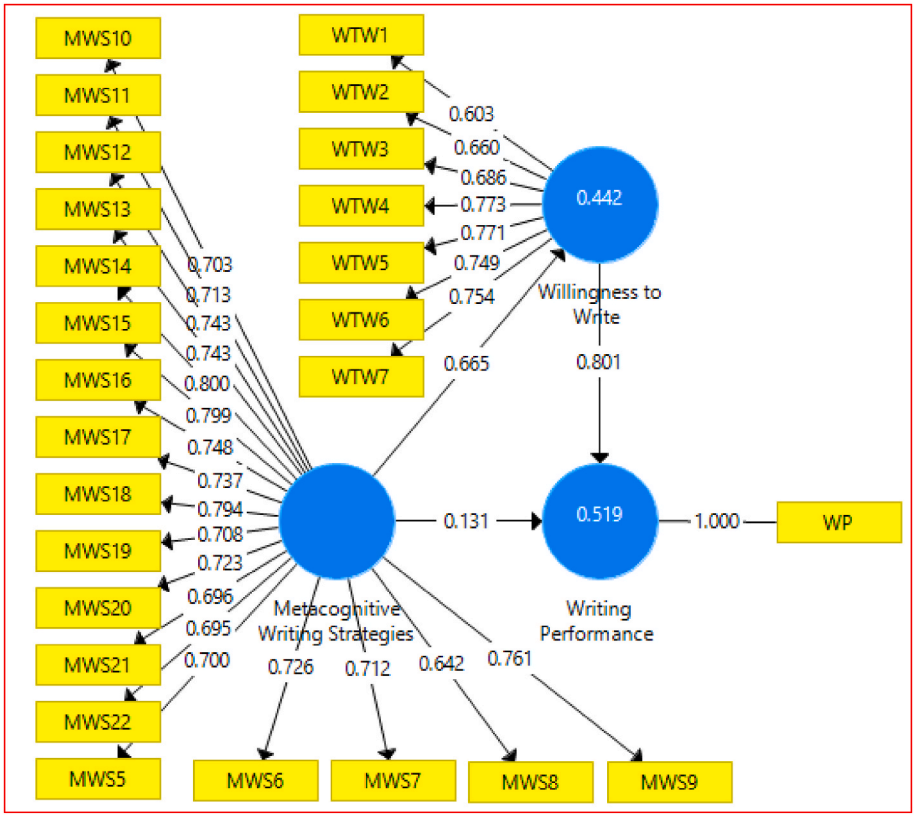


Fig. 3. Measurement model assessment.

scale items. Additionally, this study examined the Cronbach alpha, composite reliability (CR) and average variances extracted (AVE) as given in Table 3.

In case of validity, it is important to address convergent validity along with the discriminant validity (Arif, 2023; Shehzad, Hasan, Ahmed, Razzaq, & Ahmed, 2022; Shehzad, Razzaq, Dahri, & Shah, 2019b; Tang et al., 2023). Convergent validity was considered by inspecting the values of CR and AVE. The values of CR and AVE are higher than 0.7 and 0.5 for all three variables; MWS, WTW and writing performance which confirmed the convergent validity. Discriminant validity is proven by using heterotrait-monotrait ratio of correlations $(HTMT)_{0.9}$. $HTMT_{0.9}$ is given in Table 4 and Fig. 4 which confirmed the achievement of discriminant validity as none of the value is higher than 0.9.

The PLS structural model is employed to assess the relationship between MWS, WTW and writing performance. For this purpose, PLS bootstrapping was used as recommended in previous studies (J. Hair, Hollingsworth, Randolph, & Chong, 2017; J. F. Hair et al., 2019; Hair, Howard, & Nitzl, 2020). PLS structural model is reported in Fig. 5 which shows the significance of the relationship with the help of t-value. As the current study considered two tailed hypotheses, the minimum threshold level of t-value to accept the hypotheses was 1.96. β-value was measured to confirm the direction of the relationship.

Table 5 highlighted the direct effect results. According to these results, MWS have significant effect on writing performance (t-value = 2.283; β-value = 0.131; LL = 0.244; UL = 0.010) which supported hypothesis 1. Hypothesis 2 is also supported because MWS have significant effect on WTW (t-value = 13.859; β-value = 0.665; LL = 0.561; UL = 0.750). The last direct effect is examined through hypothesis 3 which is supported as WTW has significant effect on writing performance (t-value = 16.038; β-value = 0.801; LL = 0.701; UL = 0.885). Finally, the

Table 3
Factor loadings, Alpha, CR and AVE.

Constructs	Items	Loading	Alpha	CR	AVE
Metacognitive Writing Strategies	MWS10	0.703	0.949	0.954	0.535
	MWS11	0.713			
	MWS12	0.743			
	MWS13	0.743			
	MWS14	0.8			
	MWS15	0.799			
	MWS16	0.748			
	MWS17	0.737			
	MWS18	0.794			
	MWS19	0.708			
	MWS20	0.723			
	MWS21	0.696			
	MWS22	0.695			
	MWS5	0.7			
	MWS6	0.726			
	MWS7	0.712			
	MWS8	0.642			
	MWS9	0.761			
Willingness to Write	WTW1	0.603	0.841	0.88	0.513
	WTW2	0.66			
	WTW3	0.686			
	WTW4	0.773			
	WTW5	0.771			
	WTW6	0.749			
	WTW7	0.754			
Writing Performance	WP	1	1	1	1

Note: Metacognitive Writing Strategies = MWS; Willingness to Write = WTW; Writing Performance = WP.

Table 4
$HTMT_{0.9}$.

	MWS	WTW	Writing Performance
Metacognitive Writing Strategies			
Willingness to Write	0.749		
Writing Performance	0.403	0.756	

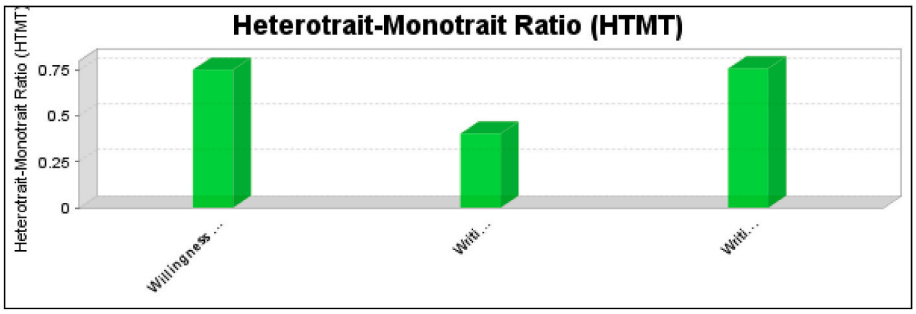


Fig. 4. $HTMT_{0.9}$ graph.

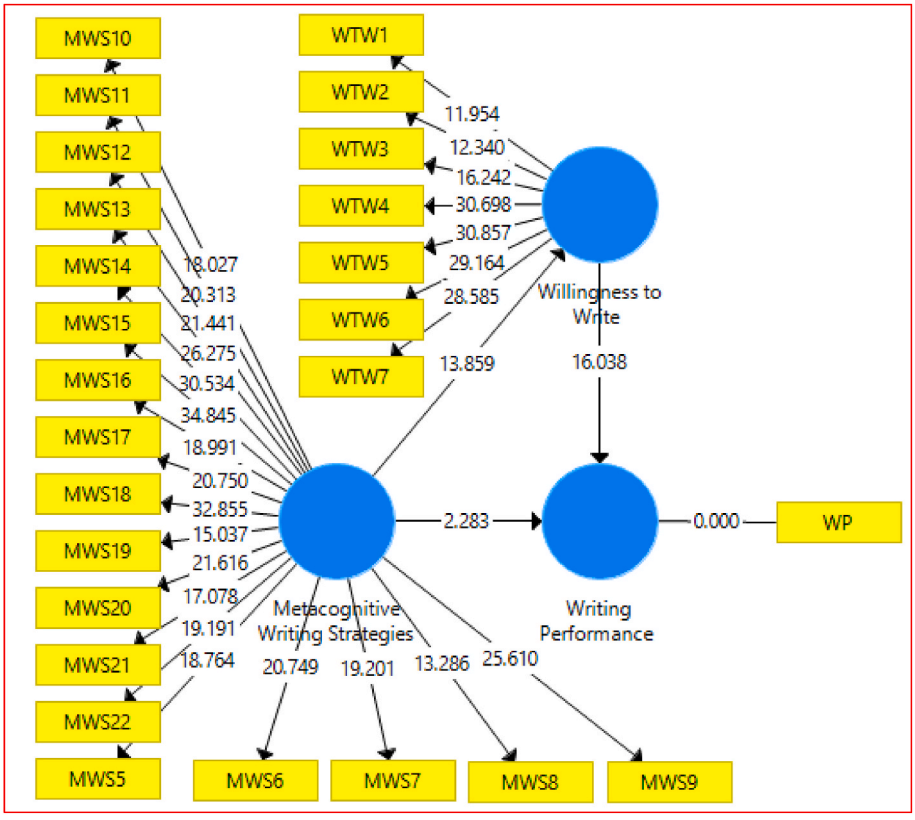


Fig. 5. Structural model assessment.

Table 5
Results (direct effect).

	β	Mean	SD	T Values	P Values	LL	UL	Decision
Metacognitive Writing Strategies - > Willingness to Write	0.665	0.665	0.048	13.859	0	0.561	0.750	Supported
Metacognitive Writing Strategies - > Writing Performance	0.131	0.129	0.057	2.283	0.023	0.244	0.010	Supported
Willingness to Write - > Writing Performance	0.801	0.802	0.05	16.038	0	0.701	0.885	Supported

indirect effect of WTW is given in Table 5. The indirect effect of WTW is significant, therefore, hypothesis 4 is supported (t-value = 9.863; β-value = 0.532; LL = 0.420; UL = 0.621).

The indirect effect of WTW is highlighted through histogram which is reported in Fig. 6 along with Table 6. The indirect effect histogram demonstrates the mediation process between MWS, WTW, and writing performance. MWS employs a moderate direct effect (β = 0.131) on writing performance. Its influence on WTW is substantial (β = 0.665), indicating a strong connection. Furthermore, WTW significantly effects writing performance (β = 0.801), highlighting its pivotal role. The mediating effect of WTW between MWS and writing performance is apparent, with a beta value of 0.532, demonstrating a substantial mediation pathway. The current histogram visually describes how WTW acts as one of the mediators, channeling the influence of MWS onto writing performance, emphasizing the sophisticated relationship between these variables in shaping writing outcomes.

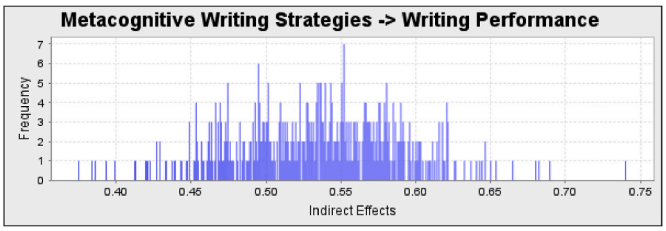


Fig. 6. Indirect effect histogram (metacognitive writing strategies - > willingness to write - > writing performance).

4.2. Qualitative phase

4.2.1. Findings of the Pakistani ESL learners of English perspectives on the influence of metacognitive writing strategies on writing performance

This section highlights the results about the effect of three MWS (i.e., planning, monitoring, and evaluating) on writing performance among Pakistani ESL learners of English. Planning is the first metacognitive strategy. This section discusses the influence of planning on the writing performance of Pakistani ESL learners of English. Respondent mentioned various important points which help to improve writing through proper planning. The summary of findings is reported in Fig. 7. Respondent addressed that writing the text through planning about paragraph structure along with the planning about text outline help to promote writing performance:

Well [pause] the composition of text is dependent on various elements and planning is the important part of it. Paragraph structure is important in writing the text and planning about paragraph structure can help me to compose better.

According to my knowledge about test composition, the role of outline is critical. A better outline about the text can improve the quality of my text. I think [long pause] planning the outline is most important in writing for me.

Monitoring is the second metacognitive strategy. This section discusses the influence of monitoring on the writing performance of Pakistani ESL learners of English. Respondent mentioned various important points which help to improve writing through monitoring. The summary of findings is reported in Fig. 8. Respondent addressed that while writing the text, monitoring help to remove errors, choosing most relevant words as well as phrases which help to promote writing text:

Monitoring the text while writing can help me to remove the errors in the text. While choosing most relevant words as well as phrases, the process of self-monitoring is a better way to enhance the error free writing.

In my opinion, for me, without the careful revision, the maximum accuracy in the text is not possible.

Evaluating is the third metacognitive strategy. This section discusses the influence of evaluating on the writing performance of Pakistani ESL learners of English. Respondent mentioned various important points

Table 6
Results (in-direct effect).

	β	Mean	SD	T Values	P Values	LL	UL	Decision
Metacognitive Writing Strategies - > Willingness to Write - > Writing Performance	0.532	0.534	0.054	9.863	0	0.420	0.621	Supported

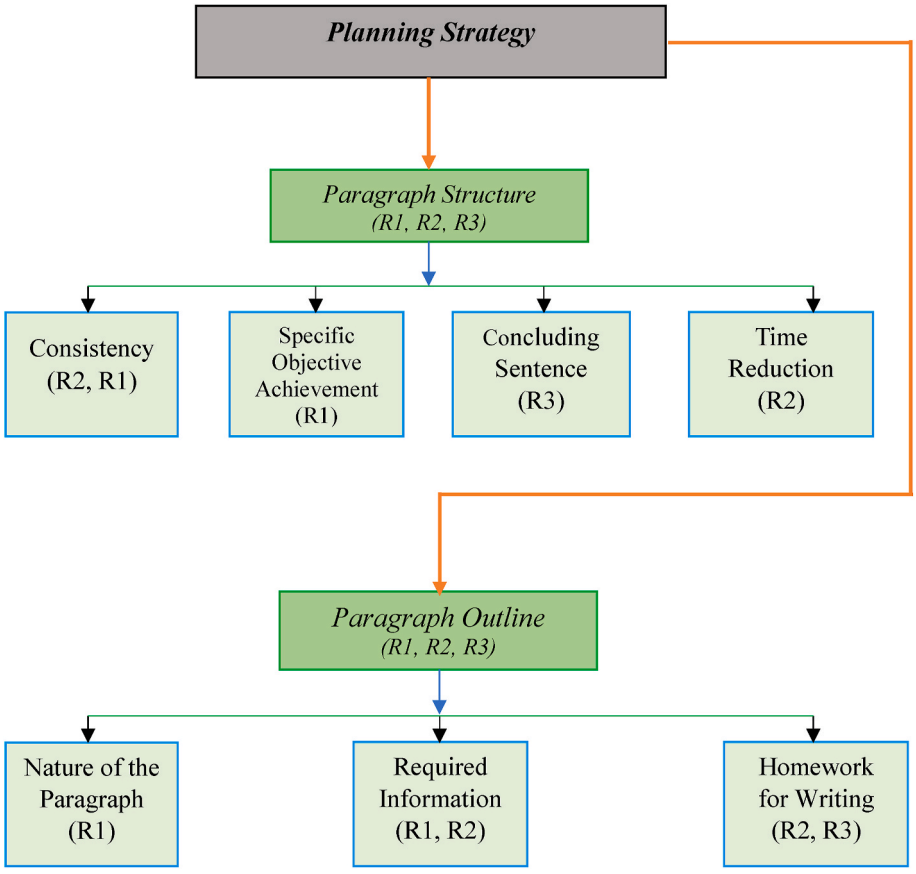


Fig. 7. Summary of findings of planning.

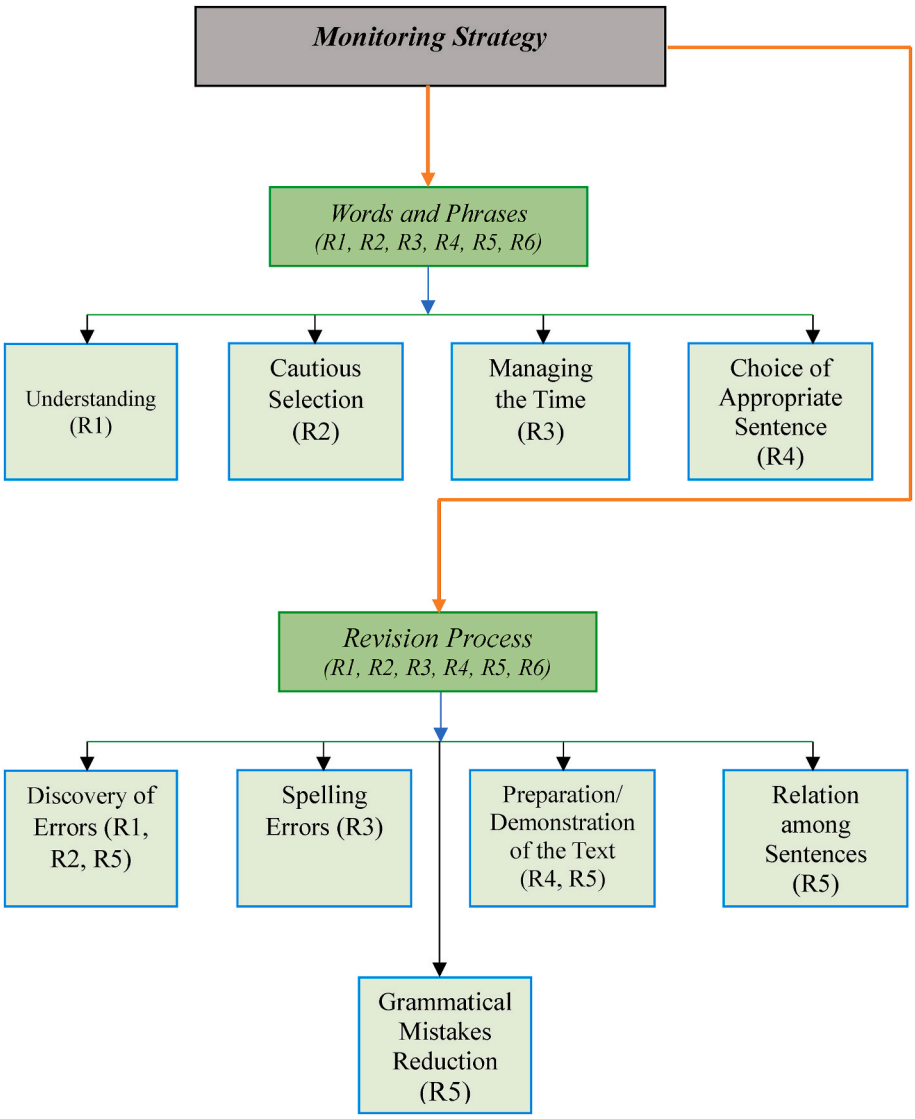


Fig. 8. Summary of findings of monitoring.

which help to improve writing through evaluating. The summary of findings is reported in Fig. 9. Respondent addressed that while writing the text, evaluating the language while writing a text is vital which help to promote writing text:

Self-evaluating the language while writing a text is vital for better writing. Along with the other factors, the self-evaluating the language is the important factor which require while text composition.

Because the organization of the text is important for better writing, therefore, it is also important for better text composition, it help me a lot while writing.

4.2.2. Findings of the Pakistani ESL learners of English perspectives on the influence of willingness to write on writing performance

This section addressed the influence of WTW on writing performance of Pakistani ESL learners of English. Respondent mentioned significant points which help to advance writing through WTW. The summary of findings is reported in Fig. 10. Respondent addressed that while writing the text, WTW can remove grammatical errors, improve writing composition and willingness to practice can improve performance:

Actually [pause] the willingness to take notes help me a lot to compose the text in better way.

Higher the level of WTW increase the chances to fix the grammatical errors which ultimately increase the accuracy in writing compositing.

It has major effect on the writing composition. Generally [pause], WTW is the imperative element in writing the text.

A better level of willingness to practice writing in English help me to improve writing performance.

5. Discussion

The prime objective of this study was to investigate the role of MWS in writing performance through the mediating role of WTW among Pakistani ESL learners of English. A number of previous studies considered metacognitive strategies and writing performance, however, WTW was ignored. To fill this gap, this study proposed four hypotheses based on the relationship between MWS, WTW and writing performance. Three hypotheses were grounded on the direct effect and one hypothesis was based on the mediating effect of WTW. A survey questionnaire along with semi-structured interviews were managed to assemble data from ESL learners of English in Pakistani universities.

The relationship between MWS and writing performance is considered with the help of Hypothesis 1. This hypothesis is significant which highlighted the significant role of MWS in writing performance. The beta value of this relationship is 0.131 which highlighted that MWS have a positive impact on writing performance. According to these results, the proper implementation of MWS such as planning, monitoring and

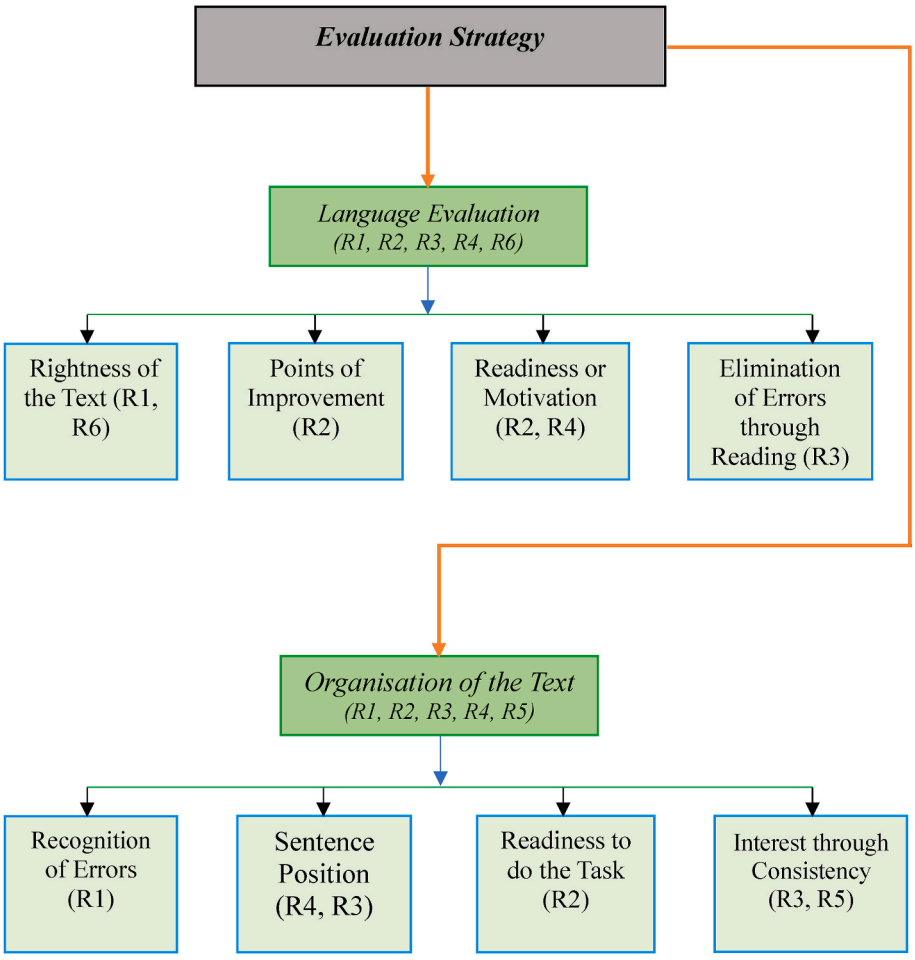


Fig. 9. Summary of findings of evaluating.

evaluating can improve the writing performance of Pakistani ESL learners of English. Similar with the current study, previous studies such as Blasco (2016); M. F. Teng, Qin, and Wang (2022); M. F. Teng and Yue (2023) and M. F. Teng, Wang, and Zhang (2022) also reported that metacognitive strategies has positive influence to increase writing performance.

Moreover, the relationship between MWS and WTW is considered through hypothesis 2. According to the results, a significant relationship was found between MWS and WTW with beta value 0.665. The positive beta value highlighted the positive effect of MWS on WTW. Therefore, the promotion of MWS in Pakistani universities can increase WTW among ESL learners of English. Previous studies have not considered this relationship, however, the relationship between metacognitive strategies with willingness to communicate is addressed in few of the studies. For instance, Sato and Dussuel Lam (2021) and Dehghani (2022) identified the significant relationship between metacognition and WTW.

Furthermore, hypothesis 3 was considered to investigate the relationship between WTW and writing performance of ESL learners of English in Pakistan. It is evident from the survey, WTW has significant contribution in writing performance of students with beta value 0.801. It indicates that, more the WTW, the more will be the performance of students in writing activities. This is one of the very rare relationships in literature because previous studies ignored the effect of WTW on writing performance. However, a few previous studies mentioned that WTW is one of the most important parts of a student's writing process. For instance, the study carried out by Meletiadou (2022); Rafiee and Abbasian-Naghneh (2020) and Sharrad and FARAVANI (2021) mentioned the vital role of WTW in writing activities of students. Additionally, hypothesis 4 reflected the mediating role of WTW between MWS and writing performance which is significant with beta value 0.532. It indicates that WTW as mediating variable reflects the positive effect of MWS on writing performance.

Consistent with the quantitative findings, qualitative part of the study also highlighted the similar role of MWS. Qualitative findings of the study also reported that MWS has key importance to enhance writing performance of Pakistani ESL learners of English. Interviewees reported that MWS such as planning, monitoring, and evaluating have the potential to influence writing performance. The implementation of these strategies can increase the writing performance. Additionally, qualitative findings revealed the crucial role of WTW in writing performance. A higher level of WTW can promote writing quality among ESL learners. Hence, the combination between MWS and WTW is crucial to increase writing performance of Pakistani ESL learners of English among public universities.

6. Conclusion

The findings of present study offer valuable insights into the relationship between MWS, WTW, and writing performance among ESL learners engage in BS English within the context of Pakistani public universities. The first significant finding uncovers that the utilization of MWS positively effects the writing performance of ESL students. This indicates that integrating MWS into writing instruction can enhance the quality and effectiveness of written expression among this student population. Such types of strategies likely aid students in planning, monitoring, and evaluating their writing processes, ultimately leading to

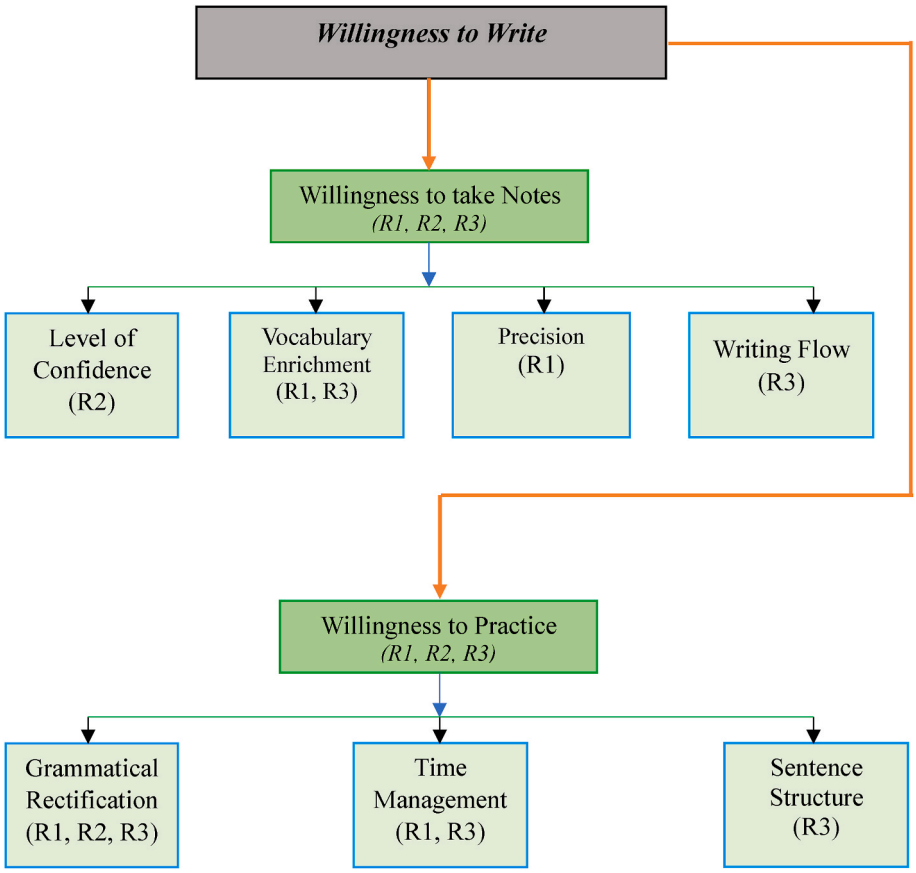


Fig. 10. Summary of findings of willingness to write.

enhanced outcomes. The second finding underscores the prominence of MWS in cultivating a positive attitude towards writing, as evidenced by its positive impact on WTW among ESL learners. This implies that by fostering metacognitive awareness and self-regulation in writing tasks, instructors can potentially increase student motivation as well as engagement in the writing process, thereby enabling greater participation and investment in their writing endeavors. Likewise, the study revealed a direct and positive relationship between WTW and writing performance. This finding focuses on the intrinsic connection between students' WTW in writing activities and their actual writing outcomes. It advises that students who exhibit a higher level of willingness to write are likely to demonstrate greater competence and effectiveness in their written work. Furthermore, the study reveals the mediating role of WTW in the relationship between MWS and writing performance. Students' willingness to engage in writing activities performs as a pathway through which metacognitive strategies exert their impact on writing performance. These findings underscore the significance of not only teaching MWS but also fostering a supportive writing environment which encourages students to actively apply these strategies in various writing practices.

7. Implications of the study

7.1. Theoretical implications

The current study measured the relationship between MWS, WTW and writing performance of Pakistani ESL learners of English which has key importance for academicians because it has valuable contribution to literature. First, this study investigated the relationship between MWS and WTW which were not addressed by previous studies. Second, this study explored the relationship between WTW and writing performance which was ignored by the earlier studies. Third, based on the new relationships tested in this study, this study contributed to the theory of metacognition introduced by Flavell (1979). According to this theory, MWS can promote writing performance, however, this study proved that MWS cannot promote writing performance without the willingness of students for writing. Therefore, WTW should be added to the theory of metacognition. Fourth, this study employed mixed methods research design and developed the interview protocols for WTW which is the vital contribution to the literature of applied linguistics.

7.2. Practical implications

This study has valuable practical insights for the policymakers. First, results of this study proved the important role of MWS in the improvement of writing performance among Pakistani ESL learners of English. Therefore, practitioners should promote MWS among the universities to promote writing performance. This study suggested that the three MWS are most crucial which should be implemented in the universities. These strategies include planning, monitoring, and evaluating. Second, as this study proved that willingness is important to promote writing performance, therefore, management of universities should implement different strategies to enhance willingness level among the ESL learners of English. Third, this study highlighted the positive role of MWS to enhance WTW among students, hence, teachers among the universities should promote these strategies. Therefore, this study provided valuable insights for universities to develop various strategies by considering the important points highlighted by the current study to improve the quality of writing among Pakistani ESL learners of English.

8. Limitations and future directions

Although this study has major contribution to the field of applied linguistics, this study still has few limitations which could be the possible future directions. First, the current study considered MWS as complete variable, on the hand, it is appropriate to consider different MWS as independent variable. For instance, planning, monitoring, and evaluating should be considered as separate variables. It will help to investigate the role of each metacognitive writing strategy. Second, this study is limited to South Punjab, Pakistan only. The future studies should consider whole Pakistan which may provide better results and lead to the wider generalizability. Third, along with the WTW, willingness to communicate has wider scope which is not included in this study. Therefore, future studies should include willingness to communicate. Fourth, the context in which this research was conducted plays a critical role in generalizability, because this study only focused on first semester students of BS English of public universities. Factors such as the curriculum, instructional techniques, and resources accessible in public universities may differ from those in private institutions or non-academic settings. Accordingly, the findings should be translated within the specific context of BS English programs in public universities in Pakistan. Thus, future studies should focus on various other semester students of BS English and also focus on private universities along with public universities.

Authors' contributions

The corresponding author "Shazma Razzaq" presented the main idea and worked on a key section of this study. The author namely; "Mohd Hilmi Hamzah" supervised the whole research process and improved the all parts of the study.

Availability of data and material

Secondary data from prior studies were used to build the theoretical basis of the current study, as cited in the body of manuscript and references are given in bibliography. However, primary data were collected from respondents. The dataset used and analyzed during this study is available from the corresponding author on reasonable request.

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CRediT authorship contribution statement

Shazma Razzaq: Writing – original draft, Software, Methodology, Formal analysis, Data curation, Conceptualization. **Mohd Hilmi Hamzah:** Writing – review & editing, Supervision.

Declaration of competing interest

We have no conflicts of interest to disclose.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.ssaho.2024.101010.

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