Self-Regulated Learning and Research Attitudes: A Correlational Study of Graduate Students' Perspectives

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ABSTRACT
This research was conducted to explore the relationship between self-regulated learning and graduate students' attitudes toward research. The central objective of the study was to examine how self-regulated learning contributes to and influences students' dispositions toward research-related activities. To address this aim, the researchers adopted a descriptive correlational research design, which allowed for the investigation of relationships between the variables without manipulation. The target population comprised MPhil and PhD students enrolled in the education departments of nine universities located in the Lahore District. From this population, a stratified random sampling technique was applied to ensure fair representation, and a sample of 400 graduate students was selected. Data collection was carried out using two research instruments, both constructed on a five-point Likert scale, specifically designed to measure the levels of self-regulated learning and attitudes toward research among the participants. For data analysis, the researchers employed descriptive statistical methods to summarize the general trends, Pearson's correlation coefficient to determine the strength and direction of the relationship between the two variables, and linear regression analysis to identify the predictive power of self-regulated learning on research attitudes. The results of the study highlighted a statistically significant and positive correlation between self-regulated learning and students' attitudes toward research, indicating that higher levels of self-regulation are associated with more favorable research dispositions. Furthermore, regression analysis confirmed that self-regulated learning, along with its underlying dimensions, serves as a strong and significant predictor of students' attitudes toward research, emphasizing its vital role in shaping graduate learners' orientation and engagement in research activities.

Key Words: Self-Regulated Learning, Research Attitudes, Graduate Students, Correlational Study

Introduction
Self-regulated learning refers to an active and ongoing process through which learners assume responsibility for organizing, monitoring, and controlling their cognitive, metacognitive, and motivational strategies in order to accomplish academic goals

(Zimmerman, 2002). It encompasses a wide range of purposeful actions such as setting goals, devising plans, selecting and applying appropriate learning strategies, monitoring progress, and adjusting approaches in response to feedback and situational demands. By engaging in self-regulated learning, students cultivate independence, self-reflection, and initiative, which transform them from passive recipients of knowledge into active participants in their own learning process (Zimmerman, 2011). Scholarly literature emphasizes that self-regulated learning integrates motivational, cognitive, and behavioral dimensions, all of which play a pivotal role in fostering learner autonomy. These dimensions collectively enable students to manage their own learning effectively, adapt to challenges, and develop the capacity to solve problems independently (Schunk & Ertmer, 2012). As such, self-regulated learning is recognized as a vital competency that empowers learners to take ownership of their academic growth and become proactive, strategic, and resilient in their pursuit of knowledge.

Attitudes toward research can be defined as the collection of learners' emotions, beliefs, values, and predispositions that shape their orientation toward engaging in research activities (Mehdipour & Balaramulu, 2013). These attitudes are not formed in isolation but are shaped by a range of factors, including students' prior academic and research experiences, their perceptions of the usefulness and relevance of research, their level of self-efficacy, and the broader learning environment in which they are situated (Papanastasiou, 2005). When students develop positive attitudes toward research, they typically demonstrate curiosity, confidence, enthusiasm, and persistence in pursuing investigative work. Such positive dispositions motivate learners to engage meaningfully with research tasks and to view research as a valuable and integral part of their academic and professional growth. Conversely, negative attitudes toward research may emerge in the form of anxiety, disinterest, lack of confidence, or avoidance of research-related activities, which can hinder students' ability to fully participate in inquiry-based learning. Research also highlights the influential role of educators and institutional contexts in shaping these attitudes. Supportive teachers and an encouraging academic environment that make research more accessible, relevant, and connected to real-world practice can foster more favorable perceptions of research and enhance students' willingness to engage in it (Kumar, 2015). Therefore, the cultivation of positive attitudes toward research is closely linked to both individual factors and the quality of the educational setting in which learners are immersed.

Both self-regulated learning and attitudes toward research are recognized as critical determinants of students' academic achievement and overall engagement in scholarly activities. Learners who engage in self-regulation actively set goals, monitor their progress, and adjust their strategies as needed. This process not only fosters persistence but also enhances their academic performance by enabling them to remain focused and adaptive in the face of challenges (Boekaerts et al., 2000). Similarly, when students hold positive attitudes toward research, they are more likely to approach inquiry with curiosity, confidence, and dedication. Such positive dispositions nurture a willingness to explore, critically analyze, and persevere in research activities, ultimately strengthening their research competencies and productivity (Schunk, 2005). When combined, these two constructs self-regulated learning and favorable attitudes toward research work synergistically to cultivate learners who are autonomous, intrinsically motivated, and academically capable. These qualities equip students with the resilience and adaptability required to address complex academic demands while also preparing them to navigate professional challenges effectively. Thus, fostering both self-regulation and constructive research attitudes is essential for developing well-rounded learners who can excel in both educational and professional contexts.

Self-regulated learning and attitudes toward research are two constructs that have attracted considerable attention within the field of educational research due to their significant role in shaping learners' academic development. Students who exhibit positive attitudes toward research are more likely to employ self-regulated learning strategies such as systematic planning, effective time management, self-monitoring, evaluation of progress, and active information-seeking behaviors (Pintrich & Groot, 1990). These strategies not only enhance their academic performance but also deepen their engagement with research-related tasks. Conversely, learners who demonstrate strong self-regulation skills often perceive research as both meaningful and attainable, which in turn contributes to the development of constructive and positive attitudes toward research (Schunk & Zimmerman, 2007). This reciprocal relationship underscores the interdependence of the two constructs, as each reinforces and strengthens the other. A key factor that connects self-regulated learning and research attitudes is intrinsic motivation. When students recognize the value and importance of research, they are more inclined to persevere in their academic efforts, engage in reflective practices, and exercise greater control over their learning processes (Hidi & Renninger, 2006). As a result, the interaction between self-regulated learning and favorable research attitudes fosters a mutually supportive dynamic that promotes persistence, autonomy, and success within an enriching academic environment. Altogether, self-regulated learning provides the students with the required abilities to manage the academic performance independently, and the attitudes towards the research demonstrate the emotional and cognitive inclination of the student towards the inquiry. Both variables play a pivotal role in shaping students' academic engagement and long-term success. Understanding their interrelation is particularly significant at the graduate level, where students are expected to demonstrate higher-order thinking, autonomy, and advanced research competencies.

Objectives of the Study
The objectives of the study were to:
Examine the relationship between graduate level students' self-regulated learning and their attitudes toward research.
To find out the effect of students' self-regulated learning on their attitudes toward research at graduate level.

Research Questions of the Study
Following were research questions of the study:
What is the relationship between graduate level students' self-regulated learning and their attitudes toward research?
What is the effect of students' self-regulated learning on their attitudes toward research at graduate level?

Literature Review
Self-regulated learning is grounded in the cognitive perspective of learning, which emphasizes how students actively construct knowledge by integrating new information with prior understanding. It is characterized by processes such as goal setting, self-monitoring, self-evaluation, and reflective thinking all of which contribute to the development of greater independence and effectiveness in learning (Zimmerman, 2008). Scholars highlight that self-regulated learning encompasses six essential dimensions: cognition, behavior, motivation, emotion, social interaction, and environmental factors. Collectively, these dimensions interact to influence learners' engagement, persistence, and overall academic performance (Drysdale & McBeath, 2018; Karabenick & Gonida, 2018). Students who apply self-regulated learning strategies are generally more resilient,

adaptable, and capable of sustaining high levels of achievement across academic tasks (Tashtoush et al., 2020). The importance of self-regulated learning is particularly evident in higher education settings, where it supports learner autonomy, enhances intrinsic motivation, and fosters critical thinking. By enabling students to take ownership of their learning processes, self-regulated learning not only equips them with the skills needed to manage academic challenges effectively but also prepares them for meaningful engagement in research. In doing so, it strengthens their confidence and nurtures a positive orientation toward scholarly inquiry, ultimately contributing to academic and professional success.

Research attitude can be described as the set of beliefs, emotional responses, and behavioral tendencies that individuals hold toward research activities, which in turn shape how they perceive, value, and engage in the research process. These attitudes are not innate traits but are cultivated over time through experiences, environmental influences, and intellectual interactions (Mehdipour & Balaramulu, 2013). A positive research attitude is often associated with enthusiasm, persistence, and dedication to investigative tasks, whereas negative attitudes are linked to disengagement, avoidance, and lower levels of performance. However, empirical findings in this area present a mixed picture. Some studies have reported that students generally exhibit favorable attitudes toward research (Bhangare, 2014; Kumar, 2015). In contrast, other scholars have noted that even when students possess adequate research knowledge and skills, their attitudes may still be underdeveloped or negative (Memarpour, 2015; Saeidinia et al., 2013). Additionally, structural and institutional barriers such as lack of orientation, optional or poorly integrated thesis requirements, and inadequate institutional support further reinforce students' reluctance to engage in research (Saleem, 2014). These findings suggest that research attitude is a complex, multidimensional construct shaped by emotional, cognitive, and contextual factors. Ultimately, these factors play a critical role in determining not only students' willingness to engage with research but also the quality and effectiveness of their scholarly output.

Substantial empirical evidence highlights a strong relationship between self-regulated learning and students' attitudes toward research. Hidi and Renninger (2006) demonstrated that intrinsic motivation often considered the foundation of both self-regulated learning and research attitudes play a pivotal role in sustaining students' persistence in research-related tasks. More recent findings by Alvi and Gillies (2020) further confirmed that students who consistently employ self-regulated learning strategies show greater engagement in their research activities, which in turn enhances their overall academic productivity at the graduate level. In a similar vein, Karabenick and Zusho (2015) argued that learners who adopt self-regulated learning practices are better equipped to cope with research-related anxiety. They achieve this by utilizing adaptive strategies such as self-monitoring, seeking constructive feedback, and engaging in collaborative learning, which collectively help them manage challenges effectively. Brew (2001) also asserted that higher levels of self-regulated learning contribute to students' competence in handling the pressures of research, as these skills foster greater confidence and reduce anxiety. Supporting this perspective, Yerdelen-Damar and Peşman (2013) emphasized those students who perceive research as meaningful are more inclined to regulate their own learning, thereby reinforcing positive research attitudes. Taken together, these studies demonstrate that self-regulated learning is not only instrumental in enhancing research performance but also plays a critical role in shaping students' cognitive and emotional orientations toward research. By fostering persistence, confidence, and adaptive learning behaviors, self-regulated learning ultimately contributes to the development of favorable research attitudes and the attainment of long-

term academic success.

Self-regulated learning provides graduate students with the autonomy to take charge of their own learning processes, enabling them to plan, monitor, and evaluate their academic progress with greater independence. At the same time, cultivating positive attitudes toward research fosters enthusiasm, persistence, and commitment to scholarly inquiry. When combined, these two constructs serve as powerful drivers of students' intrinsic motivation, sustained engagement, and long-term academic achievement. Research further suggests that the development of favorable research attitudes, alongside the encouragement of self-regulated learning strategies within supportive academic environments, can significantly enhance students' confidence and competence (Çetin, 2015; Cassady et al., 2022; Yousef, 2024). Such conditions not only improve learners' research-related skills but also prepare them to address complex academic and professional challenges effectively. In this way, self-regulated learning and positive research attitudes act synergistically to equip students with the resilience, intellectual autonomy, and problem-solving abilities necessary for both academic success and future professional practice.

Although self-regulated learning has been extensively examined in relation to academic achievement and learner motivation (Usher & Schunk, 2018; Zimmerman, 2008), there is limited research that specifically addresses its influence on graduate students' attitudes toward research. Much of the existing literature either investigates self-regulated learning in broader educational contexts without a particular focus on research activities (Karabenick & Zusho, 2015; Pintrich, 2000), or treats attitudes toward research as a stand-alone construct, largely independent of self-regulation processes (Mehdipour & Balaramulu, 2013). Consequently, the interrelationship between self-regulated learning and research attitudes remains underexplored. Furthermore, the bulk of the available empirical evidence originates from Western contexts, with relatively little attention paid to higher education systems in developing nations such as Pakistan (Alvi & Gillies, 2020). This lack of context-specific inquiry presents a significant gap in understanding how self-regulated learning strategies shape student motivation, persistence, and dispositions toward research in non-Western academic environments. Addressing this gap is crucial, as cultural, institutional, and structural differences may significantly influence how self-regulated learning contributes to graduate learners' engagement with research and their overall academic development.

Methodology
The study employed a descriptive correlational research design to investigate the relationship between graduate students' self-regulated learning and their attitudes toward research. The target population comprised MPhil and PhD students enrolled in education departments across universities located in the Lahore District. Among the 18 institutions offering MPhil programs in education, only nine also provided PhD programs; therefore, these nine universities formed the basis of the study population, which included both male and female students pursuing advanced degrees in education. To ensure adequate representation, a disproportionate stratified random sampling approach was adopted. This method allowed for balanced inclusion of both genders as well as students from public and private universities. Specifically, the sample was drawn from two public and two private universities. Within each institution, 100 students were selected, consisting of 50 males and 50 females, resulting in a total sample size of 400 participants. Both MPhil and PhD students were included, providing representation across degree levels. Although the actual distribution of gender and institutional type in the wider population may differ, this sampling technique ensured equal representation in the study. Data collection was

carried out using a structured questionnaire designed to measure self-regulated learning, research attitudes, and demographic characteristics. The instrument was adapted from two well-established scales: the Self-Regulated Learning Questionnaire (Oz & Şen, 2018) and the Revised Students' Attitudes toward Research Scale (Akour et al., 2024). The final questionnaire contained 50 items, organized to assess self-regulated learning through dimensions such as study methods, self-evaluation, time management, and information-seeking behaviors, while attitudes toward research were measured in terms of perceived usefulness, research anxiety, and positive dispositions toward research. All items were rated on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The validity of the instrument was confirmed through expert review, while its reliability was tested using Cronbach's alpha, which demonstrated acceptable levels of internal consistency. For data analysis, a combination of descriptive statistics, Pearson correlation coefficients, and regression analysis was applied. These statistical techniques were selected to determine the strength and direction of the association between self-regulated learning and research attitudes, as well as to assess the predictive power of self-regulated learning variables on students' research attitudes.

Data Analysis and Interpretation
Table 1
Correlation between Graduate Students' Self-Regulated Learning and Research Attitudes

Variables	N	r-value	Sig.
Self-Regulated Learning and Research Attitudes	400	.750**	.000

** $p < .001$ (2-tailed)

The findings of the correlation analysis, presented in Table 1, demonstrate a strong and statistically significant association between graduate students' self-regulated learning and their attitudes toward research (r = .750**, n = 400, p < .001). The magnitude of this coefficient reflects a high level of correlation, suggesting that as students' self-regulated learning skills increase, their attitudes toward research become correspondingly more positive. This result provides clear evidence of the close and positive relationship between the two constructs. Specifically, it implies that the greater the extent to which students engage in self-regulated learning strategies such as planning, self-monitoring, time management, and self-evaluation the more likely they are to demonstrate confidence, enthusiasm, and favorable dispositions toward research activities. The strength of this correlation highlights the importance of self-regulated learning as a key factor in shaping students' research orientations. It further suggests that deliberate efforts to strengthen self-regulated learning skills can significantly enhance graduate students' motivation, interest, and engagement in research-related endeavors. Consequently, fostering self-regulated learning practices among learners has practical implications for promoting persistence, reducing research-related anxiety, and cultivating long-term commitment to scholarly inquiry.

Table 2
Effect of Graduate Students' Self-Regulated Learning and Research Attitudes

Variables	B	t-value	Sig.	Model R Square
Self-Regulated Learning and Research Attitudes	.750	128.421	.000	.565

The results of the linear regression analysis, presented in Table 2, indicate that the

coefficient of determination (R^2) is .565. This means those graduate students' self-regulated learning accounts for approximately 57% of the variance in their attitudes toward research. Such a finding underscores the substantial role that self-regulated learning plays in shaping how students perceive and approach research-related tasks. The regression analysis further revealed a beta coefficient (β) of .750 with a p-value of .000, confirming the statistical significance of the model. This strong and positive beta value demonstrates that improvements in students' self-regulated learning strategies are directly associated with more favorable research attitudes. Specifically, it suggests that students who develop stronger self-regulated learning competencies tend to demonstrate more positive perceptions of research, experience lower levels of anxiety, and exhibit greater enthusiasm and persistence in scholarly inquiry. Taken together, these findings reinforce the evidence of a positive and meaningful relationship between self-regulated learning and research attitudes. They highlight the critical importance of fostering self-regulatory skills among graduate students, as doing so not only strengthens their motivation and engagement in research but also supports their resilience and long-term academic success. The results strongly suggest that enhancing self-regulated learning is a key pathway to improving students' overall confidence and productivity in research contexts.

Discussion

The findings of this study contribute meaningfully to the existing body of literature by confirming a significant correlation between graduate students' self-regulated learning and their attitudes toward research. This relationship is consistent with earlier research emphasizing the central role of self-regulated learning in fostering academic achievement, persistence, and sustained interest in learning (Zimmerman, 2000). The positive attitudes displayed by students toward research in the present study align closely with Zimmerman's (2000) theory, which posits that learners who actively manage and regulate their academic activities demonstrate greater productivity, perseverance, and motivation in their academic pursuits. The primary aim of this research was to assess graduate students' attitudes toward research in relation to their levels of self-regulation. The outcomes revealed that students with higher self-regulated learning skills tended to show stronger appreciation for and engagement with research, echoing the findings of earlier scholars such as Deci and Ryan (2000) and Pintrich and De Groot (1990). These results reinforce the argument that supporting self-regulated learning is crucial for enhancing learners' academic orientations, aspirations, and long-term success (Pintrich, 2000). Another key objective was to examine the relationship between specific self-regulated learning behaviors and students' research attitudes. The results confirmed a significant positive association, indicating that students who adopt strategies such as goal-setting, progress monitoring, and reflective evaluation are more likely to develop intrinsic motivation for completing research tasks. This aligns with prior evidence (Ryan & Deci, 2000; Pintrich, 2000) that underscores how self-regulation fosters internal drive, academic commitment, and resilience in handling demanding tasks.

The study also explored the effect of self-regulated learning on students' perceptions of research. Findings showed that self-regulated learning not only influences students' engagement but also significantly shapes their recognition of research as meaningful and valuable. This is consistent with the conclusions of Zimmerman (2000) and Pintrich (2000), who stressed that self-regulated learning cultivates high academic performance, adaptability, and effective learning behaviors. Overall, the results highlight the critical role of self-regulated learning in shaping positive research orientations among graduate students. The observed relationship between self-regulated learning and research

attitudes suggests strong potential for targeted educational interventions designed to enhance self-regulated learning competencies. Such initiatives could encourage students to invest more time, effort, and persistence in research activities. Beyond contributing to the ongoing scholarly debate on effective teaching practices, these findings emphasize the importance of embedding self-regulated learning development into educational curricula as a strategy to strengthen research engagement, improve academic achievement, and foster lifelong learning.

Conclusion

The primary objective of this study was to examine the relationship between graduate students' self-regulated learning and their attitudes toward research. The findings clearly demonstrate a strong and positive association between the two variables, suggesting that students who exhibit higher levels of self-regulated learning are more likely to develop favorable perspectives toward research. Moreover, specific dimensions of self-regulated learning, such as self-monitoring, time management, and goal-setting, was shown to play a vital role in strengthening students' confidence, interest, and perseverance in research-related tasks. This underscores the idea that cultivating self-regulated learning strategies significantly contribute to fostering greater enthusiasm and engagement in academic inquiry. The statistical analyses further validate this relationship. The correlation analysis revealed a substantial positive correlation ($r = .750$, $p < .001$), indicating that increases in self-regulated learning are closely linked to more positive attitudes toward research. Similarly, regression analysis provided additional support, showing that self-regulated learning accounts for approximately 57% of the variance in research attitudes ($R^2 = .565$). The high beta coefficient ($\beta = .750$, $p = .000$) highlights the strong predictive power of self-regulated learning in shaping students' perceptions of research as well as their level of involvement in research activities. Taken together, the study emphasizes the pivotal role of self-regulated learning in cultivating graduate students' motivation, persistence, and confidence in research endeavors. Encouraging the use of self-regulatory strategies not only influences students' present outlook toward research but also equips them with long-term skills for becoming independent, resilient, and self-sufficient scholars. These findings suggest that self-regulated learning can serve as a foundation for promoting lifelong learning and sustained academic productivity. However, it is important to recognize the contextual limitations of this study. The results are drawn from a specific academic and cultural setting, which may restrict their generalizability to other populations or learning environments. For this reason, future research is recommended across diverse contexts and disciplines to validate, extend, and generalize these findings. Such efforts would provide a more comprehensive understanding of the role of self-regulated learning in shaping research attitudes globally.

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