



RESEARCH PAPER

A Comparative Study on the Correlation between Academic Resilience and Students' Engagement in Public and Private Higher Education Institutions

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ABSTRACT

This quantitative comparative study examined the similarities and differences between Academic Resilience (AR) and Student Engagement (SE) in public and private HEIs. The instruments used to collect data were the ARS-30 and Student Engagement Scale (SES). The population sample consisted of 295 undergraduate students from the social sciences department of private HEIs and 525 undergraduate students from the social sciences department of public HEIs in Rawalpindi and Islamabad. The analysis revealed higher levels of AR and SE among undergraduate students from both public and private HEIs. Data analysis also showed a statistically significant high correlation between AR and SE among undergraduate students in public and private HEIs. The correlation between AR and SE was reported higher in private HEIs; $r_1 = 0.559^{**}$ ($p < 0.01$) and $r_2 = 0.707$ ($p < 0.01$). Findings show a positive relationship between AR and SE among undergraduate students from the social sciences departments in public and private HEIs. The research would be practically valuable for HEIs and stakeholders under the framework of self-regulatory learning by developing AR that may help increase their engagement level in a different learning environment from the annual setup to the semester setup.

Keywords: Academic Resilience, Higher Education Institutions, Public and Private HEIs, Social Sciences Department, Student Engagement

Introduction

Critical Educationists are responsible for providing quality education programs for the learning community in this current era. They are also responsible for preparing the students for the outer world by considering their emotional and psychological needs in an academic environment. However, this issue has remained a concern for Higher Education Institutions (HEIs) to provide access to programs to develop or improve students' emotional and psychological state in a learning community. The concerned bodies, including HEIs administrators, continually explore improving students' persistence and engagement in HEIs. Students' achievement is conventional based on the capability of institutions to participate students actively in the learning process through persistence, determination, and adaptive behaviors (Romano et al., 2021). While there have been numerous studies on Academic Resilience (AR) and Student Engagement (SE) at school level, such studies need to be more comprehensive in HEIs.

Based on the literature review, it is reasonable to deliberate that the two constructs (AR & SE) have not been examined simultaneously at the higher education level and from the comparative perspective in public and private HEIs among students. Therefore, these constructs' unique and innovative combination is expected to fill this gap in the existing literature.

In this quantitative comparative study, the research objectives anticipate determining the association between the two constructs of AR and SE in public and private HEIs. In addition, the paper aimed to address the literature gap to investigate AR and SE among undergraduate students from the social sciences department in public and private HEIs. Investigating these two constructs together is pioneering in comparing public and private HEIs nationally and globally. Furthermore, addressing the gap in the literature can endorse a positive social change in the teaching and learning approaches implemented by HEIs to raise SE levels in an educational environment.

Keeping in view the significance of AR and SE and an implicit relationship between the two concepts, the paper determines the level of AR and SE. The lack of SE may cause internalized behaviors, including boredom, emotional distress, and academic failure, leading to self-efficacy and externalized behavior, including misbehavior and dropping out (Adelman & Taylor, 2012; Fallon, 2010). Therefore, this study opted for a comparative approach to analyze similarities and differences regarding the correlation between AR and SE in public and private HEIs.

SE is a core factor that influences institutional goals achievement. Resilient students will be more self-motivated and persistent toward their goal achievement by engaging themselves cognitively, emotionally, and behaviorally in an institution. Students' active and engaged behavior, directly and indirectly, establish a learning community that enhances enthusiastic, encouraged, and self-regulated learners (Commissiong, 2020).

It is the role and responsibility of HEIs to address this issue and ensure SE and active participation in learning activities to achieve the institutional set learning goals. Practitioners and faculty members should conduct such practices that help boost students' confidence, make them persistent, and increase their classroom participation by enhancing their engagement.

The lack of SE and interest corresponds to demotivation and lack of perseverance, which tends to quit when a task becomes complex and challenging. The shift from an annual education system to a semester education system requires HEIs to ensure student engagement and active participation toward the set learning goals. Literature has suggested focusing on AR's significance to attain effective and persistent students' behavior, active participation, and interest toward tasks completion (Cassidy, 2016).

The fourth and fifth research questions were formulated to find out whether there is a relationship between the two variables - AR and SE. The present study argues that students switching from the annual to semester system face challenging situations with the change in educational planners. First, students encounter adversity in a new academic setting and disengage from the learning process (Borman, Rozek, Pyne, & Hanselman, 2019). This state of mind might cause stress, anxiety, pressure, worry, and apprehension, leading to quitting. When these challenges are combined, including the pressures of constraining a specific major, engaging in the learning process might be associated with SE change. Finally, the findings could help explain how AR correlates with SE in public and private HEIs. The current study focused on first-semester undergraduate students studying in both HEIs sectors to clarify the relationships between AR and SE variables.

Literature Review

Resilience

Resilience is well-defined as the capability to re-bounce from an adverse, obstruct, and hardship and is essential for effective direction. The literature establishes evidence regarding the direct relationship between the job stress of the leaders and their capacity to

retain resilience in sustained adverse conditions Ackerman & Maslin- Ostrowski, 2002; Greene, 2003). According to O’Leary (1998), patience, retrieval, and success are conceptions linked with resilience and designate the phase at which a person may be during or after facing adversity. The concept of being successful refers to a person’s ability to go beyond the innovative level of functioning and to progress and function regardless of frequent experiences to stressful experiences.

Academic Resilience

Resilience is the magnitude procedure resulting from effective transformation regardless of stimulating or intimidating settings (Howard & Johnson, 2000). These settings are not usually insignificant or weak. Instead, they nurtured to characterize extreme and harsh conditions considered more chronic on evolving practices (Lindstroem, 2001; Masten, 2001). While there has been considerable attention on resilience regarding comprehensive life happenings, likewise raised in an unprivileged circumstantial under deprived nurturing, or dissociate (Luthar & Cicchetti, 2000), in comparison, little exploration centering on academic resilience.

From an educational perspective, resilience is well-defined as the discriminant possibility of attainment in a learning environment and new lifespan acquisitions, even with conservational difficulties carried out through initial behaviors, circumstances, and practices (Wang, Haertel, & Walberg, 1994). Likewise, students with academic resilience endure high levels of accomplishment, stimulus, and enactment regardless of demanding occasions and situations that bring them in danger of low representing academically and eventually dropping out (Alva, 1991).

Factors of Academic Resilience

According to Cassidy (2016), academic resilience is based on perseverance, reflective and adaptive help-seeking and negative affect and emotional response. The description of these factors is as follows:

Perseverance

Perseverance represents students' traits, characters, and reactions involving their effort, hard work, effort to accomplish, observing failure, determination, prioritizing targets, acceptance and criticism, acceptance and utilization, analytical reasoning, and dealing with adverse situations (Cassidy, 2016). In this study, perseverance is the capability of the students to prioritize their goals and set approaches that may help them attain them. It also involves hard work and problem-solving skills in an adverse educational situation.

Reflecting and adaptive help-seeking

Reflecting and adaptive help-seeking demonstrate conventional traits, characters, and students' reactions that disclose strengths and weaknesses, varying study methods, pursuing corroboration, reinforcement, observing efforts and accomplishments, and worthwhile remunerations emphasize (Cassidy, 2016). Thus, reflecting and adaptive-seeking is behavior, character, and qualities a student possesses in task identification in this study. It also focuses on the motivation factor that is involved in goal attainment.

Negative affect and emotional response

Negative affect and emotional response components refer to traits, characters, and reactions such as anxiety, being terrible, and avoiding negative responses. This academic resilience factor focuses on the adverse feelings that the students think they possess, which may hinder the students' accomplishments (Cassidy, 2016). In this study, students' traits and character and their reactions toward stuck situations, such as anxiety, stress, and inadequate and negative responses from others that hinder students' learning process are negative effects and emotional responses.

Each AR factor signifies common structures in present research studies exploring resilience, superficial connections, and intersections with concepts and constructs that acknowledge relevant and prior studies of general and context-specific resilience.

Student Engagement

Student Engagement (SE) involves the physical, emotional, and behavioral extent the student dedicates to their educational records (LeMay IV, 2017). Based on the report of Barkley (2009), student engagement has been defined as an essential construct that predicts students' academic achievement. Barkley (2009) explained the significance of engagement for college and university teachers as the direct involvement of students' motivation and active learning. These are cyclical features, and every stage is essential for the existence of the other. Teachers are encouraged by the motivated behavior of students toward learning. According to Barkley (2009), engagement is an essential factor to bridging motivation and active learning for the learners and if the students are active learners but not cooperative and engaged academically then the engagement construct is lacking among them.

Dimensions of Student Engagement (SE)

SE is a multidimensional and diverse concept measured differently based on its various components. Historically, the engagement model is based on three dimensions, behavioral, cognitive, and emotional engagement. Cognitive engagement emphasizes the self-regulation of the students in their learning process. Behavioral engagement focuses on tasks and emotional engagement, highlighting a task' interest and value (Fredricks & McColskey, 2012).

Cognitive Engagement

In the learning process, cognitive engagement is the intellectual contribution of the students through which they are enabled to learn diverse concepts. The engagement component contains learning strategies, thoughtfulness, and willingness, including practice, explanation, arrangement, and reflective thinking (Fredricks & McColskey, 2012).

Behavioral Engagement

Behavioral engagement is a critical component that influences students' academic achievement and participation in educational, social, and co-curricular activities. Students' behavior is also a fragment of engagement. The rules and regulations students follow offered by institutions help in establishing classroom norms and reduce disruption. It is an attitude of positive behavior students carry to make the learning process successful (Fredricks & McColskey, 2012).

Emotional Engagement

Fredricks & McColskey (2012) explained the third component of engagement: emotional engagement that focuses on the precise types of an educational setting. Evaluation is a crucial perception of this component that helps understand how extremely a student feels comfortable and values a student in a specific learning environment (Fredricks & McColskey, 2012). This engagement aspect notifies interventions to improve SE, an essential construct in students' learning process.

Hypotheses

The hypotheses of the study were:

H₀ 1: There is no significant correlation between AR and SE among undergraduate students from the social sciences department in public HEIs.

H_A 1: A significant correlation exists between AR and SE among undergraduate students from the social sciences department in public HEIs.

H₀ 2: There is no significant correlation between AR and SE among undergraduate students from the social sciences department in private HEIs.

H_A 2: A significant correlation exists between AR and SE among undergraduate students from the social sciences department in private HEIs.

Material and Methods

Comparative Research Approach

A comparative research approach was employed to find the similarities and differences between the public and private sectors of HEIs in Rawalpindi and Islamabad. According to Khakpour (2012), the distinction between scientific investigations is a crucial feature of educational problems, and comparative approaches are suitable scientific methods used for comparative studies.

Population and Sample

The targeted population of the study was undergraduate students of public and private higher education institutions in Rawalpindi and Islamabad who met predetermined criteria based on the objectives of the study (Alvi, 2016). Undergraduate students enrolled in the first semester in specified departments under the umbrella of social sciences in public, and private HEC-recognized universities in Rawalpindi and Islamabad were selected as a sample of the study.

Sample Selection

Sharma (2017) stated that a represented group from the target population was selected on the basis of study objectives in a systematic order for observation or experimentation. A stratified random sampling technique was used to select the sample. The strata were formulated from the targeted population through a stratified random sampling technique, and the sample was selected randomly.

The population size in public and private universities is estimated at 2,550 and 1,075, respectively. Thirty percent of the population was selected for the sample size. The response rate for public HEIs is relatively found at 69 % and for the private HEIs is 91 %. Therefore, it is suggested that a twenty- twenty-five percent response rate is considered suitable for the survey research (Fosnacht et al., 2017). Furthermore, in survey research

studies, each subgroup in the population is identified by a 20- 50 percent sample (Delice, 2010). The final sampling size was 765 and 323 based on a 30 % population size, and the response rate is 69 % and 91 % in public and private HEIs.

Data Collection and Analyses Procedure

The Academic Resilience Scale ARS-30 and Students' Engagement Scale (SES) were administered to the first-semester undergraduate students to collect data. The ARS-30 developed by Cassidy (2016) measures the undergraduate students' personal and social traits in the students' academic perspective. It comprises three essential factors of resilience: cognitive, affective, and behavioral responses. Furthermore, SES developed by Gunuc and Kuzu (2015) determines Student Engagement based on three factors: cognitive, emotional, and behavioral engagement. The data were collected by using a stratified random sampling technique. The public and private strata were drawn from the targeted population. The pilot test was conducted for the validation of the tool. The reliability for both tools was 0.7 and 0.9, respectively. Statistical Package for Social Sciences (SPSS) was used to scrutinize the quantitative data. Mean scores were found to determine the levels of AR and SE that indicate the extent of a variable influence. Parametric tests were applied after checking the normality of the data. Therefore, descriptive and inferential statistical analyses were applied to determine the accuracy of the study hypotheses.

Results and Discussion

Table 1
Descriptive Measures of AR and SE of Undergraduate Students from Social Sciences Department in Public and Private HEIs

Descriptive Interpretation	AR	Public HEIs Frequency %	Private HEIs Frequency %	SE	Public HEIs Frequency %	Private HEIs Frequency %
Very High	4.5- 5.0	--	--	4.5- 5.0	--	--
High	3.5- 4.49	100	70	3.5- 4.49	100	100
Moderate	2.5- 3.49	--	30	2.5- 3.49	--	--
Low	1.5- 2.49	--	--	1.5- 2.49	--	--
Very Low	0.5- 1.49	--	--	0.5- 1.49	--	--
Mean Score		3.66	3.64		3.97	3.81
Descriptive Interpretation		High AR	High AR		High SE	High SE

The levels of AR and SE were calculated by the procedure Santiago (2010) used in 'Emotional Intelligence and academic achievement of intermediate pupils.' Table 1 shows the descriptive measures of AR and SE of students of Public and Private HEIs and the descriptive interpretation of levels of measurement through the mean score. The mean score from 0.5- 1.49 shows a Very Low level of AR and SE, and the mean score from 1.5- 2.49 points toward a Low level of AR and SE. The mean score from 2.5- 3.49 points toward a Moderate level of AR and SE, the mean score from 3.5- 4.49 points toward a High level of AR and SE, and the mean score from 4.5- 5.0 points toward a Very High level of AR and SE. Table 1 also categorically highlights the Level of AR and SE in Public and Private HEIs.

Next, Table 2 represents the levels of AR's sub-constructs among undergraduate students from the social sciences department in public and private HEIs.

Table 2
Descriptive Measures of sub-constructs of AR of Undergraduate Students from Social Sciences Department in Public and Private HEIs

Sr#	Constructs of AR	Mean-Public HEIs	Interpretation	Mean-Private HEIs	Interpretation
1.	Perseverance	3.49	Moderate	3.59	High
2.	Reflecting and adaptive help-seeking	3.81	High	3.66	High
3.	Negative affect and emotional response	3.7	High	3.67	High
Total Mean Score- AR Level		3.66	High	3.64	High Public & Private HEIs

Table 2 presents a comparison between the mean scores of the sub-constructs of AR in public and private HEIs. Table 1 demonstrates that undergraduate students from the social sciences department in public and private HEIs have high AR and SE. However, an in-depth analysis of the sub-constructs of AR revealed a difference in one of the sub-constructs i.e., Perseverance. Preserving refers to prioritizing goals and setting aptitudes that help students achieve goal achievement (Cassidy, 2016). According to the data analysis in Table 2, undergraduate students fall in the moderate (3.49) category than the undergraduate students of private HEIs (3.59). The Reflective and adaptive help-seeking shows a 3.81 and 3.66 mean score of undergraduate students in public and private HEIs, indicating a high level. The Negative affect and emotional response show a 3.7 and 3.67 mean score of undergraduate students in public and private HEIs, indicating a high level. According to Table 2, the comparative analysis of sub-constructs of AR suggests that undergraduate students in public HEIs are slightly more resilient academically than undergraduate students in private HEIs, except the Perseverance, which shows a moderate level in public HEIs.

Table 1 also shows that a hundred percent of the population in Public HEIs falls at a high level of AR. In Private HEIs, thirty percent of the population falls at the Moderate level of AR, while seventy percent of the whole population in Private HEIs falls at the high level shown in Table 1. The frequency counts of a hundred percent in Public HEIs and seventy percent in Private HEIs, with the computed Mean scores of 3.66 at Public HEIs and 3.64 at Private HEIs, lie between 3.5- 4.49 on Descriptive Interpretation of a High level of AR. Thus, the results demonstrate a high level of students' AR in public and private HEIs. Instead, the findings indicate that the levels of AR of undergraduate students from the social sciences department are high in both public and private HEIs.

Table 3 shows a descriptive interpretation of sub-constructs of SE among undergraduate students from the social sciences department in public and private HEIs.

Table 3
Descriptive Measures of SE of Undergraduate Students from Social Sciences Department in Public and Private HEIs

Sr#	Constructs of SE	Mean-Public HEIs	Interpretation	Mean-Private HEIs	Interpretation
1.	Cognitive Engagement	3.92	High	3.81	High
2.	Emotional Engagement	3.94	High	3.80	High
3.	Behavioral Engagement	4.05	High	3.81	High
Total Mean Score- SE Level Public & Private HEIs		3.97	High	3.81	High

Table 3 presents a comparison between the mean scores of the sub-constructs of SE in public and private HEIs. Table 1 show that undergraduate students from the social sciences department in public and private HEIs have high AR and SE. However, after an in-depth analysis of the sub-constructs of SE, the results revealed a slight difference between

the public and private HEIs' sub-constructs mean scores. The interpretations of both the mean scores show that the sub-constructs of SE from public and private HEIs are at a high level. The mean scores of the first sub-construct of SE are 3.92 and 3.80, showing a high level of Cognitive Engagement in undergraduate students of public and private HEIs. The second sub-construct of SE seeks a mean value of 3.94 and 3.80, indicating a high level of Emotional Engagement in public and private HEIs. Finally, the third construct of SE found a mean score of 4.05 and 3.81, showing a high level of Behavioral Engagement in public and private HEIs. Thus, SE calculated total mean score is found to be 3.97 and 3.81, indicating a high level of SE in public and private HEIs, respectively.

Thus, the answer to Research Question 2, results demonstrates a high level of SE in public and private HEIs. The findings indicate that the levels of SE of undergraduate students from the social sciences department are high in public and private HEIs.

Correlation between AR and SE in Public and Private HEIs

Research Question 3 examined the correlation between AR and SE in Public HEIs. A Pearson product-moment correlation test was used to analyze the collected data for R₃. This test was run to determine if a correlation existed between AR and SE in Public HEIs. A hypothesis associated with R₃, H₀ 1: stated no significant correlation between AR and SE among undergraduate students from the social sciences department in Public HEIs.

Tables 4 and 5 indicate the Pearson correlation between AR and SE in public and private HEIs.

Table 4
Pearson Correlation between AR and SE in Public HEIs

	Pearson Correlation r	Sig. (2-tailed)	N
Academic Resilience Student Engagement	0.559**	0.000	525

Table 4, answers R₃ obtained from the Pearson Correlation indicates a significant correlation between AR and SE in Public HEIs. The Pearson r value is 0.559**, revealing a positive relationship between AR and SE. The correlation between AR and SE is moderate $r(525) = 0.559$, $p < 0.01$. Furthermore, it determines that as AR increases, the SE increases as well. The calculated P-value is 0.000, revealing the correlation between AR and SE is significant at the 0.01 alpha levels (2- tailed) at Public HEIs.

The effect size was 0.312, which was calculated to determine the strength of the association between AR and SE among undergraduate students from the social sciences department in public HEIs. According to Cohen (1992), the effect size is small if the value of r varies around 0.1- 0.3, medium if the r ranges from 0.3- 0.5, and large if r ranges to 0.5-1.0.

Hence, the strength of the AR and SE relationship in public HEIs is medium (McLeod, 2019).

Correlation between AR and SE in Public and Private HEIs

Pearson product-moment correlation test was used to analyze the collected data for R₄. This test was run to determine if a correlation existed between AR and SE in Private HEIs. A hypothesis associated with R₄, H₀ 2: stated no significant correlation between AR and SE among undergraduate students from the social sciences department in Private HEIs.

Table 5
Pearson Correlation between AR and SE at Private HEIs

	Correlation Coefficient	Sig. (2-tailed)	N
Academic Resilience Student Engagement	0.707**	0.000	295

Table 5, answers R_4 obtained from the Pearson Correlation indicates a significant correlation between AR and SE in Private HEIs. The Pearson r value is 0.707**, revealing a strong positive relationship between AR and SE. It determines that as AR increases, the SE increases as well. The value of Pearson r indicates a high correlation between the co-variables $r(295) = 0.707$, $p < 0.01$. The calculated P-value is 0.000, revealing that the correlation between AR and SE is significant at the 0.01 alpha levels (2- tailed).

The calculated effect size was 0.5, which was calculated to determine the strength of the relationship between AR and SE among undergraduate students from the social sciences department in private HEIs. According to Cohen (1992), the effect size is small if the value of r varies around 0.1- 0.3, medium if the r ranges from 0.3- 0.5, and large if r ranges from 0.51.0. Hence, the strength of the AR and SE relationship in private HEIs is strong (McLeod, 2019).

Therefore, the findings answer R_3 and R_4 that there is a significant correlation between AR and SE in public and private HEIs. Therefore, the results do not support $H_0 1$ and $H_0 2$ that there is no significant correlation between AR and SE in public and private HEIs, and reject the null hypotheses $H_0 1$ and $H_0 2$ and accept $H_A 1$ and $H_A 2$ that there is a significant correlation between AR and SE in public HEIs and Private HEIs.

The findings of this study indicated that there is a positive relationship between academic resilience and student engagement $r_1 = .559$ ($p < .000$) and $r_2 = .707$ ($p < .000$) in public and private HEIs in Rawalpindi and Islamabad. In addition, the findings indicate that AR is a positive predictor of SE. Therefore, as academic resilience increases, so do student engagement and vice versa for undergraduate students in this study. Studies have shown that academic resilience and student engagement alone can lead to better educational outcomes; however, no other study has investigated the comparative analysis of academic resilience and student engagement together as it pertains to undergraduate students from social sciences departments in HEIs. The contribution of student engagement and academic resilience are statistically significant in consideration of undergraduate students from the social sciences department in public and private HEIs in this sample.

Involvement, a sub-construct of AR is a characteristic of a highly involved in a new academic setting in which students' participation is encouraged to create a sense of responsibility toward their learning goals. For example, according to the first sub-construct of AR, Perseverance level, undergraduate students from the social sciences department in public HEIs have a moderate level of handling challenging situations, are responsive to feedback from their instructors, use constructive feedback for better performance, are self-motivated toward targeted goals, are flexible in their career plans, and get depressed and disappointed in challenging situations (Oluremi, 2014; Ryan, Beamish, 2018).

While in private HEIs, the first sub-construct of AR, Perseverance, shows a high level. The undergraduate students of private HEIs have a high level of handling challenging situations, are responsive to the feedback from their instructors, use constructive feedback for better performance, are self-motivated toward targeted goals, are flexible in their career plans, get depressed and disappointed in challenging situations. Thus, Perseverance is an

important indicator and sub-construct of AR that helps students accomplish tasks (Oluremi, 2014; Ryan, Beamish, 2018).

The present study's findings also show different results in two distinct sectors of education. Therefore, the previous research findings validate the findings of the present study. Thus, in future research, perseverance among undergraduate students from the social sciences department can be measured with more items and higher discrimination to improve the quality of the Perseverance dimension.

The second sub-construct of AR, reflective and adaptive help-seeking, shows a high level among undergraduate students from the social sciences department in public HEIs. The undergraduate students exhibit a high level of trying again and put effort into task achievement, past experiences to self-motivate and encourage themselves, actively seek help from their instructors, and be highly career-oriented. The current research findings indicate the high levels of reflective and adaptive help-seeking among undergraduate students from the social sciences department in public and private HEIs. The literature reveals a high level of Reflective and adaptive help-seeking studying with the variables, including motivation, students' learning achievement, and self-regulated learning (Newman, 2008; Karabiyik, 2020).

The third sub-construct of AR, negative affect and emotional response, also shows that undergraduate students in public HEIs lie at a high level and highly monitor their performance in task achievement, control their emotional states whenever they panic, and self-reflect on their progress. The data also shows that undergraduate students from the social sciences department in public HEIs become highly responsive to anxiety. They are responsive to handling stress to avoid their efforts in task completion; that's why they continuously monitor their strengths and weaknesses to improve their performance (Wortha, Azevedo, Taub, & Narciss, 2019). The present study's findings also encourage a high level of negative affect and emotional response sub-construct of AR, which shows the positive and high monitoring of their emotional states in academic goal achievement.

On the contrary, the second and third sub-constructs of AR, reflective and adaptive help-seeking and Negative affect and emotional response, show a high level in students of private HEIs. They are responsive in task achievement, are self-motivated and encouraging, consider feedback from their instructors, self-reflect on their performance in task achievement, and are conscious of overcoming negative feelings. Thus, AR and its sub-constructs levels show that public and private HEIs undergraduate students from the social sciences department had better strategic directions and intended goals and objectives and are highly resilient academically.

Thus, the findings show that undergraduate students in public and private HEIs from the social sciences department are highly resilient academically and are cognitively, behaviorally, and emotionally involved in their classroom learning activities. Therefore, the findings show that AR among undergraduate students from the social sciences department is high in public and private HEIs.

The SE sub-constructs show undergraduate students' high cognitive, behavioral, and emotional involvement in a new academic setting in which students actively participate in learning activities. For example, the first sub-construct, cognitive engagement, shows that undergraduate students from public HEIs are keen on achieving their goals. In addition, they understand their task achievement, are self-motivated and have a cooperative attitude with others in the classroom. The second sub-construct of SE, Emotional engagement, indicates that the undergraduate students show highly attentive behavior, are responsive in handling challenging situations and are emotionally stable. The third sub-construct Behavioral engagement shows that undergraduate students are highly focused on their task

achievement. They participate actively in their learning activities and are positive receptors, have communicative skills toward problem-solving approach, and trustworthiness behaviors toward their classmates and teachers (Caruth, 2018).

On the contrary, SE sub-constructs also show a high cognitive, behavioral, and emotional involvement of undergraduate students in a new academic setting. The data also shows that the students dynamically partake in the learning activities in private HEIs. For example, the first sub-construct cognitive engagement, shows that undergraduate students from public HEIs are also keen on accomplishing their goals and considerate their task achievement. In addition, they are also committed and establish a supportive and accommodating attitude with each other in the classroom. The second sub-construct of SE, Emotional engagement, also indicates that undergraduate students show highly observant behavior, are receptive to handling stimulating situations, and are emotionally stable. The third sub-construct, Behavioral engagement, also suggests that undergraduate students concentrate on task attainment. They participate actively in their learning activities and are positive receptors. In addition, they have interactive skills in problem-solving approaches and trustworthiness behaviors toward their classmates in private HEIs (Thomas, 2012; Tight, 2020).

The data results also show that undergraduate students in public and private HEIs are highly engaged in their classroom-related activities in a learning environment. The mean score counts on public HEIs 3.97 are higher than the private HEIs 3.81 respectively. Thus, public and private HEIs reported higher levels of SE among undergraduate students from the social sciences department in public and private HEIs.

The prior knowledge is evidence that the engagement levels of students varied by demographic variable, including age, gender, type of institutions in which the students are enrolled, and community belonging (Delfino, 2019). The present study findings show a high mean score in public HEIs; it would involve one of the demographic factors that could be studied further in future research.

This research study provided excessive information about academic resilience and student engagement, particularly regarding the previous review of the literature. The theoretical framework for this study was the self-regulatory learning theory (SRL theory), which postulates that human beings are in an orbit of autonomy. The underlying premise of SRL theory is the non-mechanical behaviors in human beings, which reveal the urge, independence, and self-regulation in the learning process (Zimmerman, 2000).

Resilience may play an essential role in enhancing various variables, including self-regulation, satisfaction, and success, by reducing anxiety, stress, and negative feelings to perform better academically. Furthermore, engagement regarding students' classroom-related cognitive, behavioral, and emotional activities is a significant indicator of success in an educational setting. Subsequently, the current study examined the correlation between AR and SE. The research found that AR strongly correlates with SE among undergraduate students from the social sciences department in public and private HEIs. As a result, hypotheses 1 and 2 supported that AR and SE are significantly correlated in public and private HEIs. Results confirmed $H_{A: 1}$ and $H_{A: 2}$, since in public and private HEIs among undergraduate students from the social sciences department, the findings observed a significant correlation between AR and SE which indicates that $r = 0.559$, $p < 0.01$; $r = 0.707$, $p < 0.01$ for both public and private HEIs.

Based on the quantitative comparative study findings, the current research shed new insights that undergraduate students from the social sciences department in public and private HEIs have a high AR and SE. However, some differences are found between them, such as; the levels of sub-construct of AR reveal that Perseverance in public HEIs displayed

a moderate level compared to the other sub-constructs: Reflective and adaptive help-seeking, Negative affect, and emotional response. In addition, they showed a high mean score among undergraduate students in public and private HEIs. Finally, the sub-constructs of SE, such as; cognitive, emotional, and behavioral engagement, showed a high level among undergraduate students in public and private HEIs.

The study provided new findings in a comparative perspective specified that a positive correlation existed between the dependent variable SE and the independent variable AR among undergraduate students from the social sciences department in public and private HEIs, especially in the context of Self-regulatory learning theory. This study was significant as the results indicated increased AR comprised of Perseverance, Reflective and adaptive help-seeking and Negative affect and emotional response equated to augmented SE.

The present study results provide an extensive understanding of the correlations between AR and SE among undergraduate students from the social sciences department in public and private HEIs. In addition, the study's findings have significant implications for HEIs, university practitioners, and research students. The quantitative analysis finds were equated constructively with the outcomes from related studies. Therefore, the instruments could be used as an introductory model in HEIs in Rawalpindi and Islamabad, wanting to attain data on the interpreters of SE, including cognitive, emotional, and behavioral aspects of SE based on AR. Furthermore, the single instrument study findings could better understand students' responses toward a different learning environment and policies to ensure students' high academic resilience toward academic success by increasing their SE level.

Conclusion

The study provided new findings in a comparative perspective specified that a positive association existed between the dependent variable SE and the independent variable AR among undergraduate students from the social sciences department in public and private HEIs, especially in the context of Self-regulatory learning theory. This study inferred that with the increased AR which is comprised of Perseverance, Reflective and adaptive help-seeking and Negative affect and emotional response equated to augmented SE. The study supported self-regulatory learning theorists' belief that assertive, persistent, and self-motivated traits can control educational accomplishments successfully through students' active participation (Zimmerman, 2002). It was concluded based on findings that there was a statistically significant correlation between the AR and SE among undergraduate students from the social sciences department in public and private HEIs.

The literature review included existing research regarding AR and students' engagement, motivation, self-control, learning strategies, and self-regulatory learning at the school level. In addition, to providing evidence to support the theory that AR and SE are correlated for undergraduate students in the social sciences department in public and private HEIs, the study added to the body of knowledge in the above-cited vital areas.

Recommendations for Policy makers

The results of this study and review of literature showed that academic resilience is playing a substantial role in student's educational accomplishment by engaging them in different learning activities. It is important that policy makers understand that these deficits in learners' personality can impact their learning objectives. The potential of this study establishing a positive relationship between the covariates and it would be made obvious in getting policy makers to include policies that integrate the online professional development

of teachers with the provision of adequate resources such as technology and quality content to enhance knowledge regarding resilience and student engagement in academia.

Recommendations for HEIs Practitioners

HEIs are the vital component of society with the obligations to the community and with responsibilities toward viable elements both inside and outside that society (Gonda, 2014). The present study may help influence social responsibility. HEIs Practitioners should develop a strategy for student retention in HEIs and build a strong resilience community. Another suggestion for HEI practitioners is to take advantage of professional development opportunities and train others about the importance of AR building.

Recommendations for future research

The current research was valuable for policy makers, HEIs, and HEIs practitioners. Hopefully, the study will serve as a stepping stone for future studies on the correlation between AR and SE and related variables at HEIs. A more detailed examination of the correlation between AR and SE in HEIs is recommended for future research. Though the study results suggest a significant correlation between AR and SE, more research could explore both variables in greater depth.

Limitations

Study limitations included obtaining permission from students to participate, providing accessibility to the appropriate participants, and ensuring confidentiality. Institutions were not found cooperative in getting approvals and getting letters from them. Additional limitations were members' understanding of the survey questions, their obligation to complete the surveys, and whether they provided accurate responses or interpreted the survey questions differently. The difference in the programs offered under the social sciences department by the institutions was also a limitation.

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