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# Investigating the Relationship between Assertive Behavior and Problem-Solving Abilities among University-Level ESL Students

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## ABSTRACT

The present study investigates the relationship between assertive behavior and problem-solving abilities among university-level ESL students in Pakistan. A quantitative research design was employed, and a sample of undergraduate ESL learners was selected from public and private sector universities using random sampling techniques. Data were collected through standardized instruments measuring assertive behavior and problem-solving abilities. Statistical analyses, including mean scores, standard deviations, and inferential tests, were conducted using SPSS to examine differences across varying levels of assertiveness (high, average, and low). The findings revealed statistically significant differences in problem-solving abilities among ESL students with different levels of assertive behavior, indicating that higher assertiveness is associated with stronger problem-solving skills. The results underscore the role of assertive behavior in enhancing cognitive and academic competencies among university-level ESL learners. The study highlights the pedagogical importance of fostering assertiveness in ESL classrooms to support effective problem-solving and academic success. Further research is recommended to explore this relationship across diverse academic disciplines and socio-cultural contexts within Pakistani higher education.

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**Keywords:** Assertive Behavior; Problem-Solving Ability; ESL Learners; University Students; Pakistan

## INTRODUCTION

In domestic, educational, and broader social environments, adolescents frequently engage with individuals who may not fully understand them or respond in the manner they expect. Such communication gaps often result in frustration, dissatisfaction, and, in some cases, feelings of powerlessness among young learners (Sarkar, 2020; Pipas & Jaradat, 2010; ). Within the Pakistani context, where cultural norms may limit open self-expression, particularly among students, these challenges can become more pronounced. To address such difficulties and to support the development of an effective and confident personality, assertiveness has been widely recognized as a vital communication skill. Townsend (2012) conceptualized assertiveness as a communication style that enables individuals to articulate their opinions, needs, and personal boundaries clearly and confidently while simultaneously respecting the rights and perspectives of others. Similarly, Pamuk (2013) emphasized assertiveness as an essential competence for adolescents as they move from childhood into adulthood, a phase characterized by increased academic demands, social responsibilities, and emotional challenges. Salter (2002) further argued that adolescents should be capable of expressing their feelings and viewpoints in a manner that safeguards their own rights without resorting to aggression or infringing upon the rights of others.

Assertive behavior among adolescents is considered highly beneficial, as it facilitates open expression of thoughts, ideas, and emotions and supports the development of healthy interpersonal relationships with family members, peers, and the wider community (Alfred, 2012; Alex, 2021). In the Pakistani educational setting, assertiveness also helps students manage emotions constructively rather than suppressing feelings such as anger. Research suggests that assertive behavior fosters reasoning skills that enable learners to regulate emotional responses and maintain a positive outlook when faced with challenging circumstances (Abdolghaderi et al., 2021). Moreover, assertiveness encourages cooperation and mutual understanding, allowing students to work collaboratively instead of insisting on personal preferences. The use of assertive strategies has been identified as an effective means of improving social interactions and enhancing personal and professional effectiveness (Zaman et al., 2025).

Problem-solving ability has been widely acknowledged as one of the core competencies required in the twenty-first century (Binkley et al., 2012; Rahman, 2019). Mayer (2003) defined a problem as a situation in which an individual aims to achieve a specific goal without access to a straightforward or routine solution. Rahman (2019) described problem-solving as a structured process involving observation, critical analysis, and logical reasoning to identify appropriate solutions or strategies for achieving desired outcomes. In the contemporary and rapidly changing world, effective problem-solving equips students with the skills necessary to cope with complex academic tasks and real-life situations, a need that is particularly relevant for Pakistani students navigating competitive educational environments (Hooda & Devi, 2018).

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Female students, especially during their formative academic years, encounter a range of psychological and physical challenges. Psychologically, they must address issues related to identity development, emotional well-being, and peer influence (Anliak & Dinçer, 2009; Parto & Besharat, 2011; Bakker et al., 2012). From a physical perspective, developmental changes associated with puberty significantly influence their health, body image, and lifestyle habits (Kwok et al., 2015; Karatut et al., 2021). In addition to these developmental concerns, female students in Pakistan also face academic pressures, including effective time management, academic performance expectations, and the maintenance of positive relationships with family and peers (Bor et al., 2014; Bhat, 2018; Alberida, 2022). These multifaceted challenges highlight the necessity of strengthening resilience and equipping students with robust problem-solving skills during this crucial stage of development (Eskin et al., 2008; Esther & Manoli, 2012; Amalina & Vidákovich, 2023).

Students who possess strong problem-solving abilities demonstrate critical thinking, analytical reasoning, and the capacity to generate innovative solutions. Such abilities enable learners to reflect on both personal and social dimensions of their experiences, thereby fostering a deeper understanding of their role within society (İncebacak & Esen, 2016). Effective problem solvers are often characterized by their use of diverse strategies, high levels of self-confidence, and their ability to evaluate the appropriateness of solutions while applying logical and analytical skills (D'Zurilla & Goldfried, 1971; Devi, 2018; Dewi, 2023; Abdelaziz et al., 2024). Given these considerations, problem-solving ability holds significant importance for secondary school students, particularly within the Pakistani educational context, where adaptive and cognitive skills are essential for academic success and personal growth.

## Problem Statement

In Pakistani universities, ESL students are required to cope with complex academic tasks that demand effective communication, critical thinking, and problem-solving skills. However, many ESL learners experience difficulties in expressing their ideas confidently, participating in academic discussions, and addressing academic challenges due to linguistic barriers, socio-cultural constraints, and limited opportunities for self-expression. Assertive behavior, which enables individuals to communicate their needs, opinions, and concerns confidently while respecting others, is increasingly recognized as a crucial interpersonal skill in academic settings. Despite its potential importance, assertiveness remains underdeveloped among many university-level ESL students in Pakistan, particularly female students, who may face additional cultural and social limitations.

Problem-solving ability is a core twenty-first-century skill essential for academic success, decision-making, and real-life adaptability. While international research suggests a positive relationship between assertive behavior and problem-solving ability, empirical evidence examining this relationship within the Pakistani ESL higher education context is scarce. Moreover, limited research has systematically explored how varying levels of assertive behavior influence the problem-solving

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abilities of university-level ESL learners. Addressing this gap is essential to inform pedagogical practices and learner-support strategies aimed at enhancing students' academic competence and personal development. Therefore, the present study seeks to investigate the relationship between assertive behavior and problem-solving ability among university-level ESL students in Pakistan.

### Objectives of the Study

The present study was guided by the following objective:

1. To analyze and compare the problem-solving abilities of university-level ESL students across subgroups identified on the basis of different levels of assertive behavior.

### Hypotheses

In line with the stated objective, the following null hypothesis was formulated for investigation:

**$H_{01}$:** There is no statistically significant difference in the problem-solving abilities of university-level ESL students across subgroups identified on the basis of their level of assertive behavior.

## LITERATURE REVIEW

### Assertive Behavior in Educational Contexts

Assertive behavior has been widely recognized as a critical interpersonal and psychological skill that enables learners to express their thoughts, emotions, and needs in a confident yet respectful manner. Townsend (2012) described assertiveness as a balanced communication style that allows individuals to advocate for themselves without violating the rights of others. In educational settings, particularly in ESL contexts, assertiveness plays a vital role in classroom participation, peer interaction, and academic engagement. Pamuk (2013) emphasized that assertiveness is a necessary life skill for students as they encounter increasing academic and social responsibilities during adolescence and early adulthood. Salter (2002) further argued that the ability to express feelings constructively helps learners avoid passive or aggressive behaviors, thereby promoting psychological well-being and healthy social relationships.

Empirical studies suggest that assertive behavior positively influences students' emotional regulation and social adjustment. Alfred (2012) and Alex (2021) reported that assertive learners tend to maintain healthier relationships with peers and teachers, as they can communicate their viewpoints clearly and negotiate conflicts effectively. In culturally conservative societies such as Pakistan, where students—particularly

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females—may experience social constraints on self-expression, assertiveness becomes even more significant for academic and personal development. Abdolghaderi et al. (2021) found that assertiveness training enhances reasoning abilities and helps students manage anger and stress, leading to more adaptive responses to challenging situations. Similarly, Pawar (2019) noted that assertive strategies improve social competence and prepare students for effective functioning in both personal and professional domains.

**Problem Solving Ability among Students**

Problem-solving ability is regarded as a core competency required for success in the twenty-first century. Binkley et al. (2012) and Rahman (2019) identified problem-solving as a fundamental skill that supports academic achievement, critical thinking, and lifelong learning. Mayer (2003) defined a problem as a situation in which an individual must achieve a goal without access to an obvious or routine solution, highlighting the cognitive complexity involved in problem-solving processes. According to Rahman (2019), problem-solving involves systematic observation, analysis, and logical reasoning to identify effective solutions.

Research indicates that students with strong problem-solving abilities are better equipped to manage academic demands and real-life challenges. Hooda and Devi (2018) emphasized that problem-solving skills enable learners to cope with uncertainty and adapt to changing educational and social environments. İncebacak and Esen (2016) argued that problem-solving fosters self-awareness and social understanding by encouraging learners to reflect on their actions and their impact on others. Moreover, D'Zurilla and Goldfried (1971) identified key characteristics of effective problem solvers, including the use of multiple strategies, confidence in decision-making, and the ability to evaluate solutions critically. Recent studies have further supported these findings, noting that problem-solving ability is closely linked with analytical thinking, creativity, and academic resilience (Devi, 2018; Dewi, 2023; Abdelaziz et al., 2024).

**Relationship between Assertive Behavior and Problem-Solving Ability**

A growing body of literature suggests a strong association between assertive behavior and problem-solving ability. Assertiveness enables students to articulate problems clearly, seek assistance when needed, and collaborate effectively with peers, all of which are essential components of successful problem-solving. Sarkar (2020) and Pipas and Jaradat (2010) highlighted that communication difficulties often lead to frustration and helplessness among students, which can hinder their ability to resolve problems effectively. Assertive individuals, however, are more likely to approach challenges proactively and engage in constructive dialogue to find solutions.

Studies focusing on adolescents and young adults have demonstrated that assertive behavior contributes to higher levels of self-confidence, emotional control, and cognitive flexibility, which are crucial for problem-solving tasks (Pamuk, 2013;

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Abdolghaderi et al., 2021). Research conducted on female students indicates that assertiveness supports academic coping strategies and enhances decision-making skills, particularly in demanding educational environments (Anliak & Dinçer, 2009; Parto & Besharat, 2011). Bor et al. (2014) and Bhat (2018) further observed that students who can express their concerns and manage academic pressures assertively are more capable of handling time management issues and maintaining academic performance.

Within the Pakistani ESL university context, the relationship between assertive behavior and problem-solving ability remains underexplored. However, existing international literature provides strong evidence that fostering assertiveness can enhance students' cognitive and social competencies, leading to improved problem-solving performance. Given the academic pressures, linguistic challenges, and socio-cultural constraints faced by Pakistani ESL learners, examining this relationship is both timely and necessary. Strengthening assertive behavior among university students may contribute significantly to their academic success, personal growth, and readiness for professional life.

## RESEARCH METHODOLOGY

The present study adopted a descriptive survey research design to investigate the relationship between assertive behavior and problem-solving abilities among female university-level ESL students in Pakistan. The population of the study comprised undergraduate female ESL learners enrolled in public and private sector universities. A total sample of 258 female ESL students was selected through random sampling techniques to ensure adequate representation across institutions.

To collect the required data, standardized research instruments were employed. Assertive behavior was measured using the Assertive Behaviour Assessment Scale (ABAS) developed and standardized by Dhondhiyal and Gangwar (2012), while problem-solving ability was assessed through the Problem-Solving Ability Test (PSAT-D) developed by Dubey and Mathur (2006). These instruments were selected due to their established reliability and validity and their suitability for educational research contexts.

In the present study, assertive behavior was treated as the independent variable, whereas problem-solving ability was considered the dependent variable. Data analysis was carried out using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics, including mean and standard deviation, were computed to summarize the data, while one-way Analysis of Variance (ANOVA) and post-hoc comparisons were applied to examine differences in problem-solving abilities across different levels of assertive behavior.

To determine the levels of assertive behavior among female ESL university students, percentile scores were calculated. Based on these percentile rankings, assertive behavior was classified into three categories: high, average, and low, as presented in Table 1.

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**Table 1**

Levels of Assertive Behavior among Female University-Level ESL Students

| Percentile Range | Range of Obtained Scores | N | Level of Assertive Behavior |
|---|---|---|---|
| Above 75th | 106–136 | 69 | High |
| Between 25th–75th | 87–105 | 125 | Average |
| Below 25th | 48–86 | 64 | Low |
| **Total** | | 258 | |

*Note.* N = Number of female ESL university students.

The percentile analysis revealed that 125 out of 258 ESL university students fell within the average level of assertive behavior, with scores ranging between the 25th and 75th percentiles. Additionally, 69 students scored above the 75th percentile and were categorized as exhibiting a high level of assertive behavior. In contrast, 64 students scored below the 25th percentile and were classified as having a low level of assertive behavior, reflecting comparatively weaker assertiveness among this subgroup.

## RESULTS & DISCUSSION

The present study examined **assertive behavior** as the independent variable and its impact on **problem-solving ability** among university-level ESL students, treated as the dependent variable. Detailed results, including mean scores, standard deviations, analysis of variance (ANOVA), and two-group comparisons, are presented in Tables 2, 3, and 4, respectively.

**Table 2**

**Comparison of Problem-Solving Ability Scores among Subgroups of University-Level ESL Students Based on Different Levels of Assertive Behavior**

| Assertive Behavior Categories | N | Mean (P.S.A.) | SD |
|---|---|---|---|
| High Assertive | 69 | 7.86 | 3.33 |
| Average Assertive | 125 | 7.44 | 3.52 |
| Low Assertive | 64 | 6.31 | 3.55 |

*Note.* N = Number of ESL students; P.S.A. = Problem-Solving Ability.

The data in Table 2 how a clear pattern in which students with **high** and **average** levels of assertive behavior tend to perform better in problem-solving tasks. These students are more confident in expressing their opinions, making important decisions,

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and persisting in resolving academic challenges. Conversely, students with **low assertiveness** often exhibit a more passive approach, which may hinder their ability to tackle complex problems effectively.

**Table 3**

**ANOVA Results of Problem-Solving Ability Scores among Subgroups of University-Level ESL Students Based on Different Levels of Assertive Behavior**

| Source of Variation | Sum of Squares | df | Mean Square | F-value | Significance at 0.05 Level |
|---|---|---|---|---|---|
| Between Groups (SSB) | 85.91 | 2 | 42.95 | 3.55 | Significant |
| Within Groups (SSW) | 3083.10 | 255 | 12.09 | | |
| Total | 3169.01 | 257 | | | |

**Table 4**

**Post-Hoc Comparison of Problem-Solving Ability Scores among Subgroups of University-Level ESL Students Based on Different Levels of Assertive Behavior**

| Comparison of Means Between Two Groups | Significance of Mean Difference at 0.05 Level | Mean Difference Direction |
|---|---|---|
| m1–m2 | Not Significant | m1 > m2 |
| m2–m3 | Not Significant | m2 > m3 |
| m3–m1 | Significant | m3 < m1 |

*Note.*
m1 = mean of students with high assertive behavior
m2 = mean of students with average assertive behavior
m3 = mean of students with low assertive behavior

The ANOVA results (Table 3) indicate that levels of assertive behavior significantly affect problem-solving ability among university-level ESL students at the 0.05 significance level. Post hoc comparisons (Table 4) further show that students with high assertive behavior score significantly higher in problem-solving ability compared to those with low assertive behavior, while the difference between high vs. average and average vs. low assertive students is not statistically significant. These findings suggest that assertive behavior plays a pivotal role in shaping how ESL students

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approach and excel in problem-solving tasks.

Previous research supports these results. Güven (2010) found that higher assertiveness among undergraduate students in vocational education was associated with stronger problem-solving skills. Similarly, Karatut et al. (2021) reported a positive correlation between assertiveness and problem-solving abilities among physical education students. In contrast, Zincir et al. (2014) observed that while assertiveness correlated positively with leadership, problem-solving skills showed a negative correlation with both assertiveness and leadership among nursing students, indicating context-specific variations.

## CONCLUSION AND IMPLICATIONS

The present study examined the relationship between **assertive behavior** and **problem-solving ability** among university-level ESL students in Pakistan. The findings indicate that students with higher levels of assertive behavior demonstrate significantly better problem-solving skills compared to those with lower assertiveness. Students with high and average assertiveness are more confident in expressing their opinions, making informed decisions, and persistently addressing academic challenges, which positively impacts their ability to solve problems effectively. Conversely, students with low assertiveness tend to adopt a more passive approach, which may hinder their academic performance and ability to tackle complex tasks independently.

These results highlight the critical role of assertive behavior in promoting not only interpersonal communication but also cognitive skills such as problem-solving, decision-making, and critical thinking among ESL learners. The findings are consistent with international studies (Güven, 2010; Karatut et al., 2021) while emphasizing the importance of socio-cultural and educational contexts in Pakistan, where linguistic and gender-related constraints may influence students' assertiveness levels and learning outcomes.

### Implications for Practice

1. **Curriculum and Instruction:** ESL instructors in Pakistani universities should integrate activities that foster assertiveness, such as debates, role-plays, and group discussions, into the classroom to enhance students' communication and problem-solving competencies.
2. **Student Support Programs:** Universities should implement workshops and training programs focused on building assertive behavior and problem-solving strategies to equip students with essential academic and life skills.
3. **Policy Recommendations:** Educational policymakers should consider including assertiveness training and critical thinking exercises as part of ESL programs, especially for female and socially constrained learners, to improve academic engagement and overall student performance.
4. **Future Research:** Further studies could explore additional factors influencing problem-solving skills among ESL learners, such as motivation, self-efficacy,

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and socio-cultural background, and could examine assertiveness interventions longitudinally to assess their long-term impact.

In conclusion, fostering assertive behavior in university-level ESL students is a valuable strategy for enhancing problem-solving ability and overall academic performance. Addressing assertiveness as a key skill can empower students to become more confident, independent, and effective learners, thereby contributing to their academic success and professional preparedness in the Pakistani higher education context.

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