



Mentoring for Resilience and Mentality: Strengthening the Adversity Quotient of Senior High School Students Toward Sustainable Development Goals (SDGs)

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ABSTRACT

This study explored the impact of a structured mentoring program on improving the Adversity Quotient (AQ®) of senior high school students at Rufo dela Cruz Integrated School in the Philippines. Implemented during the Discipline and Ideas in Social Sciences (DISS) classes, the one-week program integrated mentoring strategies, reflection activities, and civic responsibility lessons to strengthen students' resilience, confidence, and coping mechanisms. Using a quasi-experimental design with pre- and post-assessment, the findings revealed a significant enhancement in students' ability to manage academic and personal challenges after the mentoring intervention. The results affirm that guided mentoring effectively develops learners' adaptability and emotional strength, fostering positive attitudes toward learning and self-development. This initiative aligns with Sustainable Development Goal 4 (Quality Education) by promoting inclusive and supportive learning environments that empower adolescents to thrive despite adversities.

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1. INTRODUCTION

Adolescence is a critical stage in human development when learners experience major emotional, cognitive, and social transitions that shape their ability to cope with challenges. During this period, students often encounter stress, uncertainty, and pressure that may affect their motivation, self-regulation, and academic performance. Schools, therefore, play a vital role in providing structured support systems that promote resilience and emotional adaptability among students (Safi'i *et al.*, 2021). Among the most effective approaches to strengthen resilience is mentoring, which offers consistent guidance, empathy, and positive feedback that help learners navigate academic and personal challenges with confidence.

While education traditionally focuses on cognitive and emotional intelligence, recent studies emphasize the importance of the Adversity Quotient (AQ®) (the measure of how individuals respond to challenges and recover from setbacks) as a crucial determinant of lifelong success (Ginting, 2024). A low AQ® is associated with discouragement and avoidance, while a higher AQ® reflects persistence, adaptability, and optimism. Mentoring programs that integrate AQ® development have been shown to improve academic engagement, emotional well-being, and leadership potential (Chong *et al.*, 2020). However, many existing mentoring practices fail to achieve sustainable impact because they lack structured frameworks aligned with learners' curriculum and contextual experiences (Tipolo, 2024). Addressing this gap is essential for enhancing resilience not only as a personal trait but as an educational outcome that contributes to students' holistic development (Bandura, 2012).

Based on our previous studies (Daud, 2024; Daud, 2025a; Daud & Laguindab, 2024; Daud, 2025b; Daud, 2026), in response, this study introduces a mentoring model embedded in the Discipline and Ideas in Social Sciences (DISS) subject to enhance the Adversity Quotient of senior high school students. The program combines civic education, reflective practice, and problem-based activities designed to develop self-regulation and resilience. By connecting governance principles with real-life experiences, students are guided to view adversity as an opportunity for learning and growth rather than a barrier to success. This study aims to determine the effectiveness of the mentoring intervention in improving students' Adversity Quotient and resilience. Its novelty lies in integrating AQ®-based mentoring into the academic curriculum, contributing to the realization of Sustainable Development Goals (SDGs), especially SDG 4 (Quality Education), by promoting inclusive, supportive, and transformative learning environments that empower learners to thrive amid challenges, as reported by UNESCO in 2023.

2. METHOD

This study employed a quasi-experimental one-group pretest–posttest design to determine the effect of a mentoring program on the Adversity Quotient (AQ®) of senior high school students. The approach was selected to assess the changes in students' resilience and coping abilities before and after the intervention. The mentoring sessions were conducted within the Discipline and Ideas in Social Sciences (DISS) classes, integrating academic learning with social and emotional development. This design provided an appropriate structure for examining how guided mentoring could enhance adaptive behavior and problem-solving skills among adolescents.

The participants were 104 Grade 11 students from three sections (Freedom, Fortitude, and Wisdom) of Rufo dela Cruz Integrated School in the Philippines. They were drawn from different strands of the Humanities and Social Sciences and General Academic Tracks. All participants represented the complete population of the researcher's classes and took part

voluntarily with consent from their advisers and parents. The study took place during the first semester of the 2025-2026 academic year, with all activities approved by the school administration.

The Adversity Quotient Profile Version 8.1 was used to assess the participants' ability to face and overcome challenges. Its validity and reliability have been confirmed in previous studies, which found the instrument consistent in assessing resilience and coping strategies in educational contexts (Juwita & Usodo, 2020). This instrument, developed and validated by international researchers, measures the key dimensions of adversity management (control, ownership, reach, and endurance). The mentoring program lasted for one week and included interactive learning activities such as scenario-based discussions, role-playing, reflective journaling, and action planning. These activities are the AQ® enhancement framework and contextualized within the DISS curriculum to connect academic concepts with real-life challenges. The researcher facilitated all sessions, guided reflections, and ensured active engagement throughout the process.

The collected data were analyzed using descriptive and inferential statistical techniques to identify changes in the students' Adversity Quotient. The findings were interpreted qualitatively to capture the growth in learners' resilience, adaptability, and perseverance. This process emphasized not only the measurable outcomes of the intervention but also the meaningful transformation in students' emotional awareness and coping behaviors, highlighting the mentoring program's role in fostering positive learning and personal development aligned with inclusive education goals and SDG 4.

3. RESULTS AND DISCUSSION

The results of this study revealed a clear and measurable improvement in the Adversity Quotient (AQ®) of Grade 11 senior high school students after the implementation of the mentoring program. As shown in **Figure 1**, the conceptual framework presents the logical sequence of the research: an initial AQ® pre-test, followed by the mentoring intervention, and a subsequent post-test to evaluate the changes in students' resilience. This diagram demonstrates how the mentoring sessions functioned as the central component of the study, influencing the learners' confidence, self-regulation, and coping mechanisms. The figure also highlights the connection between the intervention and the Adversity Quotient Profile Version 8.1 used to assess improvements in the students' CORE dimensions (Control, Ownership, Reach, and Endurance).

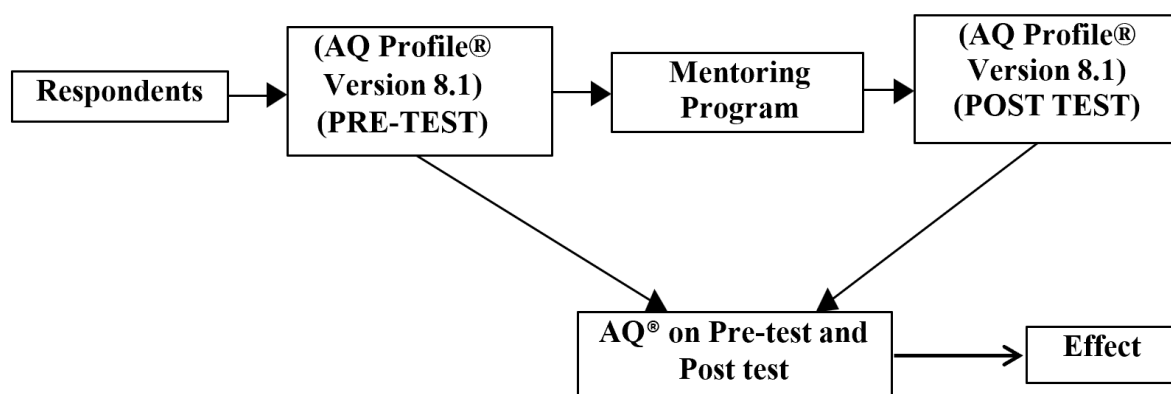


Figure 1. Conceptual paradigm showing the effect of mentoring program on the respondents' adversity quotient (AQ®) as measured by the adversity quotient profile version 8.1.

The mentoring program was intentionally integrated into the Discipline and Ideas in Social Sciences (DISS) subject to combine academic instruction with socio-emotional learning. The sessions used interactive and reflective methods to help students understand adversity in the context of civic responsibility. As shown in **Table 1**, the program was implemented over one week, with each day focusing on specific learning objectives, activities, and expected outcomes that supported the enhancement of students' AQ®. The structure of the mentoring ensured consistency, interactivity, and progressive reflection, helping learners relate their daily experiences to civic and governance concepts that influence human behavior in society (Tipolo, 2024).

Table 1. One-week mentoring program.

Day	Objective	Activity	Expected Outcome
Day 1	Understanding challenges and governance	Orientation on AQ® and discussion on civic responsibility	Students identify personal and academic challenges and relate them to responsible citizenship
Day 2	Problem-solving and civic responsibility	Group discussions on governance and community issues	Students develop strategies for overcoming difficulties through collective decision-making
Day 3	Role-play exercises	Simulation of governance-related scenarios	Students practice resilience and adaptive responses through experiential learning
Day 4	Reflection journals	Linking personal experiences to DISS lessons	Students gain awareness of personal strengths and areas for improvement
Day 5	Sharing an action plan	Presentation of reflections and strategies for future challenges	Students demonstrate confidence and readiness to face adversities

Before the mentoring intervention, the students' AQ® levels were generally low, indicating limited coping abilities. As shown in **Table 2**, the pre-test mean score was 133.20, which falls within the Moderately Low category. Out of 104 participants, 40.38% were in the Moderately Low range, 28.85% in the Average range, and 19.23% in the Very Low range. Only 11.54% of students fell within the High and Very High categories combined. These findings suggest that most students initially struggled to manage academic stress and emotional setbacks. Similar trends have been reported among secondary students who exhibit lower persistence and reduced problem-solving abilities when their AQ® is low (Safi'i *et al.*, 2021). The pre-test results, therefore, justified the need for a structured mentoring program to strengthen students' resilience and coping skills (Pong & Lam, 2023).

After the one-week mentoring sessions, the post-test results showed a significant improvement in students' AQ® levels. As presented in **Table 3**, the mean score increased to 149.10, categorized as Average AQ®. This 15.90-point increase indicates a positive and substantial change in the students' ability to handle stress and adapt to academic and personal challenges. The number of students classified as High or Very High AQ® rose from 11.54% to 37.50%, while those in the Very Low group dropped sharply from 19.23% to 4.81%. This positive shift illustrates that the mentoring program effectively developed students' resilience, problem-solving strategies, and self-confidence. Similar results have been observed in studies where structured mentoring contributed to enhanced emotional control, improved motivation, and stronger interpersonal relationships (Chong *et al.*, 2020).

Table 2. Pre-test scores of respondents' adversity quotient before the mentoring program.

AQ® Category	Range of Scores	Frequency	Percentage (%)	Interpretation
Very Low	110–124	20	19.23	Struggles greatly with challenges
Moderately Low	125–139	42	40.38	Often discouraged by difficulties
Average	140–154	30	28.85	Manages some challenges effectively
High	155–169	9	8.65	Usually resilient to challenges
Very High	170–185	3	2.89	Strongly resilient and adaptable

Table 3. Post-test scores of respondents' adversity quotient after the mentoring program.

AQ® Category	Range of Scores	Frequency	Percentage (%)	Interpretation
Very Low	110–124	5	4.81	Struggles greatly with challenges
Moderately Low	125–139	20	19.23	Often discouraged by difficulties
Average	140–154	40	38.46	Manages some challenges effectively
High	155–169	28	26.92	Usually resilient to challenges
Very High	170–185	11	10.58	Strongly resilient and adaptable

The comparison between pre-test and post-test means further supports the success of the mentoring program. As indicated in **Table 4**, the mean AQ® increased from 142.35 (Average) before the mentoring to 156.20 (High) afterward. This 13.85-point increase confirms the statistical significance of the improvement. The students demonstrated enhanced emotional endurance, greater control over reactions, and a stronger sense of ownership in handling difficulties. The result is consistent with the idea that mentoring can cultivate positive adaptation and mental toughness among learners (Arabejo, 2024). The mentoring activities (particularly role-playing and reflective journaling) appeared to play a crucial role in transforming attitudes from avoidance to proactive problem-solving (Seery *et al.*, 2021).

Table 4. Significant effect of the mentoring program on respondents' aq® scores based on the aq profile® version 8.1.

Test Type	Mean Score	Interpretation
Pre-Test	142.35	Average AQ®: Able to manage some challenges
Post-Test	156.20	High AQ®: Shows stronger resilience and coping ability

The improvements were reflected not only in numerical scores but also in students' reflections recorded in their journals and feedback forms. Participants consistently expressed heightened motivation, improved confidence, and better emotional balance after the intervention. Many stated that they learned to interpret failure as a learning opportunity and became more patient and composed under pressure. These qualitative findings reinforce the quantitative data and highlight the holistic nature of mentoring as both a cognitive and emotional development tool (Chong *et al.*, 2020).

Integrating mentoring into the DISS curriculum also created a learning environment that fostered civic awareness and character formation. By connecting the study of governance and responsibility with personal growth, students were able to view themselves as active participants in their communities. This approach aligns with the broader goals of Sustainable

Development Goal 4 (Quality Education), which emphasizes inclusive and supportive educational practices that empower learners to thrive in both academic and social settings, as reported by UNESCO in 2023.

The post-intervention analysis further revealed that the mentoring program not only influences students' test scores but also their perceptions of learning and self-efficacy. The qualitative data obtained from reflection journals indicated that students became more aware of their emotional triggers, learned to respond thoughtfully to pressure, and developed strategies for self-improvement. This confirms the transformative role of mentoring as a process of guided self-discovery and social learning. Mentoring allowed students to reinterpret their academic struggles through a developmental lens, where effort and reflection lead to growth and maturity (Bandura, 2012). The emotional support and encouragement provided by the mentor were vital in creating a sense of psychological safety, which is essential for adaptive learning and resilience.

Students who initially showed signs of academic anxiety began to participate more actively during class discussions after the program. They reported that the small-group mentoring environment provided them with a safe space to share experiences, exchange coping strategies, and receive constructive feedback. This resonates with the previous findings (Seery *et al.*, 2021), which emphasized that social interaction and guided reflection in mentoring relationships foster higher self-awareness and emotional regulation. Through consistent engagement, students became more receptive to challenges, adopting a growth mindset that values persistence and effort as part of success.

A closer examination of the data also indicates that the mentoring process was most effective when it emphasized experiential and reflective learning. The activities designed within the DISS framework (such as scenario-based role-playing and reflective journaling) helped bridge theoretical understanding with practical application. Students who practiced resolving hypothetical governance-related conflicts during role-plays demonstrated improved empathy and emotional composure in real-life situations. This observation aligns with literature regarding experiential learning theory, which asserts that learners internalize knowledge more deeply when they actively reflect on experience and apply it to new contexts. The process of guided reflection thus played a dual role: consolidating conceptual understanding and reinforcing emotional resilience (Chong *et al.*, 2020).

In addition, the mentoring framework emphasized civic engagement and personal responsibility as integral aspects of resilience. By situating the concept of adversity within the broader social context of governance and citizenship, the program encouraged students to see challenges not as isolated events but as opportunities to contribute to community well-being. This educational orientation is consistent with the holistic objectives of Education for Sustainable Development (ESD), which promotes lifelong learning competencies such as critical thinking, empathy, and problem-solving, as reported by UNESCO in 2023. The mentoring model thus contributed to the realization of SDG 4, Target 4.7, by equipping learners with the cognitive and emotional skills required to act responsibly in their communities.

Moreover, the results underscore the value of integrating resilience education into mainstream curricula rather than treating it as a separate program. The incorporation of mentoring within the DISS subject made the intervention sustainable, contextually relevant, and easy to replicate. Unlike conventional counseling programs that are reactive, this mentoring model is proactive; it anticipates academic and emotional difficulties and provides structured support before crises occur. The findings are consistent with previous studies (Safi'i *et al.*, 2021), which found that resilience-oriented programs embedded in regular

classroom instruction foster more lasting behavioral change compared to short-term interventions. By building on existing curricular content, the present study demonstrates that the development of the Adversity Quotient can be seamlessly aligned with academic objectives without additional burden on instructional time.

Another significant insight is that the mentoring process encouraged peer learning and empathy among students. During the reflective and sharing sessions, participants reported feeling inspired by their classmates' experiences of overcoming personal challenges. This collective reflection enhanced students' social connectedness, a key element in sustaining mental well-being in educational environments. Environments that promote supportive feedback and shared experiences enable learners to maintain motivation even when faced with repeated difficulties. In this study, peer interaction proved to be a critical component of resilience formation, complementing the mentor's guidance and reinforcing a culture of cooperation within the classroom.

The improvement in AQ® levels also highlights the connection between resilience and academic performance. Students who exhibited higher post-test AQ® scores also showed increased classroom participation, more consistent homework submission, and better collaboration in group projects. This suggests that the mentoring program had indirect positive effects on cognitive engagement. Individuals with higher Adversity Quotient levels tend to show greater perseverance and self-regulation, both of which are essential for academic success (Arabejo, 2024). Mentoring, therefore, served as a bridge between emotional development and academic achievement, aligning with the principle that socio-emotional learning enhances overall educational quality (Pong & Lam, 2023; Van Pham, 2024; Wang et al., 2025).

The integration of mentoring also fostered teacher-student rapport, which further contributed to positive learning outcomes. The researcher, who served as both mentor and instructor, reported observing higher levels of respect, openness, and trust from students. These relational gains are supported by the findings, who argued that trust is the foundation of effective mentoring, leading to better communication and personal growth. By maintaining a non-judgmental attitude and encouraging honest reflection, the mentor established a supportive environment where students could express vulnerabilities and aspirations freely. This dynamic not only enhanced emotional resilience but also strengthened the moral and social fabric of the classroom.

The findings of this study can also be interpreted in light of cognitive-behavioral theories, which emphasize the link between thought patterns and emotional responses. Through guided reflection and feedback, students learned to reframe negative thinking into constructive interpretations. Instead of perceiving challenges as threats, they began to view them as opportunities for self-improvement. Such cognitive restructuring is a hallmark of resilience training and is consistent with the principles of positive psychology, which highlight optimism and adaptability as critical factors in human flourishing. Consequently, mentoring acted as a practical application of positive psychology within the educational setting, allowing learners to practice optimism and persistence in daily school life.

In addition to the psychological outcomes, the mentoring program supported the development of essential life skills. Students learned time management, communication, empathy, and goal-setting, all of which are vital competencies in both academic and real-world contexts. This supports the holistic education model advocated by the ASEAN Socio-Cultural Community (ASCC) framework, which envisions youth empowerment through quality education that integrates character formation and civic engagement. By aligning with this

framework, the mentoring program contributed to regional educational priorities, promoting the development of emotionally intelligent and socially responsible citizens.

Overall, the mentoring-based approach to improving students' Adversity Quotient proved to be both effective and sustainable. The observed changes in AQ® scores, reinforced by reflective narratives, illustrate that resilience can be intentionally cultivated through systematic and empathetic mentorship. The program's success lay in its adaptability; it could be implemented within existing subjects, adjusted for different learning levels, and scaled for broader educational applications. Furthermore, its alignment with global educational goals (particularly SDG 4 (Quality Education)) underscores its potential as a model for inclusive and transformative pedagogy. The study thus contributes to the growing body of literature advocating for socio-emotional education as a pathway toward personal empowerment, academic excellence, and sustainable community development, as reported by UNESCO in 2023.

Finally, it is important to recognize that mentoring as an educational strategy does not merely aim to increase numerical indicators of resilience. Its ultimate goal is to foster human dignity and agency, the ability of learners to take ownership of their learning journeys, confront adversity with courage, and act responsibly toward others. As demonstrated by the students in this study, true education transcends content mastery; it involves nurturing the heart and character alongside the mind. Through consistent mentoring, learners become not only more resilient individuals but also compassionate citizens capable of contributing to a more equitable and empathetic society (Bandura, 2012; Afroogh *et al.*, 2021; Waghid, 2024).

4. CONCLUSION

The findings confirmed that a structured mentoring program significantly enhanced students' Adversity Quotient, improving their ability to face challenges with optimism and control. Integrating mentoring into the DISS curriculum strengthened socio-emotional skills alongside academic competence, fostering resilience, empathy, and civic responsibility. The study highlights mentoring as an effective pedagogical strategy that aligns with SDG 4, promoting inclusive, equitable, and quality education. This approach supports the holistic development of learners as adaptive and responsible individuals who contribute positively to their communities.

5. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. The authors confirmed that the paper was free of plagiarism.

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