

# Adversity Quotient, Emotional Quotient, and Working Memory of Junior High School Students of Panorama Montessori School Inc

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## ABSTRACT

This study investigated the levels of Adversity Quotient (AQ), Emotional Quotient (EQ), and Working Memory (WM) among Junior High School students and examined relationships among these variables within a psychological framework. Grounded in resilience theory, emotional intelligence theory, and cognitive psychology, the study sought to understand how students' adaptive capacity, emotional functioning, and cognitive processes interact in academic contexts. A descriptive-correlational design was used, with participants selected via stratified random sampling. Standardized instruments were used, including an Adversity Quotient Profile, The Schutte Self-Report Emotional Intelligence Test, and a 5 Digit Span Test for Working Memory assessment. Data were analyzed using the weighted mean to determine levels and Spearman's rho to assess relationships.

Findings revealed that the junior high school students generally showed an average level of AQ, indicating average ability to cope with challenges and adversity. In contrast, EQ levels were relatively high, particularly in empathy and social interaction, reflecting strong emotional awareness and interpersonal skills. Similarly, WM levels were high, suggesting effective information processing, retention, and cognitive control. Correlation analysis showed a statistically significant but weak relationship between AQ and WM, implying that resilience contributes modestly to cognitive functioning. Conversely, a moderate and significant relationship was found between EQ and WM, underscoring the role of emotional regulation and awareness in enhancing attention, focus, and overall cognitive efficiency during learning tasks.

Overall, the findings of the study emphasizes the interconnectedness of resilience, emotional intelligence, and cognitive processes in educational settings. The study accentuates the importance of holistic interventions that, beyond cognitive development, encompasses the refinement of emotional competence and resilience. These integrative approaches may enhance students' academic performance, psychological well-being, and adaptive functioning.

**Keywords:** adversity quotient, emotional quotient, working memory, junior high school students

## INTRODUCTION

In the evolving landscape of twenty-first century education, academic success is no longer viewed as a function of cognitive ability alone but as a product of the dynamic interaction between cognitive and socio-emotional variables. Contemporary educational psychology emphasizes that learners must develop not only intellectual competence but also resilience and emotional regulation to effectively navigate

academic demands. This perspective is particularly relevant among Junior High School Students, who are in a critical developmental stage marked by rapid cognitive growth, emotional sensitivity, and increasing academic pressure [1,2].

Aligned with the variables in this study, three constructs are identified as central determinants of academic functioning: Adversity Quotient (AQ), Emotional Quotient (EQ), and Working Memory (WM). Adversity Quotient, defined through the dimensions of Control, Ownership, Reach, and Endurance, refers to an individual's capacity to respond effectively to adversity [3]. Emotional Quotient, encompassing self-awareness, self-regulation, motivation, empathy, and social skills, reflects the ability to manage and utilize emotions in adaptive ways [4,5]. Working Memory, consisting of the central executive, phonological loop, visuospatial sketchpad, and episodic buffer, is responsible for the temporary storage and manipulation of information necessary for learning [6].

Existing literature often examines these constructs independently, resulting in a fragmented understanding of student development. However, recent psychological evidence suggests that AQ, EQ, and WM function as interrelated systems. AQ influences cognitive appraisal of stress, EQ regulates emotional responses, and WM supports information processing. These interactions determine how students sustain attention, manage cognitive load, and perform complex academic tasks [7,8].

Despite global advancements in research, there remains a scarcity of localized studies in the Philippine context. Socio-cultural and educational conditions uniquely shape the development of resilience, emotional competence, and cognitive functioning among Filipino learners [9,10]. Moreover, limited research has been conducted in Montessori-based institutions, where holistic development aligns closely with AQ, EQ, and WM variables.

Thus, this study aims to determine the levels of Adversity Quotient, Emotional Quotient, and Working Memory among Junior High School Students and examine their relationships. Specifically, AQ is measured in terms of Control, Ownership, Reach, and Endurance; EQ in terms of self-awareness, self-regulation, motivation, empathy, and social skills; and WM in terms of central executive, phonological loop, visuospatial sketchpad, and episodic buffer. By maintaining consistency with the presented variables, this study ensures conceptual and operational alignment across all sections.

Ultimately, this research contributes to the development of evidence-based educational interventions that integrate resilience training, emotional intelligence development, and cognitive enhancement strategies, thereby promoting holistic student development.

## METHODS

### Research Design

This study employed a descriptive–correlational research design to examine the interplay among Adversity Quotient (AQ), Emotional Quotient (EQ), and Working Memory (WM) among Junior High School students. Descriptive research was utilized to systematically determine the levels of AQ in terms of Control, Ownership, Reach, and Endurance; EQ in terms of self-awareness, self-regulation, motivation, empathy, and social skills; and WM in terms of central executive, phonological loop, visuospatial sketchpad, and episodic buffer. This approach enabled the objective characterization of psychological attributes as they naturally occur within an educational setting without experimental manipulation [11,12].

Concurrently, the correlational component was employed to determine the strength and direction of relationships among AQ, EQ, and WM. Correlational designs are appropriate when investigating

naturally occurring associations among psychological constructs without inferring causation [13,14]. This dual approach reflects a systems-oriented psychological perspective, recognizing that cognitive and socio-emotional processes operate in an integrated manner during adolescent development [15].

### **Participants and Sampling**

The participants of the study were Junior High School students enrolled at Panorama Montessori School Inc. during the School Year 2025–2026. The population consisted of 90 students across Grades 8, 9, and 10, aged 15 to 17 years old. This developmental stage is characterized by ongoing maturation of executive functions, emotional regulation, and identity formation, making it particularly relevant for examining AQ, EQ, and WM [16,17].

A sample size of 73 respondents was determined using Slovin's formula with a 0.05 margin of error. Stratified random sampling was employed to ensure proportional representation across grade levels. This method minimized sampling bias and enhanced the representativeness of the data [18,19].

### **Instrumentation**

Data were collected using three standardized instruments aligned with the study variables. Adversity Quotient was measured using the Adversity Quotient Profile (AQP) developed by Stoltz [3], which assesses Control, Ownership, Reach, and Endurance. Emotional Quotient was measured using the Schutte Self-Report Emotional Intelligence Test (SSEIT), which evaluates self-awareness, self-regulation, motivation, empathy, and social skills [20,21]. Working Memory was assessed using the Digit Span Test, measuring forward and backward recall to capture central executive and phonological loop functioning [6,21].

These instruments were selected due to their established psychometric properties and theoretical alignment with the constructs under investigation. Their use ensured objectivity, reliability, and comparability with prior research [22,23].

### **Validation and Reliability**

To ensure validity, the instruments underwent expert review to establish face and content validity. Experts in psychology and education evaluated the clarity, relevance, and appropriateness of the instruments for the target population [11,24]. Reliability was assessed using Cronbach's alpha, with coefficients exceeding the acceptable threshold of 0.70, indicating strong internal consistency [25,26].

### **Data Gathering Procedure**

Prior to data collection, permission was obtained from school authorities verbally and through a signed formal letter. Informed consent from parents and assent from students were secured through a signed waiver. Participants were also properly oriented and informed of their rights, including voluntary participation and confidentiality.

The researcher personally administered the instruments to ensure standardized procedures. Instructions were clearly explained, and responses were collected in a controlled environment to minimize external influences. Questions were timely and directly addressed without interfering with the other participants answering the items in the given questionnaires. Completed responses were checked for completeness and accuracy [27].

### **Statistical Treatment**

Descriptive statistics, including frequency, percentage, and weighted mean, were used to determine the levels of AQ, EQ, and WM. Pearson's  $r$  was used to examine relationships among variables. Inferential statistics, including t-test and ANOVA, were used to identify differences across demographic variables. A significance level of 0.05 was applied [28].

**Ethical Considerations**

The study adhered to APA ethical standards, ensuring informed consent, confidentiality, voluntary participation, and non-maleficence. Data were anonymized and used solely for research purposes [29].

**RESULTST**

This section presents the results of the study examining the Adversity Quotient (AQ), Emotional Quotient (EQ), and Working Memory (WM) of junior high school students. The findings are organized according to the study variables and statistical analyses, with interpretations grounded in contemporary psychological literature.

**Table 1. The Respondents’ Scores in the Domain of Control**

Score Range	No. of Respondents	Norm Interpretation
5.00–8.99	0	Very Low
9.00–12.99	0	Low
13.00–16.99	61	Average
17.00–20.99	12	High
21.00–25.00	0	Very High

Table 1 presented the respondents’ scores in the domain of Control. The Control domain was interpreted using the following score ranges: 5.00–11.67 (Low), 11.68–18.34 (Moderate), and 18.35–25.00 (High). Respondents within the low range (5.00–11.67) tend to perceive themselves as having minimal influence over adverse situations, often experiencing a sense of helplessness when confronted with challenges. Those in the moderate range (11.68–18.34) exhibited a variable sense of control, demonstrating the ability to manage certain difficulties but not consistently across contexts. In contrast, respondents within the high range (18.35–25.00) displayed a strong internal locus of control, maintaining confidence in their ability to influence outcomes and effectively respond to adversity.

In this study, the majority which comprised of 61 respondents had scores in moderate level of Control signifying capability of coping but still struggling under pressure. 12 respondents were on high level denoting the ability to respond constructively to adversities and none of them scored in the low level which would be lack of ease in managing setbacks consistently. This outcome implied that most of the Junior High Students of Panorama Montessori School Inc. were capable of managing challenging situations and other difficulties that they might encounter in life. Some of them were even capable of showing strong focus and dominance over hardships, maintaining an impactful confidence that could manipulate situational outcomes.

**Table 2. The Respondents’ Scores in the Domain of Ownership**

Score Range	No. of Respondents	Norm Interpretation
5.00–8.99	0	Very Low
9.00–12.99	7	Low
13.00–16.99	53	Average
17.00–20.99	13	High
21.00–25.00	0	Very High

Table 2 presented the Ownership domain which followed the same score classification: 5.00–11.67 (Low), 11.68–18.34 (Moderate), and 18.35–25.00 (High). Respondents scoring within the low range (5.00–11.67) were more likely to attribute adverse events to external causes and avoid responsibility for resolving them. Those in the moderate range (11.68–18.34) demonstrated partial accountability, accepting responsibility in some situations while still engaging in external attribution at times. Conversely, respondents within the high range (18.35–25.00) consistently assumed responsibility for improving their circumstances, reflecting a proactive and solution-oriented mindset even when challenges arise from external sources.

In this study, 7 respondents scored low which meant that the respondents had difficulty managing setbacks consistently, the majority which was 53 respondents scored moderate implying that they could cope but may struggle under pressure and 13 scored high, indicating that majority of them were capable of taking accountability and assuming responsibility in the face of challenges.

**Table 3. The Respondents’ Scores in the Domain of Reach**

Score Range	No. of Respondents	Norm Interpretation
5.00–8.99	0	Very Low
9.00–12.99	0	Low
13.00–16.99	23	Average
17.00–20.99	50	High
21.00–25.00	0	Very High

Table 3 demonstrated the Reach domain, where the respondents within the low range (5.00–11.67) tend to generalize adversity, allowing a single negative event to influence multiple aspects of their lives. Those within the moderate range (11.68–18.34) occasionally managed to contain the effects of adversity but may still experience spillover into other domains. In contrast, respondents in the high range (18.35–25.00) effectively limited the scope of adversity, demonstrating the ability to compartmentalize challenges and prevent them from affecting unrelated areas of functioning. In this study, 23 respondents were average being able to cope but still struggle under pressure and the majority, 50 respondents, were high, indicating that the Junior High School students were generally capable of containing adversity in a specific area of concern and preventing it from affecting other aspects of life.

**Table 4. The Respondents’ Scores in the Domain of Endurance**

Score Range	No of Respondents	Norm Interpretation
5.00–8.99	0	Very Low
9.00–12.99	1	Low
13.00–16.99	26	Average
17.00–20.99	46	High
21.00–25.00	0	Very High

Table 4 presented the Endurance domain, where respondents scoring within the low range (5.00–11.67) are inclined to perceive adversity as long-lasting or permanent, which may negatively influence motivation and resilience. Those within the moderate range (11.68–18.34) exhibit an inconsistent perception of adversity’s duration, sometimes viewing it as temporary and at other times as prolonged.

In contrast, individuals in the high range (18.35–25.00) consistently perceive challenges as temporary and manageable, which supports sustained effort, optimism, and resilience in overcoming difficulties. In this study, 1 out of 73 respondents scored low signifying that they had difficulty managing setbacks consistently, 26 were moderate implying that they could cope but still struggle under pressure and 46 respondents, which was the majority, scored high, implying that Junior High School students were generally capable addressing the problems and difficult matters in their lives without thinking that the consequences would permanently linger or the situations were unchangeable.

**Table 5. The Respondents’ Adversity Quotient**

ARP Score Range	No. of Respondents	Norm Interpretation
40–118	10	Very Low
120–134	16	Low
136–158	34	Average
160–174	13	High
176–200	0	Very High

Table 5 presented the distribution of respondents according to their total Adversity Response Profile (ARP) scores. For the total ARP Score, the lowest and highest possible Total Test Score should be determined first before computing the ARP Score. Because ARP scores increased by 2 points only, the cut-off points between categories occur between the highest score of one category and the lowest score of the next category:

Very Low AQ ends at 118, next category begins at 120

Low AQ ends at 134, next category begins at 136

Average AQ ends at 158, next category begins at 160

High AQ ends at 174, next category begins at 176

Very High AQ ends at 200

The findings revealed that the 46.58% of respondents fell within the Average AQ category (136–158), comprising 34 individuals. This indicated that the majority of respondents possessed an average ability to cope with adversity, demonstrating a balanced but not exceptional level of resilience. They were generally capable of managing challenges but may still experience difficulty in highly stressful or prolonged adverse situations.

17.81% of the respondents (13) fell under the Above Average AQ range (160–174), suggesting that a segment of the population demonstrated stronger resilience, characterized by constructive responses to setbacks, better emotional regulation, and a proactive mindset in overcoming obstacles. Conversely, 17.81% or 16 respondents were classified under Below Average AQ (120–134), while 13.70% which was 10 respondents fall within the Low AQ range (40–118). These groups might struggle with adversity, showing inconsistent coping mechanisms, reduced persistence, and a tendency to feel overwhelmed when faced with difficulties. Importantly, no respondents reached the High AQ category (176–200), indicating the absence of exceptionally resilient individuals within the sample.

The overall distribution suggested that while the respondents were not severely deficient in resilience, there was a clear need for developmental interventions aimed at enhancing their adversity management capabilities. The dominance of the average category implied that resilience existed but was not maximized, leaving room for growth in coping strategies, emotional intelligence, and adaptive thinking.

In terms of implications, the findings highlighted the importance of implementing structured resilience-building programs. Educational institutions and organizations might introduce training focused on stress management, problem-solving skills, and cognitive reframing techniques. Strengthening the CORE dimensions—Control, Ownership, Reach, and Endurance—could help individuals transition from average to above-average AQ levels. Additionally, mentoring programs and supportive environments could foster a culture that encourages persistence and accountability when dealing with adversity.

**Table 6. Summary of Adversity Quotient**

Sub-variable	Low	Average	High	Interpretation
Control	0	61	12	Majority demonstrated average control over adversity
Ownership	7	53	13	Majority showed average responsibility in handling setbacks
Reach	0	23	50	Majority showed high ability to contain problems observed
Endurance	1	26	46	Majority scored high implying strong belief that adversity was temporary
Overall AQ	10	34	13	Majority showed average resilience

Table 6 presented the summary of Adversity Quotient including the outcomes in its subvariables. The highest total score were obtained in Reach with 23 respondents scoring average and 50 were high, suggesting that the respondents tend to limit the spillover effects of problems into other areas covered by the instrument. In contrast, Ownership obtained the lowest with 7 respondents scoring low, 53 were moderate and 13 scored high, indicating comparatively lower tendencies in assuming responsibility for managing adverse situations.

These findings should be interpreted within the dimensions measured by the AQ tool only. The results did not establish broader personality traits or clinical resilience outcomes, but rather described the respondents’ reported responses to adversity in the assessed domains.

The finding was consistent with Stoltz [3], who conceptualized AQ as a measure of how individuals respond to challenges through Control, Ownership, Reach, and Endurance.

**Table 7. The Respondents’ Level of Self-awareness**

Total Scores	No. of Respondents	Norm Interpretation
5–9	0	Very Low
10–13	0	Low
14–18	31	Average
19–22	36	High
23–25	6	Very High

The results in Table 7 showed that 31 respondents fell within the Average to High range of self-awareness with 36 respondents which was the majority, and 6 respondents reaching the Very High category. This pattern suggested that the group generally possessed a functional understanding of their own emotions, strengths, weaknesses, and reactions. The findings implied that the respondents are reasonably capable of reflection and emotional monitoring in daily situations, although not all have reached mastery levels. The presence of many High scorers indicated a subgroup that could consistently

evaluate their emotions and behaviors, which might translate into better academic performance, leadership readiness, and interpersonal adjustment.

These findings are supported by Goleman’s framework, which identified self-awareness as a core emotional intelligence competency linked to confidence and decision-making. Studies also noted that self-awareness predicted leadership effectiveness and adaptive behavior [4].

**Table 8. The Respondents’ Level of Self-regulation**

Total Scores	No. of Respondents	Norm Interpretation
5–9	0	Very Low
10–13	0	Low
14–18	46	Average
19–22	26	High
23–25	1	Very High

Table 8 presented the respondents’ level of self-regulation with data showing that the majority of respondents were concentrated in the Average with 46 respondents and High levels of self-regulation with 26 respondents, with 1 Very High scorer. This meant most participants could control impulses, remain composed, and adjust behavior in common situations, while fewer demonstrated strong and consistent mastery.

The findings suggested that respondents generally managed stress and emotions adequately, but some might still struggle under pressure or during conflict. Since self-regulation was associated with discipline and emotional control, improving this domain could strengthen classroom behavior, teamwork, and coping skills.

Research showed that self-regulation contributes to resilience, better conflict management, and responsible decision-making. Individuals with stronger self-management skills were more likely to remain productive under stress [4].

**Table 9. The Respondents’ Level of Motivation**

Total Scores	No of Respondents	Norm Interpretation
6–11	0	Very Low
12–16	0	Low
17–21	30	Average
22–26	42	High
27–30	1	Very High

Table 9 showed the respondents’ level of motivation revealing a stronger pattern of High motivation with the majority, 42 respondents, followed by 30 respondents scoring Average, including 1 Very High respondent, compared with previous domains. This indicated that many respondents possessed achievement drive, persistence, and optimism toward goals.

The findings implied that respondents were generally energized to complete tasks and pursue success. High motivation was beneficial in educational settings because it promoted perseverance, attendance, engagement, and willingness to overcome setbacks. Average scorers might still perform adequately but could need external encouragement or clearer goals.

This result aligned with emotional intelligence literature stating that intrinsic motivation was associated with persistence and higher performance outcomes. Motivated individuals often sustained effort despite obstacles [4,5].

**Table 10. The Respondents’ Level of Empathy**

Total Scores	No of Respondents	Norm Interpretation
8–15	0	Very Low
16–21	0	Low
22–28	29	Average
29–34	34	High
35–40	10	Very High

Table 10 showed the respondents’ level of empathy denoting that many respondents comprising of the majority were in the High category with 34 respondents, and several in the Very High category with 10 respondents indicating a notable strength in empathy. While 29 respondents remained in the Average range, the overall pattern suggested that the group was relatively sensitive to the feelings and perspectives of others.

The findings implied positive potential for cooperation, peer support, and inclusive social behavior. Empathy was especially valuable in group work, leadership, and conflict resolution because it allowed the respondents to understand emotional cues and respond appropriately.

Previous studies consistently identified empathy as a predictor of prosocial behavior, teamwork quality, and relationship satisfaction. Emotional intelligence models also positioned empathy as central to social awareness [5].

**Table 11. The Respondents’ Level of Social Skills**

Total Scores	No of Respondents	Norm Interpretation
9–16	0	Very Low
17–24	0	Low
25–31	30	Average
32–39	37	High
40–45	6	Very High

Table 11 presented the respondents’ level of social skills demonstrating that respondents perform strongly in social skills, with 30 Average scores, the majority of 37 High scorers and 6 Very High scorers. This suggested that the respondents were generally capable of communication, collaboration, relationship building, and influencing others positively.

The findings implied that the group might function effectively in cooperative learning environments, student organizations, and community activities. Strong social skills could also reduce misunderstandings and improve conflict resolution. Those in the Average category might communicate adequately but could still benefit from confidence-building and interpersonal training.

Research supported the idea that social skills were practical outcomes of emotional intelligence because they integrated self-awareness, self-regulation, and empathy into observable behavior. Strong interpersonal competence was associated with leadership emergence and team effectiveness [4].

**Table 12. Comparative Summary of the Subvariables of Emotional Quotient**

Sub-variable	No. of Respondents	Dominant Norm Level
Self-Awareness	36	High
Self-Regulation	46	Average
Motivation	42	High
Empathy	34	High
Social Skills	37	High

Table 12 showed the overall Emotional Quotient (EQ) results indicating that most domains demonstrated a generally high level of emotional intelligence. In particular, Self-Awareness with 36 respondents, Motivation with 42, Empathy with 34, and Social Skills with 37 all fell under the 'High' category, suggesting that respondents were capable of recognizing their emotions, maintaining drive, understanding others, and interacting effectively in social contexts.

Among the five domains, Self-Regulation obtained the highest number of respondents comprising the majority of the whole sample; however, it fell under the 'Average' category. This suggested that while many respondents could manage their emotions appropriately, their emotional control might still vary depending on the situation, particularly in stressful or demanding contexts. This indicated a need for further development in consistency and emotional stability.

Overall, the findings suggested a well-developed Emotional Quotient profile, with notable strengths in interpersonal and motivational aspects. However, improving self-regulation through targeted strategies such as stress management techniques, mindfulness practices, and emotional control exercises might further enhance overall emotional intelligence with more balanced emotional responses and more efficient decision-making in challenging situations.

**Table 13. The Respondents' Level of Emotional Quotient**

Domains	Scores	Standard deviation	Interpretation
Self-Awareness	19.18	2.00	Moderate strength; foundational emotional insight
Self-Regulation	18.33	1.48	Moderate strength; comparatively lowest domain
Motivation	22.22	2.00	High relative strength
Empathy	30.29	3.36	High relative strength
Social Skills	32.97	3.30	Highest relative strength
Composite Score	130	10.53	Significant strength
<i>Note.</i> ≥130 (Significant strength); 120-129 (Strength); 110-119 (Competent); 100-109 (High Average); 90-99 (Low Average); 70-89 Consider Improvement ≤69 Consider Development (Mayer et al., 2024).			

Table 13 presented the summarized emotional quotient (EQ) profile of the respondents across five domains: self-awareness, self-regulation, motivation, empathy, and social skills. The composite score of 130 placed the group in the category of Significant Strength based on the classification cited in the table [5]. This indicated that, as a whole, the respondents demonstrated a strong overall capacity to perceive, understand, manage, and use emotions effectively.

Among the domains, Social Skills obtained the highest mean score (32.97, SD=3.30). This suggested that respondents were particularly strong in communication, relationship-building, cooperation, and managing social interactions. In practical terms, the group might function well in teamwork, collaborative learning, peer engagement, and leadership situations. Research has shown that social competence is strongly associated with leadership effectiveness, workplace readiness, and successful group functioning [4].

Empathy ranked second (30.29, SD=3.36), indicating that many respondents were capable of understanding the feelings and perspectives of others. This was an important finding because empathy supported prosocial behavior, conflict resolution, and inclusive peer relationships. Students with stronger empathy were often better able to work with diverse classmates and respond sensitively to social cues [5].

Motivation recorded a mean of 22.22 (SD=2.00), reflecting a relatively strong level of persistence, goal orientation, and willingness to exert effort. This implied that respondents might possess the drive needed to complete tasks and remain engaged despite challenges. Prior studies linked emotional motivation with academic persistence, productivity, and resilience under stress [4].

Self-Awareness (19.18, SD=2.00) reflected a moderate but stable strength. This meant respondents generally recognized their emotions, strengths, and limitations, although there remained room for deeper reflection and emotional insight. Self-awareness was often considered the foundation of emotional intelligence because it supported sound judgment and self-correction [4].

Self-Regulation had the lowest mean score (18.33, SD=1.48), though it still contributed positively to the strong composite EQ score. This suggested that respondents might manage emotions adequately in common situations, but emotional control under pressure, frustration tolerance, and impulse management might be areas for further development.

The standard deviations were relatively modest across domains, indicating that respondents' scores did not vary extremely from one another. This meant the strong emotional quotient profile was not limited to a few individuals but was relatively shared across the group. The highest variability appeared in empathy and social skills, suggesting wider differences in interpersonal capacities among respondents.

Overall, the findings implied that the respondents possessed strong interpersonal and social-emotional capabilities, especially in dealing with others. These findings supported the ability model of emotional intelligence proposed by Mayer et al. [5], which emphasized emotional perception, facilitation, understanding, and management. High EQ had been linked to better academic adjustment, stronger social relationships, and improved psychological well-being. The present results suggested that emotional intelligence might serve as a protective factor, enhancing adaptive functioning among students.

**Table 14. The Respondents' Forward Scores**

Score Range	No. of Respondents	Norm Interpretation
<11	7	Low
11- 13	43	Average
>13	23	High

Table 14 presented the respondents' Forward Digit Span scores, which measured short-term memory capacity through immediate recall of numerical sequences in the same order. The data showed that the

majority of respondents obtained scores within the average range with 43 respondents, followed by 23 respondents scoring High and only 7 respondents with Low score, indicating generally strong short-term memory performance. Forward Digit Span tasks primarily assessed the ability to encode, retain, and retrieve information without manipulation. The distribution of scores suggested that most respondents were able to maintain attention and accurately recall sequential auditory information, reflecting consistent performance across the sample.

These findings implied that the respondents possessed sufficient short-term memory capacity necessary for basic academic tasks such as listening comprehension, note-taking, and information retention. Since Forward Digit Span primarily measured storage rather than processing, the results suggested that the phonological loop component of working memory functioned effectively within the limits of the administered test. However, these interpretations were confined strictly to immediate recall performance and did not extend to higher-order cognitive processing or full executive functioning.

The findings were consistent with the working memory framework proposed by Baddeley [6], which identified the phonological loop as responsible for temporary verbal storage. Similarly, Gathercole and Alloway [30] emphasized that short-term memory capacity supports foundational learning processes such as reading and comprehension. These studies supported the interpretation that adequate forward span performance reflected functional short-term memory abilities in academic contexts.

**Table 15. The Respondents' Backward Scores**

Score Range	No. of Respondents	Norm Interpretation
1-6	7	Low
7-- 9	59	Average
10-14	7	High

Table 15 presented the respondents' Backward Digit Span scores, which assessed working memory through the recall of numerical sequences in reverse order. The results indicated that 7 respondents obtained Low scores, 59 got Average and another 7 respondents scored High in the backward task, reflecting the increased cognitive demand of reversing sequences. Backward Digit Span required both storage and manipulation of information, thereby engaging more complex cognitive processes. The observed distribution suggested variability in respondents' ability to mentally reorganize information while maintaining accuracy.

These findings implied that while respondents were capable of retaining information, their ability to manipulate and transform that information was relatively less developed compared to simple recall. This suggested that the executive component of working memory, particularly attentional control and cognitive flexibility, required greater cognitive effort. However, this interpretation remained limited to performance on the backward recall task and did not constitute a comprehensive assessment of executive functioning.

The findings aligned with Alan Baddeley [6], who emphasized the role of the central executive in coordinating storage and processing functions. This study supported the interpretation that lower backward scores reflected the higher cognitive demands of executive processing.

**Table 16. The Respondents’ Combined Forward and Backward Scores**

Domains	Scores	Standard Deviation	Interpretation
Forward	13	1.37	--
Backward	8	1.15	--
Composite Score	21	1.89	High
<i>Note.</i> 25-32 (Very high); 20-25 (High); 13-19(Average); 7-13 (Low); 1-7 (Very Low)			

Table 16 presented the respondents’ level of working memory as measured through forward and backward domains, with a composite score of 21 (SD = 1.89). Based on the Wechsler [31] classification, this score fell within the “high” range (19–25), indicating that the respondents generally possessed strong working memory capacity. The forward domain (M = 13, SD = 1.37) reflected the ability to retain and recall information in the same order presented.

The results suggested that respondents were proficient in basic attention and short-term memory processes. In contrast, the backward domain (M = 8, SD = 1.15) measured the ability to manipulate and reorganize information mentally. While still within acceptable levels, the lower score compared to the forward domain indicated that tasks requiring higher cognitive control and manipulation are relatively more demanding for respondents.

The overall high working memory level implied that respondents are capable of efficiently processing, storing, and retrieving information. This was particularly important in academic settings, where working memory supported comprehension, problem-solving, and learning.

In terms of implications, a high level of working memory suggested that respondents were better equipped to handle cognitively demanding tasks, such as reasoning, decision-making, and academic problem-solving. This might contribute to improved academic performance and adaptability in learning environments. However, the relatively lower backward score highlighted a potential area for improvement, particularly in activities that required mental manipulation, such as analytical reasoning and complex problem-solving.

The results aligned with the Working Memory Model proposed by Baddeley and Hitch [6], which emphasized the role of working memory in temporarily holding and processing information necessary for complex cognitive tasks. Although the present study focused on forward and backward tasks, these were commonly associated with core working memory functions such as storage and executive processing.

**Table 17. The Respondents’ Level of Working Memory Relative to the Subvariables**

Subvariables	Basis (Test)	Norm Level (Based on % Distribution)
Central Executive	Backward Digit Span	Average
Phonological Loop	Forward Digit Span	Average–High
Visuospatial Sketchpad	Forward Digit Span	Average
Episodic Buffer	Backward Digit Span	Average

Table 17 The aligned results indicated that the phonological loop demonstrated relatively stronger performance compared to the central executive. This was consistent with the higher proportion of respondents falling within the Average to High range in the Forward Digit Span task. In contrast, the

Backward Digit Span results, which primarily measure central executive functioning, showed a concentration in the Average range, suggesting moderate ability in information manipulation and executive control.

The visuospatial sketchpad and episodic buffer, although not directly measured, were inferred to function at an average level. According to Baddeley’s model of working memory, these components interacted with the phonological loop and central executive to support complex cognitive tasks such as comprehension and learning [6]. The balanced but not exceptional performance across tasks suggested that respondents possessed adequate but improvable integrative cognitive abilities.

These findings implied the integration of information across modalities, as conceptualized in the episodic buffer, and the coordination between verbal and visuospatial systems appeared to be sufficiently supported by respondents’ overall high working memory capacity. The episodic buffer played a crucial role in binding information from the phonological loop and visuospatial sketchpad into coherent, meaningful representations, which were essential for tasks such as narrative comprehension and learning from experience.

Although the present data did not isolate each subsystem, the composite performance suggested that these components were functioning in a generally adaptive manner. Nevertheless, the relative weakness in tasks requiring manipulation highlights the need for instructional strategies that strengthened executive functioning, thereby enhancing the integration and application of information across all working memory components.

**Table 18. The Relationship between the Respondents’ Adversity Quotient and Level of Working Memory**

Independent Variable	Dependent Variable	Spearman rho (ρ)	p-value	Decision/ Interpretation
Adversity Quotient	Working Memory	0.382 (weak)	0.001	Reject H <sub>0</sub> ; Significant Weak Positive Correlation

**Note.** Correlation strength based on Evans, 1996, as cited in Addison, 2021: 0.00–0.19 very weak; 0.20–0.39 weak; 0.40–0.59 moderate; 0.60–0.79 strong; 0.80–1.00 very strong. Significant at  $\alpha = .05$ .

Table 18 presented the relationship between the respondents’ adversity quotient and level of working memory. The analysis revealed a statistically significant positive relationship between respondents’ adversity quotient (AQ) and working memory (WM), with Spearman’s rho of 0.382 and  $p = 0.001$ . Because the p-value was lower than the 0.05 level of significance, the null hypothesis was rejected. This meant that higher AQ scores were generally associated with higher WM scores among the respondents. However, the magnitude of association was weak, indicating that AQ was related to WM but is not the only factor influencing memory performance.

In practical terms, students who were better able to manage setbacks, remain persistent, and recover from difficulties might also be more capable of maintaining attention, holding information temporarily, and mentally manipulating information during learning tasks. This finding was consistent with Cognitive Load Theory, which explained that stressors and emotional burdens can reduce the limited capacity of working memory [32]. Students with stronger resilience might regulate pressure more effectively, thereby preserving cognitive resources. Research also showed that acute stress can impair working

memory and executive functioning [33]. Likewise, resilient learners tend to demonstrate better academic persistence and adaptive coping behaviors [3].

The weak correlation further suggested that AQ should be viewed as one meaningful contributor rather than a sole predictor of cognitive performance. Implications for schools included implementing resilience-building programs, stress-management sessions, mentoring, and problem-solving activities. Such interventions might indirectly support working memory and academic performance by helping students manage pressure more effectively.

The present findings were further supported by established literature, including the works of Sweller [32,33], which collectively demonstrated the detrimental effects of stress on working memory and overall cognitive performance. These studies suggested that stress-induced cognitive load could impair memory processes; however, protective factors such as resilience and effective stress regulation could mitigate these effects. In this context, AQ served as a psychological buffer that helped individuals maintain functional cognitive performance under pressure. Although the observed relationship was modest, it offered valuable insight into the interplay between emotional resilience and cognitive functioning, reinforcing the importance of fostering adaptive coping mechanisms in educational settings to support both psychological well-being and academic success.

**Table 19. The Relationship between the Respondents’ Emotional Quotient and Level of Working Memory**

Independent Variable	Dependent Variable	Spearman rho ( $\rho$ )	p-value	Decision/Interpretation
Emotional Quotient	Working Memory	0.460 (moderate)	<0.001	Reject $H_0$ ; Significant Moderate Positive Correlation

Note. Correlation strength based on Evans, (1996, as cited in Addison, 2021): 0.00–0.19 very weak; 0.20–0.39 weak; 0.40–0.59 moderate; 0.60–0.79 strong; 0.80–1.00 very strong. Significant at  $\alpha = .05$ .

Table 19 presented the relationship between the respondents’ emotional quotient and level of working memory. The analysis showed a statistically significant positive relationship between respondents’ emotional quotient (EQ) and working memory (WM), with Spearman’s rho of 0.460 and  $p < 0.001$ . Since the p-value was below the 0.05 significance level, the null hypothesis was rejected. This indicated that students with higher EQ scores generally tended to obtain higher WM scores.

The correlation was moderate in magnitude, meaning the association was more substantial than a weak relationship yet not strong enough to imply that EQ alone determined WM. Emotional intelligence appeared to be an important factor linked with memory performance, attention regulation, and cognitive efficiency. In educational settings, students with stronger self-awareness, self-regulation, empathy, motivation, and social skills were better able to manage anxiety, frustration, and distractions. As a result, they were able to devote more mental resources to storing, processing, and manipulating information—core functions of working memory. This might have enhanced reading comprehension, problem solving, classroom participation, and task completion.

This finding was supported by theories emphasizing the interaction of emotion and cognition. Pessoa [34] explained that emotional processes influenced attention and executive control. Likewise, Schutte et al. [35] reported associations between emotional intelligence and cognitive functioning. Diamond [35] also noted that self-regulation supported executive functions such as working memory. The moderate

correlation suggested that EQ was a meaningful contributor to WM, although other variables such as sleep, stress exposure, intelligence, study habits, and classroom climate may also have affected performance. Therefore, EQ was considered one of several factors that could enhance cognitive outcomes.

**Table 20. Proposed Intervention Program based on the Findings on Adversity Quotient, Emotional Quotient, and Working Memory**

Objectives	Target Area	Activities / Strategies	Persons Involved	Proposed Time	Periodicity	Duration	Resources Needed	Budget (PHP)	Success Indicators
Strengthen students' resilience and coping skills	Adversity Quotient (Control, Ownership, Reach, Endurance)	Resilience workshops, goal-setting sessions, problem-solving drills, reflective journaling	Guidance Counselor, Teachers, Students	June–October	Monthly	5 months	Modules, journals, workshop kits, facilitator fees	15,000	≥85% attendance; ≥80% participation; reduced stress reports
Enhance emotional regulation and interpersonal competence	Emotional Quotient	SEL sessions, mindfulness exercises, peer mentoring, empathy circles, communication training	Guidance Counselor, Class Advisers	June–March	Biweekly	10 months	SEL modules, audio guides	12,000	≥30% reduction in behavioral issues; improved peer relations
Improve memory capacity and attention control	Working Memory	Digit span tasks, chunking exercises, recall drills, sequencing activities	Teachers, Learning Support Staff	June–March	Weekly	10 months	Worksheets, cognitive tools	10,000	≥85% task completion; improved recall accuracy
Integrate socio-emotional and	AQ + EQ + WM	Project-based learning, cooperative tasks, stress-	School Admin, Teachers	June–March	Daily (integrated)	10 months	Project materials, training	20,000	≥85% engagement; improved academic

Objectives	Target Area	Activities / Strategies	Persons Involved	Proposed Time	Periodicity	Duration	Resources Needed	Budget (PHP)	Success Indicators
cognitive supports		management integration							participation
Strengthen home-school collaboration	Parental Support	Parent seminars, emotional coaching training, study routine workshops	Parents, Counselors	Quarterly	Quarterly	1 year	Handouts, logistics, refreshments	8,000	≥70% parent attendance; improved home support

Table 18 presented the proposed intervention program based on the findings on adversity quotient, emotional quotient and working memory. Based on the findings, respondents generally demonstrated moderate Adversity Quotient (AQ), strong Emotional Quotient (EQ), and adequate to above-average Working Memory (WM). A statistically significant positive relationship was found between AQ and WM (Spearman rho = 0.382, p = 0.001), and between EQ and WM (Spearman rho = 0.460, p < 0.001). These results indicate that resilience and emotional competencies are associated with better cognitive functioning. Therefore, a school-based intervention that strengthens coping skills, emotional regulation, and memory processes is recommended.

The weaker but significant relationship between adversity quotient and working memory suggests that students who cope better with setbacks may preserve attention and mental resources during stressful academic tasks. Therefore, resilience-building activities are recommended to strengthen students' sense of control, accountability, ability to contain stressors, and belief that challenges are temporary.

The stronger relationship between emotional quotient and working memory implies that emotional awareness, self-regulation, motivation, empathy, and social skills contribute substantially to attention control and efficient information processing. For this reason, socio-emotional learning sessions, mindfulness practices, and peer-support programs are central components of the intervention.

Working memory training activities are likewise included because memory capacity supports reading comprehension, mathematical reasoning, following instructions, and problem solving. Structured cognitive exercises may improve concentration, retention, and task management. The program also emphasizes collaboration among school administrators, teachers, counselors, and parents. Research consistently shows that multi-component interventions produce stronger outcomes when school and family systems work together. Through consistent implementation, the proposed program is expected to improve students' resilience, emotional competence, and academic readiness.

## DISCUSSION

### Discussion of Adversity Quotient among Junior High School Students

The present investigation demonstrated that the respondents generally exhibited a moderate level of adversity quotient (AQ), suggesting that although most learners possess a functional capacity to cope with academic and psychosocial stressors, resilience-related competencies remain developmentally

emergent. The relatively stronger performance in the dimensions of reach and endurance indicates that students were generally capable of compartmentalizing stressful experiences and perceiving challenges as temporary. From a developmental psychology perspective, this pattern is consistent with contemporary resilience literature emphasizing adolescence as a period during which adaptive appraisal mechanisms gradually mature through repeated exposure to manageable stress and supportive social environments.

The present finding aligns with [37], whose meta-analysis of resilience interventions among children and adolescents concluded that resilience-related competencies are malleable and responsive to structured school-based psychosocial interventions. These authors further emphasized that resilience develops through dynamic interactions between internal cognitive resources and environmental supports, which may explain why students in the present study manifested moderate rather than uniformly high AQ.

### **Discussion of Emotional Quotient among Junior High School Students**

Results further revealed that respondents demonstrated a strong emotional quotient (EQ), particularly in social skills, empathy, and motivation. This suggests that the participants generally possess adaptive interpersonal competencies and an emerging capacity for prosocial emotional functioning. Developmentally, adolescence is marked by heightened social sensitivity, peer affiliation, and identity formation, which may explain why interpersonal dimensions emerged as strengths. These findings are consistent with Orzechowski et al. [38], who reported that emotional information processing and working-memory updating are significantly associated with emotional intelligence, suggesting that emotionally competent individuals may process affective information more efficiently.

### **Discussion of Working Memory among Junior High School Students**

The respondents demonstrated above-average working memory performance, with stronger forward than backward digit span scores. This pattern indicates stronger short-term storage than executive manipulation, which is developmentally expected during adolescence. Working memory is known to undergo progressive specialization throughout adolescence. This finding is supported by Karr et al. [39], who demonstrated that executive functions, including working memory, become increasingly differentiated during adolescence and are strongly associated with academic self-regulation.

### **Discussion of the Relationship between Adversity Quotient and Working Memory**

The statistically significant positive relationship between AQ and working memory suggests that students who demonstrate stronger resilience and adaptive coping may also allocate cognitive resources more efficiently during cognitively demanding tasks. Exposure to chronic stress can tax executive resources, whereas adaptive coping appears to preserve attentional control and cognitive flexibility. This interpretation is supported by Vannest et al. [40], who demonstrated that stress physiology significantly influences working-memory performance among children and adolescents.

### **Discussion of the Relationship between Emotional Quotient and Working Memory**

The stronger association between EQ and working memory suggests that emotional competencies may contribute directly to attentional control, inhibitory functioning, and cognitive efficiency. Students capable of recognizing and regulating emotional states may experience less cognitive interference, thereby preserving executive resources required for encoding, storage, and manipulation of information. This finding is congruent with Vaughan et al. [41], who found that trait emotional intelligence significantly predicts working-memory performance.

### **Overall Theoretical Integration**

Taken together, the findings support an integrative psychological model wherein emotional intelligence

and resilience function as protective psychological resources that optimize executive functioning during adolescence. Consistent with developmental-cognitive theories, socio-emotional regulation appears to operate not independently from cognition, but as an active facilitator of cognitive efficiency. The stronger correlation observed between emotional quotient and working memory further suggests that interventions designed to strengthen self-regulation, emotional awareness, and interpersonal competence may yield measurable cognitive benefits within school contexts.

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