

Review Article

Understanding Individual Differences in Adversity Quotient: A Life-Span and Socio-Demographic Analysis

Sulakshna Dwivedi¹, Parminder Singh Dhillon², Dharmpal Deepak³

¹Associate Professor, School of Business Management and Commerce, Jagat Guru Nanak Dev Punjab State Open University, Patiala, Punjab, India

²Assistant Professor, Department of Tourism, Hospitality and Hotel Management, Punjabi University, Patiala, Punjab, India

³Assistant Professor, Department of Mechanical Engineering Punjabi University, Patiala, Punjab, India

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Corresponding Author:

Sulakshna Dwivedi, School of Business Management and Commerce, Jagat Guru Nanak Dev Punjab State Open University, Patiala, Punjab, India

E-mail Id:

dwivedisulakshna69@gmail.com

Orcid Id:

<https://orcid.org/0000-0001-8728-3645>

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A B S T R A C T

This study examines the variation of Adversity Quotient (AQ) among IT professionals in India, focusing on key demographic factors such as age, gender, work experience, educational qualification, monthly income, and marital status. AQ, a psychological concept introduced by Stoltz (1997), reflects an individual's ability to withstand and recover from adversity. Drawing from the life-span developmental psychology framework (Baltes, 1987), the study investigates how AQ evolves across the lifespan, particularly in the high-pressure IT industry. Data from 508 lower- and middle-level IT professionals across Delhi NCR and Chandigarh revealed significant differences in AQ based on age, work experience, and education. Specifically, older participants, those with more work experience, and those with specialised qualifications exhibited higher AQ. Gender, income, and marital status showed no significant impact on AQ. These findings indicate that professional experience and lifelong learning have a greater influence on AQ than demographic factors like gender or income. Implications for IT organisations include targeting resilience training based on experience level, promoting continuous learning, and fostering a psychologically safe work culture. The study also emphasises the importance of tailored talent management strategies to enhance resilience among employees. Limitations include the cross-sectional design, which precludes causal conclusions about AQ development. Future research employing longitudinal approaches could further explore the developmental trajectory of AQ.

Keywords: Adversity Quotient (Aq), Age, Gender, Experience, Marital Status, Demographic Variables

Introduction

In today's volatile and high-pressure work environments, particularly in the Information Technology (IT) sector, the ability to effectively cope with adversity has become a vital

psychological skill. This capacity, referred to as Adversity Quotient (AQ), reflects an individual's ability to withstand and recover from life's challenges (Stoltz, 1997; Saxena & Saxena, 2024). Stoltz (1997) introduced the concept of AQ, which comprises four subdimensions: Control, Ownership,

Reach, and Endurance. These dimensions encapsulate an individual's perceived influence over adversity, responsibility-taking, spread of adversity to other life areas, and persistence (Shen et al., 2014; Aprilia, 2019). Although these subcomponents are theoretically distinct, many empirical studies assess AQ as a unidimensional construct, aggregating CORE elements into a single global score (Hema & Sasi, 2015). This approach simplifies analysis and supports practical applications but may obscure important differences in how individuals experience and respond to adversity (Rathee, 2018; Somaratne et al., 2020).

The Life-Span Developmental Psychology framework, developed by Paul B. Baltes (1987, 2019), provides a dynamic theoretical lens to understand how AQ may evolve over time. Baltes posits that human development is a lifelong, multidirectional, and plastic process, continuously shaped by biological, social, and contextual factors (Baltes, 1987; Baltes et al., 2019). This theoretical view suggests that AQ is not fixed but changes with age, life experience, and contextual exposure. Older individuals are expected to exhibit higher AQ due to better emotional regulation and refined coping strategies (Singh et al., 2022; Kuhon, 2020). Several studies support this claim. Shen et al. (2014) found that both age and work seniority significantly influenced AQ among Taiwanese workers. Similarly, Somaratne et al. (2017, 2020) reported that age positively predicted stress management capabilities and AQ in NGO managers. The impact of work experience has also been highlighted in studies where senior employees demonstrated greater adversity-handling capacity than junior counterparts (Bautista, 2015; Lubis, 2018). AQ also contributed to performance among drivers and salespeople, mediated by work motivation and job demands (Wolor et al., 2020; Laura & Kristiawan, 2008). However, the evidence on gender differences in AQ remains mixed. Some studies found no significant differences (Rathee, 2018; Hema & Sasi, 2015), while others reported nuanced differences in coping styles across the AQ subdimensions (Aprilia, 2019; Mz et al., 2017). The role of education in shaping AQ has been investigated with mixed results. While Somaratne et al. (2020) found that academic qualifications influenced AQ positively among managers, Shen et al. (2014) found no significant educational effect among enterprise workers. Safi'i et al. (2021) further linked AQ to academic resilience and autonomy during the COVID-19 pandemic. The effect of income and related socioeconomic factors is even less understood. While Ablaña et al. (2016) suggested that job position and educational attainment—often linked to income—were correlated with AQ's Control dimension, other studies hinted only at indirect relationships (Kurniawan et al., 2020; Saxena & Saxena, 2024).

Although AQ has received substantial attention in academic and psychological research, few studies have comprehen-

sively examined how it varies across a broad spectrum of demographic variables in India's high-stakes IT industry (Wolor et al., 2020; Shen et al., 2014). Most existing research is focused on either students or educators, leaving a significant gap in understanding AQ in corporate technology sectors (Aprilia, 2019; Bautista, 2015).

Moreover, gender, education, and income-related AQ differences remain inconsistently documented, with some findings pointing toward no effect and others suggesting contextual influence (Rathee, 2018; Mz et al., 2017). This ambiguity underscores the need for more targeted, sector-specific AQ research.

With India's IT sector being among the largest employers of skilled professionals, it becomes critical to understand how demographic factors affect AQ among these employees (Shen et al., 2014; Kurniawan et al., 2020). Executives and HR practitioners require actionable insights to foster employee resilience and improve organisational outcomes (Somaratne et al., 2020; Saxena & Saxena, 2024). Moreover, resilience training and mental health interventions are more effective when tailored to the unique adversity profiles of specific groups (Aprilia, 2019; Listiawati & Rachmawati, 2019). This study addresses this practical need by profiling AQ variations across age, gender, education, experience, marital status, and income.

This study aims to examine whether significant differences in Adversity Quotient (AQ) exist among professionals working in leading Indian IT companies, based on key demographic characteristics (Shen et al., 2014; Somaratne et al., 2020). Drawing from Stoltz's Adversity Quotient (AQ) framework and Baltes' Life-Span Developmental Psychology, the study integrates psychological theory and empirical measurement (Baltes, 1987; Stoltz, 1997).

AQ is treated as a unidimensional construct in this study for statistical and interpretive consistency, but items are conceptually rooted in the four CORE subdimensions to ensure content validity (Hema & Sasi, 2015). The survey includes 508 valid responses from lower- and middle-level IT professionals across Delhi NCR and Chandigarh. By bridging theoretical understanding with practical relevance, this research contributes to the advancement of organisational psychology, talent management, and human resilience in a rapidly evolving digital economy (Wolor et al., 2020; Kuhon, 2020).

Theoretical Framework

This study explores the relationship between Adversity Quotient (AQ) and various demographic variables, focusing on age, work experience, and other socio-economic factors. To better understand how AQ evolves across different life stages, the research integrates insights from

lifespan developmental psychology and Stoltz's Adversity Quotient model.

Life-Span Developmental Psychology, as conceptualised by Paul B. Baltes (1987, 2019), offers a comprehensive framework for understanding how psychological traits, including resilience and AQ, develop over the course of an individual's life. Baltes (1987, 2019) emphasises that human development is a lifelong process, meaning that psychological traits are not fixed but continue to evolve with age and experience. These traits, including AQ, develop through the interaction of emotional, cognitive, and social factors. Additionally, Baltes (1987, 2019) proposes that human development is plastic, meaning that individuals are capable of adapting to changing circumstances throughout their lives. Development is also contextual, influenced by cultural, environmental, and situational factors that shape the ways in which individuals perceive and respond to adversity.

According to this framework, AQ is not static. Instead, it is shaped by accumulated life experiences, which vary with age and work experience. As individuals age, they gain emotional maturity, develop more refined coping strategies, and increase their resilience, thereby enhancing their AQ. This theory suggests that older individuals, for example, may demonstrate higher AQ due to the development of effective coping mechanisms and emotional regulation, which are crucial in managing adversity.

The concept of Adversity Quotient (AQ) was introduced by Paul G. Stoltz (1997) through his CORE model, which identifies four key dimensions of AQ: Control, Ownership, Reach, and Endurance. 'Control' refers to an individual's perceived ability to manage or influence adversity, while 'ownership' pertains to the extent to which an individual takes responsibility for the outcomes they experience. Reach reflects how adversity affects other areas of life, and endurance refers to the perceived duration of adversity and one's ability to persist despite challenges. Stoltz's model highlights that individuals with higher AQ are more capable of effectively managing setbacks and adapting to difficult situations. While these subdimensions describe different aspects of how people respond to adversity, in the present study, AQ is treated as a unidimensional construct. The AQ items used in this study were conceptually grounded in the CORE dimensions to ensure a comprehensive representation of adversity-handling behaviour. However, rather than disaggregating AQ into its subcomponents, the total AQ score was used to assess general trends across demographic categories. This approach aligns with empirical practices in which the four elements are used to inform item development but are analysed as part of a single, global AQ score, reflecting overall resilience and adaptability. This approach is supported by literature that treats AQ as

a holistic construct when examining its relationship with broad psychological and socio-demographic factors.

Together, Baltes' theory of lifespan development and Stoltz's AQ framework offer a dynamic lens through which to examine how demographic factors shape individuals' ability to handle adversity. The theoretical integration suggests that age, experience, education, income, and social contexts contribute significantly to how people adapt to challenges, with AQ serving as a composite indicator of that adaptive capacity. The integration of Baltes' life-span development theory with Stoltz's AQ model offers a dynamic view of how AQ evolves over time. As individuals progress through different life stages, they encounter various challenges that test and strengthen their ability to manage adversity. Age and work experience, for instance, are likely to contribute to higher AQ by providing individuals with a greater range of coping strategies, emotional regulation, and problem-solving abilities (Shen et al., 2014; Kuhon, 2020; Singh et al., 2022). Older individuals, in particular, may exhibit more developed coping mechanisms due to their accumulated life experiences, which enhance their overall AQ (Somaratne, Rajapaksha, & De Silva, 2017; Somaratne et al., 2020; Saxena & Saxena, 2024; Hardianto & Hardianto, 2019). Higher educational attainment fosters a greater ability to manage adversity (Somaratne et al., 2020; Safi'i et al., 2021; Kurniawan et al., 2020; Nurhayati, 2015). Marital status and income provide social and economic resources that can buffer the negative effects of adversity. Married individuals, for instance, have stronger social support networks that enhance their AQ (inferred from Kurniawan et al., 2020 and Saxena & Saxena, 2024). Similarly, higher income provides access to better healthcare, living conditions, and overall stability, which may increase one's capacity to handle adversity (Ablaña et al., 2016; Kurniawan et al., 2020; Saxena & Saxena, 2024; Wolor et al., 2020).

This theoretical framework, combining insights from life-span developmental psychology and AQ theory, provides a comprehensive understanding of how demographic factors influence AQ. It highlights the dynamic nature of AQ and its development across different life stages, suggesting that age, work experience, education, marital status, and income all play significant roles in shaping an individual's ability to manage adversity. This study aims to investigate how Adversity Quotient (AQ)—an individual's capacity to cope with and adapt to challenges—varies across different demographic groups. The objective is to identify whether significant differences in AQ exist among these demographic categories, thereby enhancing our understanding of the psychological and socio-economic factors that shape resilience and adaptive functioning across the lifespan.

Hypothesis Development

Adversity Quotient (AQ) and Age

Several studies have consistently highlighted a positive relationship between age and Adversity Quotient (AQ), suggesting that AQ tends to improve with age and life experience. For instance, Shen et al. (2014) found that both age and work seniority significantly influenced AQ among Taiwanese enterprise workers, indicating that professional maturity plays a role in adversity handling. Supporting this, Kuhon (2020) observed that adult learners exhibited higher AQ than fresh graduates, implying that AQ develops with maturity and exposure. Similarly, Singh et al. (2022) reported that younger adolescents had comparatively lower AQ levels than older individuals, reinforcing the notion of age-related growth in AQ. Studies by Somaratne, Rajapaksha, and De Silva (2017) and Somaratne et al. (2020) also identified age as a predictive factor for AQ and stress management capabilities among NGO managers. Additionally, Saxena and Saxena (2024) underscored that individuals with higher AQ also experienced better mental health across age groups, suggesting a developmental link. While not directly focused on age, Hardianto and Hardianto (2019) noted a moderate correlation between AQ and career adaptability in medical students, which may indirectly point to the role of developmental stages in AQ progression. On the basis of the above empirical research studies, the following hypothesis has been proposed.

H₀₁ (Null Hypothesis): There is no significant difference in Adversity Quotient across different age groups.

Adversity Quotient (AQ) and Gender

The relationship between Adversity Quotient (AQ) and gender has been widely studied, with the majority of research indicating minimal or no significant differences between males and females. Rathee (2018) and Hema and Sasi (2015) both found no significant gender differences in AQ among high school and higher secondary students, respectively. Similarly, Shen et al. (2014) concluded that gender had no significant impact on AQ among Taiwanese enterprise workers, while Somaratne et al. (2020) echoed these findings in their study of NGO managers. Although Listiawati and Rachmawati (2019) did not directly assess gender effects, their work hinted that social background factors—which can include gender-related influences—may shape AQ indirectly.

However, some studies have suggested potential differences in how males and females respond to adversity. For example, Singh et al. (2022) found that adolescent females exhibited lower AQ scores compared to their male counterparts. Likewise, Aprilia (2019) observed a gendered pattern in AQ profiles, with female students more often classified as “Climbers” (those who persevere) and males

as “Quitters”. Meanwhile, Mz et al. (2017) reported no significant gender difference in overall AQ scores among boarding school students but noted that males scored higher on the Endurance and Reach dimensions, while females scored higher on Control. These nuanced findings suggest that while overall AQ may not differ substantially by gender, specific AQ components and profiles can vary, reflecting possible gender-linked coping styles. Based on the findings of the aforementioned empirical studies, the following hypothesis has been formulated.

H₀₂: There is no significant difference in Adversity Quotient between male and female participants.

Adversity Quotient (AQ) and Experience (Work/Professional/Academic Seniority) Research has shown that work, professional, and academic seniority significantly influence Adversity Quotient (AQ). Shen et al. (2014) found that work seniority had a notable impact on AQ among enterprise workers, with those having more experience exhibiting higher AQ levels. Similarly, Bautista (2015) observed that faculty members’ AQ varied depending on their length of service and academic rank, suggesting that more experienced educators tend to have better-developed resilience and coping mechanisms. In the same vein, Somaratne et al. (2020) found that work experience significantly influenced AQ among managers. Lubis (2018) highlighted that AQ played a key role in job performance among taxi drivers, mediated by work motivation, indicating that professional experience shaped the relationship between AQ and job success. Furthermore, Wolor et al. (2020) found that millennial salespeople’s AQ was linked to better workplace performance, implying that experience contributed to increased AQ. Additionally, Laura and Kristiawan (2008) found a positive relationship between AQ and employee performance in the hospitality industry, suggesting that AQ develops with professional experience. Drawing upon the findings of the above empirical studies, the following hypothesis is proposed.

H₀₃: There is no significant difference in AQ across different levels of experience.

Adversity Quotient (AQ) and Educational Qualification

Educational qualifications have a mixed but insightful relationship with AQ. Hema and Sasi (2015) discovered that the type of school board (GSEB vs. CBSE) influenced AQ among higher secondary students, though the educational stream did not play a role. Shen et al. (2014) reported that educational qualification did not significantly affect AQ among Taiwanese enterprise workers, suggesting that AQ is less influenced by formal education levels in some professional contexts. However, Somaratne et al. (2020) found that academic qualification positively influenced

AQ among managers, indicating that higher educational attainment can enhance resilience in leadership roles. Safi'i et al. (2021) highlighted AQ's role in supporting students' academic autonomy and resilience during the COVID-19 pandemic, indirectly suggesting that educational exposure influences AQ. Furthermore, Kurniawan et al. (2020) emphasised that AQ, in combination with self-awareness and socioeconomic factors, contributes to career maturity in vocational education, further linking educational experience to AQ development. Nurhayati (2015) found that AQ, along with achievement motivation, influenced mathematics performance among high school students, suggesting that AQ has a role in academic achievement. Grounded in the evidence provided by previous empirical studies, the following hypothesis is put forward:

H₀₄: There is no significant difference in Adversity Quotient among individuals with different educational qualifications.

Adversity Quotient (AQ) and Monthly Income

While monthly income was not always directly analysed in AQ studies, several studies have implied that socioeconomic factors, often tied to income, influence AQ. Abilaña et al. (2016) noted that although monthly income was not directly studied, position and educational attainment correlated with the "Control" dimension of AQ among government employees, suggesting that socioeconomic status can impact AQ. Kurniawan et al. (2020) identified that socioeconomic status, including factors related to income, contributed to career maturity, alongside AQ and self-awareness. Saxena and Saxena (2024) found that higher AQ was associated with better professional quality of life among healthcare professionals, which could indirectly reflect the influence of income on AQ. Similarly, Wolor et al. (2020) implied that AQ-related performance improvements among millennial salespeople could lead to better economic outcomes, even though income was not directly measured. These findings suggest that income and its related factors, such as job position and socioeconomic status, play a role in shaping AQ, although the relationship is often indirect. In light of the results from the aforementioned empirical research, the following hypothesis has been developed.

H₀₅: There is no significant difference in AQ across different income levels.

Methods

Participants and Procedures

This study targeted executives working in top-tier IT companies across India, with a particular focus on professionals employed in the ten leading IT firms located in the Delhi NCR region (Delhi, Noida, and Gurugram) and the IT Park in Chandigarh. A two-stage sampling approach was utilised. In the first stage, the Delhi NCR area was segmented into several zones, from which four key locations—Delhi, Noi-

da, Gurugram, and IT Park Chandigarh—were selected to represent different strata. In the second stage, ten major IT firms were identified based on their revenue and market capitalisation.

To uphold participant confidentiality, respondents were informed that their personal details would remain anonymous. Participation in the survey was voluntary and without any financial incentives. A structured questionnaire was physically distributed to 865 employees, resulting in 508 usable responses after excluding incomplete and inactive submissions, giving a response rate of 58.72%. The study concentrated specifically on professionals in lower- and middle-management roles within these organisations.

Measures

Adversity Quotient (AQ)

The Adversity Quotient (AQ) was measured using the Adversity Response Profile (ARP) scale, developed by Paul Stoltz in Adversity Quotient: Turning Obstacles into Opportunities (1999). According to Stoltz, AQ reflects an individual's ability to effectively navigate life's challenges. Sample statements include "I assess situations within the right context", "I strive to manage every situation optimally", "I acknowledge my emotions fairly", and "I can identify the root causes of difficulties". Responses were recorded on a five-point Likert scale. The scale demonstrated high internal consistency, with a Cronbach's alpha of 0.915, well above the standard threshold of 0.7.

Data Analysis

Preliminary Analysis and Measurement of Adversity Quotient (AQ)

An empirical research design using primary data elicited through a structured questionnaire was employed in the study. Initially, the coded responses were organised in Microsoft Excel and analysed using SPSS (Version 21). A thorough data screening process revealed that the dataset was complete with no missing values. A normality check was conducted using skewness and kurtosis, and in all cases, the values were within the acceptable range of ± 2 , consistent with the guidelines of Garson (2012). To assess the potential for common method bias (CMB), an exploratory factor analysis (EFA) was conducted wherein all measurement items were loaded on a single unrotated factor. This factor accounted for only 18.5% of the total variance, which is well below the 50% threshold, indicating that CMB was not a concern in the current study.

Adversity Quotient (AQ) was measured using 12 items and validated within a broader model that included Intelligence Quotient (IQ), Emotional Quotient (EQ), the Big Five Personality Traits, and Job Performance. A combination of EFA and CFA confirmed the uniqueness and reliability of the

AQ construct. In the EFA, AQ items loaded strongly on a single factor with loadings exceeding 0.5 and showed high internal consistency (Cronbach's $\alpha = 0.915$).

Results from the Confirmatory Factor Analysis (CFA) further supported the unidimensionality of AQ. The construct demonstrated strong convergent validity (CR = 0.937, AVE = 0.712) and discriminant validity when compared with other constructs in the model.

In conclusion, for the purposes of this study, Adversity Quotient (AQ) is considered a validated, one-dimensional construct. Subsequent analyses focus on examining differences in AQ across demographic variables.

Descriptives and Inferential Statistics

An independent samples t-test was conducted to compare Adversity Quotient (AQ) scores between male and female participants. As depicted in Table 1, there was no significant difference in AQ scores between males ($M = 3.79$, $SD = 0.53$) and females ($M = 3.79$, $SD = 0.51$); $t(506) = -0.358$, $p = .721$. The 95% confidence interval for the mean difference ranged from -0.10 to 0.10, indicating no practical difference between the groups. Levene's test indicated that the assumption of equal variances was met, $F(1, 506) = 0.206$, $p = .650$. The 95% confidence interval for the mean difference is from -0.0915 to 0.0933, which includes zero. There is no statistically significant difference in Adversity Quotient between males and females ($p = 0.721$). The mean AQ scores for both genders are almost the same, and the effect size is negligible.

Adversity Quotient (AQ) across Monthly Income group

A one-way ANOVA was conducted to determine whether there were differences in Adversity Quotient (AQ) scores across three monthly income groups: below 30K, 30K–60K, and above 60K. As depicted in Table 2, the results showed no significant differences among the groups, $F(2, 505) = 0.40$, $p = .671$. This suggests that AQ is similar regardless of income level.

There is no statistically significant difference in Adversity Quotient based on monthly income group. The AQ scores are consistent across income levels, suggesting income does not appear to influence AQ in this sample.

Adversity Quotient (AQ) across employees of different experience groups

An analysis of variance (ANOVA) was conducted to examine whether Adversity Quotient (AQ) differs significantly across three levels of work experience: 0–3 years (Group 1), 3–6 years (Group 2), and above 6 years (Group 3). As depicted in Table 3, the results revealed a statistically significant difference in AQ among these groups, $F(2, 505) = 25.13$,

$p < .001$, indicating that experience level is meaningfully related to AQ.

Descriptive statistics showed that participants with more than 6 years of experience (Group 3) reported the highest mean AQ ($M = 3.9591$, $SD = 0.5447$), followed by those with 3–6 years of experience (Group 2: $M = 3.7336$, $SD = 0.5097$) and 0–3 years of experience (Group 1: $M = 3.7167$, $SD = 0.5222$). The ANOVA results ($F(2, 505) = 25.13$, $p < 0.001$) indicate that experience level has a significant impact on AQ. Specifically, those with higher experience (more than 6 years) show better adversity coping abilities compared to individuals with less experience, with no significant difference found between the low and moderate experience groups. These results suggest that as experience increases, individuals tend to develop stronger adversity coping skills.

Adversity Quotient (AQ) of employees across different educational qualification groups

The analysis reveals a significant relationship between educational qualification and Adversity Quotient (AQ), as indicated by a one-way ANOVA ($F(2, 505) = 30.0$, $p < .001$). As depicted in Table 4, individuals with professional qualifications reported the highest AQ (mean = 4.139), followed by postgraduates (mean = 3.708) and graduates (mean = 3.611). Post hoc comparisons using the Tukey HSD test showed that professionals have significantly higher AQ scores compared to both graduates and postgraduates. However, the difference between graduates and postgraduates was not statistically significant. These results suggest that higher and more specialised education may be associated with better resilience and capacity to handle adversity.

As depicted in Table 5, the independent samples t-test shows no statistically significant difference in Adversity Quotient between married ($M = 3.7872$) and unmarried ($M = 3.7932$) participants, $t(506) = -0.130$, $p = .897$. The Levene's test for equality of variances was not significant ($p = .433$), indicating equal variances can be assumed. The negligible mean difference of -0.006 suggests that marital status does not meaningfully influence AQ levels among the sample.

As depicted in Tables 6 and 7, the results revealed notable differences in Adversity Quotient (AQ) scores across age groups. Participants aged ≤ 30 years ($N = 308$) reported the lowest mean AQ ($M = 3.711$, $SD = 0.512$), while those in the 31–45 years age group ($N = 148$) demonstrated a higher AQ ($M = 3.876$, $SD = 0.499$). The highest AQ scores were observed among participants over 45 years old ($N = 52$, $M = 4.020$, $SD = 0.467$). The overall mean AQ across all age groups was 3.790 ($SD = 0.527$). To examine whether these differences were statistically significant, a one-way analysis of variance (ANOVA) was conducted. The results

indicated a significant difference in AQ across the age groups, $F(2, 505) = 7.243$, $p = .001$, suggesting that age is associated with variations in AQ. Post hoc comparisons using Tukey's HSD test were performed to identify the specific group differences. The analysis revealed that the > 45 years group had a significantly higher AQ than the ≤ 30 years group (mean difference = -0.309 , $p = .000$), and the 31–45 years group also had significantly higher AQ than the ≤ 30 years group (mean difference = -0.165 , $p =$

$.022$). However, there was no significant difference in AQ between the 31–45-year-old and > 45-year-old groups (mean difference = -0.143 , $p = .185$). These findings suggest a clear trend: AQ increases with age, particularly from early adulthood to midlife, potentially due to the accumulation of life experiences and the development of more effective coping mechanisms. The absence of a significant difference between the middle-aged and older participants may indicate a plateau in AQ development beyond midlife.

Table 1. Adversity Quotient (AQ) across Gender

Variable	Gender	N	Mean	Std. Deviation	Levene's Test for Equality of Variances	t-test for Equality of Means	t	df	Sig. (2-tailed)	95% Confidence Interval of the Difference
Adversity Quotient	Male	301	3.7904	0.53432	$F = 0.206$, Sig. = 0.650	Equal variances assumed	-0.358	506	0.721	[-0.0915, 0.0933]
-	Female	207	3.7895	0.51147	-	Equal variances not assumed	-0.361	455.19	0.719	[-0.0915, 0.0933]

Table 2. Descriptive Statistics, ANOVA, and Tukey HSD Post-hoc Test for Adversity Quotient (AQ) by different Monthly Income groups

Income Group	N	Mean	Std. Deviation	F	Sig.
Below 30K	149	3.7577	0.48951	0.399	0.671
30K-60K	220	3.8041	0.55471	-	
Above 60K	139	3.8029	0.52308		
Total	508	3.7902	0.52704		

Table 3. Descriptive Statistics, ANOVA, and Tukey HSD Post-Hoc Test for Adversity Quotient (AQ) by different experience groups

Experience Group	Experience Range	N	Mean AQ	SD	Significant Differences (Tukey HSD)
1 (Low)	0–3 years	183	3.7167	0.5222	Lower than Group 3 ($p = .003$)
2 (Moderate)	3–6 years	168	3.7336	0.5097	Lower than Group 3 ($p = .001$)
3 (High)	Above 6 years	157	3.9591	0.5447	Higher than Groups 1 & 2
ANOVA	—	—	—	—	$F(2, 505) = 25.13$, $p < .001$

Table 4. Descriptive Statistics, ANOVA, and Tukey HSD Post-Hoc Test for Adversity Quotient (AQ) by Educational Qualification

Educational Qualification	N	Mean AQ	Std. Deviation	Significant Difference (Tukey HSD)
1 = Graduate	196	3.611	0.518	Lower than Post Graduate and Professionals
2 = Post Graduate	262	3.708	0.458	Lower than Professionals
3 = Professional	50	4.139	0.478	Higher than both 1 and 2
ANOVA				$F(2, 505) = 30.00$, $p < .001$

Table 5.Descriptive Statistics and T-test for Adversity Quotient (AQ) by Marital Status Group

Marital Status	N	Mean AQ	Std. Deviation	Levene's Test for Equality of Variances	t	df	Sig. (2-tailed)	95% CI of the Difference
Married	257	3.7872	0.51024	F = 0.615, p = 0.433 (equal variances assumed)	-0.130	506	0.897	[-0.09805, 0.08591]
Unmarried	251	3.7932	0.54471	—	-0.130	502.032	0.897	[-0.09812, 0.08598]

Table 6.Descriptive Statistics, ANOVA for Adversity Quotient (AQ) by Age Group

Age Group	N	Mean AQ	Std. Deviation	ANOVA (F, p)
≤ 30	308	3.711	0.512	F (2, 505) = 7.243, p = 0.001
31–45	148	3.876	0.499	
> 45	52	4.020	0.467	
Total	508	3.790	0.527	

Table 7.Post-Hoc Test: Tukey HSD for Adversity Quotient (AQ) by Age Group

Age Group (I)	Age Group (J)	Mean Difference (I–J)	Std. Error	Sig. (p-value)	95% Confidence Interval
≤ 30	31–45	-0.165	0.072	0.022	-0.310 to -0.020
≤ 30	> 45	-0.309	0.089	0.000	-0.487 to -0.131
31–45	> 45	-0.143	0.104	0.185	-0.350 to 0.064

Discussion

This study examined the relationship between Adversity Quotient (AQ) and various demographic and professional variables, including age, gender, work experience, educational qualification, monthly income, and marital status among IT professionals in India. The findings were compared against a body of existing research to validate or challenge previous observations.

The results revealed a statistically significant increase in AQ with age. Participants above 45 years had the highest mean AQ, followed by those aged 31–45, while the youngest group (≤30 years) had the lowest. These findings support H_{01} , which hypothesised no significant difference in AQ across age groups—but the null was rejected, indicating age does indeed influence AQ.

This pattern is consistent with prior research. Shen et al. (2014) found that both age and work seniority significantly influence AQ, highlighting the role of maturity and life experience in adversity management. Singh et al. (2022) similarly noted that older adolescents had higher AQ compared to younger ones, while Kuhon (2020) reported that adult learners showed stronger AQ than fresh graduates. Further supporting evidence comes from Somaratne et al. (2017, 2020), who identified age as a significant predictor

of AQ among NGO managers. These findings collectively reinforce the developmental nature of AQ, as individuals accumulate coping mechanisms and resilience strategies over time. The observed plateau between the middle-aged and older groups suggests that AQ may reach a maturity threshold beyond which gains are marginal. No statistically significant differences in AQ were found between male and female participants. This aligns with H_{02} , which posits no significant gender-based differences in AQ. This outcome corroborates a range of studies, including Rathee (2018), Hema and Sasi (2015), and Shen et al. (2014), all of which reported negligible differences in AQ across genders. Similarly, Somaratne et al. (2020) found gender to be a non-significant factor among NGO managers. Although a few studies, such as Singh et al. (2022) and Aprilia (2019), noted nuanced gender-related patterns in specific AQ dimensions (e.g., Control vs. Endurance), these differences do not translate into a substantial overall AQ gap. Therefore, the current findings confirm that gender does not meaningfully influence an individual's overall adversity management capacity in professional contexts. The analysis showed significant differences in AQ based on work experience. Participants with more than six years of experience exhibited higher AQ compared to those with less than six years, validating the rejection of H_{03} .

This supports existing literature emphasising the role of professional seniority in AQ development. Studies have found that increased work experience was associated with improved AQ, possibly due to repeated exposure to workplace stressors and the development of resilience over time (Shen et al., 2014; Bautista, 2015; Somaratne et al., 2020). Wolor et al. (2020) also emphasised that AQ among millennial salespeople was closely tied to performance, implying a maturity-performance link. Similarly, Laura and Kristiawan (2008) reported a positive correlation between AQ and performance, influenced by professional experience. These findings suggest that prolonged industry exposure enhances one's ability to adapt, recover, and thrive under pressure.

The study found that AQ varied significantly across different levels of educational attainment, with professionals (e.g., those with technical or specialised qualifications) showing significantly higher AQ than both graduates and postgraduates. This leads to the rejection of H_{04} . The results echo findings by Somaratne et al. (2020), who reported that academic qualifications positively impacted AQ among managers. Safi'i et al. (2021) also highlighted AQ's role in academic autonomy and resilience, especially during challenging periods such as the COVID-19 pandemic. Kurniawan et al. (2020) underscored the role of educational experiences in shaping career maturity and resilience. While Shen et al. (2014) suggested that formal education did not influence AQ significantly in all professional settings, the present study indicates that in technical industries like IT, specialised qualifications may confer advantages in adversity handling—perhaps due to training in problem-solving, structured thinking, and exposure to high-pressure tasks.

No significant differences in AQ were found across income groups, thus supporting H_{05} . Though direct studies on AQ and income are limited, indirect evidence supports the idea that income and related socioeconomic variables might shape AQ in certain contexts. Ablaña et al. (2016) and Kurniawan et al. (2020) noted associations between socioeconomic status and AQ-related traits such as control and career maturity. However, in this study, AQ appears consistent regardless of income bracket. This may reflect the relatively homogeneous nature of the sample—IT professionals with comparable access to education, job security, and work conditions. Finally, no statistically significant difference in AQ was observed between married and unmarried participants, suggesting that marital status does not affect AQ meaningfully. Although not directly tested in prior literature cited here, this result complements the broader findings regarding demographic variables like gender and income, which also appear to have negligible influence.

Implications

The findings of this study offer important practical implications for IT professionals. A clear positive relationship between age, experience, and Adversity Quotient (AQ) suggests that employees should view their growing professional journey as a resource for resilience. For those in mid-career roles, this insight emphasises that AQ can be enhanced through cumulative exposure to challenges. By reflecting on and learning from past adversities, IT employees can actively transform setbacks into opportunities for growth, reinforcing the idea that adversity is not merely a disruption but a developmental experience.

The study also underscores the importance of lifelong learning and professional qualifications. It was found that individuals with specialised or technical qualifications demonstrated higher AQ levels than those with only graduate or postgraduate degrees. This implies that practical, skills-based training and certifications not only improve technical competencies but also bolster resilience by equipping individuals to think critically and manage stress under pressure. The IT employees who are often required to handle fast-paced problem-solving should therefore be encouraged to pursue professional development as a buffer against workplace adversity.

Moreover, the absence of significant AQ variation by income or marital status highlights AQ as a personal growth target rather than a function of socioeconomic factors. This reinforces the idea that resilience is shaped more by mindset, habits, and learnt behaviour than by external conditions. The IT professionals should therefore invest in reflective practices, feedback integration, and stress management techniques to build AQ as part of their career development, irrespective of their financial or personal circumstances.

For IT companies, these insights translate into actionable strategies. First, learning and development (L&D) interventions should be tailored to employee experience levels. Since AQ increases with work experience, newer employees may benefit from structured resilience training, while experienced staff can be engaged as peer mentors or coaches—thus reinforcing their own AQ while fostering it in others. Organisations should integrate “learning from adversity” into leadership development programmes to institutionalise this growth-orientated approach.

Additionally, companies can improve recruitment and role assignments by identifying AQ-related traits during hiring or promotion. Behavioural interviews and psychometric tools can help assess adaptability, perseverance, and problem-solving—attributes essential for success in

middle management roles that often entail cross-functional challenges, deadlines, and limited resources. Moreover, firms should invest in or subsidise specialised training and certifications, recognising that such qualifications not only enhance technical proficiency but also contribute to stronger AQ by preparing employees to navigate adversity more effectively.

Cross-generational learning also holds promise. Since AQ tends to be higher in older and more experienced individuals, companies can promote structured mentorship programmes where seasoned professionals support middle-level employees, who in turn mentor juniors. This two-way mentorship reinforces adaptive behaviours across all career stages, promoting a culture of continuous learning.

Finally, workplace culture plays a crucial role. Since demographic factors such as gender, income, and marital status do not significantly influence AQ, companies should foster psychologically safe environments where employees feel empowered to discuss setbacks without fear of blame. Cultivating such an AQ-friendly culture—centred on open dialogue, constructive feedback, and resilience—can significantly boost both individual and organisational performance.

Theoretically, the study validates life-span developmental theory in the context of AQ, supporting the notion that resilience evolves through experience and learning. It also reinforces the relevance of AQ, suggesting that this construct strengthens with professional exposure and educational attainment. Furthermore, the lack of demographic differences in AQ points to the need for situationally sensitive models that focus more on contextual, behavioural, and experiential variables rather than static personal traits. This shift advocates for a dynamic understanding of AQ—one that can be nurtured through targeted interventions within professional environments.

Limitations

One important limitation of this study lies in its cross-sectional design, particularly regarding the analysis of age-related differences in Adversity Quotient (AQ). While the study examines whether AQ differs significantly across various age groups, it does so by comparing different individuals at a single point in time. This approach restricts the ability to draw causal or developmental inferences about how AQ changes as individuals age.

In contrast, a longitudinal study design—where the same individuals are assessed repeatedly over an extended period—would provide more robust evidence regarding how AQ evolves with age and life experience. The current cross-sectional method cannot account for cohort effects, which may confound observed age-related differences. For instance, differences in AQ between younger and older

individuals may reflect generational variations in upbringing, education, or societal challenges, rather than true developmental changes.

Therefore, while the findings offer valuable insights into how AQ may differ across age brackets, they should be interpreted with caution. Future research employing longitudinal methods would help clarify whether age-related trends in AQ are due to individual development or cohort-specific factors.

Conclusion

In conclusion, this study provides valuable insights into the relationship between Adversity Quotient (AQ) and various demographic and professional factors among IT professionals in India. The results highlight the significant influence of age, work experience, and educational qualifications on AQ, suggesting that resilience and adversity management improve with age and experience. Importantly, the study also emphasises that AQ is not influenced by gender, income, or marital status, positioning resilience as a personal development goal rather than a product of external conditions.

The implications for IT professionals underscore the importance of leveraging professional experiences, continuous learning, and specialised training to build AQ. For companies, the findings suggest targeted learning interventions, role assignments based on AQ traits, and fostering cross-generational mentorship to support resilience development.

However, the study's cross-sectional design limits the ability to draw causal conclusions about AQ development over time. Future longitudinal research is recommended to further explore how AQ evolves with age and experience, providing deeper insights into its developmental trajectory.

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