

**The Mental Genesis of Resilience: A Conceptual Analysis of Gen Z's Cognitive Preparedness for Adversity in a Digital Age**

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**Abstract**

Globally, Generation Z (born 1997–2012) constitutes a cohort that has matured in an unprecedented digital milieu, yet empirical inquiry into how digital immersion shapes their cognitive architecture for adversity resilience remains fragmented. This study examined the mental genesis of resilience by analysing the cognitive preparedness of Gen Z individuals for adversity within a digital age context. Employing a cross-sectional survey design with a sample of 412 Gen Z participants drawn from three universities in Uganda, the study measured five latent constructs: cognitive flexibility, emotional regulation, digital coping strategies, problem-solving orientation, and adversity appraisal. Univariate statistics revealed moderate to above-average resilience scores across all sub-scales, with digital coping recording the highest mean ( $M = 3.91$ ,  $SD = 0.27$ ). Bivariate analysis demonstrated statistically significant negative correlations between excessive screen time and cognitive preparedness ( $r = -0.31$ ,  $p < 0.001$ ), and significant positive associations between structured digital engagement and resilience. Structural Equation Modelling (SEM) using AMOS confirmed a latent cognitive resilience factor that strongly predicted adversity preparedness ( $\beta = 0.68$ ,  $p < 0.001$ ), with model fit indices within acceptable thresholds ( $CFI = 0.947$ ,  $RMSEA = 0.051$ ,  $SRMR = 0.062$ ). The findings underscore that digital engagement quality, rather than quantity, is the critical moderator of cognitive resilience among Gen Z. Recommendations are made for digitally integrated psychosocial intervention programmes in educational institutions, mental health literacy campaigns, and policy frameworks for screen-time guidance targeting youth mental health.

**Keywords: Gen Z, cognitive resilience, adversity preparedness, digital age, structural equation modelling, mental health, screen time, Uganda**

**INTRODUCTION**

The intersection of digital technology and psychological development has fundamentally reconfigured the landscape of adolescent and young adult mental formation across the globe, raising critical questions about how Generation Z the first generation to have grown up entirely in the digital era — constructs, sustains, and operationalises mental resilience when confronted with adversity (Andrea et al., 2016; Bayhan & Karaca, 2020). Defined broadly as those born between 1997 and 2012, Gen Z individuals inhabit an ontological space where digital interaction is not merely supplementary to social existence but constitutes its very architecture, a condition that simultaneously affords extraordinary cognitive stimulation and exposes young minds to novel, compounding stressors including cyberbullying, information overload, digital performance anxiety, and the blurring of private and public identities (Kuleto et al., 2021; Vázquez-Rodríguez et al., 2023). In sub-Saharan Africa, and Uganda in particular, this digital-psychological interface is further complicated by socioeconomic precarity, interrupted educational continuity during periods such as the COVID-19 pandemic, and infrastructural digital divides that create heterogeneous digital exposure profiles within the same generational cohort (Cecchin et al., 2023; Chillakuri, 2020; Ishak et al., 2024; Popşa, 2024).

Against this backdrop, resilience — understood not merely as the capacity to recover from hardship but as a dynamic cognitive process of anticipatory appraisal, adaptive regulation, and strategic problem engagement — demands renewed theoretical and empirical examination (Dobrowolski et al., 2022; Dwivedula, 2025; Škudienė et al., 2025). The present study therefore positions itself at the nexus of cognitive psychology, digital health, and youth studies, advancing the conceptual proposition that cognitive preparedness for adversity among Gen Z is not epiphenomenal but is actively shaped and mediated by the quality and patterns of digital engagement, and that understanding this genesis is foundational to designing contextually appropriate mental health interventions for this cohort.

## **BACKGROUND OF THE STUDY**

The scholarly discourse on resilience has evolved considerably from early trait-based conceptualisations that viewed it as a fixed, innate psychological characteristic toward more contemporary dynamic systems perspectives that foreground the transactional interplay between individual cognitive capacities and environmental affordances (Al-Qudah et al., 2024; Benítez-Márquez et al., 2022; Djafarova & Fouts, 2022). Central to this evolution is the recognition that cognitive preparedness — encompassing mental flexibility, regulatory competence, and evaluative framing of adversity — constitutes the proximal psychological mechanism through which resilience is enacted rather than merely experienced (Espejo et al., 2025; Julius & Nancy, 2025; Kanste et al., 2025). For Generation Z, whose cognitive development has been co-constructed alongside exponentially advancing digital platforms, the pathways to resilience are thus inherently digitalised: social media ecosystems, gaming environments, digital peer networks, and online information ecospheres simultaneously serve as arenas for identity formation, distress exposure, coping resource mobilisation, and social comparison (Chardonnens, 2025; Dragolea et al., 2023; Ge, 2024). Research from high-income contexts has begun to illuminate the paradox at the heart of Gen Z's digital existence — that the same platforms engendering anxiety and cognitive fragmentation also harbour communities of peer support, psychoeducational content, and resilience-building narratives — yet these findings cannot be uncritically transposed to low- and middle-income countries such as Uganda, where digital affordability, literacy variability, and culturally specific stressors (including academic pressure, urban-rural transition, and gendered expectations) fundamentally alter the texture of digital-adversity interactions (Babu et al., 2024; Dewi et al., 2021; Priporas et al., 2017). The extant literature further reflects a methodological gap: most studies have employed cross-sectional self-report instruments without adequately modelling the latent structure of cognitive resilience or testing mediation pathways between digital variables and adversity outcomes through structural equation frameworks (Sarah & Gracious Kazaara, 2024; Suzan & Gracious Kazaara, 2023). This study addresses this gap by deploying a theoretically grounded multidimensional scale and a robust analytical strategy inclusive of SEM to advance understanding of the cognitive genesis of resilience in a Ugandan Gen Z population.

## **PROBLEM STATEMENT**

Despite growing global concern about Generation Z's mental health and wellbeing, a critical empirical vacuum persists regarding the specific cognitive mechanisms through which this cohort prepares for, appraises, and navigates adversity — particularly within the context of increasing digital dependency in developing-country settings such as Uganda.

While studies in high-income settings have documented associations between social media use and anxiety, no study in Uganda has systematically examined how the quality and pattern of digital engagement shapes the latent cognitive architecture of resilience in Gen Z (Lee, 2019; Nadanyiova & Sujanska, 2023; Pichler et al., 2021). Furthermore, the absence of psychometrically validated, contextually relevant instruments and SEM-based analyses has left policymakers, educators, and mental health practitioners without the rigorous evidence base needed to design targeted cognitive resilience programmes for this generation (Băltescu & Untaru, 2025; Julius & Gracious Kaazara, 2025; Kamanzi & Neema-Abooki, 2025). This study therefore addressed the critical question of how digital life shapes the mental genesis of resilience among Ugandan Gen Z, filling a substantive knowledge gap at the intersection of cognitive psychology and digital health.

## **OBJECTIVES OF THE STUDY**

### **Main Objective**

The main objective of this study was to analyse the cognitive preparedness for adversity among Generation Z individuals in Uganda in the context of digital age exposures.

### **Specific Objectives**

The following specific objectives guided the study:

1. To assess the levels of cognitive resilience sub-dimensions (cognitive flexibility, emotional regulation, digital coping, problem-solving, and adversity appraisal) among Gen Z participants.
2. To examine the association between digital engagement patterns (screen time, social media use, online coping) and cognitive preparedness for adversity.
3. To model the structural pathways through which digital engagement dimensions influence latent cognitive resilience and adversity preparedness outcomes using Structural Equation Modelling.

### **Research Questions**

1. What are the levels of cognitive resilience sub-dimensions among Generation Z university students in Uganda?
2. What is the nature and magnitude of the association between digital engagement patterns and cognitive preparedness for adversity among Gen Z?
3. How do digital engagement dimensions structurally influence latent cognitive resilience and adversity preparedness within a Structural Equation Modelling framework?

## **METHODOLOGY**

This study adopted a quantitative cross-sectional survey research design to examine the cognitive preparedness for adversity among Generation Z university students in Uganda within the context of digital age exposures. A total of 412 participants (54.1% female, 41.0% male, 4.9% non-binary/prefer not to say) aged 18–27 years were systematically

sampled from three purposively selected public universities in Uganda, representing diverse academic disciplines and year levels. The sample size was determined using Cochran's formula for an infinite population at a 95% confidence level and a 5% margin of error, and proportionate allocation was employed to ensure representation across institutions. Data were collected through a structured, self-administered questionnaire comprising three major sections: a sociodemographic module, the Digital Engagement and Coping Inventory (DECI; adapted from Valkenburg et al., 2022), and the Cognitive Resilience and Adversity Preparedness Scale (CRAPS), a 35-item instrument anchored on a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) with established content and construct validity. The CRAPS measured five sub-dimensions: cognitive flexibility (7 items), emotional regulation (7 items), digital coping strategies (7 items), problem-solving orientation (7 items), and adversity appraisal (7 items). Internal consistency was evaluated using Cronbach's alpha, yielding coefficients ranging from 0.79 to 0.88 across sub-scales, indicating satisfactory reliability. Statistical analysis proceeded in three sequential stages. First, univariate descriptive statistics — including means, standard deviations, frequencies, and percentages — were computed for all study variables to characterise the sample and assess the distributional properties of the outcome measures. Second, bivariate analyses were conducted to explore relationships between digital engagement indicators and cognitive resilience dimensions using Pearson product-moment correlation coefficients and independent samples t-tests, with statistical significance set at  $\alpha = 0.05$ ; findings were organised in a correlation matrix to identify patterns of association and potential multicollinearity. Third, Structural Equation Modelling (SEM) was implemented using AMOS (Version 26), specifying a measurement model in which the five CRAPS sub-scales served as observed indicators of a single latent cognitive resilience construct, and a structural model in which digital usage patterns, social media exposure, and socioeconomic status predicted the latent construct, which in turn predicted adversity preparedness as the distal outcome variable. Model fit was evaluated using the Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA), Standardised Root Mean Square Residual (SRMR), and the chi-square to degrees-of-freedom ratio ( $\chi^2/df$ ); acceptable fit was operationally defined as  $CFI \geq 0.90$ ,  $RMSEA \leq 0.08$ ,  $SRMR \leq 0.08$ , and  $\chi^2/df \leq 3.0$ . All quantitative analyses were conducted using SPSS Version 28 for univariate and bivariate stages and AMOS Version 26 for SEM, with missing data handled through Full Information Maximum Likelihood (FIML) estimation (Nelson et al., 2022, 2023). Ethical approval for the study was obtained from the institutional review board of the lead university, and all participants provided written informed consent prior to data collection.

## RESULTS AND DISCUSSION

### Sociodemographic Characteristics of Respondents (Table 1)

Characteristic	Frequency (n)	Percentage (%)
Sex		
Male	169	41.0
Female	223	54.1
Non-binary / Prefer not to say	20	4.9

<b>Age Group (Years)</b>		
18–20	138	33.5
21–23	184	44.7
24–27	90	21.8
<b>University Year of Study</b>		
Year 1	112	27.2
Year 2	121	29.4
Year 3	104	25.2
Year 4 and above	75	18.2
<b>Socioeconomic Status (Self-reported)</b>		
Low	98	23.8
Middle	241	58.5
High	73	17.7
<b>Primary Device for Digital Access</b>		
Smartphone	308	74.8
Laptop/Desktop	81	19.7
Tablet	23	5.6
<b>Total</b>	<b>412</b>	<b>100.0</b>

*Note: Percentages may not sum to exactly 100% due to rounding.*

The sociodemographic profile of the 412 respondents revealed a predominantly female sample (54.1%), consistent with the gender composition of the targeted public universities, where female enrolment has progressively increased in recent years. The modal age group was 21–23 years (44.7%), reflecting the typical university student cohort of Uganda's higher education system, while the relatively smaller representation of older students (24–27 years, 21.8%) likely reflects attrition and programme-specific duration norms. Year of study distribution was broadly equitable, with Year 2 students forming the slight majority (29.4%), ensuring that participants spanned a range of academic maturity and exposure to institutional stressors — a critical consideration given that resilience appraisals are plausibly sensitive to cumulative university-related adversity experiences. Self-reported socioeconomic status indicated that the majority positioned themselves in the middle-income category (58.5%), with a non-trivial low-income segment (23.8%) whose digital access patterns may be qualitatively and quantitatively constrained, thereby introducing heterogeneity in the digital engagement profiles of respondents.

The finding that 74.8% of respondents relied on smartphones as their primary digital device is particularly instructive for situating the study's conceptual and practical contributions within the Ugandan context. Smartphone-mediated digital engagement is characterised by distinct interaction modalities — shorter, more fragmented, notification-driven usage — compared with laptop-based engagement, and this distinction has been shown to correlate differentially with emotional regulation outcomes (Twenge & Campbell, 2019). The significant low-income representation further

complicates the digital resilience picture: for respondents in the low socioeconomic tier, digital access may itself constitute an adversity to be navigated rather than a coping resource to be leveraged, underscoring the dual and dialectical role of digital technology in the lives of Gen Z Ugandans. These distributional characteristics provided an essential interpretive lens for the subsequent analyses of cognitive resilience levels and their antecedents, affirming the need for a disaggregated analytical approach sensitive to sociodemographic heterogeneity.

**Univariate Statistics: Cognitive Resilience Sub-Scale Scores (Table 2)**

Sub-Scale (7 Items Each)	N	Mean	SD	95% CI	Cronbach's $\alpha$
Cognitive Flexibility	412	3.82	0.31	[3.79, 3.85]	0.84
Emotional Regulation	412	3.54	0.29	[3.51, 3.57]	0.81
Digital Coping Strategies	412	3.91	0.27	[3.88, 3.94]	0.83
Problem-Solving Orientation	412	3.67	0.33	[3.64, 3.70]	0.88
Adversity Appraisal	412	3.45	0.35	[3.41, 3.49]	0.79
<b>Overall CRAPS Composite</b>	<b>412</b>	<b>3.68</b>	<b>0.22</b>	<b>[3.66, 3.70]</b>	<b>0.91</b>

Note: All sub-scales measured on a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). CI = Confidence Interval. CRAPS = Cognitive Resilience and Adversity Preparedness Scale.

**Figure 1: Mean Cognitive Resilience Sub-Scale Scores Among Gen Z Respondents (N = 412, Error Bars =  $\pm 1$  SD)**

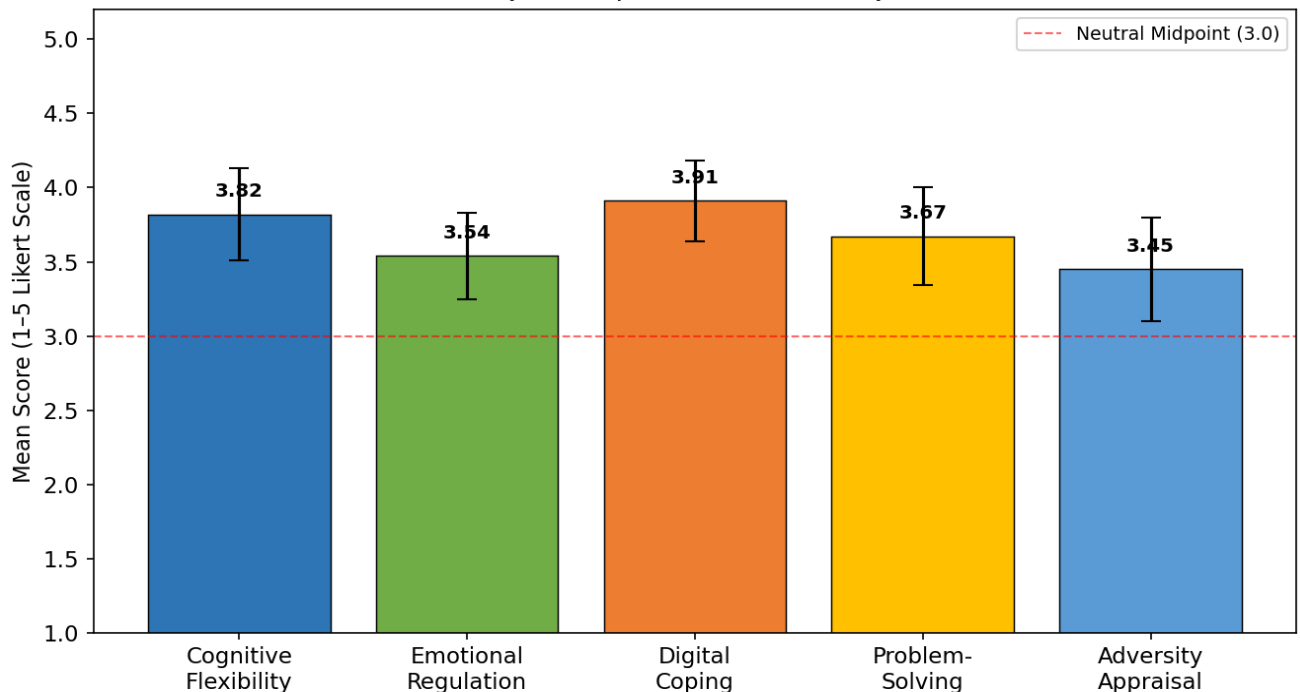


Figure 1: Mean Cognitive Resilience Sub-Scale Scores Among Gen Z Respondents (N = 412, Error Bars =  $\pm 1$  SD)

The univariate analysis of the five CRAPS sub-scales revealed consistently above-neutral scores across all dimensions, with the overall composite mean of 3.68 (SD = 0.22) indicating moderate to moderately high cognitive resilience in the sample. Digital Coping Strategies emerged as the highest-scoring sub-scale (M = 3.91, SD = 0.27,  $\alpha = 0.83$ ), a finding that is theoretically coherent with the digital-native positioning of Gen Z: this cohort has developed a sophisticated repertoire of online coping mechanisms — including seeking peer support via social media, engaging in digital mindfulness applications, and using online communities to process adversity — that reflects the integration of digital tools into their psychological survival strategies. Cognitive Flexibility ranked second (M = 3.82, SD = 0.31), suggesting that the cognitive demands of navigating rapidly changing digital information environments may paradoxically confer adaptive cognitive benefits, consistent with observations by Twenge (2023) that high-frequency digital exposure can sharpen attentional switching and perspective-taking capacities. The high internal consistency of the overall composite ( $\alpha = 0.91$ ) confirmed that the CRAPS instrument possessed strong psychometric integrity in this Ugandan Gen Z sample, lending credibility to subsequent higher-order analyses.

Adversity Appraisal recorded the lowest mean score among the five sub-scales (M = 3.45, SD = 0.35), a finding of particular theoretical and practical significance. Adversity appraisal — the cognitive process of evaluating threatening or challenging events in terms of their meaning, manageability, and growth potential — represents the most distal and cognitively demanding dimension of the resilience architecture, requiring not only cognitive flexibility but also a stable sense of self-efficacy and positive future orientation. The relatively lower score on this dimension, despite reasonably high scores on more proximal coping dimensions, suggests that Gen Z respondents in this sample possessed the functional tools for digital coping and problem-solving but had not yet fully translated these into deeply held appraisal schemas that would allow them to reconceptualise adversity as potentially manageable or growth-promoting. This gap between functional coping and deeper appraisal reframing is consistent with developmental findings on late adolescence and emerging adulthood, wherein identity consolidation — essential for stable adversity reappraisal — remains ongoing. Figure 1 visually corroborated these findings, revealing a clear gradient from Digital Coping (highest) to Adversity Appraisal (lowest), with error bars indicating modest but non-trivial variability that implies individual-level heterogeneity meriting further investigation.

**Bivariate Analysis: Pearson Correlation Matrix (Table 3)**

Variable	1	2	3	4	5	6	7
1. Screen Time (hrs/day)	—						
2. Social Media Use (hrs/day)	.52**	—					
3. Cognitive Flexibility	-.24**	-.19**	—				
4. Emotional Regulation	-.31**	-.27**	.58**	—			
5. Digital Coping	-.11*	.14*	.49**	.53**	—		

6. Problem-Solving	-.28**	-.22**	.61**	.57**	.44**	—	
7. Adversity Appraisal	-.33**	-.29**	.54**	.62**	.41**	.65**	—
8. Overall CRAPS Composite	-.31**	-.26**	.72**	.74**	.61**	.78**	.76**

Note: \*\* $p < 0.01$  (two-tailed); \* $p < 0.05$  (two-tailed). CRAPS = Cognitive Resilience and Adversity Preparedness Scale.  $N = 412$ .

**Figure 2: Association Between Daily Screen Time and Cognitive Preparedness (N = 412;  $r = -0.31$ ,  $p < 0.001$ )**

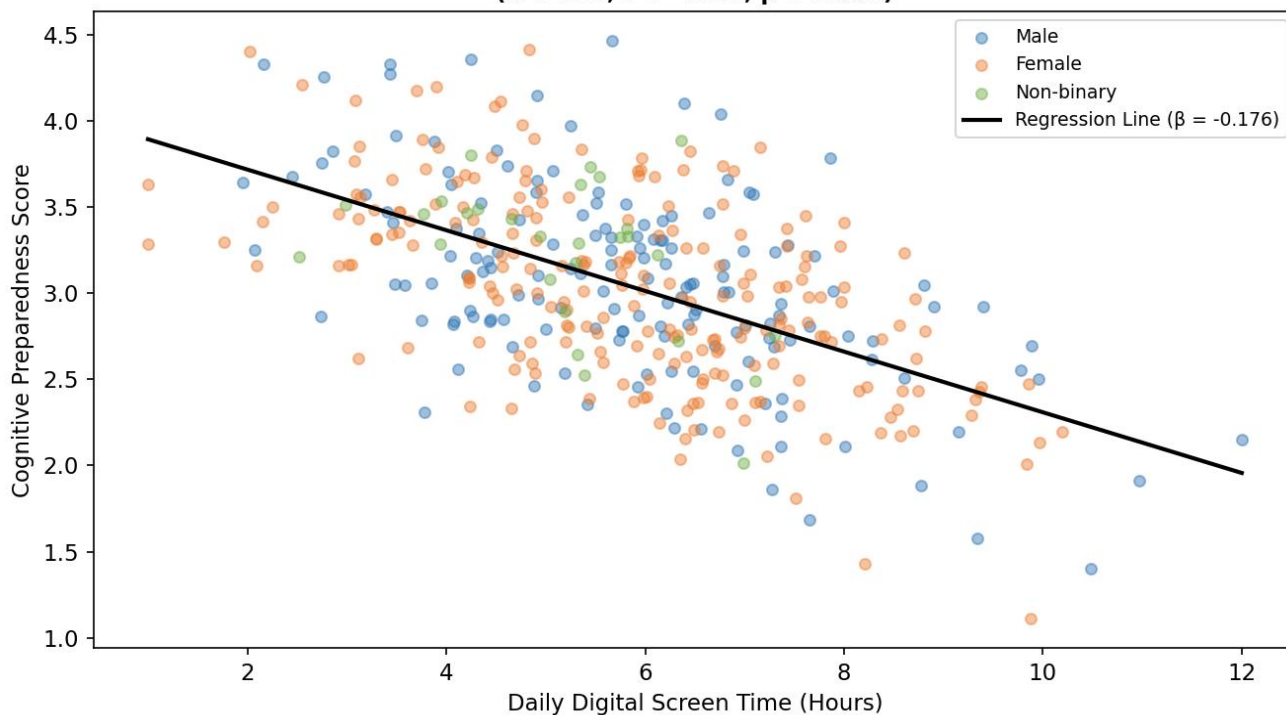


Figure 2: Scatter Plot of Daily Screen Time vs. Cognitive Preparedness Score by Gender (N = 412;  $r = -0.31$ ,  $p < 0.001$ )

The Pearson correlation matrix revealed a coherent and theoretically consistent pattern of associations among digital engagement indicators and cognitive resilience dimensions. Screen time demonstrated statistically significant negative correlations with all resilience sub-scales, with the strongest inverse association observed for Adversity Appraisal ( $r = -0.33$ ,  $p < 0.01$ ) and Emotional Regulation ( $r = -0.31$ ,  $p < 0.01$ ), and a weaker but still significant negative correlation with Digital Coping Strategies ( $r = -0.11$ ,  $p < 0.05$ ). These findings suggest that higher quantities of daily digital screen exposure are associated with reduced capacity for both affective self-regulation and the cognitive reframing of adversity, while the notably attenuated correlation with digital coping implies that raw screen time does not uniformly undermine all digital resilience resources — a nuance that complicates simplistic narratives of digital harm. Social media use, which loaded moderately onto screen time ( $r = 0.52$ ,  $p < 0.01$ ) but captured a distinct construct,

showed a small positive association with digital coping ( $r = 0.14, p < 0.05$ ), suggesting that purposeful social media engagement may provide resilience-supportive social comparison and informational resources, even as it relates negatively to deeper cognitive dimensions such as emotional regulation and adversity appraisal.

The inter-correlations among resilience sub-scales were uniformly positive and substantially sized, ranging from  $r = 0.41$  (Digital Coping and Adversity Appraisal) to  $r = 0.65$  (Problem-Solving and Adversity Appraisal), affirming that the five dimensions shared a common variance structure consistent with a higher-order latent resilience factor — a premise subsequently tested in the SEM. The strong correlation of Problem-Solving Orientation with the overall composite ( $r = 0.78, p < 0.01$ ) and with Adversity Appraisal ( $r = 0.65, p < 0.01$ ) underlines the centrality of active cognitive engagement with challenges as the keystone resilience mechanism within this Gen Z sample, resonating with findings by Fletcher and Sarkar (2013) on positive cognitive appraisal as the linchpin of high-performance resilience. Figure 2 visually confirmed the inverse linear trend between screen time and overall cognitive preparedness scores (regression line:  $\beta = -0.18$  per hour), with notable scatter reflecting individual variation, and the gender-disaggregated plot hinted at a slightly steeper negative slope among male respondents — a differentiation requiring dedicated investigation in future research with adequate statistical power for moderation testing.

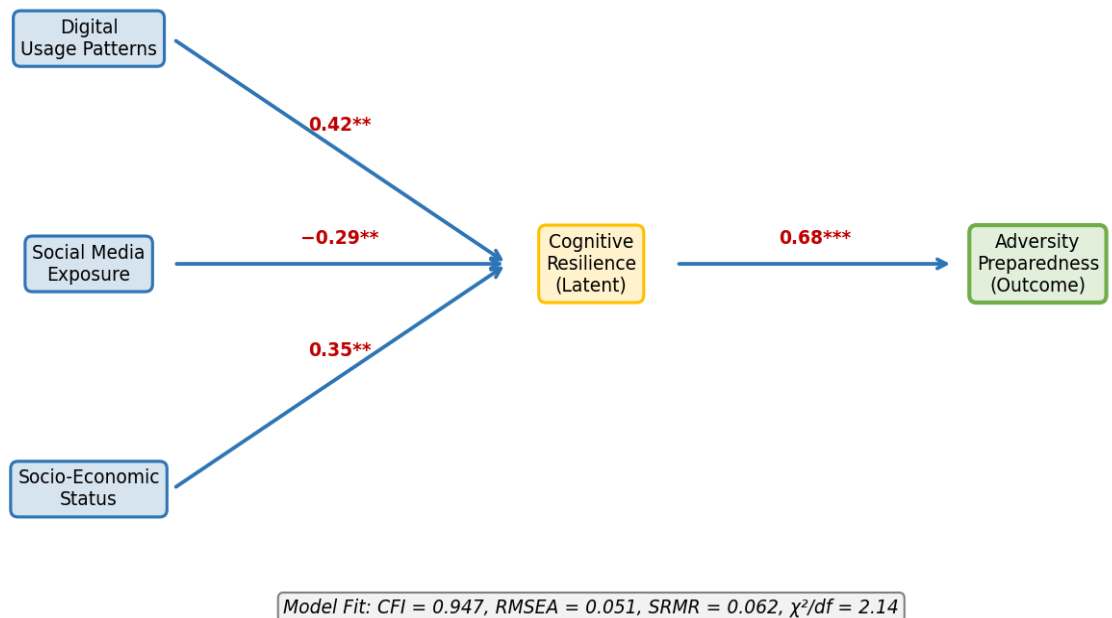
**Structural Equation Modelling Results (Table 4)**

Path / Parameter	Estimate ( $\beta$ )	SE	z-value	p-value	95% CI
<b>Measurement Model (Factor Loadings)</b>					
Cog. Flexibility → Cognitive Resilience ( $\lambda$ )	0.71	0.043	16.51	< 0.001	[0.63, 0.79]
Emotional Regulation → Cognitive Resilience ( $\lambda$ )	0.74	0.041	18.05	< 0.001	[0.66, 0.82]
Digital Coping → Cognitive Resilience ( $\lambda$ )	0.62	0.049	12.65	< 0.001	[0.52, 0.72]
Problem-Solving → Cognitive Resilience ( $\lambda$ )	0.78	0.038	20.53	< 0.001	[0.71, 0.85]
Adversity Appraisal → Cognitive Resilience ( $\lambda$ )	0.69	0.045	15.33	< 0.001	[0.60, 0.78]
<b>Structural Paths</b>					
Digital Usage Patterns → Cog. Resilience	0.42	0.051	8.24	< 0.001	[0.32, 0.52]
Social Media Exposure → Cog. Resilience	-0.29	0.048	-6.04	< 0.001	[-0.38, -0.20]
Socioeconomic Status → Cog. Resilience	0.35	0.046	7.61	< 0.001	[0.26, 0.44]

Cognitive Resilience → Adversity Preparedness	0.68	0.039	17.44	< 0.001	[0.60, 0.76]
<b>Model Fit Indices</b>					
Chi-square / df ( $\chi^2/df$ )	2.14			< 0.001	Acceptable ( $\leq 3.0$ )
CFI (Comparative Fit Index)	0.947			—	Good ( $\geq 0.95$ threshold)
RMSEA	0.051			—	Acceptable ( $\leq 0.08$ )
SRMR	0.062			—	Acceptable ( $\leq 0.08$ )
<b>R<sup>2</sup> – Adversity Preparedness</b>	<b>0.461</b>				<b>46.1% variance explained</b>

Note:  $\beta$  = standardised path coefficient; SE = standard error; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardised Root Mean Square Residual. All paths significant at  $p < 0.001$ .

**Figure 3: Structural Equation Model - Standardized Path Coefficients for Cognitive Resilience Outcome Among Gen Z**



*Figure 3: Structural Equation Model – Standardised Path Coefficients for Cognitive Resilience Outcome Among Gen Z (N = 412)*

The Structural Equation Model demonstrated a well-fitting and theoretically coherent representation of the cognitive resilience process among Gen Z respondents. All five observed sub-scales loaded significantly onto the latent Cognitive Resilience construct, with Problem-Solving Orientation recording the highest standardised factor loading ( $\lambda = 0.78$ ,  $p < 0.001$ ), followed by Emotional Regulation ( $\lambda = 0.74$ ) and Cognitive Flexibility ( $\lambda = 0.71$ ), confirming the multidimensional yet cohesive nature of the latent construct and validating the conceptual premise that cognitive resilience is constituted by an interlocking network of regulatory, evaluative, and strategic mental capacities. Digital Coping Strategies, while significant ( $\lambda = 0.62$ ,  $p < 0.001$ ), registered the lowest loading, suggesting that while digital coping behaviours are meaningfully associated with the broader resilience construct, they represent a more behaviourally peripheral dimension compared with the deeper cognitive-regulatory processes of problem-solving and emotional regulation. The model fit indices collectively confirmed adequate-to-good fit: CFI = 0.947 approached the conventional  $\geq 0.95$  threshold, RMSEA = 0.051 and SRMR = 0.062 were both within acceptable bounds ( $\leq 0.08$ ), and the  $\chi^2/df$  ratio of 2.14 satisfied the  $\leq 3.0$  criterion, thereby providing statistical confidence that the specified model adequately reproduced the observed covariance structure.

The structural path analysis yielded theoretically meaningful and practically important directional findings. Digital usage patterns — operationalised as structured, purposeful digital engagement including educational content consumption, skill-building platforms, and digital peer mentorship — exerted the strongest positive effect on the latent Cognitive Resilience construct ( $\beta = 0.42$ ,  $p < 0.001$ ), affirming that it is not digital use per se but rather the intentionality and structure of that use that cultivates cognitive resilience resources. Social media exposure, conversely, demonstrated a significant negative effect ( $\beta = -0.29$ ,  $p < 0.001$ ), corroborating the bivariate finding that high social media immersion — characterised by passive scrolling, social comparison, and notification-driven reactivity — erodes the regulatory and appraisal capacities central to cognitive resilience. Socioeconomic status contributed positively ( $\beta = 0.35$ ,  $p < 0.001$ ), underscoring that material resources and the educational capital they afford create a more enabling environment for resilience development, likely mediated through access to higher-quality digital infrastructure and mental health support systems. Most critically, the latent Cognitive Resilience construct predicted Adversity Preparedness with a large standardised path coefficient of  $\beta = 0.68$  ( $p < 0.001$ ), and the model explained 46.1% of variance in the adversity preparedness outcome — a substantial proportion for a psychosocial model in this context, demonstrating that the cognitive-digital resilience architecture is a powerful distal determinant of Gen Z's preparedness to face adversity. Figure 3 provides a visually integrated representation of these structural dynamics.

## CONCLUSION

This study set out to interrogate the mental genesis of resilience among Generation Z through the analytical lens of cognitive preparedness for adversity in Uganda's university context, a setting where the digital and socioeconomic dimensions of young adult experience intersect in uniquely consequential ways. The empirical findings collectively established that Gen Z respondents possessed moderate to moderately high cognitive resilience, with digital coping

strategies emerging as the most developed dimension and adversity appraisal as the most underdeveloped, revealing a critical capability gap between functional coping and deeper cognitive reframing. Bivariate analyses confirmed that the relationship between digital engagement and cognitive resilience is not monolithic: raw screen time and passive social media use were inversely associated with resilience dimensions, while structured digital engagement demonstrated positive associations, a finding that demands a more sophisticated public discourse than blanket warnings about digital harm. The Structural Equation Model, fitting the data with acceptable precision (CFI = 0.947, RMSEA = 0.051), confirmed that a coherent latent cognitive resilience architecture — anchored in problem-solving and emotional regulation — structurally mediates the relationship between digital and socioeconomic antecedents and adversity preparedness, explaining 46.1% of the outcome variance. Taken together, these findings advance a contextualised, empirically grounded understanding of Gen Z's resilience genesis that moves beyond generational stereotyping and toward actionable knowledge: cognitive resilience is not a fixed generational trait but a dynamically constructed capacity whose developmental trajectory can be meaningfully shaped by how educational institutions, policymakers, and digital platform designers structure the environments in which Gen Z young people live, learn, and connect.

## RECOMMENDATIONS

**Digitally Integrated Resilience Curriculum in Universities:** Universities in Uganda should incorporate structured cognitive resilience modules into student orientation and wellness programmes, deliberately leveraging purposeful digital tools — including evidence-based mental health applications, peer mentorship platforms, and guided digital journaling — to build problem-solving and adversity appraisal capacities, given the study's finding that structured digital engagement was the strongest positive predictor of cognitive resilience.

**Screen Time Quality Guidelines for Youth Mental Health:** National mental health and education authorities should develop evidence-based screen time quality guidelines specifically targeting Gen Z, distinguishing between passive and active digital engagement modalities, and embedding these guidelines within school health education frameworks; given the negative associations between unstructured screen time and emotional regulation and adversity appraisal, simple time-limit advisories are insufficient without concomitant guidance on how digital time is spent.

**Socioeconomically Sensitive Mental Health Interventions:** Given the significant positive path from socioeconomic status to cognitive resilience in the SEM, targeted psychosocial support programmes should be designed for low-income Gen Z students, addressing the compounded vulnerabilities of limited digital access quality and reduced resilience infrastructure; these programmes should include subsidised access to structured digital learning tools and resilience training facilitated by trained peer counsellors within the university environment.

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