



Original Article

The Relationship Between Social Anxiety, Emotion Regulation, and Loneliness in Youth

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Abstract

Emerging adulthood (typically spanning ages 18–25) represents a highly fluid developmental period marked by intensifying social expectations and critical identity formation. This investigation explored the complex connections among social anxiety, chosen emotion regulation techniques, and perceived isolation in a sample of 308 young adults. The final data pool was obtained after filtering out 5 incomplete submissions from an initial group of 313 participants recruited across higher education institutions in Pune, Maharashtra, India. Employing a cross-sectional correlational methodology, data collection relied on three established psychometric inventories: the Social Interaction Anxiety Scale (SIAS), the Emotion Regulation Questionnaire (ERQ), and the UCLA Loneliness Scale (Version 3). Pearson product-moment correlations demonstrated robust positive links between social interaction anxiety and both social loneliness ($r = .583, p < .01$) and emotional loneliness ($r = .568, p < .01$). Expressive suppression displayed moderate positive links with both forms of loneliness ($r = .338-.341, p < .01$), whereas cognitive reappraisal lacked meaningful associations with either anxiety or loneliness scores. These observations substantiate an 'authenticity-anxiety' cycle framework, where the apprehension regarding negative evaluations prompts individuals to hide their emotions, consequently blocking authentic social bonds and deepening feelings of isolation. The manuscript concludes with a discussion on therapeutic interventions, underscoring the value of pivoting from strict cognitive restructuring toward experiential exposure and emotional expression strategies.

Keywords: social anxiety, emotion regulation, loneliness, emerging adulthood, expressive suppression, cognitive reappraisal, youth mental health

Introduction

The developmental stage known as emerging adulthood, which generally spans from ages 18 to 25, functions as a bridge toward full maturity. It is characterized by core psychosocial shifts such as identity discovery, changing peer dynamics, and the pursuit of close interpersonal ties (Arnett, 2000). Throughout this transitional window, three psychological elements frequently intersect with clinical relevance: social anxiety, strategies for managing emotions, and the subjective burden of loneliness. Mapping out the exact dynamics among these factors is crucial for refining conceptual models of emotional adaptation and crafting targeted psychological support for young adults.

Social anxiety—defined by an ongoing apprehension of being judged unfavorably alongside an inclination to avoid interpersonal settings—is estimated to reach clinical thresholds in 7% to 13% of young adults, with subclinical vulnerabilities tracking much higher (Fehm et al., 2005; Kessler et al., 2005). Within this landscape, the specific ways individuals regulate their emotions—particularly through the distinct pathways of cognitive reappraisal or expressive suppression—act as key processes linking interpersonal fears with broader relationship outcomes (Gross & John, 2003; Spokas et al., 2009). Concurrently, loneliness—the distressing perception of a discrepancy between desired and actual social connections—has evolved into a prominent public health issue for youth, carrying established links to depressive symptoms, heightened anxiety, and reduced overall life quality (Cacioppo & Cacioppo, 2018; Heinrich & Gullone, 2006).

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Relevance of the Study

While individual components of these conditions have been documented independently, sparse empirical work has integrated social anxiety, emotion regulation, and loneliness into a unified model within an Indian youth demographic. This project addresses the empirical gap by exploring how specific regulatory patterns (cognitive reappraisal versus expressive suppression) function along the path connecting social anxiety to perceived isolation. Additionally, this study introduces valuable evidence from a South Asian setting, where collectivist cultural expectations may uniquely shape how social fears manifest and how emotional masking impacts relational well-being.

This research arrives at an essential moment given the documented rise in youth isolation worldwide (Cigna, 2018). By pinpointing adjustable psychological traits—chiefly the habitual reliance on emotional suppression—this investigation illuminates concrete touchpoints for preventative frameworks and therapeutic initiatives designed to mitigate social disconnection during these formative years.

Objectives

The execution of this research was structured around four core goals:

1. To measure the baseline expressions of social anxiety, chosen emotion regulation styles, and subjective loneliness among young adults aged 18–25.
2. To isolate the direct correlational paths between social anxiety levels and felt loneliness.
3. To examine how variation in emotion regulation strategies influences loneliness within individuals reporting elevated social fears.
4. To evaluate whether expressive suppression acts as a compounding factor within the social anxiety–loneliness dynamic.

Hypotheses

On the basis of current theoretical frameworks and past empirical evidence, four directional hypotheses were generated:

H1: Social interaction anxiety will exhibit a significant positive correlation with subjective loneliness (spanning both its social and emotional facets).

H2: Group interaction anxiety will display a significant positive correlation with overall loneliness indicators.

H3: An elevated reliance on expressive suppression will yield a statistically significant positive relationship with loneliness scores.

H4: Cognitive reappraisal will demonstrate a significant inverse relationship with both anxiety and loneliness, serving as an adaptive buffer.

Methodology

1. Participants

The final cohort comprised 308 young adults recruited from higher education environments in Pune, Maharashtra, India. This group remained after removing 5 incomplete records from an aggregate enrollment of $N = 313$. Inclusion required participants to fall within the 18 to 25 age bracket. The demographic span encompassed a mix of academic pathways and varied domestic settings, including both nuclear and joint family systems. Involvement was entirely voluntary, marked by formal consent prior to any

assessment, and completed without financial incentives. The protocol received formal ethical approval before recruitment began.

2. Measures

Social Interaction Anxiety Scale (SIAS): Developed by Mattick and Clarke (1998), this 20-item self-report tool evaluates distress experienced during interactive social environments, isolating it from general performance fears. Responses follow a 5-point Likert scale from 0 (not at all characteristic) to 4 (extremely characteristic). The SIAS holds established cross-cultural validity, typically rendering Cronbach's alpha values between .86 and .93.

Emotion Regulation Questionnaire (ERQ): Designed by Gross and John (2003), this 10-item psychometric index measures typical tendencies toward two distinct emotion-handling pathways. The Cognitive Reappraisal subscale (6 items) captures cognitive attempts to reinterpret distress-inducing events, while the Expressive Suppression subscale (4 items) measures the conscious restraint of outward emotional expressions. Scoring utilizes a 7-point Likert configuration, backed by strong internal consistency values globally.

UCLA Loneliness Scale (Version 3): This 20-item inventory by Russell (1996) quantifies subjective isolation and social detachment. Utilizing a 4-point scale, it delineates between social loneliness (the perceived deficit of an expanded peer circle) and emotional loneliness (the perceived deficit of intimate, close bonds). Respected widely as a premier metric for loneliness research, the scale avoids explicitly using the word 'lonely' to minimize social desirability and stigma biases.

3. Procedure

A quantitative, cross-sectional correlational design was utilized. Assessment packets were distributed either in group environments during designated university blocks or through verified digital portals, depending on institutional settings. All instruments were provided in English, with an investigator present to resolve any comprehension queries. Raw submissions were evaluated for missing metrics and multivariate anomalies using Mahalanobis distance parameters prior to formal processing. Calculations were performed inside IBM SPSS Statistics, leveraging descriptive frameworks, normality indices (Kolmogorov-Smirnov and Shapiro-Wilk evaluations), and Pearson product-moment correlations.

Results

1. Descriptive Statistics

Descriptive parameters for the final sample ($N = 308$) were calculated across all metrics. Social interaction anxiety emerged with a prominent mean relative to its maximum range ($M = 31.91$, $SD = 7.34$), accompanied by clear positive kurtosis (1.70), demonstrating that individual scores grouped tightly around a high-anxiety baseline. Perceived emotional loneliness ($M = 17.37$, $SD = 5.78$) tracked higher than social loneliness ($M = 13.34$, $SD = 5.09$). This difference suggests that deficiencies in deep, individual attachments were experienced as more problematic by this cohort than missing a broad social circle. Regarding emotional management styles, the data revealed moderate engagement with cognitive reappraisal ($M = 22.28$, $SD = 5.64$) and a minor but regular application of expressive suppression ($M = 14.46$, $SD = 4.56$).

Variable	K-S Stat	df	p	S-W Stat	df	p	Normal?
Cognitive Reappraisal	.051	308	.003	.985	308	.000	No
Expressive Suppression	.074	308	.000	.988	308	.001	No
Social Interaction Anxiety	.062	308	.000	.978	308	.000	No
Group Interaction Anxiety	.073	308	.000	.967	308	.000	No
Social Loneliness	.068	308	.000	.974	308	.000	No
Emotional Loneliness	.060	308	.000	.972	308	.000	No

2. Normality Testing

Before pursuing hypothesis verification, data distributions were evaluated using Kolmogorov-Smirnov (K-S) and Shapiro-Wilk (S-W) tests (see Table 1). Every variable produced a significant deviation ($p < .05$), indicating deviations from classical normality. Nevertheless, a close reading of asymmetry metrics (skewness range: -0.15 to 0.44) and tail weights (kurtosis range: -0.32 to 1.70) confirmed that all variables fell within the conventional ± 2.0 boundaries accepted for executing parametric models within behavioral research (Hair et al., 2018; Tabachnick & Fidell, 2019). Furthermore, given the robust sample footprint ($N = 308$), the Central Limit Theorem supports the stability of parametric assessments, making Pearson correlations appropriate.

Table 1: Distribution Normality Profiles — Kolmogorov-Smirnov and Shapiro-Wilk Metrics. * $p < .05$.

3. Pearson Correlation Analysis

The intercorrelation matrix for the evaluated domains is displayed in Table 2. Social interaction anxiety showed

strong positive links with social loneliness ($r = .583$, $p < .01$) and emotional loneliness ($r = .568$, $p < .01$). Correspondingly, group interaction anxiety showed clear associations with social loneliness ($r = .531$, $p < .01$) and emotional loneliness ($r = .512$, $p < .01$). Social and group interaction anxiety scores were themselves highly correlated ($r = .754$, $p < .01$), verifying that social distress in dyadic vs. group settings represents related yet unique states for these individuals.

Expressive suppression demonstrated moderate, statistically significant positive links with social loneliness ($r = .338$, $p < .01$), emotional loneliness ($r = .341$, $p < .01$), and social interaction anxiety ($r = .355$, $p < .01$). Conversely, cognitive reappraisal produced negligible, non-significant ties across all domains, including social loneliness ($r = .014$, ns), emotional loneliness ($r = -.030$, ns), and social interaction anxiety ($r = .039$, ns). Lastly, social and emotional loneliness shared a robust inter-scale correlation ($r = .655$, $p < .01$).

Variable	CR	ES	SIA	GIA	SL	EL
Cognitive Reappraisal (CR)	—					
Expressive Suppression (ES)	.112	—				
Social Interaction Anxiety (SIA)	.039	.355**	—			
Group Interaction Anxiety (GIA)	.051	.296**	.754**	—		
Social Loneliness (SL)	.014	.338**	.583**	.531**	—	
Emotional Loneliness (EL)	-.030	.341**	.568**	.512**	.655**	—

Table 2: Intercorrelation Matrix Across Study Scales ($N = 308$). ** $p < .01$ (two-tailed).

4. Summary of Hypothesis Testing

Table 3 provides a consolidated view of the four core hypotheses alongside their corresponding statistical expressions and outcomes. Hypotheses 1, 2, and 3 were validated, proving that both social anxiety variants and

expressive suppression track closely with higher perceived isolation. Hypothesis 4 was rejected, as cognitive reappraisal showed no evidence of a protective or buffering influence against anxiety or loneliness within this sample.

H	Operational Hypothesis Statement	Combined Scales	r	p	Final Decision
H1	Social interaction anxiety tracks positively with social loneliness.	SIA × SL	.583	< .01	Validated
H1b	Social interaction anxiety tracks positively with emotional loneliness.	SIA × EL	.568	< .01	Validated
H2	Group interaction anxiety tracks positively with social loneliness.	GIA × SL	.531	< .01	Validated
H2b	Group interaction anxiety tracks positively with emotional loneliness.	GIA × EL	.512	< .01	Validated
H3	Expressive suppression connects positively with emotional loneliness.	ES × EL	.341	< .01	Validated
H4	Cognitive reappraisal tracks inversely with anxiety and loneliness scales.	CR × SL	.014	> .05	Rejected

Table 3: Overview of Experimental Hypothesis Outcomes.

Discussion

This investigation mapped out the intersections between social anxiety, emotion regulation habits, and felt loneliness in an emerging adult cohort ($N = 308$). Mirroring primary theoretical assumptions, the findings confirm that social anxiety serves as a prominent predictor of perceived isolation in this demographic. The clear positive correlations connecting social interaction anxiety with both dimensions of loneliness ($r = .583$ and $r = .568$) match previous academic conclusions regarding how social dread impedes relationship formation and limits attachment depth (Teo et al., 2013; Vanhalst et al., 2015). From a behavioral standpoint, individuals facing high social anxiety read interactive spaces as dangerous rather than supportive, reinforcing avoidant patterns that obstruct the vulnerable self-disclosure needed to cultivate intimacy.

A compelling revelation in this study relates to the diverging impacts of the two evaluated emotion regulation styles. Expressive suppression demonstrated a clear role in driving loneliness, exhibiting stable moderate correlations ($r = .338-.341$). This connection is logical when viewed through Gross and John's (2003) emotion regulation process model: suppression actively hides an individual's authentic internal experience from peers, which reduces the transparency required to build close interpersonal bonds. Individuals who habitually disguise their feelings risk presenting an inauthentic self. Consequently, even when interactive encounters occur, they frequently lack the emotional substance needed to ease loneliness. This matches experimental evidence from Butler et al. (2003), which demonstrated that suppression strains social connections and lowers relationship fulfillment.

The rejection of Hypothesis 4 represents an important clinical insight from this project. Cognitive reappraisal, widely regarded as a healthy, adaptive strategy linked to favorable mental health outcomes (Gross & John, 2003; John & Gross, 2004), yielded negligible connections to both anxiety and isolation scores. This lack of significance suggests that for youth experiencing pronounced social anxiety, the cognitive capacity to reframe intimidating social environments might be insufficient to counter intense, fear-driven physiological arousal. This perspective is consistent with modern cognitive models showing that cognitive restructuring strategies require substantial cognitive and attentional resources, which are often compromised under high emotional stress or perceived threat (Hofmann, 2007).

Furthermore, the descriptive trends highlighted an essential divergence between emotional and social loneliness. Perceived emotional loneliness (lacking intimate confidants) was more prominent and distressing than social loneliness (lacking an expanded network), spotlighting a clear 'intimacy deficit' among young adults who are heavily connected digitally yet isolated relationally. This implies that high quantities of superficial social interactions—accelerated via online channels—cannot substitute for the substantive qualitative depth of closer personal attachments.

Conclusion

This study offers empirical justification for a conceptual model where social anxiety acts as a primary barrier to authentic interaction, while expressive suppression serves as an aggravating mechanism that worsens subjective isolation. The observed ineffectiveness of cognitive reappraisal in high-anxiety situations challenges frameworks that rely solely on cognitive restructuring.

Instead, it suggests that therapeutic programs for youth facing comorbid social anxiety and loneliness would benefit from incorporating behavioral exposure exercises and explicit emotional expression workshops.

Several limitations apply to these findings, notably the cross-sectional approach, which prevents causal interpretations, and the reliance on self-report assessments, which can introduce participant bias or variations in self-awareness. Additionally, because the sample was drawn from academic settings within Pune, these findings may not generalize perfectly to youth populations outside urban Maharashtra or those outside higher education systems. Future longitudinal designs, observational frameworks, or clinical samples would help clarify the directionality of these relationships.

Despite these caveats, this study provides meaningful data regarding psychosocial functioning in Indian emerging adulthood. It establishes an empirical baseline for constructing culturally sensitive mental health interventions to address social isolation among modern youth.

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Ethical Compliance: This research adhered to the ethical frameworks established by the institutional review board and the 1975 Declaration of Helsinki (as amended in 2000). Every individual participant provided voluntary informed consent prior to enrollment. This study involved no animal subjects.

Conflict of Interest: The authors declare that no competing financial or personal interests exist regarding this work.

Author Contributions: Lohar Gayatri Rakesh: Conceptual design, data gathering, statistical evaluation, initial manuscript drafting. Dr. Santosh B. Walke: Project oversight, methodological assessment, editing, and critical review of the manuscript.

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