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RESEARCH PAPER

Irrational Thinking and Social Anxiety Inadults: The Mediating Role of Self Esteem

[1]Tayyba Aslam, [2]Samreen Afzal and [3]Dr. Muhammad Luqman Khan

1. MPhil Scholar, Department of Psychology, Riphah International University, Faisalabad Campus, Punjab, Pakistan
2. Lecturer, Department of Psychology, Riphah International University, Faisalabad Campus, Punjab, Pakistan
3. Associate Professor, Department of Psychology, Riphah International University, Faisalabad Campus, Punjab, Pakistan

| Corresponding Author: | taebu751@gmail.com |

ABSTRACT

This study aimed to examine irrational thinking as a belief-level cognitive vulnerability underlying social anxiety in adults, with specific focus on social-evaluative fear. Social anxiety is characterized by fear of negative evaluation and avoidance of social situations, and while cognitive theories emphasize maladaptive appraisals, belief-based vulnerabilities remain underexplored. Using a quantitative cross-sectional correlational design, data were collected from 300 university students aged 20–39 years at the University of Technology. Participants completed standardized self-report measures assessing irrational thinking and social anxiety. Pearson correlation and regression analyses were conducted to examine associations and predictive relationships. Results indicated a significant positive relationship between irrational thinking and social anxiety, with irrational beliefs significantly predicting social anxiety symptoms. Rigid, absolutistic, and catastrophic belief patterns were particularly influential. These findings support belief-based cognitive models and suggest that interventions should target irrational thinking to prevent and reduce social anxiety.

| **KEYWORDS** | Irrational Thinking, Social Anxiety, Cognitive Vulnerability, Behavior Therapy, Adults |

Introduction

Social anxiety is a prevalent psychological disorder that can be described as constant fear and anxiety in social or performance contexts where a person tends to expect that others will criticize or judge him or her poorly (American Psychiatric Association, 2022). In contrast to situational shyness, social anxiety portrays a consistent pattern of cognitive, emotional and behavioral reactions that disrupt interpersonal functioning, academic interest, and working output. Some of the symptoms of social anxiety that are frequently described by affected people include: increased self-consciousness, the fear of embarrassment and avoidance of circumstances where they think they are being evaluated, as it happens with oration, group interaction, and meeting strangers (Clark and Wells, 1995).

Cognitive-behavioral models give a comprehensive explanation of the way in which social anxiety is perpetuated. As the powerful model by Clark and Wells (1995) says, socially anxious people come to social situations with negative assumptions about their performance and the expected devaluation (Shabbir et al., 2021). The focus is shifted inwards to the perceived defects, anxiety symptoms, and indicators of bad performance, with the ambiguous social cues being threat-consistent. In order to cope with negative evaluation that is expected, individuals employ safety behaviors, including avoiding eye contact, reduced speech or withdrawal. This kind of strategy will make the anxiety levels less intense

but eliminate corrective learning and instead reinforce the negative beliefs, and in the process keep social anxiety (Clark and Wells, 1995; Rapee and Heimberg, 1997).

Although there is good theoretical correspondence between irrational thinking and social anxiety, empirical studies have not always investigated irrational beliefs as a particular cognitive risk factor of social anxiety. A significant part of the available literature explores irrational beliefs with regard to overall psychological distress or transdiagnostic anxiety symptoms, but not specifically their association with social anxiety (Vîslă et al., 2016). Moreover, most of the research is based on adolescent or clinical samples, restricting the generalization of the research to the adult population that experiences a real-world assessment on an academic, work, or interpersonal level.

The other limitation is that behavioral models of social anxiety and cognitive models of social anxiety are normally studied individually and not together. Although cognitive models focus on maintaining processes like self-focused attention and safety behavior (Clark and Wells, 1995), there are fewer studies that empirically combine the constructs of beliefs that can predispose individuals to participate in the maintaining processes. Also, the studies on non-Western adult populations, such as Pakistan, are scarce, even though it has been shown that the fear of negative evaluation is applicable in the local universities (Kainaat et al., 2024).

This, therefore, necessitates empirical studies that investigate irrational thinking as a cognitive weakness in the form of beliefs with reference to social anxiety among adults through theory-based measures and properly defined constructs.

Literature Review

Biased cognitive processing has been shown to play a role in social anxiety, and this is based on empirical evidence. A meta-analytic review revealed that interpretation bias has a strong correlation with social anxiety, and thus, people who have a higher level of social anxiety tend to negatively interpret ambiguous social information (Wong et al., 2020). Self-centered cognitive processing is also posited as a key process, which adds to the future worrying preceding a social event and to post-event rumination following a social encounter, which reinforced negative self-reproach and worry about social interaction (Abbott, 2016). In combination, these results indicate that social anxiety is strongly associated with maladaptive cognitive appraisal functioning, especially evaluation and self-perception.

Although these models are effective in explaining how social anxiety is maintained, they are more interested in the cognitive processes that occur in particular situations and not in bigger belief systems that might dispose people to perceive social situations as threatening. This weakness highlights the importance of addressing belief-level cognitive weaknesses that exist across situations and could lead to vulnerability to social-evaluative fear.

The concept of irrational thinking is the main type of thought in the Rational Emotive Behavior Therapy (REBT), which assumes that emotional disturbance depends mostly on extreme and strict beliefs but not on the upheaval of the circumstances (Ellis, 1994). In this view, people are subjected to psychological distress due to their assessment of situations by rigid systems of beliefs and exaggerated perceptions of threat, which require assurance or acceptance, and attribution of personal value to performance outcomes (Marissa & Hamid, 2022). Irrational thinking is theorized as a consistent belief-oriented system of thinking as opposed to temporary negative thoughts, and it exists at a schema level to direct problem interpretation, attention and emotional responding (Ali et al., 2025).

According to the literature on REBT, there are four fundamental types of irrational beliefs, namely, demandingness, catastrophizing, low frustration tolerance, and global evaluation (David et al., 2010; DiGiuseppe et al., 2014). Demandingness entails inflexible must or should expectations of the self or others, like the idea that he or she must do an excellent job or that he or she must be liked to be good (Hamid & Awhinawhi, 2025). Catastrophizing behavior is an overvaluation of the detrimental or unacceptable events, which exaggerate perceived effects. Low frustration tolerance is the inability to tolerate boredom or uncertainty, which brings dependence on a reliance on coping that is avoidance-based. Global evaluation can be defined as the negative judgment of personal value on the basis of certain failures, which reinforces shame and self-criticism (Khan & Khan, 2020).

Such belief patterns are theoretically applicable to anxiety in that they increase threat appraisal and decrease psychological ability. This opinion is supported by empirical data. Irrational beliefs were reliably related to psychological distress (with anxiety symptoms) in a wide range of populations, as shown in a meta-analysis (Vîslă et al., 2016). This fact establishes irrational thinking as a transdiagnostic vulnerability of cognition, creating vulnerability to emotional disturbance during times of stress (Bhutto, Uddin, & Hussain, 2025).

The irrational thinking can be especially relevant in the context of social anxiety due to the fact that social situations are often associated with ambiguity, expectations of performance, and the threat of evaluation (Iqbal, Shah, & Abid, 2025). Fixed beliefs about approval, competence and failure have the capacity to transform ordinary social interactions into situations that are perceived to pose high-risk. In case people consider that any form of mistakes is unacceptable, fault is terrifying, or pain is unbearable, anxiety about being negatively judged is enhanced, and evading is a rational reaction. Therefore, irrational thinking offers a framework of beliefs that can enhance the cognitive mechanisms that are present in social anxiety models, including negative interpretation and self-focused attention.

REBT and cognitive models of social anxiety have theoretical implications that irrational thinking can be a cognitive vulnerability to which people can be predisposed to perceive social circumstances as threatening (Hamid, 2025; Hajira et al., 2025) . Whereas cognitive models explain how an individual sustains social anxiety by attending to and interpreting information in a biased way (Clark and Wells, 1995; Rapee and Heimberg, 1997), the REBT helps the reader to understand why some people might be more inclined to use biased appraisals in the first place. Stiff notions about approval, defeat, and self-esteem may make individuals more sensitive to assessment and more prone to negatively interpret ambiguous socially desirable information (Kaur et al., 2022).

Adaptive self-evaluation can also be sabotaged by irrational thinking, which encourages global negative self-judgements (Jafferies & Ungar, 2020). When individual value is based on performance or social acceptance, then social interaction has greater emotional intensity, with the fear of being rejected and humiliated growing (Kayani et al., 2023). Despite the fact that self-esteem frequently is studied as a correlate of social anxiety, more basic vulnerabilities at the level of belief, like global assessment, can mediate how people assess themselves, as well as predict social consequences. The study of irrational thinking can thus give a theoretically reasonable solution to the differences in social anxiety in individuals outside of situational cognitive biases.

Hypotheses

Based on REBT and cognitive models of social anxiety, the following hypotheses were formulated:

H1: Irrational thinking will be significantly and positively associated with social anxiety among adults.

H2: Irrational thinking will significantly predict social anxiety among adults.

Theoretical Framework

The current investigation is based on Rational Emotive Behavior Therapy (REBT) and cognitive models of social anxiety, which can be used simultaneously to explain the role of the belief systems in the formation of emotional reactions in assessing situations. According to the postulates of REBT, emotional disturbance is mostly affected by irrational beliefs, rigid, absolutistic, and extreme judgments according to which people perceive events (Ellis, 1994; David et al., 2010). These beliefs consist of the following: demandingness, catastrophizing, low frustration tolerance, and global negative self-evaluation, all of which increase perceived threat and decrease coping flexibility.

The cognitive models of social anxiety assert that the fear of negative evaluation is preserved by a biased perception of social cues, increased self-focused attention and avoidance or safety behaviors (Clark and Wells, 1995; Rapee and Heimberg, 1997). The more people have strong beliefs about approval, competence, and failure, the more the social situations are going to be perceived as threatening, and consequently, anxiety and avoidance are amplified. It is on this combined front that irrational thought acts as a cognitive weakness founded on a belief that would make individuals take social-evaluative situations with an increased level of fear and distress.

In this regard, the current framework hypothesizes that the higher the irrational thinking levels are, the higher the social anxiety among adults, which is also in line with the REBT approach to stress rigidity of beliefs and with the emphasis on evaluative threat in cognitive theory.

Material and Methods

The current research design adopted a cross-sectional correlational research design to identify the relationship between irrational thinking and social anxiety among adults. The design was deemed to be appropriate since the study was meant to examine naturally existing relationships between psychological variables without being manipulated. The measurement was obtained at one point in time, which provided an opportunity to assess cognitive patterns of believing and symptoms of social anxiety among an adult population of a university.

The sample was comprised of 300 university students who were selected using the convenience sampling method in both the public and the private universities of Faisalabad, Pakistan. The number of samples was 150 males and 150 females, with the age of the sample being between 20 and 40 years old. The respondents were admitted to undergraduate and postgraduate degrees, such as BS (Hons), MBBS, and MS/MPhil. The individuals who studied psychology or psychiatry were excluded to minimize the bias of responding with prior knowledge of psychology. Other exclusion criteria were those who were less than 20 years of age, older than 40 years of age, and those with self-reported psychological or psychiatric illness. All the subjects were enrolled in Pakistani universities actively and could give informed consent.

The ethical issues were strictly followed during the research process. The institutional academic bodies, such as the Board of Studies and the Board of Advanced Studies and Research, approved the study formally. The participants were made aware of the study objective, the voluntary nature of their involvement and the fact that they had the free will to pull out of the study at any time without incurring any costs. Informed consent

was signed before data collection took place. The participants were guaranteed that their answers would not be shared with anyone and would be utilized only for the research purpose.

Standardized self-report questionnaires that were conducted in academic institutions were used to gather data. The study measures were taken after the participants had filled out a demographic information form. The demographic form involved age, sex, marital status, education level, socioeconomic status, and family structure. Questionnaires were done one-on-one, and uniform instructions were given to achieve uniformity. The respondents were advised to give honest answers and told that there were no correct or incorrect answers. The reviewed questionnaires were looked into regarding missing answers and then safely stored.

A test of irrational thinking was done based on the Shortened General Attitude and Belief Scale (SGABS) that was created by Lindner et al. (1999). The SGABS is composed of 26 items with the 5-point Likert scale, where 1 (strongly disagree) is the lowest and 5 (strongly agree) is the highest. It is a scale based on Rational Emotive Behavior Therapy and consists of rigid and irrational belief patterns. The total score was calculated only in the current research, being in line with the global cognitive style of irrational thinking studied in the research. The items that reflect the rational beliefs were inverted before the total score was calculated, and items with higher scores reflected a higher level of irrational thinking. In the past, the SGABS has proven to be relatively reliable and construct valid.

The social phobia scale was assessed with the help of the Social Phobia Inventory (SPIN), designed by Connor et al. (2000). The SPIN is a 17-item self-report measure that is meant to gauge the intensity of the social anxiety symptoms experienced in the last week. The rating scale has 5 points (0 = not at all; 4 = extremely), and the overall rating indicates the level of social anxiety. In the current paper, an analysis was done using the total score. SPIN has demonstrated good psychometric characteristics, namely high levels of internal consistency and excellent convergent validity in both clinical and non-clinical populations.

The Statistical Package for Social Sciences (SPSS), Version 25, was used in coding and analyzing data. The descriptive statistics were calculated to describe the characteristics of the participants and the variables in the study, such as means and standard deviations. To determine the direction and strength of the relationship between irrational thinking and social anxiety, Pearson product - moment correlation analysis was performed. This was followed by the use of a simple linear regression analysis to establish the role of irrational thinking in predicting social anxiety significantly. The statistical testing was all done under the traditional levels of significance.

Results and discussion

Reliability and Distributional Properties

The computed descriptive statistics were used to check the distributional characteristics and reliability of the study measures. Shortened General Attitude and Belief Scale (SGABS) was found to have good internal consistency (α = .71), Social Phobia Inventory (SPIN) was found to be highly reliable (α = .87), and Harrill Self-Esteem Inventory (HSEI) was found to be very reliable (α = .92). The values of skewness and kurtosis of all variables were within the acceptable range, which was a sign of a normal condition, which justified the application of parametric statistical analyses (see Table 1).

Table 1
Reliability and Distributional Properties of Study Measures (N = 300)

Measure	k	Cronbach's α	Skewness	Kurtosis
Irrational Thinking (SGABS)	26	.71	.13	−.04
Social Anxiety (SPIN)	17	.87	.37	.07
Self-Esteem (HSEI)	25	.92	.51	−.12

Correlation Analysis

Pearson correlation test was done to investigate the relationships between irrational thinking, social anxiety and self-esteem. As shown in Table 2, there was a moderate, statistically significant positive correlation between irrational thinking and social anxiety, r =.36, p <.01, and therefore, the more irrational beliefs one had, the greater the level of social anxiety. This result corroborates Hypothesis 1, which hypothesized that there would be a significant positive correlation between irrational thinking and social anxiety.

Self-esteem also had a small yet statistically significant positive correlation with irrational thinking (r =.10, p <.05). The correlation between social anxiety and self-esteem was, however, non-significant and low (r =.01, p>0.05), and that is, self-esteem did not have a direct correlation with the level of social anxiety at the bivariate level.

Table 2
Pearson Correlations Among Study Variables (N = 300)

Variable	1	2	3
1. Irrational Thinking (SGABS)	1		
2. Social Anxiety (SPIN)	.36**	1	
3. Self-Esteem (HSEI)	.10*	.01	1

Note. p < .05*, *p < .01 (one-tailed).

Multiple Regression Analysis

A multiple regression analysis was performed to investigate the predictive value of irrational thinking as the dependent variable and irrational thinking and self-esteem as the predictors. The total model turned out to be statistically significant and explained 13 percent of the social anxiety variance, R 2 =.13, p <.05. Irrational thinking became one of the vital positive predictors of social anxiety (B =.66, SE =.11, 8 =.37, t= 6.24, p <.001) as revealed in Table 3. This finding goes in line with Hypothesis 2, which anticipated that irrational thought would be highly predictive of social anxiety.

On the contrary, self-esteem was not a significant predictor of social anxiety (B = -.03, SE =.06, 8 = -.03, t = -.46, p =.65). Thus, this rejected any hypothesis that suggested the existence of a direct predictive relationship between self-esteem and social anxiety.

Table 3
Multiple Regression Predicting Social Anxiety (N = 300)

Predictor	B	SE	β	t	p
Constant	−.31	.32	—	−.98	.33
Irrational Thinking (SGABS)	.66	.11	.37	6.24	< .001
Self-Esteem (HSEI)	−.03	.06	−.03	−.46	.65

Note. Dependent variable = Social Anxiety (SPIN). R^2 = .13.

Linear Regression Analysis

A simple linear regression analysis was conducted to determine whether irrational thinking predicted self-esteem. The table 4 shows that the model was not statistically significant and explained only 1% of the variance in self-esteem (R^2 = .01). Irrational

thinking did not significantly predict self-esteem ($B = .18$, $SE = .11$, $\beta = .10$, $t = 1.62$, $p = .11$), leading to the rejection of the hypothesis proposing irrational thinking as a predictor of self-esteem.

Table 4
Regression Analysis Predicting Self-Esteem from Irrational Thinking (N = 300)

Predictor	B	SE	β	t	p
Constant	1.51	.33	—	4.59	< .001
Irrational Thinking (SGABS)	.18	.11	.10	1.62	.11

Discussion

The current research paper discussed irrational thinking as a cognitive vulnerability that involves belief-based thinking and is related to social anxiety among adults. As it is in line with the main objectives and hypotheses of the study, irrational thinking proved to have a strong positive correlation with social anxiety and became a strong predictor of social anxiety symptoms. The results support empirically the Rational Emotive Behavior Therapy (REBT) and cognitive models of social anxiety, which both highlight the primary importance of maladaptive cognitive appraisals in the social-evaluative fear. The findings are indicative of the fact that adults who support greater degrees of rigid, absolutistic and catastrophic beliefs have more chances of developing increased fear, distress, and avoidance in the socially-related situations of evaluation.

The high connection between irrationality and social anxiety coincides well with the leading assumption of REBT, which postulates that emotional disturbance is predominantly influenced by belief systems and not experiences per se (Ellis, 1994; David et al., 2010). In this regard, the occurrence of social situations does not necessarily create anxiety, but instead, the anxiety occurs when these situations are perceived through rigid beliefs about approval, competency, failure and tolerability of discomfort. Beliefs like I cannot look nervous, I have to be liked by other people, it would be so intolerable that people will judge me in a bad way, etc., will increase the perceived social threat and emotional reactivity. The current results are empirical evidence of this theoretical stance because they prove that the increased irrational thinking is linked to the increased social anxiety among the non-clinical adult population.

The findings are also similar to cognitive-behavioral theories of social anxiety, i.e., Clark and Wells (1995) and Rapee and Heimberg (1997). These models underline the idea that socially anxious people are involved in biased interpretation of social cues, exaggerated attention on self and safety behaviors that perpetuate the anxiety in the long term. Irrational beliefs can be considered as antecedents on the belief level that enhances the tendency of such maintenance. When people have a strong norm on social performance or dramatize the outcomes of bad assessment, the ambiguous social messages are more apt to be seen as a threat, attention is concentrated within the negative areas, and avoidant actions are reinforced. In this respect, irrational thinking may be interpreted as a mental weakness that predisposes people to adopt the maladaptive appraisal and coping styles of social anxiety models.

Irrational thinking has a predictive value that further supports the conceptualization of the element as a key mental risk factor causing social anxiety. Irrational thinking was also a strong predictor of social anxiety, even with self-esteem, which was contained in the regression model, and a significant percentage of the variance was explained. This result aligns with the evidence of meta-analytic studies that irrational beliefs have a stable and moderate relationship with psychological distress, such as anxiety symptoms, in a wide range of populations (Vîslă et al., 2016). The more recent studies also point towards the fact that dysfunctional assumptions and inflexible cognitive styles are still able to predict the results of anxiety in modern samples (Orr et al., 2019; Ayed et al., 2024). The current research builds on this body of literature in that irrational thinking is not only

associated with social anxiety but also distinctly predicts it among adults undergoing the routine social and performance appraisals.

Conversely, self-esteem did not show a strong relationship with social anxiety, and it did not come out as a serious predictor when analyzed in the light of irrational thinking. Also, irrational thinking was not significantly related to self-esteem. Such results caused the rejection of the hypotheses that self-esteem is a direct predictor of social anxiety or a channel through which irrational thinking has its influence. Significantly, this sequence of outcomes does not oppose the theory; it is just a manifestation of the changes in the modern research of cognition and self-process. The growing body of evidence indicates that social anxiety is more closely correlated with domain-focused self-assessments, including the perceived social competence and the dread of negative appraisal, than with the global self-worth (Leary, 2001; Heimberg et al., 2010; Alden and Taylor, 2004). International measures of self-esteem might be inadequate at capturing the process of the individual self-appraisal processes activated during social-evaluative situations.

Recent studies also distinguish self-esteem and other acceptance-related measures like self-compassion that seem to demonstrate stronger and more stable relationships with anxiety outcomes (Neff and Vonk, 2009; Werner et al., 2019; Stephenson et al., 2017). Although self-esteem is an expression of overall self-liking or self-worth, even in situations where people develop high levels of social anxiety, self-esteem can be relatively stable among non-clinical college students because of other possible sources of validation like academic achievement, family support, or peer relationships (Harris and Orth, 2020; Orth and Robins, 2014). This could be the reason why self-esteem was not a proximal variable that facilitated the relationship between irrational thinking and social anxiety in the current analysis.

The fact that self-esteem is not supported in mediating also indicates that the impact of irrational beliefs on social anxiety can be more immediate in terms of immediate appraisals and coping than it might be in terms of global shifts in self-worth. This meaning is in line with the cognitive theories that put more accent on moment-to-moment appraisals, anticipatory threat appraisal and safety behavior as the determinants of social anxiety (Clark and Wells, 1995; Hofmann, 2007). According to REBT, even when global self-esteem is not decreased, the argument with irrational beliefs can decrease social anxiety by undermining high standards and catastrophic definitions. Therefore, modification of beliefs can have an influence on the beliefs through changes in the way people perceive and react to social circumstances, instead of transforming their sense of self in general.

The current results have significant theoretical and practical implications. In theory, they advocate an inclusive model where irrational thinking is placed as a belief-based cognitive vulnerability, which is consistent with both REBT and cognitive models of social anxiety. The study narrows the scope of knowledge on cognitive processes that are most pertinent to social-evaluative fear in adults by empirically proving the primacy of irrational beliefs over global self-esteem in predicting social anxiety. Practically, the findings indicate that alternative interventions targeting the non-clinical population of university students with social anxiety would be more effective when they focus on identifying and challenging irrational beliefs, changing fixed performance standards, and decreasing catastrophic interpretations of evaluation, rather than primarily emphasizing boosting global self-esteem.

Conclusion

The present study provides evidence that irrational thinking is an important cognitive vulnerability that is related to social anxiety in adults. The findings are consistent with rational-emotive and cognitive models by emphasizing the central role of rigid and catastrophic beliefs in determining social-evaluative fear apart from global self-esteem. By

focusing on belief-level cognitive processes, the current study adds to a more narrowly focused understanding of social anxiety as well as highlights the utility of targeting irrational beliefs in theory-driven assessment and intervention efforts.

Recommendations

Based on the findings of the present study, it is recommended that prevention and intervention programs for social anxiety among adults, particularly university students, place greater emphasis on identifying and modifying irrational belief systems rather than focusing primarily on enhancing global self-esteem. Psychological interventions grounded in Rational Emotive Behavior Therapy (REBT) and cognitive-behavioral approaches should specifically target rigid, absolutistic, and catastrophic beliefs related to social evaluation, performance, and approval, as these belief patterns were found to be central predictors of social anxiety. University counseling services may benefit from incorporating belief-focused psychoeducation, cognitive restructuring, and disputation techniques to help individuals develop flexible, rational thinking styles and healthier interpretations of social situations. Additionally, future research should employ longitudinal and experimental designs to establish causal pathways and explore the effectiveness of belief-based interventions across diverse adult populations and cultural contexts.

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