



ORIGINAL RESEARCH PAPER

Psychology

THE MEDIATING ROLE OF NEGATIVE CORE BELIEFS ON THE RELATIONSHIP BETWEEN TRAIT ANXIETY AND EMOTIONAL EXPRESSIVITY AMONG YOUNG ADULTS

KEY WORDS: Trait Anxiety, Negative Core Beliefs, Emotional Expressivity

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ABSTRACT

In this study, the researchers were concerned with the mediating role of negative core beliefs on the association between trait anxiety and emotional expressivity in young adults. The design that was used in the study involved correlational, cross-sectional analysis with mediation testing that recruited 327 young adults between the ages of 20 and 35 who completed standardized instruments for trait anxiety (STAI), negative core beliefs (NCBI), and emotional expressivity (EES). Correlation analysis showed a high positive correlation between trait anxiety and negative core beliefs and no significant correlation between trait anxiety and emotional expressivity or between negative core beliefs and emotional expressivity. Mediation analysis, nevertheless, showed that there was a significant indirect path: negative core beliefs were heightened by trait anxiety and emotional expressivity was lowered by negative core beliefs, that is, the overall effect of trait anxiety on emotional expressivity was nonsignificant when mediation was accounted for. The significant indirect effect also suggests that negative core beliefs fully mediate the effect of trait anxiety on emotional expressivity. This research proposes that challenging central beliefs in clinical treatments could enhance emotional expressiveness in anxious young adults. It also indicates the significance of maladaptive cognitive schemas as emotional suppressors and the complex interplay among these constructs, necessitating more complicated analyses in future work.

INTRODUCTION

Of the many types of anxiety, trait anxiety is especially significant because of its enduring and pervasive quality across situations. (Spielberger, 1983) conceptualized trait anxiety as a relatively enduring individual difference in anxiety proneness, reflecting the frequency and intensity with which an individual generally experiences anxiety across situations. High trait anxiety individuals are often characterized by increased vigilance towards perceived threats, heightened sensitivity to stress, and chronic worry (Julian, 2011). It is not just the existence of trait anxiety, though, that impacts a person's psychological functioning but how it interacts with cognitive styles like negative core beliefs.

Negative core beliefs, based on (Beck's, 1976, 2011) cognitive theory, are stable, general beliefs about the self, others, and the world. These beliefs usually emerge due to early negative experiences, emotional neglect, or chronic negative feedback and become strongly rooted in the cognitive framework (Young et al., 2006). For those with elevated trait anxiety, the world is often seen as threatening or overloading, thus maintaining maladaptive schemas like "I am not good enough" or "The world is unsafe" (Beck et al., 1979). These beliefs not only sustain worry but also extend to other areas of functioning, such as emotional expressivity.

Emotional expressivity is the ability and propensity of individuals to express openly their emotional experience through facial expressions, gestures, vocal tone, or other types of non-verbal communication (Gross & John, 2003). It is a key aspect of emotional regulation and social communication, supporting interpersonal relationships and psychological adjustment. Yet, empirical findings indicate that people with high levels of anxiety or fixed negative core beliefs are more likely to use emotional suppression or avoidance as a coping mechanism, resulting in lower levels of emotional expressivity (John & Gross, 2004; Kashdan et al., 2006).

Many researchers have examined the relationship between trait anxiety and emotional expressivity. Research investigated the relationship between trait anxiety and expressive flexibility, assessing how individuals regulate emotional expressivity in various social contexts. It demonstrated individuals with high trait anxiety showed lower expressive enhancement skills, reducing their ability to express positive emotions, impacting social relationships. In

contrast, individuals with low trait anxiety exhibited less emotional reactions to threat stimuli, highlighting the influence of external cues on emotional expressivity (Maccallum et al., 2021). Another literature suggests a favourable connection between trait anxiety and emotional expressivity. The study investigated how affective style and emotional management techniques can help explain trait anxiety and low mood, demonstrating a link between increased trait anxiety and expressive suppression, a maladaptive emotion regulation strategy in individuals with low behavioural inhibition sensitivity. Highlighting influence of trait anxiety on emotional expressivity through regulation strategies (Dennis, 2007).

However, there is little concrete proof of how negative core beliefs specifically affect trait anxiety, a study focused on exploring the role of negative core beliefs in the personality dimension of neuroticism and their associations with other traits within the five-factor model (Otani et al., 2020). Findings revealed that negative core beliefs about the self strongly predicted higher neuroticism, a trait closely linked to trait anxiety. These findings highlight the critical influence of negative self-beliefs in shaping neurotic traits and provide valuable insights into how cognitive framework may underpin trait anxiety.

Moreover, negative core beliefs show a negative effect on the emotional expressiveness of young people. Research looked at the connection between social anxiety, suppressed emotions and negative self-beliefs, highlighting individuals with social anxiety tend to suppress emotions, particularly positive ones, due to fear of rejection, illustrating how negative self-notions contribute to the reinforcement of social anxiety and suppressing emotions (Jureti & iv i - Be irevi , 2013).

The population to be targeted by the current study is young adults who belong to the age bracket of 20-35 years (APA, 2023). The inclusion of this age group enables to investigate individuals in various settings such as their academic life, work life etc.

The current study investigates whether negative core beliefs act as a potential mediator in the relationship between trait anxiety and emotional expressivity.

Considering the results of the earlier research there is still a

void in the literature regarding the complex interactions between negative core beliefs, trait anxiety, and emotional expressivity. Current research emphasizes the influence of trait anxiety on emotional regulation and how negative self-beliefs contribute to emotional suppression, yet how these two factors work together to affect emotional expressivity remains underexplored. Given the importance of emotional expression for psychological health, addressing this gap is essential. Interventions aimed at addressing maladaptive cognitive frameworks can improve emotional expressivity in anxious young adults. The goal of the study is to advance current knowledge and direct future investigations and treatment options.

METHOD:

Statement of the Problem

The present study sought to elucidate how negative core beliefs mediate the relationship between trait anxiety and emotional expressivity.

Objectives Of The Study

- To investigate the relationship between negative core beliefs, trait anxiety and emotional expressivity.
- To evaluate the impact of trait anxiety on emotional expressivity in young adults.
- To evaluate the impact of negative core beliefs on emotional expressivity of young adults
- To examine the mediating role of negative core beliefs on the relationship between trait anxiety and emotional expressivity.

Research Questions

- What is the relationship between negative core beliefs, trait anxiety and emotional expressivity?
- What is the impact of trait anxiety on emotional expressivity of young adults?
- What is the impact of negative core beliefs on emotional expressivity of young adults?
- Do negative core beliefs mediate the relationship between trait anxiety and emotional expressivity?

Hypotheses

- H1: There is no significant relationship between negative core beliefs, trait anxiety and emotional expressivity of young adults.
- H2: There is no significant impact of trait anxiety on emotional expressivity of young adults.
- H3: There is no significant impact of negative core beliefs on emotional expressivity of young adults.
- H4: Negative core beliefs do not mediate the relationship between trait anxiety and emotional expressivity.

Research Design

The current research utilized a quantitative, cross-sectional, correlational design in exploring relationships between negative core beliefs, trait anxiety, and emotional expressivity in young adults. Furthermore, mediation analysis was used to evaluate the effect of negative core beliefs between trait anxiety and emotional expressivity.

Sampling

Techniques Used

The purposive sampling method has been utilized to ensure that all met the given specific eligibility criteria for the study.

Inclusion And Exclusion Criteria

- The participants must fall in the age range of young adults (20-35)
- Individuals with a history of severe mental health conditions or are undergoing psychological treatment were excluded.

Procedure

The data collection process was conducted using a mixed-

method approach, integrating both digital and physical recruitment strategies to ensure a diverse and representative sample. A total of 327 young adults aged 20-35 years participated in the study, recruited through multiple online platforms. To enhance accessibility and ensure a broader reach, this digital approach was supplemented by on-campus data collection. The data was gathered via Google Forms across social media platforms. Informed consent was acquired from the participants, and it was assured to the participants that the data collected was protected for confidentiality and that their data would be used for statistical analysis for academic purposes only.

Tools For The Study

1. The Negative Core Beliefs Inventory (NCBI) by Flavio Osmo et al., (2018): NCBI is a psychometrically validated instrument designed to assess negative core beliefs. This 32-item scale utilizes a 4-point Likert scale (ranging from 1 = "does not describe me well" to 4 = "describes me very well") to measure negative core beliefs about oneself (nCB-S) and others (nCB-O) (Osmo et al., 2018). nCB-S are further divided into (a) helplessness/inferiority, (b) helplessness/vulnerability, (c) unlovability, and (d) worthlessness dimensions. NCBI shows strong internal consistency (0.95 Cronbach's alpha () for nCB-S and 0.89 for nCB-O) and demonstrates strong convergent validity, demonstrating strong associations with measures of anxiety, depression and attachment styles [3].

2. The Trait Anxiety Scale (STAI Form Y-2), by Charles D. Spielberger (1970): It is a 20-item self-report inventory designed to measure enduring individual differences in anxiety proneness. This scale is a component of the State-Trait Anxiety Inventory (STAI), which differentiates between temporary state anxiety and long-standing trait anxiety (Spielberger et al., 1971). It demonstrates high internal consistency (0.82-0.95 Cronbach's alpha) and test-retest reliability ($r = 0.65-0.96$ over 1-4 weeks) (Sudheer & Naachimuthu, 2022). The scale shows strong convergent and discriminant validity. Higher scores indicate greater trait anxiety. The values range from 0 to 3.

3. The Emotional Expressivity Scale (EES), by Kring, Smith, and Neale (1994): EES is used to assess emotional expressivity. It assesses one's outward expression of emotions, regardless of the type of emotion or the form of expression. It has seventeen items with a 6-point Likert scale from 1 to 6. EES shows high internal consistency (0.90 Cronbach's alpha) and stable test-retest reliability ($r = .90$ over 4 weeks). It demonstrates strong convergent and discriminant validity (Kring et al., 1994).

Statistical Analysis

Descriptive and inferential statistics were computed. correlation analysis was performed in the data analysis to evaluate the relationship between the variables. Thus, mediation analysis has been employed to evaluate the mediating effect of negative core beliefs on trait anxiety-emotional expressivity relationship using Jamovi (2.5.6) software.

Research Ethics

- The Ethical guidelines were strictly adhered to throughout the research process, prior to and after data collection.
- The purpose, steps, risks, and benefits of the research were clearly explained to the participants, and informed consent was gained from them online.
- Confidentiality and anonymity of participants are maintained by keeping data secure and making sure no identifying information is collected.

RESULTS AND DISCUSSION

Table 1: Showing The Measures Of Central Tendency

Across Variables			
	Trait Anxiety	Negative Core Beliefs	Emotional Expressivity
N	327	327	327
Mean	27.3	66.8	59.2
Median	28	67	60
SD	9.84	20.1	13.5

The present study's data were procured from 327 participants on the variables of negative core beliefs, trait anxiety and emotional expressivity. A summary of the variables' primary statistical measures is provided in this section i.e. trait anxiety (M= 27.3, SD=9.84), negative core belief (M=66.8, SD=20.1), and emotional expressivity (M= 59.2,SD=13.5).

Spearman Correlation analysis was carried out to assess the relationship between trait anxiety, negative core beliefs and emotional expressivity.

1. There is no significant relationship between negative core beliefs, trait anxiety and emotional expressivity of young adults.

Table 2 presents the findings, which reveal that there exists no relationship between trait anxiety and emotional expressivity and between negative core beliefs and emotional expressivity, however trait anxiety and negative core beliefs are strongly correlated. After the analysis, the first null hypothesis is partially rejected

Table 2: Shows Correlation Analysis For Trait Anxiety, Negative Core Beliefs, And Emotional Expressivity.

Variables	N	1 ¹	2	3
1. Trait Anxiety	327	-		
2. Negative Core Beliefs	327	.738	-	
3. Emotional Expressivity	327	.013	-.100	-

1= Correlations significant at the 0.001 level (two-tailed)

The results of Trait Anxiety showing no significant relationship with Emotional Expressivity suggests that variations in trait anxiety do not necessarily influence how individuals outwardly express emotions. This contrasts with previous research (Dennis, 2007) which reported a significant negative relationship between trait anxiety and emotional expressivity, suggesting that higher trait anxiety is associated with reduced outward expression due to emotional suppression or regulation. A possible explanation lies in emotion regulation strategies, while some individuals may engage in emotional suppression to reduce distress, others may utilize cognitive reappraisal or expressive coping, leading to variations in emotional expressivity (Gross & John, 2003).

Similarly, our results found no significant relationship between Negative Core Beliefs and Emotional Expressivity, suggesting that an individual's underlying negative beliefs about self and others do not directly influence their outward emotional expressions. While cognitive theories suggest that negative core beliefs influence emotional experiences (Young et al., 2006), research suggests that expressivity may be shaped more by personality traits and sociocultural influences rather than specific belief systems (Gross & John, 2003). This conceptual divergence between internal cognitive schemas and external emotional behaviours may explain the lack of a direct association. Another possible explanation could be the influence of cultural norms on emotional expressivity. Research emphasizes that different cultures regulate emotional expression in distinct ways (Matsumoto et al., 2008), suggesting that cultural expectations may shape emotional expression independently of an individual's negative core beliefs.

Results further showed strong relationship between Trait Anxiety and Negative Core Beliefs, indicating individuals with higher trait anxiety are prone to have negative core

beliefs about themselves and others. This finding is consistent with cognitive models of anxiety, which propose that negative core beliefs reinforce perceptions of threat and vulnerability, contributing to persistent worry and heightened emotional reactivity (Beck & Clark, 1997). (Clark & Wells, 1995) further emphasize that these core beliefs drive excessive self-focus and threat anticipation, exacerbating anxiety-related traits over time.

2. There is no significant impact of trait anxiety on emotional expressivity of young adults.

According to the second null hypothesis there is no significant impact of trait anxiety on emotional expressivity of young adults. Since there is no correlation between trait anxiety and emotional expressivity, as table 1 illustrates, regression was not carried out leading to the second hypothesis being retained.

3. There is no significant impact of negative core beliefs on emotional expressivity of young adults.

According to the third null hypothesis there is no significant impact of negative core beliefs on emotional expressivity of young adults. Since there is no correlation between negative core beliefs and emotional expressivity, as table 1 illustrates, regression was not carried out leading to the third hypothesis being retained.

4. Negative core beliefs do not mediate the relationship between trait anxiety and emotional expressivity.

Table 3: Mediation Analysis For Effect Of Negative Core Beliefs (NCB) On The Relationship Between Trait Anxiety (TA) And Emotional Expressivity (EE)

Effect	Estimate	SE	β	Z	P
Indirect	-0.2172	.0824	-.158	-2.63	.008
Direct	0.2058	.1108	.150	1.857	.063
Total	-0.0113	.0759	-.008	-1.149	.881

Table 3 displays the findings of the mediation analysis. The indirect effect of trait anxiety on emotional expressivity through negative core beliefs was significant ($\beta = -0.158$, $p = 0.008$), prompting the rejection of the null hypotheses. This indicates that higher trait anxiety predicts reduced emotional expressivity via negative core beliefs. The direct effect of trait anxiety on emotional expressivity was not significant ($\beta = 0.150$, $p = 0.063$), suggesting that without the mediator, the relationship weakens. Notably, the total effect of trait anxiety on emotional expressivity was also non-significant ($\beta = -0.008$, $p = 0.881$). This pattern suggests a suppression effect, where direct (positive) and indirect (negative) effects operate in opposing directions, cancelling each other out in the total effect. This underscores the importance of examining indirect mechanisms even when total effects appear non-significant.

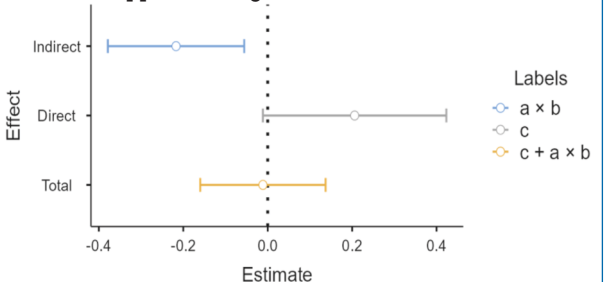


Figure 1: Estimate Plot of Direct, Indirect, and Total Effects in the Mediation Analysis

Note. The plot shows the standardized estimates for the direct, indirect, and total effects of trait anxiety on emotional expressivity through negative core beliefs.

Figure 1 displays the estimate plot for the direct, indirect and total effects of trait anxiety on emotional expressivity. The plot highlights the significant indirect effect through negative core beliefs, whereas the direct effect and total effect were

non-significant. This visual aligns with the statistical findings, emphasizing that trait anxiety reduces emotional expressivity indirectly via heightened negative core beliefs, while its direct and total influence is negligible.

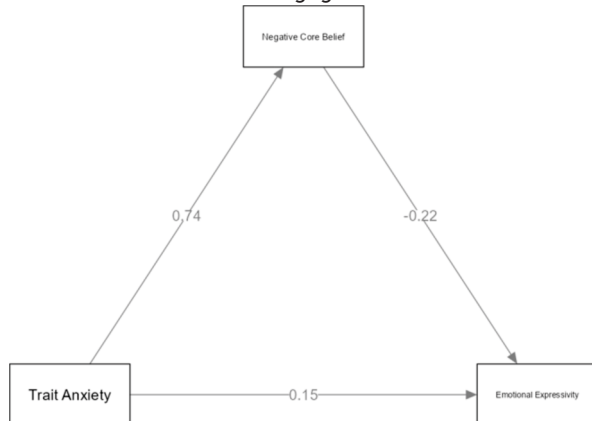


Figure 2: Path Model of the Mediation Analysis

Note. The model illustrates the connections between trait anxiety, negative core beliefs and emotional expressivity.

The path model (figure 2) illustrates the connection between trait anxiety, negative core beliefs and emotional expressivity. The model presents the direct path showing a small positive effect ($\beta=0.15$) meaning higher trait anxiety only slightly increases emotional expressivity. Simultaneously, trait anxiety strengthens negative core beliefs ($\beta=0.74$) which then reduces emotional expressivity ($\beta= -0.22$). While these opposing effects partially cancel each other out, the model confirms that negative core beliefs do act as a mediator.

While the direct effect of trait anxiety on emotional expressivity was non-significant, the significant indirect effect suggests that negative core beliefs act as a crucial pathway through which trait anxiety influences emotional suppression. A key aspect of the mediation model in the study is the suppression effect, wherein the direct effect of trait anxiety on emotional expressivity was in the opposite direction of the indirect effect, effectively canceling out the total effect. This pattern highlights the necessity of examining indirect pathways when studying the relationship between anxiety and expressive behaviours, as failure to account for cognitive mechanisms like negative core beliefs may lead to contradictory findings

LIMITATIONS

1. The results have limited generalizability due to the narrow age range, disproportionate gender representation and student-dominated sample. This can be attributed to emotional expressivity and cognitive patterns that vary across life stages and representation of anxiety and expressivity differ in men and women. Therefore, to have more thorough understanding of the phenomenon, future study should attempt to investigate similar relationships in a variety of populations.

2. Additionally, this study's another limitation relates to lack of focus on cultural backgrounds, which influence emotional expressivity and anxiety regulation. Therefore, to guarantee the validity and applicability of the results, future studies should aim to reproduce these findings in a wider range of cultural and ethnic groups.

3. Furthermore, the research utilized cross-sectional techniques, which hampers the ability to establish causal relationships between trait anxiety, negative core beliefs and emotional expressivity. To investigate the evolving nature of these interactions and identify plausible causal mechanisms longitudinal research is crucial.

IMPLICATIONS

1. The exploration of the role of negative core beliefs in the relationship between trait anxiety and emotional expressivity can direct the development of targeted actions meant to improve emotional expression by addressing negative core beliefs in the young adult population with high trait anxiety. Interventions like cognitive-behavioural therapy or schema focused interventions may aid in restructuring maladaptive beliefs, thereby reducing suppressive impact on emotional expressivity

2. Current research lays the groundwork for further investigations into the detrimental effects of negative core beliefs on emotional regulation and overall well-being, as well as possible ways to mitigate these effects. The development of emotional expressiveness offers a promising path for interventions specifically designed for young adults.

CONCLUSIONS

The findings revealed a strong association between trait anxiety and negative core beliefs, suggesting individuals with higher trait anxiety are more probable to hold maladaptive beliefs about themselves and others. However, neither trait anxiety nor negative core beliefs independently influenced emotional expressivity, suggesting that external emotional expressions may be shaped by additional psychological and sociocultural factors. Mediation analysis confirmed that negative core beliefs serve as a critical pathway through which trait anxiety impacts emotional expressivity, highlighting the suppressive effect of maladaptive beliefs on outward emotional expression. These results underscore the importance of addressing negative core beliefs in individuals with high trait anxiety to improve emotion expression. Moreover, findings emphasize the need for interventions targeting negative core beliefs, as modifying these cognitive patterns may enhance emotional expressivity and overall emotional well-being in young adults.

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