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The Study on Relationship Between Negative Metacognitive Beliefs and Test Anxiety among NEET Competitive Aspirants

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Abstract: ***This study explored the relationship between negative metacognitive beliefs and test anxiety among NEET and other competitive exam aspirants. The research focused on identifying whether higher levels of dysfunctional metacognitive beliefs are associated with increased levels of test anxiety in this population. Data were collected from 170 aspirants who completed two standardized tools: one measuring negative metacognitive beliefs and another assessing test anxiety. The metacognitive belief scores appeared moderate, with a mean score of 69.85 and a standard deviation of 12.948, indicating noticeable variation among participants. Test anxiety scores averaged 30.36, with a standard deviation of 7.500, suggesting considerable differences in anxiety levels experienced during examinations. The relationship between the two variables was examined using Pearson's correlation method and found to have a positive and statistically significant correlation. These findings highlight that negative metacognitive beliefs may play a crucial role in influencing the level of anxiety experienced by aspirants during competitive examinations.***

Keywords: Negative Metacognitive Beliefs, Test Anxiety, Aspirants

1.Introduction

Many students preparing for ultra-competitive entrance exams like the National Eligibility cum Entrance Test (NEET) and other competitive tests endure tremendous academic pressure, expectation, and ongoing assessment. That kind of rigorous practice can create a significant amount of pressure on students causing them to experience significant levels of anxiety and stress with respect to their performance in these exams. When the anxiety gets too extreme, it can manifest itself as test anxiety, which is a psychological disorder characterized by excessive fear, anxiety, persistent thoughts, and physical symptoms that disrupt the ability to perform well as required by these assessments. Test anxiety is not just a reaction to the externally created environment of academic requirements but is also greatly influenced by cognitive processes internally from one's own thoughts and cognitions.

Metacognitive belief which relates to how someone perceives their thought processes. Metacognition was first described by Flavell in 1979 as being "knowledge plus cognition about cognitive processes" and was then expanded to include beliefs on how useful, controllable, and how much impact one's thoughts can have. Metacognitive beliefs can be separated into two groups; positive metacognitive beliefs and negative metacognitive beliefs. Individuals who have positive metacognitive beliefs encourage themselves to think about the mental process of worrying/ruminating in a positive manner, meaning they view it as beneficial; however, individuals who have negative metacognitive beliefs are maladaptive, think their thoughts are uncontrolled, dangerous, or otherwise harmful to themselves, thus the formation and maintenance of psychological distress is affected by these negative beliefs on one's thinking processes.

Constantly taking practice exams, comparing scores with peers and worrying about failing can all have a negative impact on how students view themselves in terms of metacognition when preparing for competitive examinations such as NEET. They may start to believe their anxious thoughts are beyond their control or threatening, which increases their level of anxiety both before they sit their exam, and while taking their exam. According to the Self-Regulatory Executive Function (S-REF) model developed by Wells & Matthews (1994), negative metacognitive beliefs can trigger activation of the Cognitive Attentional Syndrome (CAS) that includes ongoing worry, rumination, threat-focused monitoring, and maladaptive coping mechanisms. Additionally, according to Wells' (2009) metacognitive theory, the actual content of an individual's thought does not contribute to their level of emotional distress but rather how they respond to the thought. Therefore, these results demonstrate how greatly negative metacognitive beliefs may contribute to increased student anxiety before and during examinations.

Anxiety about tests is a multidimensional construct that has cognitive, emotional, and physiological components. Test anxiety includes cognitive concerns, the distress caused by emotions such as fear and anxiety, and more physiological manifestations such as increased heart rate and perspiration, which can negatively affect academic performance. Yerkes-Dodson Theory and Cognitive Attentional Model offer a perspective of how too much test anxiety can negatively impact focus, working memory and the ability to be present at the time, resulting in further academic problems. Understanding the relationship between negative metacognitive beliefs and test anxiety for children who are NEET and competing at further rates will help provide valuable insight into ways of reducing their overall academic performance and improving their overall test results.

Definition

Meta-Cognitive Belief

- **Adrian Wells (2000)-**Meta-cognitive beliefs are beliefs individuals hold about their own thinking processes, including beliefs about the controllability, danger, and usefulness of thoughts.

- **Gerald Matthews, Ian J. Deary & Martha C. Whiteman (2003)**
  Meta-cognitive beliefs refer to knowledge and beliefs about one's own cognitive system, including awareness and regulation of thinking.
- **Peter J. Bieling, Andrew S. Antony & Richard P. Swinson (1998)**
  Meta-cognitive beliefs are beliefs about thinking that influence how individuals interpret and respond to their thoughts, particularly in emotional disorders.

Test Anxiety

- **Charles D. Spielberger (1972)**-Test anxiety is a situation-specific form of anxiety characterized by worry, tension, and physiological arousal in evaluative situations.
- **Irwin G. Sarason (1984)**-Test anxiety refers to the tendency to experience intrusive thoughts, worry, and emotionality that interfere with performance in testing situations.
- **Moshe Zeidner (1998)**-Test anxiety is a multidimensional construct involving cognitive, emotional, and behavioural responses related to fear of failure in academic evaluation contexts.

2.Literature Review

Chaurasiya and Jee (2025) examined negative metacognitive beliefs and perceived stigma as predictors of quality of life among adults with epilepsy. The study used standardized tools such as the Metacognitions Questionnaire (MCQ) to assess negative metacognitive beliefs, the Perceived Stigma Scale to measure stigma, and the Quality of Life in Epilepsy Scale (QOLIE) to evaluate quality of life. The sample consisted of 120 adults with epilepsy, selected through purposive sampling. A correlational research design was adopted, and regression analysis was used for data analysis. The results indicated that higher negative metacognitive beliefs and perceived stigma significantly predicted poorer quality of life, emphasizing the need for psychological interventions targeting cognitive beliefs and stigma reduction**.**

Santhosini. M and Balakrishnan N. (2025) conducted a study to examine the relationship between spiritual personality and test anxiety among students. The study aimed to understand how spiritual personality traits influence students' levels of anxiety in examination situations. The tools used for data collection were a Spiritual Personality Scale to measure dimensions such as faith, self-awareness, inner peace, and meaning in life, and a standardized Test Anxiety Scale to assess cognitive, emotional, and physiological components of test anxiety. The sample population consisted of 120 undergraduate and postgraduate students drawn from arts and science colleges, selected using a purposive sampling technique. The study adopted a descriptive correlational research design. Data were analyzed using Pearson's correlation and descriptive statistical techniques.

Ray and Negi (2024) conducted a study to examine gender differences in test anxiety among students who appeared for board examinations in India. The objective of the study was to identify whether male and female students differed significantly in their levels of test anxiety. The Test Anxiety Scale was used to measure cognitive, emotional, and physiological components of test anxiety. The sample population comprised 101 secondary school students who appeared for 10th and 12th grade board examinations, selected from government and private schools using a stratified random sampling technique. The study adopted a comparative research design. Data were analyzed using descriptive statistics and independent sample *t*-tests.

Lavanya. Kand Mary. P. H (2020) conducted a study to assess the level of test anxiety among students appearing for board examinations. The objective of the study was to understand the prevalence and intensity of test anxiety in high-stakes examination settings. The tool used for data collection was a standardized Test Anxiety Scale. The sample population consisted of 90 students appearing for secondary board examinations, selected from government and private schools using a random sampling technique. The study adopted a descriptive survey research design. Data were analyzed using descriptive statistics. The findings revealed that a considerable proportion of students experienced moderate to high levels of test anxiety, highlighting the need for early identification and intervention programs to help board exam students manage examination-related stress effectively.

3.Research Methodology

3.1. Objectives

- To assess the level of negative metacognitive beliefs among NEET and competitive examination aspirants.
- To assess the level of test anxiety among NEET and competitive examination aspirants.
- To examine the relationship between negative metacognitive beliefs and test anxiety among NEET and competitive examination aspirants.
- To analyze the influence of selected demographic variables on the level of test anxiety among NEET and competitive examination aspirants.

3.2. Hypothesis

(H0): There is no significant relationship between negative meta cognitive beliefs and test anxiety among NEET and competitive aspirants aged 18-30 years.

3.3. Research Design

The present study employed a quantitative, correlational research design to examine the relationship between negative meta cognitive beliefs and test anxiety among NEET and competitive aspirant aged 18-30 years. This design was selected as it facilitates the assessment of the strength and direction of the relationship between the two variables without any manipulation, thereby preserving the natural context of the participant's professional environment.

4.Sample and Sample Technique

A sample is a small (subset) of people chosen from a larger number of people (population), which is representative of the population in a study. For this study, the target population consisted of NEET aspirants and other aspirants of competitive exams, and the total sample was 170 aged between 18-30. The heterogeneity of the sample was achieved by including various gender types and types of coaching (online and offline), number of times attempted, daily study hours, and academic streams. This heterogeneity provided a larger representative sample than the larger population. Participants were selected using **purposive sampling**, which is a non-probability sampling technique that involves selecting participants based upon the research objectives. Purposeful sampling gives researchers the opportunity to select individuals that will be able to provide contextual and substantial information to the research study (Singh, 2019). The aspirants in the study were selected because they were actively preparing for competitive exams, and therefore they were ideal for analysing the relationship between negative metacognitive beliefs and test anxiety.

4.1. Inclusion Criteria

- NEET and competitive examination aspirants who are actively preparing for exams.
- Aspirants aged between 18 and 30 years.
- Aspirants enrolled in coaching classes (online or offline) or self-study programs.

4.2. Exclusion Criteria

- Aspirants who are not currently preparing for NEET or competitive examinations.
- Aspirants below 18 years or above 30 years of age.
- Aspirants who have already qualified for their target exams.

4.3. Tools Used and Description

Meta Cognitive Questionnaire-30 (MCQ-30)

The MCQ-30, developed by Wells and Cartwright-Hatton (2004), was designed to measure individual differences in metacognitive beliefs, processes, and the disposition to engage in cognitive monitoring. This 30-item self-report scale asks individuals to indicate how much they agree with each statement on a 4-point Likert scale that ranges from 1 (do not agree) to 4 (agree very much). Items tap five dimensions of metacognition: positive beliefs about worry, negative beliefs about uncontrollability and danger of thoughts, cognitive confidence, need to control thoughts, and cognitive self-consciousness. Higher scores correspond to stronger endorsement of maladaptive metacognitive beliefs. The MCQ-30 has exhibited high reliability and validity, with internal consistency (Cronbach's alpha) ranging from 0.72 to 0.93 across subscales, and is widely used in both clinical and non-clinical populations to study anxiety, worry, and related cognitive processes.

Westside Test Anxiety Scale (WTAS)

The Westside Test Anxiety Scale (WTAS) was created by Dr. Richard Driscoll in the year 2004. This scale was used to measure the test anxiety felt by students during the time of exams. The WTAS has a total of 10 statements, and they are measured on a scale of 1 to 5, where 1 is 'Never' and 5 is 'Always.' The scale was prepared to include both the mental and physiological state of students during the time of exams, including fear of failure and tension. Higher scores on the WTAS measure high levels of test anxiety, and lower scores show the least level of test anxiety. The scale has high reliability and validity, and its internal consistency is between 0.77 and 0.85. The WTAS has been proven to be highly effective in measuring the test anxiety of students in contexts where competitive exams are held.

4.4. Statistical Analysis

The analysis of the data will be conducted using the IBM SPSS Statistics software program (version 26.0). Descriptive statistics like mean, standard deviation, frequency, and percentage will be utilized to describe the demographic variables of the participants as well as their scores on negative metacognitive beliefs and test anxiety. Pearson's correlation test will be carried out to investigate the correlation between metacognitive beliefs and test anxiety in NEET and competitive examination aspirants

5.Result

This chapter discusses the results and interpretation of the analysis done to understand the relationship between negative metacognitive beliefs and test anxiety among NEET and competitive aspirants.

Table 1: Descriptive statistics showing the mean and standard deviation between negative meta cognitive beliefs and test anxiety among NEET and competitive aspirants.

Variables	Mean	Standard Deviation	N
Negative metacognitive beliefs	69.85	12.948	170
Test anxiety	30.36	7.500	170

The descriptive table shows the mean and standard deviation for the variables. The variable IV: negative metacognitive beliefs have a sample N=170, mean=69.85 and standard deviation=12.948 and variable DV= test anxiety has a sample N=170, mean=30.36 and standard deviation=7.500

Table 2: Correlational analysis showing the relationship between negative metacognitive beliefs and Test anxiety among NEET and competitive aspirants

Variable	Pearson's Correlation	r value	Decision
Negative metacognitive beliefs	1	+0.358**	Rejecting (Ho)
Test anxiety			

*Correlation is significant at 0.01 level (2-tailed)

Table 2 shows the values of Pearson's correlation among the two variables. There appears to be a correlation of 1 and a significance of +0.358** ($p<0.01$). There is significance at 0.01 level and a positive correlation between the negative metacognitive beliefs and test anxiety among NEET and competitive aspirants. Since it indicates that there is a correlation between negative metacognitive beliefs and test anxiety, the null hypothesis (Ho: there is no significant relationship between negative metacognitive beliefs and test anxiety among NEET and competitive aspirants) is rejected.

6.Discussion

This research looked at the ways negative metacognitive beliefs (MC) are linked to test anxiety (TA) for students preparing for NEET or other competitive exams. The results showed a significant correlation ($r = +0.358$, $p < .001$) between these two variables. Thus, students who have negative metacognitive beliefs about themselves are more likely to feel anxious about taking their tests. The implication of this study is that students' negative metacognitive beliefs about themselves, such as believing their worry was out of control, were contributing to their anxiety during the test. In addition, those who believe that their thoughts are uncontrollable and produce harmful influences might engage in excessive ruminating about their worries, which would increase their anxiety levels during the test. While the finding regarding the correlation was statistically significant, the moderate correlation indicates that metacognitive beliefs are not the only cause of anxiety. Other causes could also include academic pressures, fear of failure or parental expectations, lack of preparation, or environmental pressures that contribute to the test-taking anxiety of students preparing for NEET or other competitive exams. In summary, the results of this study support the theory that metacognitive processes are major psychological contributors to emotional challenges and distress in stressful academic settings, such as when preparing for the NEET and other competitive exams.

7.Summary

The current research has investigated the association between test anxiety and negative cognitive/metacognitive beliefs for both NEET and competitive candidates. A total of 170 subjects participated in the study, using standardized self-report measures to assess their level of test anxiety and negative cognitive/metacognitive beliefs. The descriptive statistics for both the variables were as follows: Metacognitive beliefs Mean (69.85)Standard Deviation (12.948)Test anxiety Mean (30.36) Standard Deviation (7.500) As indicated by the results of the Pearson Correlation Analysis, there is a significant positive correlation between negative cognitive/metacognitive beliefs and test anxiety ($r = ** 0.358$, $p <0.001$).Thus suggesting that higher degrees of dysfunctional cognitive/metacognitive beliefs will be associated with elevated levels of anxiety when taking an examination. The results provide support to reject the null hypothesis of no relationship between the two variables. In addition, the results of this study suggest that individuals who possess higher levels of negative metacognitive beliefs are at greater risk of increased test anxiety compared to their peers.

8.Conclusion

According to the findings of this research, there is a substantial positive correlation between maladaptive metacognitive beliefs and anxiety regarding taking a test among NEET applicants (in addition to those who are studying for competitive examinations). Individuals with higher levels of maladaptive metacognitive beliefs are therefore more likely to experience elevated levels of test anxiety.

Thus, maladaptive metacognitive beliefs can be viewed as an important psychological construct related to an individual's level of anxiety in the academic environment. The implementation of psychological interventions to address maladaptive metacognitive beliefs may reduce test anxiety and enhance the performance and quality of life of students.

9. Limitations

- The research examined solely negative views of metacognition to predict anxiety on exams, omitting other determinants: stress, self-esteem, coping skills, academic success, or wishes from parents/family related to performing well in school.
- The research included a small sample size of 170 individuals which could influence generalization or how representative those results would be if applied broadly across all populations.
- The subjects were from the NEET population and those taking competitive exams; however, this sampling limits applicability to other school-aged individuals in general. Also, the researchers employed self-report measures that could have been subject to response bias due to social desirability and/or inaccurate reporting of true score values (a common issue with self-reported measures).
- Last, a cross-sectional design does not allow for inferences regarding cause-and-effect relationships.

10. Recommendations

- Future research should include larger and more diverse samples to enhance generalizability.
- Additional variables such as coping strategies, academic stress, resilience, and emotional regulation should be considered for a more comprehensive understanding.
- Longitudinal studies are recommended to examine causal relationships between metacognitive beliefs and test anxiety over time.
- Psychological interventions such as Metacognitive Therapy (MCT), Cognitive Behavioural Therapy (CBT), and stress management programs should be introduced for students.
- Educational institutions and coaching centre should conduct awareness programs and workshops to help students manage negative thinking patterns and reduce exam anxiety.
- Teachers and parents should be trained to provide

supportive environments that reduce pressure and promote healthy cognitive patterns.

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