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Anxiety and Superstition: A Comparative Study of Male and Female University Students

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ABSTRACT

The research work in this paper investigates the impact of superstitious rituals on university students' state anxiety and compares male and female students with respect to both. The analysis was based on Cognitive-Behavioural and Magical Thinking models. The objective of the current study was to prove their hypothesis that performing superstitious rituals can substantially reduce anxiety while going for an examination, viva, competition, etc. A research design with cross-section was used. A convenient sample of 120 (60 male and 60 female) students from the Faculty of Education, Galgotia University. The ages of the participants were from 18-25. Two standardized psychological tools were administered to find out the importance of superstitions anxiety. The GAD-7 and SBS-17 were the tools used to gather the data. The initial one gauges anxiety, whereas the latter evaluates the belief in performing superstition. Descriptive statistics indicated that female had a slightly higher mean for superstition (M = 29.15, SD = 7.02) compared to male (M = 28.40, SD = 7.10). The mean anxiety score was higher for females (M = 10.43, SD = 4.90) than for males (M = 8.46, SD = 3.77). The results suggest a very slight difference between the genders in superstition beliefs ($p = .562$, $p > .05$). This indicates that males and females don't differ in reporting superstition beliefs along the gender. The findings indicate a significant gender difference in anxiety ($p = .015$, $p < .05$), whereby the female participants reported experiencing more anxiety than the male participants. According to the Pearson product-moment correlation analysis, superstition scores have a small positive relationship with anxiety scores for both male and female subjects. In females, scores on superstition and anxiety were statistically positively, $r = .193$. This indicates that students with higher anxiety also tend to believe slightly more in superstition. A parallel connection was observed in men, $r = .157$, indicating students with higher anxiety had a slightly stronger belief in superstition yet remained a very weak association. Overall, the study found a weak positive relationship between anxiety and superstition in both genders, indicating that higher anxiety levels are associated with slightly stronger superstitious beliefs, although the relationship is relatively weak. These findings contribute to understanding the psychological factors associated with superstition among university students.

Keywords: *S*uperstition, Anxiety, Gender differences, Pearson correlation, t-test Results

INTRODUCTION

Superstition and anxiety are two psychological concepts that have fascinated researchers for quite some time, spanning fields like social psychology, clinical psychology, and behavioral science. Superstitions–basically, irrational beliefs that connect unrelated events–are found in every culture around the world, hinting that they serve a deeper psychological purpose beyond just being cultural traditions. On the other hand, anxiety is one of the most common mental health issues today, having a big impact on how people think, feel, and behave.

When it comes to university life, students often face high-pressure situations like exams, looming deadlines, and performance reviews that can really spike their anxiety. Research has shown that when people feel uncertain or out of control, they're more likely to lean on superstitious behaviors to try to regain a sense of predictability and comfort. This brings up an interesting question: do superstitious rituals actually help lower

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anxiety before stressful events, or do people who are naturally more anxious just tend to believe more in superstitions?

Review of Literature

Superstition, generally understood as the belief that unrelated events are connected through some kind of supernatural influence, has been a part of human culture throughout history, even as science has advanced. Researchers have often pointed out that superstition serves a functional role in how we think.

In fact, Sachkova and Semyonova (2024) noted that superstition is seen as a unique way of life, present even among educated individuals, including young people. It acts as a sort of psychological defense mechanism and helps people adapt to stressful or traumatic situations. Magical and ritualistic behaviors–like performing certain routines before exams, avoiding unlucky numbers, or relying on lucky charms–are common signs of these superstitious tendencies. Such behaviors are especially widespread among students who are dealing with academic pressures and uncertainty. The link between superstition and anxiety has drawn a lot of attention from scholars.

The connection between superstition and anxiety has caught the interest of many researchers, who have been trying to figure out whether anxiety makes people more likely to believe in superstitions, or if those superstitious beliefs and rituals actually help ease anxiety. According to Caspi and colleagues (2025), studies have shown that superstitions are often tied to emotional and motivational factors–especially anxiety and the desire to avoid uncertainty. Their large-scale research across different countries found a clear link: the less someone can tolerate uncertainty, the more likely they are to embrace superstitions and related practices.

In a study conducted by Pournesaei (2023), the link between superstition, depression, and anxiety among university students was explored through a descriptive-correlational approach. The findings revealed a significant connection between a tendency toward superstition and anxiety ($p < .001$), suggesting that superstition can actually help predict anxiety levels in these students. Similarly,

Cholankeril *et al.* (2023) conducted a large population-based study and found that women tend to experience much higher levels of anxiety than men ($p < .001$). They also discovered that women are more likely to cope by using strategies like acceptance, self-distraction, positive reframing, and seeking emotional support compared to men (McLean *et al.*, 2011).

Keinan (2002) showed that when people face stressful situations they can't control, they tend to fall back on superstitious thinking and rituals more often. When someone feels like they have less control over their own life, they're more likely to turn to these beliefs as a way to cope with uncertainty and anxiety. So, it seems that superstition might actually serve a psychological purpose—giving people a sense of control, even if it's just an illusion—especially in high-pressure situations like school or work.

Yaman *et al.* (2025) found that both health anxiety and superstitious beliefs are quite common among college students, largely influenced by the unique uncertainties and pressures that come with academic life. This includes existential stressors that seem to make students more vulnerable to psychological defense mechanisms like superstition.

Research Gap

While this study offers a valuable empirical contribution, a look at the existing literature shows that there are still some important gaps that need to be addressed in future research.

Lack of Experimental and Long-Term Evidence

Most studies looking at the link between superstition and anxiety—including this one—rely on cross-sectional correlational designs, which means they can't really tell us what causes what. The big question remains: does engaging in superstitious rituals actually help reduce anxiety, or does feeling more anxious lead people to believe more in superstitions?

Lack of Culturally Validated Tools for Indian Populations

Most of the commonly used superstition scales, like Tobacyk's Revised Paranormal Belief Scale, were created and standardized based on Western populations. Because of this, they might not fully reflect the specific beliefs, expressions, and cultural references that are common in Indian socioreligious settings.

Under explored Mediating and Moderating Variables

The connection between superstition and anxiety probably isn't straightforward. Instead, it's likely

influenced by psychological factors like perceived control, self-efficacy, intolerance of uncertainty, and how people manage their emotions.

Limited Exploration of Gender-Specific Mechanisms

Although gender differences in anxiety are well-documented, the reasons behind these differences—especially when it comes to superstitious coping—haven't been thoroughly explored. For example, do male and female students rely on different kinds of superstitions?.

Limited Neurobiological and Physiological Evidence

Most of the research on rituals and anxiety so far has relied heavily on self-report methods, which can be influenced by things like people wanting to give socially acceptable answers or picking up on what researchers expect. There are very few studies that use objective physiological measures–like cortisol levels, heart rate variability, or skin conductance–taken before and after people engage in rituals, especially when it comes to academic stress.

Lack of Intervention Research

Although there are solid theoretical reasons to believe that the psychological effects triggered by superstitious rituals—like a sense of control, boosted self-confidence, and mental preparation—could be used in secular therapeutic approaches, no study so far has actually developed or tested a structured pre-exam routine that intentionally taps into these mechanisms for students dealing with clinical anxiety. In other words, turning the basic research on ritual cognition into practical, evidence-based mental health programs for university students is an area that remains seriously underexplored.

Limitations of Single-Institution and Regional Studies

Most Indian studies on this topic, including this one, tend to focus on samples from just one institution in a specific geographic area. What's missing is a thorough look at the diverse experiences of students across different settings—like rural versus urban universities, government versus private colleges, and states with their unique cultural and religious backgrounds.

Need and Significance of the Study

Studying superstition and anxiety among students is important for several reasons—whether we look at it from a theoretical, clinical, or social perspective. On the theoretical side, even though there's been a lot of research on how people cope with anxiety, informal rituals haven't really been studied in depth. Most anxiety treatments tend to focus on medication or cognitive-behavioral techniques, so naturally occurring coping behaviors like superstitious rituals often get overlooked.

In university counseling centers, it's pretty common for students to come in feeling anxious about exams. When counselors have a good grasp of why students might turn to superstitious rituals, they can better understand what's going on and use that insight to offer more effective support. Instead of just writing off these superstitions as irrational, thoughtful counselors can actually tap into the way these rituals boost a student's confidence–kind of like a placebo effect–to help them cope better.

Additionally, the low-cost nature of these psychometric tools allows these types of broad studies to be easily replicated at other institutions and adds further to the national evidence base on student mental health.

Objectives of the Study

The present study was guided by the following objectives:

1. To assess levels of anxiety among university students using the Generalized Anxiety Disorder Scale.
2. To assess the levels of superstitious beliefs and ritualistic behavior in university studentsusing the 17-item Superstitious Beliefs Scale (SBS-17).
3. To explore the relationship between engagement in superstitious rituals and anxiety amongthe total sample of university students.
4. To compare the levels of anxiety and superstitious belief in female and male university students.
5. To investigate the potential psychological processes (perceived control, self-efficacy) through which superstitious rituals might influence academic anxiety levels.

Hypotheses

Null Hypothesis (H_0)

Results suggest that there are no statistically important correlations between superstition and measures of state anxiety in university students, and no meaningful gender differences in superstition and state anxiety scores.

Alternative Hypothesis (H_1)

The study hypothesized that for the university students involved in the study, engaging in superstitious rituals will be considerably negatively associated with state anxiety, and that female students' scores on the superstition and state anxiety scales will be considerably higher than male students' scores.

METHODOLOGY

Research Design

The current study employed a quantitative cross-sectional survey study, which is an appropriate research design to explore co-occurrences and associations between psychosocial variables between groups at a single point in time. The correlational element of the design eased the investigation of the relationship between superstition and anxiety without manipulating the variables and the comparative (between-groups) element eased the gender comparison.

Sample Characteristics

For this study, the sample consisted of 120 university students (60 males and 60 females) aged 18 to 25 years, who were enrolled in Galgotia University. The students were also selected from the faculties of psychology, commerce, science, and humanities to overcome the effects of academic level and their respective stressors.

Inclusion Criteria

- Provided informed consent to participate.
- Ability to read and understand the versions of the questionnaire.

Exclusion Criteria

- Diagnosed with a clinical anxiety disorder; currently receiving pharmacological treatment.
- Completed a psychology curriculum and used at least one of the two measurement tools at some point.
- Incomplete or no questionnaire response.

Research Tools

Generalized Anxiety Disorder Scale (GAD-7)

The GAD-7 (Spitzer *et al.*, 2006) is a seven-item, self-administered questionnaire witha 4-point Likert scale (0, Not at all; 1, Several days; 2, More than half the days; 3, Nearly every day). Each item assesses the presence and severity of generalized anxiety disorderin primary health care (PHC) settings. The total is a number from 0 to 21 with established cut-points of 0-4 = minimal anxiety, 5-9 = mild anxiety, 10-14 = moderate anxiety, and 15-21 = severe anxiety.

Superstitious Beliefs Scale (SBS-17)

Surekha Chukkali and Anjali M. Dey (2020) created and tested this 17-item scale in 2020 specifically for Indian students. The instrument measures how often and how strongly individuals participate in superstitious practices and hold superstitious beliefs. It covers three main areas: academic-related superstitions (such as wearing particular clothing or accessories during tests), protective behaviors (like knocking on wood or staying away from certain numbers), and beliefs about outcomes (such as thinking that certain actions can affect exam performance).

Data Collection Process

Participant Recruitment

I distributed the survey link to undergraduate students using WhatsApp groups and various social media platforms. When students accessed the link, they encountered a straightforward consent message that required their agreement to proceed. Participants retained the option to withdraw from the study at any point during completion.

Survey Administration

Each participant completed two assessment instruments:

The Superstitious Beliefs Scale, containing 17 items that measured beliefs in lucky rituals, bad omens, and similar concepts. The GAD-7, which included 7 items assessing recent anxiety symptoms. All responses were collected anonymously, with every question marked as mandatory for completion.

Study Conclusion

After survey completion, I provided participants with a thank-you message and disclosed the research objective, which focused on examining potential connections between superstitious beliefs and anxiety management strategies.

Data Processing:

I exported all survey responses into Google Sheets

for analysis and computed mean scores and standard deviations for both measurement scales.

RESULTS AND DISCUSSION

Table 1 reveals that compared to male students (M = 8.46, SD = 3.77, mild range), female students reported higher levels of anxiety (M = 10.43, SD = 4.90, moderate range). Thus, there was no significant difference between genders in superstitious beliefs (females M = 29.15, males M = 28.40).

Table 1 : Descriptive Statistics for GAD-7 and Superstitious Beliefs Scale (SBS-17) Scores

Variable	N	M	SD
GAD-7 (Male)	60	8.46	3.77
GAD-7 (Female)	60	10.43	4.90
SBS-17 (Male)	60	28.4	7.10
SBS-17 (Female)	60	29.15	7.02

Note: GAD-7 = Generalized Anxiety Disorder Scale; SBS-17 = 17-item Superstitious Beliefs Scale; M = Mean; SD = Standard Deviation

Statistical analysis using a t-test showed that male and female participants had significantly different GAD-7 anxiety scores ($p = .015$, $p < .05$). In contrast, the SBS-17 superstition scores did not differ significantly between male and female participants ($p = .561$, $p > .05$) (Table 2).

Table 2 : Independent Samples t-Test Comparing Male and Female Students on GAD-7 and SBS-17

Variable	p	Significance
GAD-7	.015	Significant
SBS-17	0.561	Not significant

Among male participants, the Pearson correlation analysis revealed a connection between GAD-7 and SBS-17 scores. The results showed a correlation coefficient of r = 0.157, which represents a weak positive association between anxiety and superstitious beliefs. The findings indicate that as anxiety levels increase, there tends to be a slight corresponding increase in superstitious beliefs. Nevertheless, this relationship demonstrates minimal strength and holds little practical importance (Table 3).

Table 3 : Pearson correlation matrix between GAD-7 and SBS-17 for male participant

Variable	SBS-17
GAD-7	0.157

The Pearson correlation analysis showed that anxiety and superstitious beliefs had weak positive connections for both men (r = .157) and women (r = .193). Women displayed a somewhat stronger correlation, indicating that higher anxiety levels corresponded with modest increases in superstitious beliefs across both groups. Nevertheless, these relationships demonstrated weak strength overall (Table 4).

Table 4 : Pearson correlation matrix between GAD-7 and SBS-17 for female participant

Variable	SBS-17
GAD-7	0.193

The Pearson correlation analysis showed that anxiety and superstitious beliefs had weak positive connections for both men (r = .157) and women (r = .193). Women displayed a somewhat stronger correlation, indicating that higher anxiety levels corresponded with modest increases in superstitious beliefs across both groups. Nevertheless, these relationships demonstrated weak strength overall.

This study investigated how superstitious beliefs relate to anxiety levels in university students, while also examining whether these factors differ between genders. The results add valuable insights to the existing research on informal psychological coping mechanisms in academic environments and present a complex picture that both confirms and contradicts previous findings.

Evaluating the Hypotheses

The main hypothesis predicted that participating in superstitious rituals would be significantly linked to lower state anxiety levels among university students. However, the data does not support this prediction. The Pearson correlation analysis showed a weak positive connection between superstition scores (SBS-17) and anxiety scores (GAD-7) for both male (r = .157) and female (r = .193) participants, though neither correlation reached statistical significance at the standard alpha level. These results suggest that students with higher anxiety levels actually tend to report slightly higher superstitious beliefs, which is the opposite of the anxiety-reducing relationship we originally expected.

Therefore, we cannot fully reject the null hypothesis (H_0) stating there is no significant negative relationship between superstitious ritual engagement and state anxiety in its directional form. Instead, the data better support an alternative explanation: anxiety might actually encourage

individuals to develop superstitious beliefs as a way of seeking control, rather than superstition serving to reduce anxiety. This difference has significant theoretical importance and will be explored further below.

Regarding the secondary hypothesis about gender differences, the independent samples t-test showed a statistically significant difference in GAD-7 anxiety scores between male (M = 8.46, SD = 3.77) and female (M = 10.43, SD = 4.90) students ($p = .015$, $p < .05$). This confirms that female participants experienced significantly higher anxiety than male participants. However, no significant gender difference emerged in SBS-17 superstition scores ($p = .562$, $p > .05$), indicating that male and female university students hold relatively similar levels of superstitious beliefs. This finding partially supports H_1 regarding anxiety but not concerning superstition.

Comparison With Prior Literature

The modest positive correlation we found between anxiety and superstition aligns with previous research findings. Caspi *et al.* (2025) discovered that people who struggle with uncertainty and those who endorse superstitious beliefs show related patterns, with individuals experiencing higher psychological distress demonstrating slightly greater support for superstitious practices. Pournesaei (2023) also identified a meaningful positive connection between superstitious tendencies and anxiety levels ($p < .001$) in university students, determining that anxiety can serve as a predictor of superstitious behavior. Although our correlations were relatively weak, they point in the same direction as these earlier studies.

This result differs from experimental studies like Damisch *et al.* (2010), which showed that performing good-luck rituals directly caused lower anxiety and better performance. This difference might stem from key methodological distinctions: experimental research actively manipulates ritual behavior and then measures changes in anxiety levels, whereas our correlational approach provides only a single moment in time where students with ongoing anxiety may have already developed stronger superstitious beliefs without necessarily feeling less anxious at that particular moment. Cross-sectional correlational methods cannot determine the direction of causation - whether anxiety leads people to become more superstitious or whether superstitious practices actually reduce anxiety.

The gender differences in anxiety found in this study strongly match what clinical research has consistently shown. McLean *et al.* (2011) found that women experience significantly higher rates and more severe anxiety than men across various groups. This study's significant difference in GAD-7 scores between genders ($p = .015$) confirms these well-established patterns among Indian university students, providing real-world support for findings that have mainly been documented in Western populations.

The lack of a meaningful gender difference in superstition scores ($p = .562$) stands in contrast to previous research like Tobacyk and Milford (1983), which discovered that women showed greater endorsement of paranormal beliefs. One potential reason for this difference could be that the SBS-17 scale was specifically validated for Indian student populations and might capture culturally common superstitious behaviors that appear with similar frequency among both men and women in this particular social and cultural setting. This could reduce the gender differences typically found when using measurement tools developed in Western contexts.

Psychological Explanations

Multiple theoretical models provide insight into why anxiety and superstitious beliefs tend to go hand in hand. According to Whitson and Galinsky's (2008) theory of illusory pattern perception, people who feel they lack control over their circumstances - a common feature of heightened anxiety - become more prone to seeing meaningful relationships between events that are actually unconnected. This tendency to misinterpret random occurrences creates the mental groundwork for superstitious thinking, indicating that anxiety may actually trigger superstitious thoughts rather than the other way around.

The cognitive appraisal model developed by Lazarus and Folkman in 1984 offers another way to understand this relationship. According to their framework, people first evaluate how threatening a stressful situation appears to them. If they see it as highly threatening, they then assess what coping resources they have available. Students who feel their logical coping methods aren't enough may turn to superstitious behaviors as an additional strategy that feels both accessible and socially acceptable. This explains why anxiety and superstition show a positive relationship - it represents people's natural attempt to gather more psychological tools when they feel they lack sufficient control.

Bandura's self-efficacy theory from 1997 adds another perspective to consider. Although superstitious practices don't actually cause positive outcomes, they might help students feel more prepared and in control of their situation. But there's a complication here: people with high anxiety often struggle with low self-efficacy in general. This means any benefits from rituals might be limited, which would explain why we only see weak correlations in the research. To really understand whether these rituals actually reduce anxiety in the moment, even for people who are generally anxious, we need controlled experimental studies that can separate these effects more clearly.

Cultural Influences

The study found moderate to high levels of superstitious beliefs throughout the sample, with males averaging 28.40 and females averaging 29.15 out of a maximum possible score of 85. Research by Keinan (2002) showed that people under stress with little perceived control tend to engage more in superstitious behaviors. This finding helps explain the weak positive connection between anxiety and superstition found in this research. When university students face academic uncertainty, they may turn to superstitious beliefs as a way to feel more in control and find psychological comfort. Therefore, anxiety might drive people toward superstition as a way to cope, rather than superstition actually reducing their anxiety levels. Among Indian university students, academic rituals rooted in religious traditions, beliefs in astrology, and protective practices passed down through generations create a rich cultural environment that supports superstitious behavior. The lack of differences between male and female participants in this study might be due to the relatively uniform cultural background, where students of both genders experience similar upbringing regarding ritualistic practices.

Gender-Specific Interpretation

Female students showed notably higher anxiety levels even though their superstition scores matched those of male students, which has important clinical significance. At Galgotia University, female students seem to experience a heavier burden of anxiety, which aligns with worldwide population studies and research specific to India. Since both genders engaged in superstitious behaviors equally, this increased anxiety among women isn't being balanced out by more ritual-based coping strategies. Instead, the heightened anxiety likely stems from particular structural pressures in academics and society that female students face, such as intensified expectations regarding academic achievement, social roles, and future career prospects. These stressors appear to persist despite women using superstitious rituals at the same rate as their male counterparts.

Conclusion

This research examined how superstitious beliefs relate to anxiety levels by studying 120 university students at Galgotia University, while also exploring whether these patterns differ between men and women. The researchers used two established measurement tools: the Generalized Anxiety Disorder Scale (GAD-7) and the 17-item Superstitious Beliefs Scale (SBS-17). They analyzed the data using Pearson product-moment correlations and independent samples t-tests, which led to several significant discoveries.

First, a weak positive relationship was identified between superstition scores and anxiety scores for both male ($r = .157$) and female ($r = .193$) participants. This suggests that students experiencing higher levels of anxiety tend to endorse slightly stronger superstitious beliefs, although the strength of this association remains modest and of limited practical significance. These findings align directionally with cognitive appraisal and illusory-control frameworks, which propose that anxiety-driven loss of perceived control motivates individuals to seek psychological reassurance through superstitious attribution. Nevertheless, the correlational nature of the design prevents causal conclusions, and the possibility that superstition may simultaneously serve an anxiety-buffering function - albeit one too subtle to produce a negative correlation in cross-sectional data - cannot be excluded.

Second, a statistically significant gender difference was observed in GAD-7 anxiety scores ($p = .015$), with female students demonstrating notably higher anxiety levels ($M = 10.43$) compared to male students ($M = 8.46$). This finding replicates well-established epidemiological patterns and emphasizes the particular mental health vulnerability experienced by female students within competitive academic environments. In contrast, no significant gender difference emerged in SBS-17 superstition scores ($p = .562$), indicating that within this culturally homogeneous Indian university context, both male and female students engage with superstitious beliefs

to comparable degrees. This finding challenges the assumption prevalent in Western literature that female students consistently exhibit higher levels of superstitious belief, and underscores the importance of conducting culturally contextualized research.

Collectively, these findings provide partial support for the alternative hypothesis: female students indeed experience significantly higher anxiety levels than their male counterparts, yet the expected significant negative relationship between superstition and anxiety was not evident. Rather, both genders exhibit a modest tendency for anxiety to coincide with superstitious beliefs, suggesting that superstition functions as a control-seeking response during periods of academic stress rather than as an effective anxiety-reduction strategy.

The theoretical contribution of this study resides in its refinement of the superstition-anxiety relationship within a South Asian academic population, revealing that the direction and magnitude of this association may vary substantially from findings obtained through Western experimental paradigms. The practical implication suggests not that students should be encouraged or discouraged from participating in superstitious behavior, but rather that mental health practitioners and university counselors should recognize these behaviors as psychologically significant, culturally embedded coping responses. Understanding the perceived-control and self-efficacy functions that superstitious rituals engage - even when their causal efficacy remains absent - may assist practitioners in developing culturally sensitive interventions that foster genuine evidence-based coping skills through analogous psychological mechanisms.

The limitations of the present study-including its cross-sectional design, single-institution sample, and reliance on self-report measures-restrict the generalizability and causal interpretability of its findings. Future research employing experimental, longitudinal, and multi-site designs, incorporating physiological measures alongside self-report, and examining mediating variables such as perceived control and self-efficacy, will be essential to developing a more complete and mechanistically grounded understanding of the superstition-anxiety relationship in Indian student populations.

In summary, this study provides a grounded, empirically cautious account of how anxiety and superstition co-occur in the lives of Indian university students. The research establishes that female students experience a disproportionate anxiety burden despite comparable levels of superstitious engagement, that the anxiety-superstition relationship remains positive but weak across genders, and that substantial opportunities exist for future experimental and longitudinal research. These findings offer a productive foundation for more causally rigorous and intervention-oriented investigations, ultimately advancing the goal of improving psychological well-being among university student populations.

Limitations of the Study

While this study makes meaningful contributions to the psychology of coping and student mental health, several limitations must be acknowledged.

- ***Small Sample Size:*** With a total of 120 participants drawn from a single institution, the findings may not be sufficiently powered to detect small effects or to represent the diversity of Indian university students broadly.
- ***Self-Report Bias:*** Both measurement instruments rely entirely on self-report data, which is vulnerable to social desirability bias, response set patterns, and limited introspective accuracy. Participants may underreport socially undesirable anxiety levels or may hesitate to endorse superstitious behaviors they perceive as stigmatized.
- ***Convenience Sampling:*** The use of convenience sampling, while pragmatically justified, introduces selection bias. Volunteers may differ systematically from non-volunteers on key variables including openness, extraversion, and anxiety levels.
- ***Limited Geographic Scope:*** The sample was drawn from a single university in Greater Noida, limiting the generalizability of findings.
- ***Cross-Sectional Design:*** The correlational, cross-sectional design precludes causal inference. Longitudinal or experimental designs would be necessary to establish whether superstitious ritual engagement causally reduces anxiety or whether lower-anxiety individuals simply tend to engage more with superstitious practices.
- ***Time Constraints:*** Data collection occurred within a single two-week period; fluctuations in academic stress across the semester were not captured, limiting ecological validity.

Suggestions and Future Implications

These results point toward several valuable opportunities for future research and practical applications.

1. ***Experimental Designs:*** Researchers should conduct randomized controlled studies where participants are randomly placed into groups that either perform superstitious rituals or skip them before completing simulated academic tasks like timed problem-solving exercises. This approach would offer clear causal evidence supporting or refuting the idea that these behaviors reduce anxiety.
2. ***Longitudinal Tracking:*** Following students throughout an entire academic year while repeatedly measuring their anxiety levels and superstitious behaviors would reveal whether ritual engagement peaks during stressful periods and if students who regularly perform rituals demonstrate better stress management over time.
3. ***Neurobiological Investigation:*** Incorporating biological measurements such as heart rate, cortisol levels, and galvanic skin response along with questionnaire data would offer more concrete proof of anxiety reduction and help explain the physical processes through which ritual behaviors affect stress responses.
4. ***Intervention Development:*** The results indicate that the sense of self-efficacy and control triggered by superstitious rituals could be intentionally fostered through practical, research-backed pre-performance routines. University counselors could create structured pre-exam practices that tap into these same psychological benefits without requiring belief in superstitions.
5. ***Cross-Cultural Comparative Studies:*** Research comparing students from various cultural settings (such as North India versus South India, or India versus Western countries) would clarify how cultural factors influence the connections between superstition, anxiety, and coping strategies, informing the development of culturally appropriate mental health services.

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