

Research Article

Cite this article: Yamani, I. A. J., Khatatbeh, Y. M., Meiri, E. A. F., & Almutref, A. A. (2025). Differences in Prevailing Superstitious Beliefs and Health Anxiety Among University Students Based on Selected Demographic Variables. *Educational Process: International Journal*, 17, e2025347.
<https://doi.org/10.22521/edupij.2025.17.347>

Received April 26, 2025

Accepted July 11, 2025

Published Online July 24, 2025

Keywords: Health anxiety, differences in superstitious beliefs, university students

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Differences in Prevailing Superstitious Beliefs and Health Anxiety Among University Students Based on Selected Demographic Variables

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Abstract

Background/purpose: Superstitious beliefs are culturally ingrained irrational ideas that can influence how individuals perceive and behave, particularly in times of uncertainty. Health anxiety, which is often exacerbated by such beliefs, is common among university students experiencing academic and personal stress. This study aimed to investigate the relationship between superstitious beliefs and health anxiety among college students.

Materials/methods: A quantitative correlational approach was employed with a sample of 312 participants of both genders. The study tools included two main scales, the Superstitious Beliefs Scale and the Health Anxiety Scale, as well as some demographic variables.

Results: The results of the study showed that superstitious beliefs remain present among university students at a moderate to high level, particularly in the dimension of 'personal superstitious behaviours'. No statistically significant differences were found in terms of gender regarding health anxiety and negative consequences of illness. There were also no significant differences in terms of age, economic status or educational level. However, significant differences were found in health anxiety according to employment status, though post hoc comparisons (Scheffé) did not confirm differences between groups. A similar effect was found for marital status. Path analysis revealed that gender and employment status had the greatest influence on superstitious beliefs, while marital status and employment status directly affected health anxiety, with a negative effect of marital status observed. No indirect effects were recorded in the model.

Conclusion: The study highlights significant differences in superstitious beliefs and health anxiety among university students based on demographic factors. These findings emphasise the importance of targeted mental health interventions in academic settings.



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1. Introduction

Although many people consider superstitions old-fashioned or silly, they still have a significant impact on behaviour, especially when individuals do not know what is going to happen or lack control over a situation. These ideas are called cognitive attributions because they connect certain actions, objects, or events to causality, even when there is no evidence to support them (Vyse, 1998). It is especially interesting to see that these kinds of cognitive distortions persist today in highly educated groups, such as university students, where rational inquiry would typically be expected (Lindeman & Svedholm, 2012). Studies show that many college students hold superstitious beliefs and health anxiety, though these vary based on demographic factors. Female students and those living in cities are more likely to have superstitious thoughts. Students in scientific colleges have fewer of these thoughts than those in medical and humanities colleges (Ahmad & Fatah, 2024). One study found that people with many superstitious beliefs, especially personal ones, were more likely to worry about their health (Ibrahim et al., 2025). Another study found that both Roman Catholics and atheists who had negative thoughts about death and superstitions were more likely to experience health anxiety (James & Wells, 2002). Among health services and medical students—especially female students—superstitious behaviors, such as knowing horoscope properties, knocking on wood, and carrying amulets, were observed (Ögenler & Yapıcı, 2012). These results show that superstitious beliefs significantly affect people's attitudes, choices, and emotional health. This highlights the importance of critical thinking and awareness of one's fears and health anxiety.

University students occupy a unique psychological and developmental stage as they transition from adolescence to adulthood while simultaneously navigating increased academic, social, and existential stressors. Therefore, their level of vulnerability to psychological defense mechanisms, such as superstition, is significantly heightened. Superstitious behaviors observed in this population include the practice of exam rituals, avoidance of numbers considered unlucky, and reliance on symbolic tokens for perceived success or protection (Block & Kramer, 2009). Health anxiety and superstitious beliefs are examples of psychological phenomena frequently observed among college students and are frequently influenced by the specific uncertainties and pressures associated with academic life. These beliefs are irrational concepts originating from fear, magical thinking, and a desire for control. Numerous factors, including gender, academic stage, and social status can influence them. Research consistently shows that female students and those in the early years of their studies are more likely to engage in superstitious thinking. However, academic specialization and intelligence appear to have less influence on these beliefs. Although irrational, these superstitions provide relief to students, yet they may also reflect deeper emotional and psychological problems faced by students (Bukhari et al., 2024).

Health anxiety—excessive worry about becoming ill and experiencing health-related symptoms—is also common among university students, especially those studying health sciences. Research has shown that health science students exhibit significantly higher levels of health anxiety than students in other fields, with rates as high as 18%. This elevated risk is also associated with being female, having a family history of health anxiety, and doing well in school. Both superstitious beliefs and health anxiety are coping mechanisms for dealing with uncertainty and a perceived lack of control. In some cases, superstitious thinking worsens health fears (Hoffmann et al., 2022). The connection between these two types of belief is complex and potentially harmful. Abramowitz et al. (2007) found that health anxiety is a major contributor to the prevalence of superstitious beliefs among students. Perceived control is what links superstition and health anxiety. This theory suggests that when individuals feel unable predict or influence outcomes—such as becoming sick—they may turn to superstitious thinking to compensate for feelings of helplessness (Abramowitz et al., 2007; Fulton et al., 2011). Recent data show that health anxiety is becoming more common among young adults, particularly college students. A systematic review by Kocsis (2013) found that the number of

college students anxious about their health almost doubled between 1985 and 2017. The authors suggested changes in technology and society as possible causes of this phenomenon. The COVID-19 pandemic intensified this worry, triggering a surge in digital misinformation, pseudoscience, and online superstition that has made anxiety disorders more common among young people (Cathébras et al., 2024).

2. Literature Review

Culture significantly impacts the development of superstitious thinking. According to a study by Žeželj et al. (2009), superstitions are not merely odd behaviors observed in collectivist societies, such as those in the Middle East and South Asia. Instead, they are deeply ingrained in shared traditions and expectations. Such cultural beliefs can reinforce gender roles and behavioral patterns that perpetuate anxiety and non-scientific health beliefs, especially among women. Studies have shown that women score higher on both superstition and health-anxiety scales (Lindeman & Svedholm, 2012; Wu et al., 2023).

The cognitive-behavioral model of health anxiety suggests that individuals who hold inaccurate beliefs about bodily sensations are more likely to interpret minor symptoms as signs of serious illness. Fergus (2014) found that attentional biases and maladaptive coping strategies—such as seeking reassurance or avoiding information—often strengthen these interpretations. When superstition becomes part of this cognitive loop, it may intensify rather than alleviate fear, acting as both a trigger and reinforcer in the anxiety cycle. Research supports this bidirectional relationship: individuals with high superstition scores often report greater health-related fears, more intrusive thoughts, and strong compulsive checking behaviors (Futrell, 2011; Wu et al., 2023). While rituals or charms may offer a temporary sense of emotional comfort, they ultimately make anxious thoughts stronger over time.

Demographic factors play a significant role in the relationship between superstition and health anxiety. Age is one such factor. Older students tend to hold more deeply rooted beliefs, such as superstitious thinking, due to greater cultural exposure and increased perceived life threats (Dudley, 1999). Conversely, younger students may be more prone to superstitious beliefs because of the stress of starting college or the influence of people around them (Santisteban & Galay, 2023). Socioeconomic status (SES) is another factor that can influence vulnerability to illness. Barbek et al. (2022) stated that individuals with lower SES often lack access to reliable healthcare and mental health services. This can make them more likely to turn to traditional or spiritual explanations for their illness. In such cases, superstition may serve as a socially acceptable way to process emotions or obtain medical help.

Marital status may also be a predictor; married individuals may have different health-related concerns because of their roles as caregivers or family members. These concerns can either worsen or improve anxiety, depending on how health and illness are culturally perceived (Mohd Salleh Sahimi et al., 2021). Research has demonstrated that this is true. Students studying science or medicine tend to score lower on superstition tests than those in the arts and humanities, likely due to their training in critical thinking and exposure to biomedical models (Shnier et al., 2022; Wells & Hackmann, 1993). It is essential to note the importance of employment. Tyrer et al. (2019) reported that college students working part-time or full-time often experience higher levels of stress, time constraints, and existential pressure. These are likely linked to both superstitious thinking and anxiety disorders. Bukhari et al. (2024) conducted a meta-analysis showing that people in high-demand jobs, such as working students, scored higher on both superstition and health anxiety measures, particularly when working more than 20 hours a week. For instance, students who were employed reported higher levels of health anxiety. Additionally, both gender and academic performance were found to influence the frequency of this correlation.

Researchers have discovered connections between cognitive distortion and superstition in various fields of psychology. Several studies (Abramowitz et al., 2007; Chinchanchokchai et al., 2017; Fergus, 2014; James & Wells, 2002) have found that people who hold irrational beliefs, such as magical thinking and attributing fate, are more likely to experience generalized anxiety, obsessive-compulsive traits, and illness-related preoccupations.

Superstition thrives in cultures where tradition holds greater influence than evidence-based skepticism. In societies where religious or mystical symbols are associated with health and luck, students are taught to regard them as integral to their community identity. A strong sense of communal identity is a major component of these societies. One study examining students from France, Serbia, and the Philippines found that those from collectivist cultures were significantly more likely to have superstitious health beliefs. Some participants believed that illness was caused by fate, divine punishment, or ancestral spirits (Delacroix & Guillard, 2008; Dichoso, 1967; Sierra et al., 2018; Žeželj et al., 2009). Nevertheless, gender remains one of the most discussed factors. Researchers have found that female students tend to score higher on both superstition and health anxiety tests. Several studies support this pattern. Researchers (Fulton et al., 2011; Hoffmann et al., 2022; Lindeman & Svedholm, 2012; Wu et al., 2023) suggest that this discrepancy is due to differences in emotional processing, openness to symbolic thinking, and greater exposure to social messages about vulnerability and responsibility.

Multiple factors could have contributed to these results. For instance, a cross-national study involving more than 1,000 undergraduate students found that men were 35% less likely than women to engage in health-related rituals such as praying, wearing symbolic jewelry, or avoiding "unlucky" places (Ataç et al., 2024; Chukkali & Dey, 2020; Meeke, 2011). The psychometric structure of these tools makes them appropriate for this population. Chukkali and Dey (2020) developed the Superstitious Beliefs Scale, a 24-item measure that categorizes beliefs into six dimensions. These areas include omens, good-luck rituals, and cultural beliefs. The subscales demonstrated strong internal consistency, with Cronbach's alpha values exceeding 0.85. In contrast, the Health Anxiety Scale had Cronbach's alpha values ranging from 0.82 to 0.91 in all international samples (Arnáez et al., 2019; Wells & Hackmann, 1993).

Digital exposure has also emerged as a mediating factor. Pennycook et al. (2020) conducted a large-scale experiment and found that individuals with limited scientific knowledge were more likely to believe health myths after encountering false health information online. This was especially true for those people. The 18–24 age group, which was mostly composed of college students, had the strongest association between superstition and misinformation. Kocsis (2013) conducted a meta-analysis of data from 1985 to 2017 and found that the number of people reporting health-related worry increased by 64%. A significant portion of this rise was attributed to media oversaturation and a culture that supports irrational beliefs. A national study conducted by Terra et al. (2024) in Saudi Arabia found that 29.6% of university students had high levels of health anxiety, while 47.2% also scored high in superstition. The percentage of female students with high superstition scores rose to 52.1%. Pournesaei (2023) conducted a similar study on Iranian university students and reported an average superstition score of 2.91 out of 5 and an average health anxiety score of 3.28 out of 5. The Pearson correlation coefficient of 0.46 ($p < 0.001$) between the two variables showed a moderate-to-strong psychological link.

Hypotheses

1. There are statistically significant differences at the 0.05 level in superstitious beliefs and health anxiety among university students based on demographic variables (age, educational level, gender, marital status, and employment status).

2. Demographic variables have a statistically significant effect at the 0.05 level on superstitious beliefs and health anxiety among study participants.

3. Methodology

3.1. Research Design

This study employed a relational (correlational) research design. Researchers in the social and behavioral sciences often use this design to determine the strength and nature of relationships between two or more variables without intervening in those relationships. This method is particularly useful when the goal is to assess whether there are statistically significant links between psychological constructs—such as health anxiety and superstitious beliefs—in a specific population. The correlational approach attempts to identify patterns of connection and change between variables that occur independently, rather than attempting to establish casual relationships.

The relational design helped the researchers examine how superstitious thinking is connected to the level of health-related anxiety experienced by college students, as well as how these connections might change based on factors such as gender, age, marital status, and job status. This method is especially suitable for exploratory research in educational and psychological settings, where ethical and practical limitations often make it difficult to manipulate experiments. The study performed correlation analysis and tested predictive pathways using statistical models such as multivariate analysis of variance (MANOVA) and path analysis. This was possible because participants' responses were based on validated psychometric scales that they completed themselves.

3.2. Participants

This study targeted a group of community members who were randomly selected from various segments of society and were invited to complete the study tools electronically via Google Forms. A total of 345 individuals responded, while incomplete answers were excluded. The final sample comprised 312 participants. Eligibility for participation included: Being a member of the target group during the second semester of the academic year 1446 AH. 2. Providing informed consent to participate in the ongoing research project. 3. Reading the instruction manual and understanding the goals of the study.

The final sample included 312 individuals, selected based on a variety of demographic, social, and economic factors. To guarantee balanced representation, the demographic chart showed an even gender distribution, with 49.0% male and 51.0% female participants. The majority of participants were married (85.9%) and aged 25 or older (97.7%), reflecting a mature and socially stable population. Regarding economic status, 57.4% of participants reported an average income, 28.5% reported a high income, and 14.1% reported having a low income, indicating that most participants came from financially secure backgrounds.

In terms of education and employment, 91.3% of participants held a degree from an accredited university, and 93.1% were currently employed. This suggests that the sample was highly educated and primarily engaged in the labor force. This may have affected their perceptions of health, anxiety, and beliefs. Such a profile enhances the credibility of the responses and provides insights rooted in personal experiences and practical responsibility.

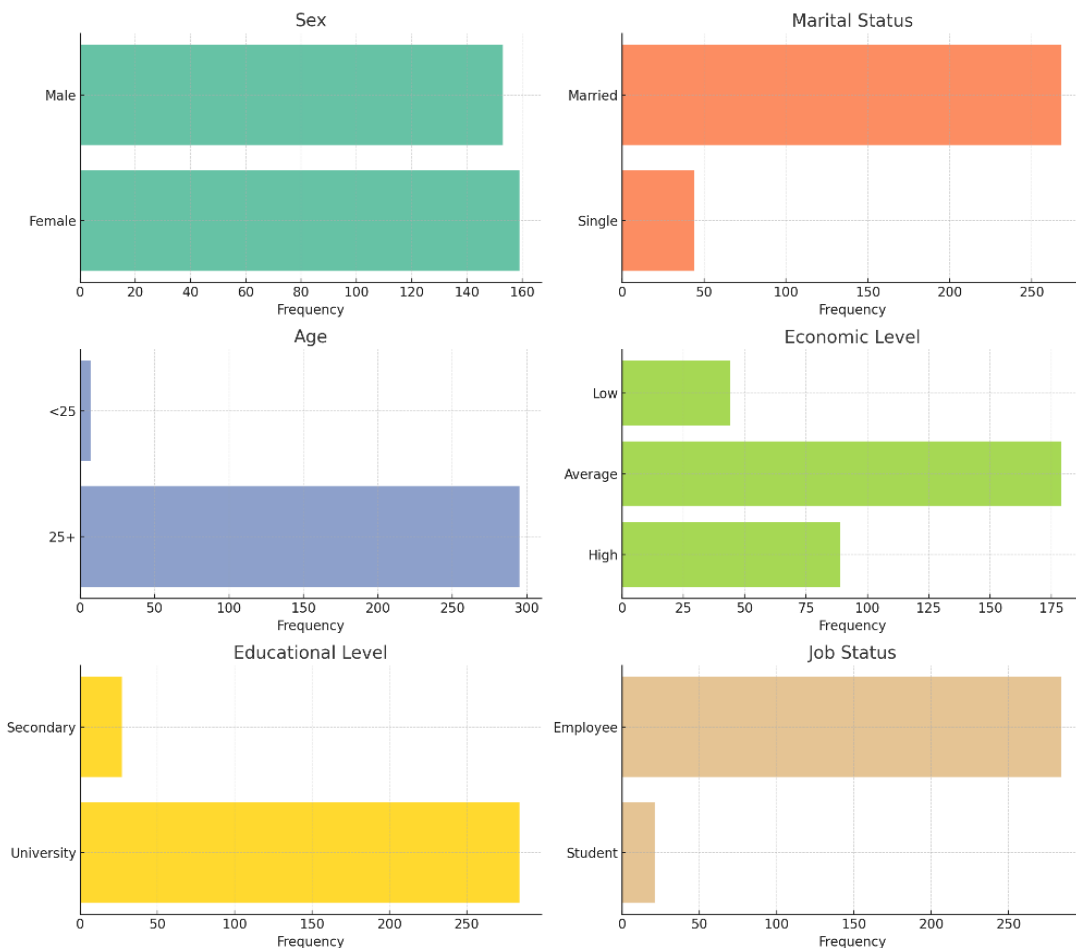


Figure 1. Characteristics of Study Sample

3.3. Instruments

Data collection was conducted digitally using Google Forms, which offered a platform that was both practical and easily accessible for administering the study instruments. To ensure that the questionnaire was accessible to many people from various backgrounds, it was distributed through university communication channels, academic groups, and social media platforms. Participants were given a secure link to the questionnaire. Participants were then provided with an informed consent statement upon opening the form. This statement addressed the purpose of the study, the voluntary nature of participation, and the assurance that participants would remain anonymous and confidential throughout the duration of the study. Access to the questionnaire was granted only to individuals who previously confirmed their agreement.

The form comprised three primary sections: a demographic section, the Superstitious Beliefs Scale developed by Chukkali and Dey (2020), and the Health Anxiety Scale developed by Arnáez et al. (2019). To ensure a smooth user experience and reduce respondent fatigue, each item was meticulously formatted using a combination of multiple-choice and Likert-scale questions. Participants were able to complete the questionnaire at their convenience, thanks to the digital format, which resulted in increased response rates and reduced time constraints. Additionally, Google Forms offers several benefits in terms of data quality and precision. Responses were automatically recorded in a structured spreadsheet, eliminating the possibility of data entry errors and facilitating efficient data cleaning and statistical analysis. This method also enabled the researchers to track the number of responses in real-time and eliminate incomplete submissions before performing the final analysis.

3.3.1. Construct Validity

In a survey sample of 30 respondents outside the study group, paragraph correlation coefficients with the total score of the pattern to which it belongs were calculated to determine the scale's construct validity. These values are presented in Figure 2.

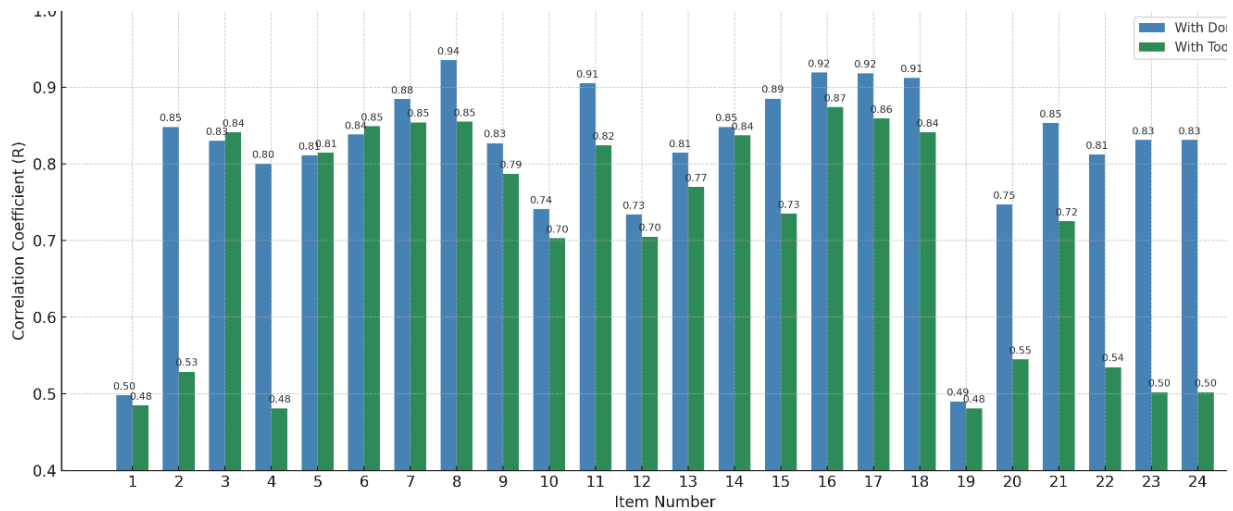


Figure 2. Correlation Coefficients Between the Paragraph and the Total Score. The Pattern to Which it Belongs

All correlation coefficients were acceptable and statistically significant; therefore, none of the items were removed.

3.3.2. Reliability of the Superstitious Beliefs Scale

The test-retest method was used to verify the reliability of the scale and guarantee the overall dependability of the research instrument. The scale was re-administered two weeks later to a group of 30 individuals who were not included in the study sample. Subsequently, Spearman's correlation coefficient was calculated between the two administrations. Reliability was also evaluated using the internal consistency method, based on Cronbach's alpha. The retest reliability of the patterns is displayed in Figure 3, which also includes the internal consistency coefficients. These values were suitable for the purposes of this study.

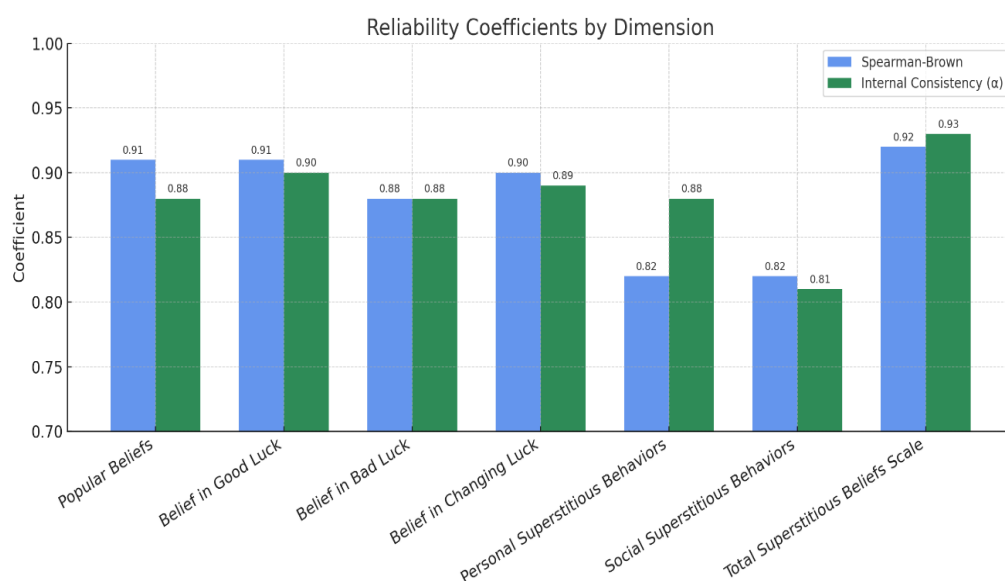


Figure 3. Cronbach's Alpha Internal Consistency Coefficient and Retest Reliability of Superstitious Beliefs

Arnáez et al. (2019) developed a nine-item Health Anxiety Scale using a four-point Likert scale to evaluate responses. A score of one indicated that the responses were incorrect, while a score of four indicated that the statements were correct. The questionnaire was administered to four different samples to analyze the results. The accuracy of the discriminant was verified by one of the authors. A total of eighteen items were included in the scale, distributed across two primary dimensions of the scale: 1. Likelihood of experiencing bodily illness: This dimension focuses on an individual's perceptions of the likelihood of contracting a serious illness and the anxiety associated with that possibility. 2. Negative consequences of illness: This dimension assesses concerns about how illness may affect daily life, including psychological and social concerns.

3.3.3. Construct Validity: Health Anxiety Scale

To determine the construct validity of the scale, correlation coefficients were calculated between each item and the total score, as well as between each item and its correlation with the domain to which it belongs. This analysis was conducted on a pilot sample of 30 respondents outside the main study sample. The correlation coefficients between individual items and the overall scale ranged from 0.4 to 0.8, and between items and their respective domains ranged from 0.5 to 0.9, as shown in Figure 4.

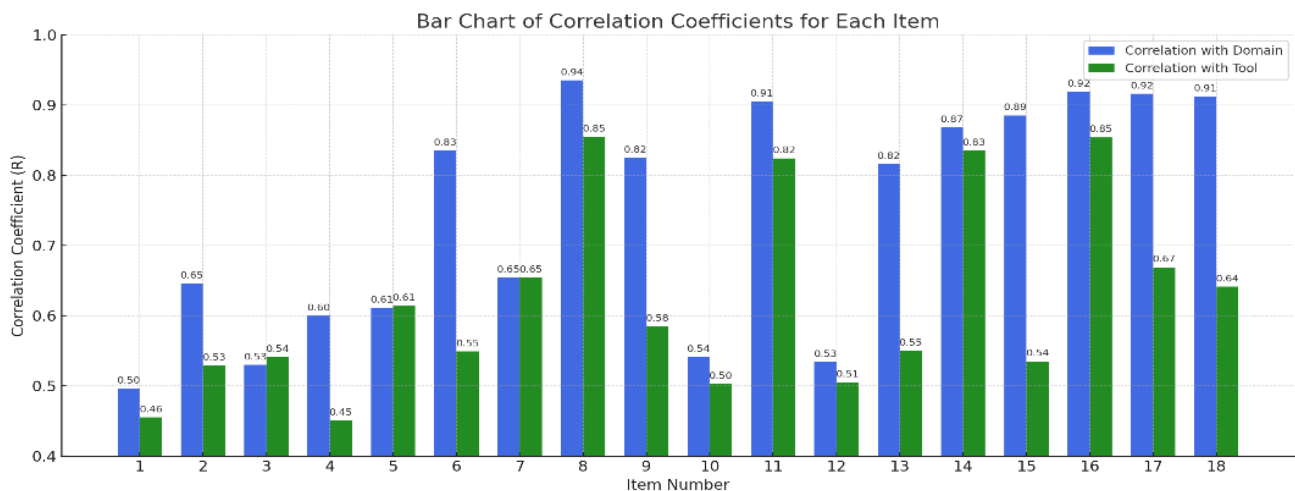


Figure 4. Correlation Coefficients Between the Paragraph, the Total Score, and the Field to Which it Belongs

3.3.4. Reliability of the Health Anxiety Scale

To assess the reliability of the study instrument, the test-retest method was used. The scale was then re-administered two weeks later to a group of 30 individuals outside the study sample. Spearman's correlation coefficient was calculated between the two assessments. Additionally, the reliability coefficient was assessed using the internal consistency method with Cronbach's alpha. Table (-) shows the internal consistency coefficient, according to the Cronbach's alpha equation, and the retest reliability for the domains and the total score. These values were deemed appropriate for the purposes of this study.

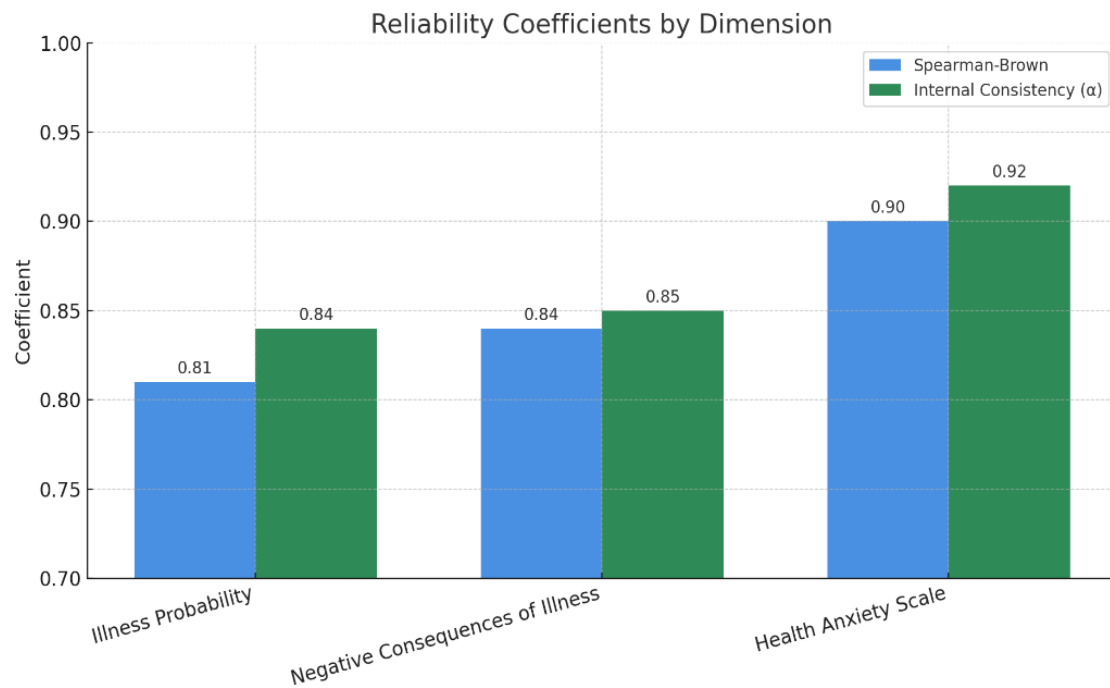


Figure 5. Cronbach's Alpha Internal Consistency Coefficient and Test-Retest Reliability for the Domains and Total Score

Figure 5 shows that all Spearman-Brown correlation coefficients were high and statistically significant, with all values exceeding 0.80. This confirms that the scale has a high degree of internal consistency and stability.

3.4. Data Collection and Analysis

Data were collected electronically using Google Forms. Participants were informed that their participation was entirely voluntary and that their responses would be kept confidential. They were asked to read the study instructions and provide informed consent before beginning the questionnaire. Data analysis was conducted using SPSS version 27. Descriptive statistics, including means and standard deviations, were computed to describe the sample. MANOVA was used to investigate differences across demographic variables. Additionally, to investigate the causal connections between superstitious beliefs and health anxiety, a path analysis was conducted using ASTRO software.

4. Results

1. Differences in superstitious beliefs and health anxiety among university students according to demographic variables (age, educational level, gender, marital status, and employment status). To answer this question, arithmetic means and standard deviations were extracted for the levels of both superstitious beliefs and health anxiety, as shown in Table 1.

Table 1. Arithmetic Means and Standard Deviations for the Levels of Superstitious Beliefs and Health Anxiety According to the Demographic Study Variables

Variables	Categories	Superstitious Beliefs Scale	Health Anxiety Scale
Sex	male	1.80	2.11
		.770	.665
	Female	2.02	2.08
		.842	.662

Variables	Categories	Superstitious Beliefs Scale	Health Anxiety Scale
Marital status	Single / single	1.91	2.13
		.846	.671
	Married	1.90	1.79
		.588	.558
lifetime	Absolute / Absolute	2.28	2.06
		.535	.376
	Less than 25 years old	2.12	2.23
		.787	.583
	25 years and above	1.91	2.09
		.819	.656
Economic level	low	2.14	2.22
		.795	.692
	medium	1.91	2.08
		.864	.647
	Above average	1.82	2.06
		.726	.683
	High	2.06	2.12
		.675	.703
Education level	secondary	1.70	2.23
		.529	.534
	academic	1.93	2.08
		.833	.674
Career status	student	1.89	2.06
		.803	.646
	employee	2.22	2.41
		1.023	.820
	retired	2.30	2.21
		.000	.000

. *S* = arithmetic mean, *y* = standard deviation

Table 1 shows the apparent variance in the arithmetic means and standard deviations of the levels of superstitious beliefs and health anxiety. A six-way analysis of variance (ANOVA) without interaction was used to demonstrate the statistical significance of the differences between arithmetic means.

Table 2. Six-Way Analysis of Variance for the Effect of Variables on Superstitious Beliefs and Health Anxiety

Contrast source	Styles	Sum of squares	Degrees of freedom	Average squares	P value	Statistical significance
Sex	Negative consequences of the disease	.432	1	.432	.651	.420
	Health Anxiety Scale	.530	1	.530	1.265	.262
Marital status	Negative consequences of the disease	3.326	2	1.663	2.507	.083
	Health Anxiety Scale	2.748	2	1.374	3.278	.039
lifetime	Negative consequences of the disease	.213	1	.213	.322	.571
	Health Anxiety Scale	.108	1	.108	.258	.612
Economic level	Negative consequences of the disease	.114	3	.038	.057	.982
	Health Anxiety Scale	.222	3	.074	.176	.912
Education level	Negative consequences of the disease	.866	1	.866	1.305	.254
	Health Anxiety Scale	.580	1	.580	1.383	.241
Career status	Negative consequences of the disease	3.347	2	1.673	2.522	.082
	Health Anxiety Scale	3.764	2	1.882	4.490	.012
Error	Negative consequences of the disease	188.411	284	.663		
	Health Anxiety Scale	119.044	284	.419		
Total	Negative consequences of the disease	1485.625	295			
	Health Anxiety Scale	1416.021	295			

A six-way MANOVA was performed to determine the effect of the variables on superstitious beliefs and health anxiety. The results of the analysis are presented in Table 2. Based on the findings, there were no statistically significant differences between genders on the health anxiety scale or the negative consequences of illness, determined by a significance level of 0.05. However, marital status showed statistically significant differences on the health anxiety scale, but not on the adverse effects of illness. No statistically significant differences were found between groups in terms of age, economic status, or educational level regarding the negative consequences of illness or the health anxiety evaluation scale. Regarding employment status, statistically significant differences were found on the health anxiety scale, but not on the negative consequences of illness. Scheffe's post hoc comparisons were used to determine statistically significant pairwise differences between arithmetic means. The results of these comparisons are presented in Table 3.

Table 3. Scheffe's Post Hoc Comparisons of the Effect of Employment Status

Standards	(I) Employment status	(J) Employment status	The difference between the two averages	Statistical significance
Health Anxiety Scale	student	employee	-.34	.085
		retired	-.15	.951
	employee	student	.34	.085
		retired	.20	.919
	retired	student	.15	.951
		employee	-.20	.919

Table 3 shows no statistically significant differences ($\alpha = 0.05$) in job status on the health anxiety scale. Post-test comparisons did not reveal any significant differences.

Table 4. Scheffe's Post-Test Comparisons of the Effect of Marital Status on the Study Scales

Standards	(I) Marital status	(J) Marital status	The difference between the two averages	Statistical significance
Health Anxiety Scale	Single / single	Married	.21	.236
		Absolute / Absolute	.14	.885
	Married	Single / single	-.21	.236
		Absolute / Absolute	-.07	.977
	Absolute / Absolute	Single / single	-.14	.885
		Married	.07	.977

Based on the data presented in Table 3, there were no statistically significant differences ($\alpha = 0.05$) in relation to social status on the health anxiety scale. No discernible differences were found in the post-test comparisons. However, significant differences in superstitious beliefs were found based on gender, which had a direct effect ($\beta = 0.165$), indicating that females tend to score higher. Other factors, such as age, educational level, income, and marital status did not show statistically significant differences. The finding that female students scored higher on superstitious beliefs aligns with existing literature, which suggests that women may be more likely to engage in symbolic thinking or culturally reinforced belief systems. Given the lack of significant effects for income or educational level, it can be deduced that superstitious thinking is a culturally pervasive phenomenon that is not necessarily mitigated by socioeconomic advantages or formal education. This may reflect the deeply ingrained nature of such beliefs in collectivist societies.

2. What is the impact of demographic variables on superstitious beliefs and health anxiety among university students?

To address this question, linear regression analysis was used to examine the effect of demographic variables on superstitious beliefs and health anxiety. The results were illustrated in Figure 6.

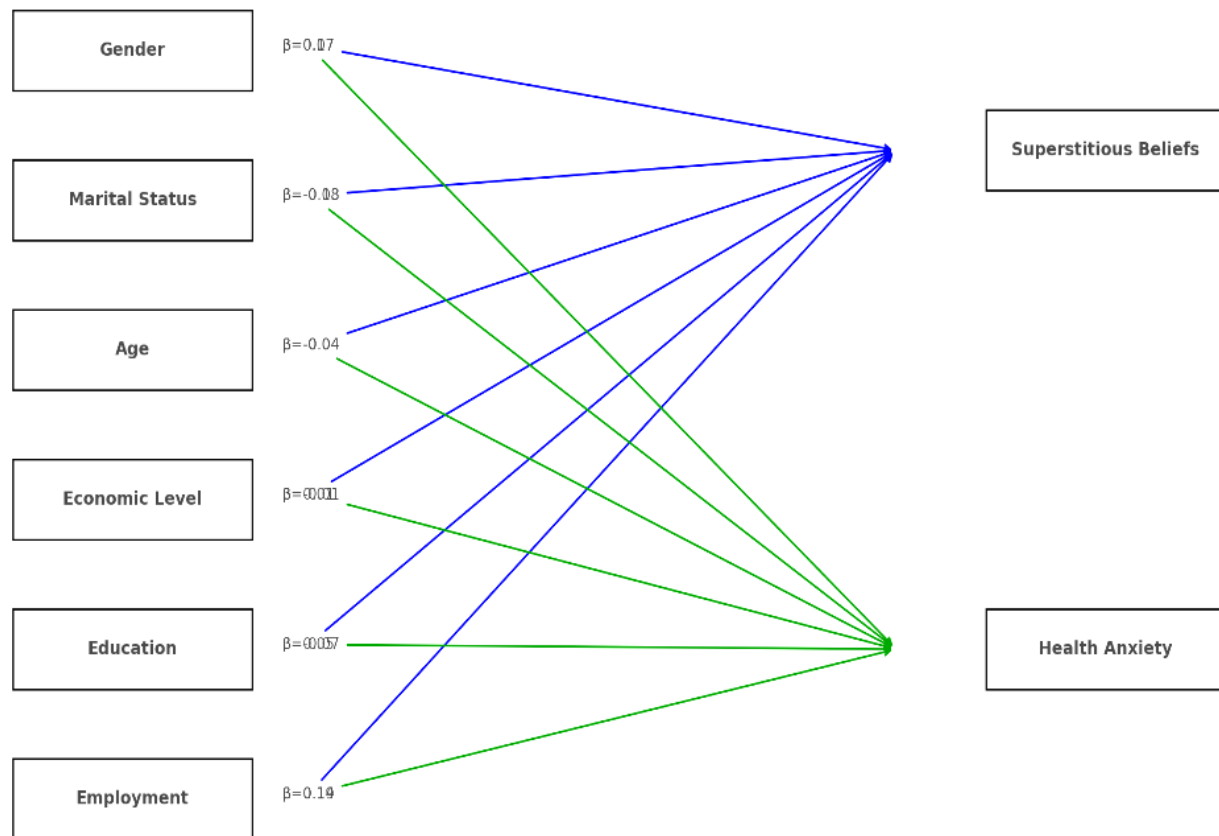


Figure 6. Path Model Showing the Direct Effects of Demographic Variables on Superstitious Beliefs and Health Anxiety

Table 5. Standardized Direct Effects (β) of Demographic Variables on Superstitious Beliefs and Health Anxiety

Independent variable	Factor of influence on superstitious beliefs (β)	Impact factor on health anxiety (β)	Type of effect
Sex	0.165	0.068	direct
Marital status	-0.033	-0.181	direct
lifetime	-0.043	-0.037	direct
Economic level	0.007	-0.011	direct
Education level	0.051	-0.067	direct
Career status	0.143	0.189	direct

The model shows that both superstitious beliefs and health anxiety were directly influenced by several personal variables, such as gender, marital status, and age. The arrows in the diagram represent these influential relationships, with the standardized regression coefficients (β) shown for each path. Gender and employment status were found to have the greatest influence on superstitious beliefs. In contrast, marital status and employment status had a significant effect on health anxiety, with marital status showing a clear negative effect ($\beta = -0.181$). Small values for some variables (such as the economic level) indicated a weak or statistically insignificant effect. It is

suggested that there are no indirect effects because the current model does not include mediating variables between the independent and dependent variables; all the effects presented were direct. Path analysis showed that superstitious beliefs significantly predicted health anxiety, with direct effects observed in the model. Employment status was also identified as an indirect moderator amplifying this relationship. These findings confirm that superstitious beliefs are not merely abstract or culturally interesting but also have functional psychological consequences. Students who experience high levels of superstitious thinking may exhibit elevated anxiety symptoms, particularly in uncertain health contexts. Moreover, the role of employment as an indirect contributor emphasizes that daily stressors may intensify irrational cognitive patterns, reinforcing the link between belief and anxiety. These insights highlight the importance of addressing cognitive distortions in psychological interventions targeting university populations.

Significant effects were observed for the following:

Marital Status: Negative effect ($\beta = -0.181$), with married students reporting lower health anxiety.

Employment Status: Positive effect ($\beta = 0.189$), with working students reporting higher anxiety.

Gender: Weak direct effect ($\beta = 0.068$).

Other variables: Not statistically significant.

The negative effect of marital status suggests that married students may benefit from greater emotional or social support, which helps buffer against health anxiety. In contrast, students who are employed—whether part-time or full-time—appear more vulnerable to health-related worry, likely due to increased stress, time pressure, and dual-role fatigue. The minor influence of gender on health anxiety, compared to its stronger impact on superstition, may indicate that anxiety is influenced more by life circumstances than by cognitive style.

5. Discussion

This study aimed to investigate the relationship between superstitious beliefs and health anxiety among college students, taking demographic factors into account. The following discussion presents each significant finding, incorporating the authors' critical reflections alongside relevant literature and theoretical frameworks from the field.

A positive correlation exists between superstitious beliefs and health anxiety.

This long-held understanding in cognitive psychology is reinforced by the statistically significant correlation between superstitions and health anxiety. This understanding holds that irrational beliefs frequently emerge in circumstances where there is a reduced perceived level of control. The authors interpret this finding not only as a validation of the Cognitive-Behavioral Model of Health Anxiety but also as an indication that superstition may function as an emotional survival strategy for young adults navigating academic, financial, and social uncertainty.

From the authors' perspective, this correlation reflects a more profound psychological tension between contemporary education and existential insecurity. Even among highly educated students, the symbolic comfort provided by superstition can offer immediate cognitive relief, even when confronted with ambiguous or potentially dangerous health information. The effectiveness of such beliefs in regulating emotions should not be underestimated; the current study emphasizes that these beliefs are not merely residual cultural artifacts but rather are active, strategic responses to psychological distress in high-pressure environments. This interpretation aligns with studies such as Abramowitz et al. (2007) and Wu et al. (2023). However, the present study emphasizes that these beliefs are not passive cultural artifacts.

Differences between the sexes are strongest in superstition and minimal in health anxiety.

According to the findings of this study, gender was a significant predictor of superstition, but had only a marginal impact on health anxiety. This suggests that the expression of psychological vulnerability may differ by gender, particularly in collectivist contexts, in contrast to the findings of Kasic et al. (2020), who reported that women experience higher levels of health anxiety than men.

The authors argue that cultural gender norms significantly influence the development of emotionally expressive behaviors. Higher levels of superstition may be attributed to the fact that women in many Middle Eastern and collectivist societies are socialized to externalize uncertainty through acceptable symbolic frameworks, such as rituals, charms, and spiritual beliefs. Additionally, communal stress sharing has the potential to equalize the overt expression of anxiety between sexes, thereby concealing the gender gap typically observed. Consequently, while previous research has placed greater emphasis on biological or trait-based explanations, the authors contend that social role expectations and norms of coping are more accurate predictors in this population.

The employment status of an individual is a risk factor for both health anxiety and superstition.

The role of employment status as a significant predictor of both superstition and health anxiety was one of the most noteworthy findings. Although earlier studies, such as Barbek et al.'s (2022), acknowledged the strain caused by the simultaneous demands of academic and occupational responsibilities, the current study places this result within a broader cultural-economic stress framework. The authors argue that employment introduces a sustained cognitive load for students, particularly those in financially demanding contexts. This load may weaken executive functioning and increase reliance on intuitive or symbolic thinking. Therefore, individuals may be more susceptible to superstition and more likely to experience increased anxiety.

Additionally, this contradicts the findings of Santisteban and Galay (2023), likely due to contextual differences in standard employment practices. It appears that most employed students in this study were at least 25 years old, indicating that the process of adult role integration is complex. The authors believe that this group is psychologically vulnerable due to their increased exposure to societal pressures and reduced psychological buffers.

The insignificant role of education and income.

Several previous findings contradict the absence of significant differences in educational levels or income. One such finding is from Shnier et al. (2022), who observed lower levels of superstition among students enrolled in scientific disciplines. From the authors' perspective, this suggests that superstition is not merely the result of ignorance or economic hardship; rather, it is a form of meaning-making sustained by cultural practices. It is possible that superstitious thinking reflects deeply internalized cultural scripts that are reinforced across all social strata in this context. The authors argue that these beliefs may serve functions that go beyond epistemology—such as ritualistic, moral, or communal roles—which may persist even in educational settings. This view aligns with Žeželj et al. (2009), who contend that education may not be able to "erase" irrational beliefs if those beliefs simultaneously serve a psychosocial function. In their article, the authors emphasized the significance of culturally sensitive psychoeducation that acknowledges the role superstition plays while also providing alternative cognitive tools.

A protective factor against health anxiety: The role of marital status.

Participants in this study who were married reported significantly less concern about how their health would affect their lives. This finding supports the notion that close relationships serve as protective factors, consistent with the results of Mohd Salleh Sahimi et al. (2021). The authors extend this idea by suggesting that marital status acts as a stabilizer in socially uncertain settings. They propose that marriage provides more than emotional support; it also fosters a sense of identity, eases

existential worries, and allows for shared responsibilities, all of which can help reduce anxiety about health and other issues. In contrast, unmarried students—particularly those who work—may be at greater risk, as they are navigating a transition in their lives and facing uncertainty without sufficient support from their relationships. The authors suggest that marital support may reduce emotional distress while also lowering the risk of cognitive vulnerability to harmful health beliefs.

The results of this study show that superstition and health anxiety are interconnected both culturally and psychologically, particularly within high-pressure academic settings. This study offers a more comprehensive perspective. Previous models have often treated these constructs separately or attributed them to a lack of knowledge. However, the current findings show that superstition is a way of making sense of emotions, rather than mere irrationality, that health anxiety is influenced by social structure and life roles rather than individual pathology, and that demographic predictors interact with culture to shape how beliefs and emotions are expressed. The authors advocate for a shift toward culturally informed, integrative interventions that consider the symbolic role that beliefs play, the structural causes of anxiety, and the different ways in which young adults cope.

5.1. Strengths and Limitations

Although this study provides valuable insights into the relationship between superstitious beliefs and health anxiety among college students, several limitations should be acknowledged. First, self-report questionnaires may introduce response bias, as participants might overreport or underreport their beliefs or anxiety levels due to social desirability or personal interpretation. Second, the use of a cross-sectional design makes it difficult to determine causality. While associations were found, but it remains unclear how superstition and health anxiety influence one another. Third, the sample included only university students from specific cultural settings, which may limit the generalizability of the results to more diverse or larger groups of people. Finally, although this study used validated scales, future research could benefit from using qualitative methods or physiological measures to examine the emotional and cognitive processes underlying these constructs more closely.

6. Conclusion

This study examined the link between college students' superstitious beliefs and health anxiety. The results revealed a strong positive association between these two variables. Demographic factors such as gender, marital status, and job status appeared to play significant roles in creating these psychological constructs. The results suggest that superstition may help people cope with health-related uncertainty, particularly among students who are stressed about school or work. This result supports the findings of earlier studies. This study also demonstrated the importance of culturally sensitive psychological interventions that challenge irrational beliefs and encourage evidence-based thinking among young adults. It is strongly recommended that future research examine these relationships using mixed-methods and longitudinal research approaches to enhance both the theoretical understanding and practical application of the findings in educational and clinical settings.

7. Suggestions

1. Workshops should be held to raise awareness about the mental effects of health anxiety and encourage people to think critically in order to avoid relying on superstitious beliefs.
2. Students and staff should have access to psychological counseling services, especially those under considerable stress at work, or those with serious health problems.
3. Future studies should include a broader sample and use longitudinal designs to better understand how superstitious beliefs and health anxiety change over time.

Declarations

Author Contributions. Dr. Ibrahim Abdul Jaleel Yamani was responsible for conceptualizing and designing the study, conducting the literature review, and preparing the initial draft of the manuscript. Prof. Dr. Yahya Kahtatbeh supervised the research process, provided critical revisions, and approved the final manuscript version. Dr. ELwaleed Abdalla Farih Meiri contributed to the development of the methodology, oversaw data collection, and performed statistical analyses. Alanoud Abdulrahman Almutref contributed to editing and refining the manuscript, visualization of results, and management of references. All authors have read and approved the final version of the manuscript.

Conflicts of Interest. The authors declare no conflict of interest.

Funding. (if any)

Ethical Approval. This study was conducted in accordance with the Declaration of Helsinki and adheres to the general framework for research ethics at Imam Mohammad Ibn Saud Islamic University. The target participants provided informed consent to participate in the study, which was conducted strictly for scientific and academic purposes, while fully respecting their privacy and confidentiality.

Data Availability Statement. The data supporting the findings of this study are available from the corresponding author upon reasonable request.

Acknowledgments. This work was supported and funded by the Deanship of Scientific Research at Imam Mohammad Ibn Saud Islamic University (IMSIU) (grant number IMSIU-DDRSP2501).

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