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Role of Intelligence in Superstitiousness among University Students

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Abstract

The research aims to investigate and understand the relationship between superstitious beliefs among university students. A quantitative study was conducted on 350 postgraduate students, using survey methods. DAP: IQ Test and Superstitious scales were used in the study. The results showed that people who have higher intelligence tend to have lower superstitiousness. Furthermore, an independent t-test showed that female have higher intelligence levels than male and therefore lower superstitious beliefs. The limitations included students' carelessness while administering DAP: IQ Test. Similarly, since superstitious beliefs have different categories, students mixed those beliefs with spirituality therefore the generalizability of results is compromised. For future research, it is advised to have a bigger sample and to debrief participants for each scale.

Keywords: Superstitiousness, Intelligence, (DAP-IQ), & University Students

Introduction

Intelligence is a broad term with many varying definitions and forms of what is considered intelligence. A proper way to define intelligence has yet to be determined but there has been significant contribution about what may be considered intelligence by Howard Gardner. He proposed the theory of multiple intelligence which states that intelligence comprises separate multiple psychological factors such as linguistics, pictorial, numerical, and so on (Gardner et al., 1974; Gardner & Wolf, 1983). Intelligence is subjective. It varies between various individuals taking into consideration the theory of multiple intelligences an individual may be highly skilled in one form of intelligence but may be impaired in the other (Gardner, 1979).

A study conducted (Lai & Yap, 2016) focused on how multiple intelligence theory could be applied in higher education. In this study, the subject of chemistry was taken. The objective of this study was that education can become easier if educators know about multiple intelligence (MI). various strategies were used throughout the study for teaching. The students were

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surveyed before and after the study to investigate what responses they had to learning showed that after the application of MI theory, the students' cognitive skills were enhanced due to the structured, strategic nature of MI.

Even though at times intelligence is considered in a subjective form it is important to note that intelligence tends to vary depending on the person's surrounding environment, the people they interact with, and their culture which is why intelligence tends to vary as proven by cross-cultural studies (Brown et al., 1989). So, it is important that when intelligence is being assessed cultural, familial, and environmental factors must be considered.

A study conducted by (Shuttleworth-Edwards et al., 2004) focused on how the Wechsler IQ test varied among cultures. The comparison was done between a southern African sample and a black African sample. It was seen that the black Africans had a lower score than the southern Africans, due to lesser education. This study highlights how it is important to consider various factors such as education while conducting an IQ test, so the accuracy of results remains and there is no discrimination.

From ancient societies to modern-day cultures, superstitions have been an enduring aspect of human behavior. These beliefs, often seemingly illogical or arbitrary, have defied scientific explanations yet continue to hold sway over individuals and societies across the globe. While superstitions may seem counterintuitive, they serve a deeper purpose, offering a coping mechanism for dealing with fear, uncertainty, and unpredictable situations. The roots of superstitious beliefs lie in our ancestral past when our survival was dependent on controlling the natural environment, thus in the absence of scientific evidence & knowledge, people leaned on superstitious beliefs. These behaviors and thoughts provided people with a sense of control and predictability over environmental factors (Ahmed & Oyedibu, 2022).

The persistence of superstitious beliefs can be explained through the lens of environmental & evolutionary psychology (Daprati et al., 2019). According to these theories, our brains are wired to seek patterns and meaning to things in the absence of evidence, a phenomenon called apophenia, that leads individuals to misinterpret coincidences and sudden events as signs of supernatural forces. These superstitions comprise a set of beliefs wherein the individual holds a firm belief that these forces can impact people, involving practices like evil-eye, and witchcraft, thereby developing a cause-and-effect relationship between naturally occurring events like a black cat, or number 13 and anticipating a negative consequence in the future.

In the context of University Students, the prevalence of superstitious beliefs is a result of peer pressure, fear of uncertainty and future, low self-worth, fear of failure, the need to prove others as a means to gain recognition among peers (Brushkova & Klimova, 2023). As a result, students are seen using lucky charms, rituals, and avoidance behaviors as a coping mechanism that helps them to gain a sense of control, and predictability in an otherwise stressful environment. To support this, a study by (Akbirova et al., 2020) reveals that students with high levels of superstition not only exhibit stronger belief in ghosts, witches, and the supernatural but also tend to adopt a "positive reassessment" approach, finding silver linings and reframing difficult situations. Conversely, students with lower superstition scores demonstrate a more pronounced belief in luck and their ability to control their fate. This intriguing pattern suggests that students with stronger superstitious tendencies may be using these beliefs as compensation for a weaker sense of personal control and reliance on luck (Ellala et al., 2023). As reported in various other studies as well, individuals with higher superstitious beliefs tend to view life as uncontrollable, hard to deal with, and therefore have poor self-efficacy (Stanke & Taylor,

2004). The persistence and steadiness of superstitions among students can be attributed to the reflection of social attitudes. To demonstrate the impact of social attitudes on superstitious beliefs, a study conducted (Graeupner & Coman, 2017) investigated the relationship between social exclusion and endorsement of superstitious and conspiratorial beliefs. The results showed that individuals who were excluded socially were more likely to engage in superstitious and conspiratorial thinking, as a means to find meaning and explanations for their feelings and thoughts. To support, social exclusion and its relationship with superstitious thinking, another study conducted by (Abitov et al., 2020) was conducted to understand the relationship between locus of control & beliefs in superstitiousness among students and college graduates in the context of the COVID-19 pandemic and its aftermaths. External locus of control is described as the individual's ability to attribute personal life events to external factors or their internal dispositions. The results showed that university graduates had higher levels of traditional religious faith and belief in psychic abilities and therefore demonstrated a stronger internal locus of control. Such students are more likely to blame themselves for their failures and issues than the factors contributing to them. (Anyaeibunam et al., 2021)

Similarly, such students also showed a negative correlation between paranormal beliefs and taking responsibility for their achievements, life situations, and personal well-being. Research also indicates higher instances of superstitious beliefs in females, individuals with lower intelligence levels, and those from lower socio-economic backgrounds are more prone to superstitiousness (Dissa, 2017). In the study conducted (Naaz, 2019), the impact of academic level and gender on superstitious attitudes among graduate and postgraduate students in Ranchi, Jharkhand, was investigated. The study, which included 80 students from Ranchi University and local colleges, described superstitious beliefs as irrational concepts rooted in fear, magical thinking, ignorance, and blind faith. Surprisingly, the findings revealed no significant influence of academic level or gender on superstitious attitudes. Despite this, the study emphasizes the need for broader research with larger sample sizes and diverse populations to enhance understanding. Superstitious thoughts and behaviors, which are generally regarded as irrational but provide psychological advantages, are the result of a complex interplay of emotional, cognitive, and behavioral elements. Notably, higher education is associated with decreased superstitions, while regional differences and family influence also contribute. The overarching aim of the study is to raise awareness and encourage students to tackle harmful superstitions.

To support the above study, another study was conducted to investigate the impact of superstitious beliefs about home, social, and health issues on student failure at Al-Ain University, ranked fourth in the UAE and 15th in the Arab Region. The research fills a gap in the literature by examining the role of superstitious beliefs in evaluating student failure and the role of student motivation in moderating the relationship between these beliefs and student failure. The study also examines the effects of superstitions on domestic, societal, and health problems, providing a comprehensive understanding of the elements influencing student failure. The study also examines how student motivation acts as a mediator in the connection between superstitious beliefs and academic failure. The findings highlight the importance of educational initiatives and interventions to address the impact of superstitious beliefs on students' academic paths. This research provides valuable insights for practitioners and educational policymakers aiming to create a supportive learning environment at Al-Ain University.

In the study conducted by (Andrews & Tyson, 2019) the prevalence of paranormal beliefs among students is investigated along with the relationships these beliefs have with academic

achievement, gender, and academic area. The results demonstrate that while "hard" scientific students have lower levels of belief than "soft" science or arts students, female students have higher levels of belief overall. Additionally, there is a substantial negative correlation indicating that students who perform well are less likely to think that paranormal experiences exist. The authors propose that teaching university students about paranormal experiences could be a helpful tactic to enhance their critical thinking skills.

In the existing research on the factors influencing motivation, there is some gap in understanding the impact of superstitious thinking on predicting achievement motivation. This literature review seeks to delve into the predictive capacity of superstitious thinking within the specific context of MA students at Al-Balqa Applied University. Theoretical foundations are essential for placing the connection between motivation and superstitious thinking into context. Methodologies employed, including survey methods and participant characteristics, will be critically analyzed to evaluate the strength of the research findings. Identifying gaps in the present literature, this section will propose potential avenues for future research. The conclusion will underscore the contributions of this literature review to the comprehension of motivation for achievement among MA students.

In addition to this, another study by (Hossini et al., 2013) aimed to investigate the relationship between personality traits, locus of control, and belief in superstitions among students. It utilized a cross-sectional design and analyzed data with descriptive statistics and structural regression equations. The population included 750 female undergraduate students. Extraversion was identified as a key predictor, explaining 66% of the variance in superstition beliefs. Findings supported a significant indirect path from personality traits to superstitions, mediated by locus of control. Individuals with negative traits, particularly neuroticism, were more inclined to embrace superstitions.

Locus of control played a crucial role, with individuals having an external locus of control being more prone to superstitions and lucky beliefs (Charoensukmongkol, 2019). Positive personality traits like agreeableness and extraversion were associated with an internal locus of control, suggesting a belief in personal control over life (Nassabeh & Javidi, 2017). Connecting this study with the role of intelligence, we can hypothesize that individuals with higher intelligence might exhibit lower superstitious beliefs due to their tendency to critically analyze information and seek logical explanations.

To support this another study conducted by (Shousha, 2013) aims to investigate common superstition beliefs, in their relationship with suggestibility, locus of control, and some demographic variables like gender, academic specialization, and intellectual achievement among Cairo University students. The study sample consists of (820) male and female university students. Seven colleges were included in the sample selection process: three theoretical and four practical colleges spread across the second, third, fourth, and fifth years of study. The full sample contained the prevalent superstitious beliefs and their domains. Superstitious beliefs and suggestibility have a highly positive correlation; that is, the more suggestible a person is, the more superstitious they tend to be. However, superstitious beliefs are the same for students regardless of their intelligence or level of academic success.

(Erceg et al., 2019) examines the investigation of cognitive abilities, logical thinking, cognitive styles, and self-control concerning the endorsement of epistemically suspect beliefs among university students. It investigated the impact of cognitive skills on beliefs, regarding the specific roles of logical thinking abilities, cognitive styles, and self-control in this context. The

concept of “dysrationalia” emerges as a novel construct, which is the inability to think logically, regardless of having adequate intelligence. Erceg et al., elaborated on this term to understand the deviations from thinking rationally, evolving the relationship between rational thinking and intelligence, asserting that these constructs, though related, represent fundamentally different dimensions. Rational thinking and cognitive ability add granularity to the exploration of belief endorsement. These facets, along with self-control, significantly predict the endorsement of epistemically suspect beliefs among university students. The study emphasizes the need for a nuanced model that considers these multiple factors. The identified predictors of rational thinking abilities, cognitive styles, and self-control offer a nuanced view, suggesting a need for more targeted investigations into the interplay of these factors.

The study used a survey to assess the level of superstitious thinking among four hundred university students from numerous disciplines. The results discovered that the level of superstitious questioning become average, with approximately 50% of students endorsing at least some superstitious beliefs. This study identified the factors that contribute to superstitious questioning. The researchers observed that students who were more religious were additionally more likely to endorse superstitious beliefs. Additionally, students who scored high on anxiety and neuroticism scales tend to be more superstitious. The findings state that superstitious thinking is a commonplace phenomenon among university students.

The research under review aims to provide a comprehensive overview of prevalent superstitious beliefs among university students. The study delves into the nuanced differences in the acceptance of these beliefs based on variables such as sex, academic specification, and social status. The sample, comprising 259 randomly chosen male and female students from diverse scientific and humanities colleges, underwent scrutiny through a meticulously crafted survey instrument.

The research employed a specially designed device with 42 items, validated by experts in education, psychology, and sociology, ensuring a high stability coefficient of 0.91. This robust methodology strengthens the reliability of the findings. The study focused on unveiling superstitious beliefs among students, revealing a range between 0.4% and 19.1%.

The analysis of the data spotlighted specific items that exemplify the prevailing superstitious beliefs within the student cohort. Notably, the prevalence of such beliefs varied across different demographics. Gender emerged as a differentiating factor, with females exhibiting a higher inclination towards these superstitions. Additionally, the stage or class of study played a role, favoring first-year students, while social status showcased a preference for married students. Surprisingly, no significant differences were observed based on academic specifications.

The study's outcomes shed light on the intricate dynamics of superstitious beliefs among university students. The higher prevalence among females may indicate a potential avenue for further exploration into gender-specific factors influencing belief systems. The inclination of first-year students towards superstitions suggests a potential link between adaptation to the university environment and the adoption of such beliefs. The preference for superstitious beliefs among married students raises intriguing questions about the interplay between personal relationships and belief systems.

In conclusion, the research not only provides valuable insights into the prevalence of superstitious beliefs among university students but also unveils interesting variations based on gender, academic stage, and social status. The study's recommendations and suggestions offer a foundation for future research in understanding the underlying factors contributing to these

beliefs. Overall, this work contributes significantly to the growing body of knowledge on superstitions within academic settings.

Research Questions

1. What is the impact of intelligence on superstitiousness among university students?
2. Female are more likely to have greater superstitious beliefs and therefore lower IQ than male?

Material and Method

Design and Participants

This is a quantitative study, and the design of this study is cross sectional. It will explore Impact of intelligence on superstitiousness among university students.

The study population was post-Graduate students purposive sampling was used to collect data. Sample will be (N=350) 180 Females and 170Males.

Data Collecting Tools

Following tools were used in data collection:

Paper-pencil copies of the questionnaires were used to collect data. The process of gathering the data takes around twenty minutes to finish. The participants received an explanation of the research's goal as well as assurances that their data would be kept private and that they may leave the study at any moment.

DAP IQ (Draw-a-person Intellectual Ability Test for Children, Adolescent, and Adults

To assess intellectual capacity from a human figure drawing, the For Children, Adolescents, and Adults (DAP: IQ) tool offers a standard set of grading criteria. Up until recently, children and teenagers were the primary subjects of cognitive capacity tests that involved rating drawings of human figures. By extending this type of assessment to adults, the DAP: IQ enables a more direct, ongoing measurement of a shared concept across the age spectrum. The DAP: IQ scores aspects that are reflective of the universal qualities of the human figure, which enhances the process of assessing human figure drawings (HFDs) as a gauge of cognitive aptitude. With a set of clear, concise instructions, the collection of an HFD may be standardized quickly and with no effort. Psychologists, school counsellors, and other professionals who work with special-needs populations can use this versatile exam. With the DAP: IQ, you may use the biggest single collection of normative data on this task ever collected to create accurate, quantitative ability assessments. The psychometric data, which are based on a sample of 3,090 people nationwide, include normative reference data and are available for ages 4 to 89. The test's validity and usefulness derive from the scoring system's prioritization of concepts above artistic ability and motor coordination.

Scale to Measure Superstition

Specially designed to be utilized with Pakistani University students. It includes 20 items with an emphasis on superstitions related Beliefs. A higher score shows more belief in superstitions. The construct and content validity of this scale were confirmed, and its reliability according to Cronbach's alpha coefficient was reported 0.86 (Huque and Chowdhury 2007)

Data Collection Procedure

Participants in the study gave their informed consent, understanding the goals of the research, the methods, and how the data would be used. This allowed the study to receive ethical approval. Paper-pencil copies of the questionnaires were used to collect data. The process of gathering the data takes around twenty minutes to finish. The participants received an explanation of the research's goal as well as assurances that their data would be kept private and that they may leave the study at any moment.

Results

Table 1: Demographic characteristics of the Sample.

Variables	Frequencies	Percentages %
Gender		
Male	170	48.6
Female	180	51.4
Socioeconomic Status		
Upper	96	27.4
Middle	254	72.6
Family Structure		
Joint	179	51.1
Nuclear	171	48.9
Education		
Graduation	227	64.9
Post Graduation	123	35.1
Mean Age	= 24.14	Std. Deviation = 5.303

The demographic table shows a sample of 350 individuals who were part of the study including n=170 males and n=180 females. Average age of the sample is 24.14 and majority belonged to middle socio-economic status n=254. 179 samples came from joint family structure while 171 came from nuclear family structure.

Table 2: Simple Linear Regression Analysis Impact of Intelligence on Superstitiousness Among University Students.

Variables	B	S.E	β	t	R ²	F	P
Constant	7.180	6.306					
Intelligence	-.538	.203	-.376	-2.650	.020	3.519	.031

Linear regression analysis shows that intelligence is negatively correlated with superstitiousness i.e. -.2.650. This means that people who have higher intelligence tend to have lower superstitiousness and superstitious beliefs.

Table 3: T-Test Is Used for Comparing Differences in Intelligence on the Basis on Gender (N=350).

Scales	M	SD	t	p	95% Confidence	
		Interval				
		LL	UL			
Intelligence	Male (n=170)	91.25	16.57	-2.943	.003	-8.402 -1.670
	Female (n=180)			96.28	15.45	

In order to understand the gender difference for intelligence and superstitious beliefs, independent t-test results show that females have higher intelligence levels than males and therefore lower superstitious beliefs.

Discussions

The results of the study were used to see the correlation between intelligence and superstitious beliefs and what gender differences are present. From the results, it can be seen that intelligence is negatively correlated with superstitious beliefs implying the fact that the higher the intelligence the lesser the belief in superstitions. As it was mentioned before intelligence varies among cultures and ethnicities (Brown et al., 1989) and one reason for this negative correlation result may be that the study sample was from Islamabad where there is a surplus of educated individuals. As the difference in gender occurred where the results revealed that females have higher intelligence than males and tend to have less superstitious beliefs here the theory of multiple intelligence can be applied because it states that many subjective reasonings are present behind the intelligence of an individual (Gardner et al., 1974; Gardner & Wolf, 1983) and that is why the difference of intelligence between gender may have occurred. This can further be seen when we realize that as mentioned before superstitious thoughts and behaviors have been present for centuries, can be traced back to our ancestral origins, and were manifested to help people make sense of what is around them (Ahmed & Oyedibu, 2022). As time went on and intellectually people developed there has been a decrease in superstitious beliefs as can be seen from the results of this study. As superstitious beliefs were an occurrence of our evolution (Dapra et al., 2019), it can be seen how a reduction in beliefs occurred after intelligence was increased and accepted in more than one form.

The present study aimed to examine the Role of Intelligence in superstition among university students. Within the sample, the general superstitious attitude varied, with the majority of students having a moderate level, followed by low and high levels. Few had extremely low levels, and none had extremely high levels. Despite academic levels and gender inequalities, they were not statistically significant. In terms of superstitious attitude, graduate students had somewhat higher mean scores than post-graduate students, and males had slightly higher mean scores than females. These findings are consistent with the findings of other research, such as Kalita (2016) and Vijay et al. (2017), which revealed no significant variations in superstitious attitudes depending on academic level or gender. They differ from Gupta (1999) and Dayal (2015), showing possible differences among demographic groupings. Future research could explore the impact of superstitious attitudes on academic achievement, mental health, and interpersonal relationships.

The study aimed to compare superstition trends between educated academics and the general population in Pakistan. University education emerged as a significant factor in reducing superstition. The randomly selected participants, including undergraduate students, graduate students, and the general population, revealed that the educated public university exhibited a higher belief in superstitions than the general population. Moreover, married and older individuals demonstrated a stronger belief in superstitions. In the general population, women had a higher belief in superstitions compared to men, although no significant difference was observed between college-educated men and women. The study concluded that pursuing higher education is effective in diminishing superstitious beliefs, emphasizing its role in reducing or eliminating such tendencies.

The study aimed to compare the Paranormal Belief within a student population and its relationship to academic ability and discipline. According to the studies, paranormal beliefs are generally greater in female students and lower in "hard" scientific pupils. There is a strong inverse relationship between a strong academic record and a reduced belief in paranormal activity. Although teaching about paranormal phenomena to enhance critical thinking abilities is a viable approach, more study is required to confirm its efficacy and suitability. The study concluded that women report more paranormal experiences than men do. Further investigations indicate the possible linkages between academic focus, gender, achievement, and belief systems.

The study aimed to compare superstitious ideas and student failure. The relationship between superstitious ideas and student failure is a complex interplay influenced by various factors. Research suggests a link between intelligence and superstitious beliefs, indicating that individuals with higher intelligence levels tend to exhibit lower superstitiousness. This association may have implications for academic performance, as students with greater intellectual abilities might be less inclined to rely on superstitious practices. However, it is crucial to consider that academic success is multifaceted, involving factors beyond intelligence and superstition. No abilities, superstitious tendencies, and academic outcomes to provide a comprehensive understanding of this intricate relationship.

The study done by Erceg et al., (2019) examines how students' cognitive abilities, self-control and intelligence relate to their superstitious beliefs. Their findings are consistent with the current study that students who have high intelligence are relatively less superstitious. Having high cognitive ability, rational thinking, and self-control are negatively associated with superstitious beliefs. The study found that being logical might not support superstitious beliefs as such individuals focus on being rational in their arguments from where one can conclude that being rational, logical, and intelligent is negatively related to the propensity to hold epistemically suspect beliefs.

This study examines how superstitious beliefs among students at Al-Ain University in the United Arab Emirates affect health, family, and society concerns and how they relate to academic failure. The study uses smart-PLS to investigate the connection between social problems, family problems, health issues, and student failure through survey surveys. The results show a strong correlation between social, familial, and health variables and academic failure. The study also shows that a substantial mediating factor in these correlations is student demotivation. The research provides useful information to officials who are trying to come up with ways to counteract student failure at Al-Ain University in the United Arab Emirates by addressing superstitious notions. The result of our current study supports the literature review above.

According to the (Al Masri et al., 2022) study findings, the amount of superstitious thinking among students was low, while the level of achievement motivation was high among the students. There were no significant gender or college-type differences in superstitious thinking or achievement motivation. There was a negative relationship between superstitious thinking and achievement motivation, indicating that students with greater levels of superstitious thinking had lower levels of success motivation. Along with other criteria, superstitious thinking played a minor role in predicting achievement motivation. These data indicate that superstitious thinking is not common among master's students, and that it may have a negative impact on their academic performance and goals. This study backs up our findings and suggests that training programs be developed to improve achievement drive and eliminate superstitious beliefs.

It makes sense that people who are good at thinking critically and like to find logical explanations for things might be less likely to believe in superstitions. They might be more likely to question whether superstitious beliefs make sense, look for real proof instead of just stories, and try to understand events using science. But being smart isn't the only thing that shapes what we believe. Things like our culture and the people around us also play a big part. So, it's not as simple as saying that smart people don't believe in superstitions. It's more like a puzzle where all these different things fit together. If we can figure out how all these pieces work together, we can better understand why people believe in things that can't be explained. A surprising study found that even university students, known for logic and reason, hold onto superstitious beliefs (nearly half). Being religious and feeling anxious or stressed seemed to make these beliefs stickier. It's like even in smart people, the unknown holds a strange power, maybe offering comfort or guiding decisions in ways we can't quite explain. Studying this connection between faith, anxiety, and the unexplained could tell us fascinating things about how even the smartest minds sometimes find peace in the shadows of logic.

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