

AN EXPLORATION OF HOW RELIGIOSITY AND PERSONALITY TRAITS INFLUENCE THE MENTAL HEALTH OF UNIVERSITY STUDENTS

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ABSTRACT

Religiosity is widely recognized as a vital psychological resource that significantly contributes to mental health, and personality traits have also been extensively researched. Nevertheless, limited research has explored how religiosity and personality interact, or how their interaction influences mental health outcomes. This study aims to fill that gap by examining the intricate relationships among religiosity, the Big Five personality traits, the Dark Triad personality traits, and mental health in university students in Pakistan. Additionally, it investigates whether Big Five and Dark Triad traits moderate the strength of the relationship between religiosity and mental health. Employing a quantitative, cross-sectional, correlational design, data were collected from 500 university students aged 18–30 through convenience sampling. Participants completed the Centrality of Religiosity Scale, the Big Five Inventory, the Short Dark Triad Scale, and the Warwick–Edinburgh Mental Well-Being Scale. Findings revealed that religiosity was significantly and positively associated with openness and significantly and negatively associated with conscientiousness. Mental health showed positive correlations with agreeableness, Machiavellianism, and narcissism. Most importantly, narcissism significantly moderates the relationship between religiosity and mental health. These findings offer profound insights, particularly regarding Muslim students, and underscore important policy implications and recommendations for fostering mental health through religiosity and personality assessment.

I. INTRODUCTION

The mental health of university students is one of the most urgent issues worldwide today (Arnett, 2000), due to various stressors such as academic, social, emotional, and developmental pressures. Students with good mental health can develop their potential, handle normal stresses, and engage in learning and social activities. Psychological distress among students is also increasing, and many are not receiving the support they need (Eisenberg et al., 2013). International statistics highlight the severity of this issue: Auerbach et al. (2018) surveyed nearly 14,000 first-year students in eight countries and found that over a third reported having a common mental disorder, most frequently depression or generalized anxiety. The problem is even more severe in low-income and lower-middle-income countries (Patel et al., 2016). In Pakistan, 40 to 60% of university students experience moderate to severe depression, anxiety, or stress (Iqbal et al., 2017; Khan & Khan, 2017; Saleem et al., 2019). These challenges can have long-term effects, including poor academic performance, dropping out, relationship issues, substance abuse, and a higher risk of suicide (Eisenberg et al., 2009), as well as reduced employment and income potential in adulthood. Although

much research has been done on risk factors such as academic pressure, financial stress, isolation, and perfectionism (Beiter et al., 2015; Moksnes et al., 2016), comparatively little attention has been paid to protective factors that could promote resilience (Masten, 2014).

Religiosity and personality, two of the most important factors contributing to the mental health of university students, have usually been studied separately rather than together. Religiosity is defined as the level of involvement in religious beliefs, rituals, and practices that influence identity and worldview (Pargament, 2013). The concepts of intrinsic religiosity (faith that is internalized, sincere, and integrated into daily decisions) and extrinsic religiosity (faith driven by external factors such as social approval or benefits) are important and remain central to the study of religion. This categorization of intrinsic and extrinsic religiosity remains central in religious research (Allport, 1950). Likewise, Ellison (1983) was among the first to empirically demonstrate the connection between religious participation and happiness, life satisfaction, spiritual fulfillment, social connection, and the absence of loneliness. Pargament (1984) developed religious coping theory, which proposes that individuals use religious reassessment and practices to manage stress and hardship. Higher levels of religiosity are associated with better health outcomes, including lower depression and anxiety, reduced risk of suicide, improved social support, and even increased longevity (Koenig, 2004, 2008). In a study by Sultan, Kanwal, and Hussain (2024), involving 372 students from BZU, Multan, religiosity was found to be negatively related to anxiety and depression and positively related to mental health. Similarly, Khalid and Riaz (2023) reported a positive effect of religiosity on life satisfaction.

Personality is the relatively consistent way of thinking, feeling, and behaving that influences people's perceptions and reactions to stress. The Five-Factor Model (openness, conscientiousness, extraversion, agreeableness, and neuroticism; McCrae & Costa, 2003) remains the primary classification, and each factor has specific implications for mental health. On the other hand, the Dark Triad (narcissism, Machiavellianism, and psychopathy) is a socially aversive but subclinical dimension characterized by socially undesirable traits such as interpersonal immaturity, lack of empathy, and manipulateness. Adaptive personality traits are more associated with religious coping, while maladaptive personality traits are not (Cohen & Wills, 1985). In the growing body of literature in Pakistan, personality has been identified as a moderating variable. Most research on religiosity, personality, and mental health comes primarily from the Western, Christian world. Recognizing this gap, our study seeks to shed light on the Muslim-majority context. Recent findings consistently demonstrate the positive influence of religiosity. For example, among Indonesian university students, religiosity was linked to a healthier lifestyle, stronger social support, enhanced well-being, and reduced hopelessness (Pura et al., 2025). Similarly, in Islamic boarding schools in Indonesia, heightened religiosity was negatively correlated with academic stress across genders (Novandril & Uyun, 2025). Among Muslim students in London, particularly recent migrants, higher religiosity was associated with lower depression and anxiety levels (Abdullah, n.d.). In Egyptian undergraduates, religiosity predicted greater conscientiousness and lower neuroticism, indirectly promoting better mental health (Abdel Khalek et al., 2025). Nonetheless, there remains a notable lack of research on Pakistani Muslim students and the role of personality in mental health within this population. Our study aims to fill this crucial gap by examining the intricate relationships among religiosity, the Big Five personality traits, Dark Triad traits, and mental health among university students in Pakistan.

Figure 1: Conceptual Framework of the Study

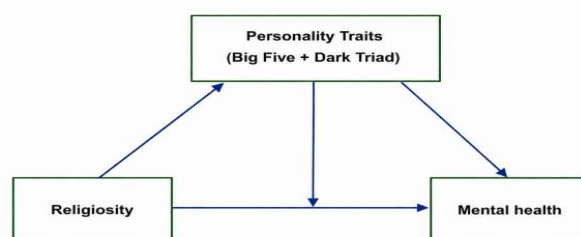


Figure 1 shows the conceptual framework of the study.

Hypotheses

1. Religiosity will be significantly associated with the Big Five personality traits, the Dark Triad personality traits, and mental health among university students.
2. The Big Five and Dark Triad personality traits will be significantly associated with mental health among university students.
3. The Big Five and Dark Triad personality traits will significantly moderate the relationship between religiosity and mental health among university students.

II. METHOD

Research Design & Participants

A quantitative approach was employed to examine the relationships among religiosity, personality traits, and mental health, and to evaluate whether personality traits (Dark Triad and Big Five) moderate the relationship between religiosity and mental health. A convenience sample of 500 students aged 18-30 years was collected from three universities in Pakistan. Participants were currently enrolled students who were willing to provide informed consent and could read and write English. Those who reported a psychiatric condition, provided incomplete responses, or could not read English were excluded.

Measures

[1] Centrality of Religiosity Scale (CRS-15) (Huber & Huber, 2012). Religiosity was measured using the Centrality of Religiosity Scale (CRS-15) (Huber & Huber, 2012), which assesses five dimensions of religiosity: religious experience, public practice, religious ideology, private practice, and intellect. **[2]** Big Five Inventory (BFI-44). The BFI (John & Srivastava, 1999) is a 44-item scale that evaluates the five personality traits—extraversion, agreeableness, conscientiousness, neuroticism, and openness—using a 5-point Likert scale (reported reliability: $\alpha = .75 - .90$). **[3]** Short Dark Triad Scale (SD3). The SD3 (Jones & Paulhus, 2014) is a 24-item, 5-point Likert scale measuring Machiavellianism, narcissism, and psychopathy (8 items each). The scale demonstrated good test-retest reliability in the present study ($\alpha = .757$). **[4]** Warwick-Edinburgh Mental Well-Being Scale (WEMWBS). This 14-item scale was used to assess mental health and demonstrated good internal consistency in the current sample ($\alpha = .797$) (Tennant et al., 2007).

Procedure

After receiving approval from the (BASR) of The Women University Multan, data were collected over four weeks through in-person classroom visits with the prior consent of the instructors. The researcher explained the study, answered questions, and administered the questionnaire battery (demographics, CRS-15, BFI-44, SD3, and WEMWBS), which took about 20-25 minutes to complete. No identifying data was collected. The participants were debriefed, and information about the researcher and supervisor was provided. Data were available only to the researcher and supervisor and will be anonymised and deleted five years after submission, in accordance with APA (2017) guidelines.

III. RESULTS

Table 1: Descriptive statistics of variables (N=500)

	N	M	SD
CRS	500	69.8940	7.40570
BFI	500	141.3640	10.42732
SDT	500	74.5840	10.01156
WEMBS	500	46.1540	7.91021

This table presents the descriptive statistics for four variables in the sample N=500. the mean score for CRS was 69.89 (SD = 7.41). The BFI had a mean of 141.36 (SD = 10.43), showing a broad range of personality traits among participants. The SDT had a mean of 74.58 (SD = 10.01) and WEMWBS had mean of 46.15 (SD = 7.91). These values

indicate that participants reported moderate levels across all measures, with BFI showing the greatest variability and WEMWBS showing the least.

Table II: Reliability of Study Instruments (Cronbach's Alpha)

Scales	No. of Items	Cronbach's Alpha
Centrality of Religiosity Scale (CRS)	15	.662
Big Five Inventory (BFI)	44	.607
Short Dark Triad (SDT)	24	.757
Warwick Edinburgh Mental Well-Being Scale (WEMWBS)	14	.797

Cronbach's alpha values are used to measure the internal consistency reliability of each scale used in a study

Table III: Correlational analysis of variables (N=500)

Variables	1	2	3	4	5	6	7	8	9	10
1. CRS	1	.80	.23	-.33	-.98*	.78	.17**	-.33	.15	-.01
2. WEMBS		1	-.08	.11*	-.01	.04	.09	.14**	.38**	.09
3. Extraversion			1	.08	.11*	-.25**	.24**	.01	-.27	-.31
4. Agreeableness				1	.33**	-.04	.25**	.05	.15	-.12**
5. Conscientiousness					1	-.10*	.21**	.13	.11	.05
6. Neuroticism						1	.11*	-.10*	.05	-.12**
7. Openness							1	.028	.100*	-.04
8. Machiavellianism								1	.38**	.30**
9. Narcissism									1	.29**
10. Psychopathy										1

The Pearson correlation ($N = 500$) indicated that religiosity was not significantly associated with mental health, $r(498) = .08, p > .05$, or with any Dark Triad traits. However, religiosity showed a positive correlation with openness, $r(498) = .17, p < .01$, and a negative correlation with conscientiousness, $r(498) = -.10, p < .05$. Mental health was positively related to agreeableness, $r(498) = .11, p < .05$, Machiavellianism, $r(498) = .14, p < .01$, and narcissism, $r(498) = .38, p < .01$.

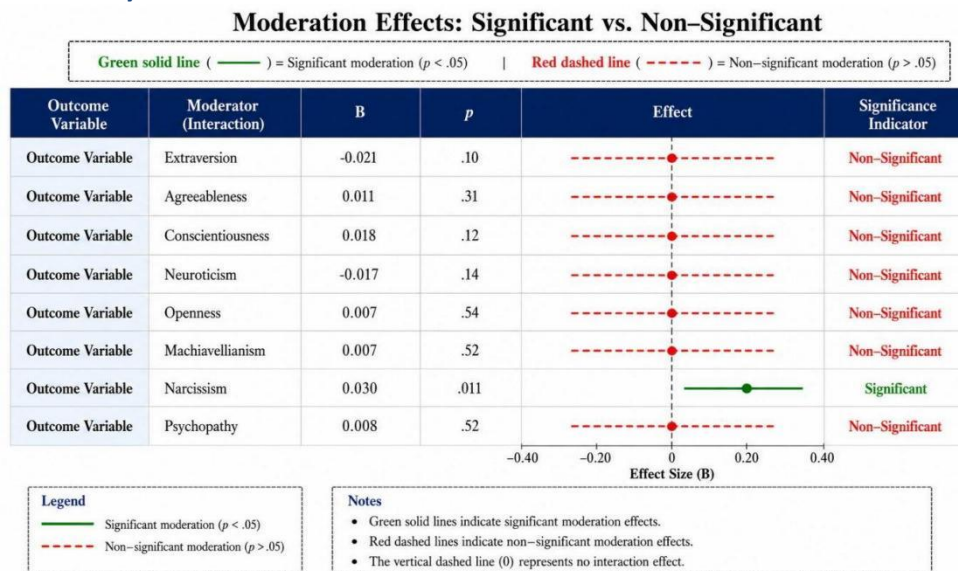
Table IV: Multiple Regression Analysis Predicting WEMBS (N = 500)

Predictor	B	SE B	β	t	p	95% CI	
						LL	UL
Constant	23.85	6.21	—	3.84	< .001	11.66	36.04
CRS	0.07	0.05	.06	1.42	.156	-0.03	0.16
Agreeableness	0.20	0.09	.11	2.35	.019	0.03	0.37
Openness	0.11	0.09	.06	1.20	.232	-0.07	0.28
Extraversion	-0.24	0.10	-.11	-2.43	.015	-0.43	-0.05
Conscientiousness	-0.08	0.10	-.04	-0.87	.388	-0.27	0.10
Neuroticism	-0.00	0.09	-.00	-0.03	.975	-0.18	0.17
Machiavellianism	-0.01	0.08	-.00	-0.08	.938	-0.16	0.15
Narcissism	0.72	0.10	.36	7.56	< .001	0.53	0.91
Psychopathy	-0.08	0.08	-.05	-1.02	.306	-0.24	0.08
R^2	.16						
ΔR^2	.14						

A multiple linear regression analysis was conducted to explore the predictive role of religiosity and personality traits on mental health among university students. The findings reveal that agreeableness stands out as a significant positive predictor of mental health ($B = .204, \beta = .106, t = 2.351, p = .019$), suggesting that individuals with higher agreeableness tend to experience better mental health. Conversely, extraversion was found to significantly and negatively predict mental health ($B = -.238, \beta = -.109, t = -2.430, p = .015$), indicating that higher extraversion is

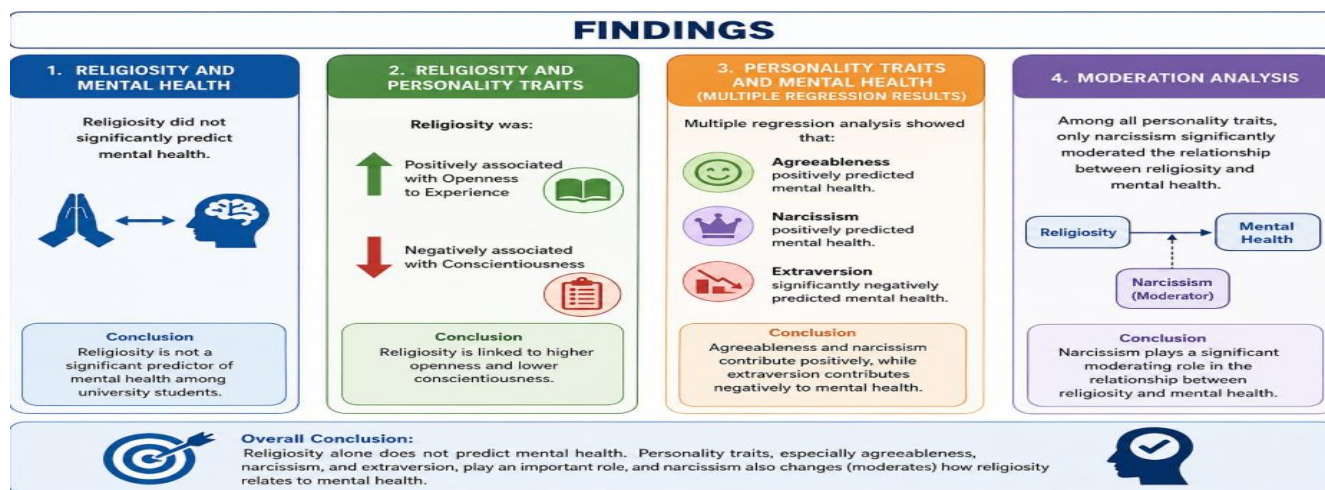
associated with lower mental health scores within this sample. Notably, narcissism emerged as the most powerful positive predictor of mental health ($B = .720$, $\beta = .364$, $t = 7.564$, $p < .001$). Meanwhile, religiosity (CRS), openness, conscientiousness, neuroticism, Machiavellianism, and psychopathy did not show significant predictive relationships (all $p > .05$), emphasizing the crucial influence of certain personality traits over mental health outcomes in university students.

Figure II: Moderation Analysis



The moderation analysis clearly showed that narcissism significantly influences the relationship between religiosity and mental health ($B = 0.030$, $p = .011$). In contrast, the interaction effects of extraversion, agreeableness, conscientiousness, neuroticism, openness, Machiavellianism, and psychopathy were not statistically significant ($p > .05$), indicating that these traits do not impact the connection between religiosity and mental health. Narcissism was the only personality trait that affected how religiosity relates to mental health; people low in narcissism appeared to benefit more from religion (through hope, meaning, and spiritual coping), while highly narcissistic individuals—who already possess strong self-confidence and self-esteem—relied less on religion for their well-being. All other traits examined (extraversion, agreeableness, conscientiousness, neuroticism, openness, Machiavellianism, and psychopathy) showed no effect on this relationship, suggesting that personality and religiosity mostly operate independently. Furthermore, factors like social support, resilience, coping strategies, and emotional regulation likely play a more substantial role in linking religiosity to mental health, consistent with much of the existing research.

Figure III: Findings of the Study



V. DISCUSSION

The present study examined the relationships among religiosity, the Big Five personality traits, the Dark Triad personality traits, and mental health, as well as the moderating role of personality traits in the relationship between religiosity and mental health among university students. The findings partially supported the proposed hypotheses and provide important insights into the complex interplay between personality, religiosity, and mental health. Contrary to Hypothesis 1, religiosity was not significantly associated with mental health. Although previous studies have frequently reported that religiosity serves as a protective factor for mental health, the present findings suggest that this relationship may be culturally and contextually dependent (Zulfiqar et al., 2024; Tahir et al., 2024). Among Pakistani university students, religiosity alone may not be sufficient to predict mental health outcomes. Instead, psychological well-being may be more strongly influenced by factors such as academic stress, social support, coping strategies, resilience, and socioeconomic circumstances. Therefore, while religiosity may remain an important personal resource, its direct contribution to mental health appears to be limited within the present sample.

With respect to Hypothesis 2, only openness and conscientiousness demonstrated significant associations with religiosity. Religiosity was positively correlated with openness, indicating that individuals with greater intellectual curiosity and openness to experiences may also engage more deeply with religious beliefs and existential questions. In contrast, religiosity showed a weak but significant negative relationship with conscientiousness. No significant relationships were observed between religiosity and extraversion, agreeableness, neuroticism, Machiavellianism, narcissism, or psychopathy. These findings suggest that religiosity is influenced more strongly by cultural, familial, and social factors than by stable personality characteristics. Mental health demonstrated significant positive relationships with agreeableness, Machiavellianism, and narcissism, whereas no significant associations were found with extraversion, conscientiousness, neuroticism, openness, or psychopathy. The positive association between agreeableness and mental health is consistent with personality research, which suggests that cooperative, empathetic, and socially supportive individuals generally experience better psychological adjustment. Interestingly, narcissism and Machiavellianism also emerged as positive predictors of mental health in the present sample. Although these findings differ from much of the previous literature, they may reflect culturally specific expressions of self-confidence, social competence, or adaptive interpersonal functioning among university students (Blasco-Belled et al., 2024).

Nevertheless, these findings should be interpreted cautiously because Dark Triad traits are generally associated with maladaptive psychological outcomes in broader populations. **Strengths, Limitations and Future Research** This study's novelty and contribution stem from analyzing three factors—religiosity, mental health, and both adaptive (Big Five) and maladaptive (Dark Triad) personality traits—The moderation analyses provided partial support for Hypothesis 3. Among all Big Five and Dark Triad personality traits, only narcissism significantly moderated the relationship between religiosity and mental health. None of the remaining personality traits, including extraversion, agreeableness, conscientiousness, neuroticism, openness, Machiavellianism, and psychopathy, showed significant interaction effects. This finding indicates that the influence of religiosity on mental health depends on an individual's level of narcissistic traits. Specifically, individuals with higher narcissistic characteristics may rely more heavily on internal self-confidence and self-esteem than on religious coping mechanisms, whereas individuals with lower narcissistic tendencies may derive greater psychological benefits from religious beliefs, spiritual meaning, and hope. Thus, narcissism appears to alter the strength of the relationship between religiosity and mental health rather than exerting only a direct effect (Blasco-Belled et al., 2024).

Strengths, Limitations and Future Research

This study's novelty and contribution stem from analyzing three factors—religiosity, mental health, and both adaptive (Big Five) and maladaptive (Dark Triad) personality traits—within a single framework, a combination rarely seen in earlier research, particularly among Muslim university populations. The use of a sizable sample, standardized validated tools, and explicit moderation testing enhances the reliability and significance of the results for both theory and practice. These findings, while insightful, should be considered with caution due to certain limitations. Since the sample consists solely of university students, self-report measures may be subject to social desirability bias. These students belong to a specific geographic and cultural region; the results may not be widely applicable beyond this

group. Longitudinal designs are recommended to better delineate direction, to sample across institutions, age groups, and cultures, and to include more psychological variables (e.g., resilience, emotional intelligence, coping style, life satisfaction). Qualitative or mixed-methods approaches may provide more in-depth knowledge of how religiosity and mental health interact in students' lives, and further research is needed to examine mediators and moderators of the relationship between religiosity and mental health, as no moderation effects were found.

VII. CONCLUSION AND IMPLICATIONS

The results clearly demonstrate that mental health cannot be solely explained by religiosity or personality. Instead, it involves a complex interplay of factors, including coping skills, resilience, emotion regulation, and social support. This highlights the urgent need for counselors and universities to adopt a more comprehensive strategy that prioritizes stress management, interpersonal skills, and preventive mental health services. Furthermore, researchers should redirect their efforts toward exploring mechanisms like meaning in life, spiritual well-being, and social support—factors that may provide a deeper understanding of the religiosity–mental health relationship beyond personality.

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