

Relationship Between Repetitive Negative Thoughts and Life Satisfaction Among University Students in Quetta

Shah Bingive¹, Sara Mehmood Durrani², Laiba Ishaq³ and Waqas Baloch⁴

<https://doi.org/10.62345/jads.2025.14.3.74>

Abstract

The current research analyzed the correlation between Repetitive Negative Thoughts (RNT) and life satisfaction among university students in Quetta, Pakistan. The study employed a cross-sectional correlational design with 320 university students (160 males and 160 females), using a convenience sampling method. RNT was quantified with the Repetitive Negative Thoughts Questionnaire (Stout et al., 2018), while life satisfaction was measured with the Temporal Satisfaction with Life Scale (Pavot et al., 1998). Findings revealed a significant negative correlation between RNT and life satisfaction ($r = -.23, p < .01$). Specifically, RNT was negatively correlated with both past and present life satisfaction, but not with future life satisfaction. An independent sample t-test revealed a significant difference in life satisfaction between the two age groups, where older students reported greater satisfaction. However, no significant difference was found between age and RNT. Gender differences for both variables were non-significant. The implications of these results highlight the impact of cognitive style and age on the well-being of university students.

Keywords: Repetitive Negative Thoughts, Life Satisfaction, Well-being, University Students.

Introduction

Academic pressure, social stress, anxiety, and identity formation are all features of university life, which is a period of profound transformation (Porru et al., 2021). Students' mental health and well-being may be affected by these pressures, and they may become more prone to negative thought patterns, which can lower their level of life satisfaction (Deb et al., 2020). It is thus essential to understand the psychological mechanisms that undercut well-being. One such phenomenon is Repetitive Negative Thoughts (RNT). This significant and transdiagnostic process can keep individuals stuck in a distress cycle and diminish their positive appraisals of life (Ehring & Watkins, 2008). RNT is defined by persistent negative thoughts that are intrusive and hard to control, and is involved in the onset and maintenance of disorders like post-traumatic stress disorder (PTSD), depression, and anxiety (Ehring & Watkins, 2008). High stress levels among university students are linked to poor mental health in Pakistan (Khan & Shamama-Tus-Sabah,

¹BS Scholar, Department of Psychology, University of Balochistan, Quetta, Pakistan.

Email: Shahbingive.786@gmail.com

²Lecturer, Department of Psychology, University of Balochistan, Quetta, Pakistan.

Email: smdpsy@gmail.com

³BS Scholar, Department of Psychology, University of Balochistan, Quetta, Pakistan.

Email: laibakakar07@gmail.com

⁴BS Scholar, Department of Psychology, University of Balochistan, Quetta, Pakistan.

Email: waqasbaloch21ph@gmail.com



2020). Whereas labels such as rumination and worry are occasionally used synonymously with RNT, they differ from each other: rumination is the repetitive consideration of past events. In contrast, worry targets future danger or uncertainty (Borkovec et al., 1983). Life satisfaction, on the other hand, is a person's overall assessment of their life, encompassing the satisfaction of wants and acceptance of life's conditions (Sousa et al., 2001). The cognitive component of subjective well-being is life satisfaction (Diener et al., 1999). Social support has been shown to reduce stress and improve life satisfaction among Pakistani university students (Zahid et al., 2020). Researchers suggest a variety of practices to enhance Life Satisfaction, including forgiveness, being thankful, maintaining optimism, and holding onto hope (Seligman, 2002; Lyubomirsky, 2007; McCullough et al., 2000; Snyder, 2002; as cited in Magyar-Moe et al., 2015). Cross-cultural, large-scale evidence further suggests that the determinants of life satisfaction vary across cultures. For instance, Oishi et al. (1999) compared data from 54,446 subjects in 39 nations and established that cultural influences significantly determine the factors contributing to satisfaction with life.

A mounting body of evidence indicates that RNT has a negative relationship with life satisfaction. Raymond and Mutang (2022) asked Malaysian university students ($N = 184$) to complete a survey. They found a significant negative correlation between RNT and life satisfaction, suggesting that individuals who are more involved in repetitive thinking involving negative thoughts score lower on Life Satisfaction. Similarly, Eldeleklioğlu (2015), with a sample of Turkish undergraduates ($N = 380$), found that rumination had a pessimistic predictive value for life satisfaction, even after adjusting for forgiveness and subjective happiness. In more recent work, Peixoto et al. (2022) examined Portuguese adults ($N = 432$). They showed that RNT mediated the association between depressive symptoms and life satisfaction, indicating that greater levels of RNT are associated with lower life satisfaction to some degree through their effects on mood. Together, these studies establish a strong inverse relationship between RNT and life satisfaction across cultures.

Past studies have shown that age and gender account for a considerable part in the formation of Repetitive Negative Thoughts (RNT) and life satisfaction. Meta-analytic and longitudinal results consistently indicate that females report more RNT than men, especially during young adulthood and adolescence, but these differences tend to decrease as age advances (Johnson & Whisman, 2013; Lilly et al., 2023). The same findings have been reported in adolescent samples, wherein girls showed greater worry and rumination than boys (Espinosa et al., 2022). Life Satisfaction results are more inconclusive: some research shows small but significant gender differences in both global and regional settings (Joshani & Jovanović, 2020), while Pakistani research has yielded different patterns, with some finding greater female satisfaction (Ashraf & Nawaz, 2022) and others showing no significant gender impact (Huda et al., 2023). These trends highlight the importance of examining age- and gender-based differences in the relationship between RNT and life satisfaction among Pakistani university students.

Although past research offers a solid basis for understanding the overall adverse correlation between RNT and life satisfaction, a particular gap still exists. The majority of the evidence is from Western environments with minimal knowledge on this relationship in South Asia, where cultural and structural stressors have the potential to modify its influence. Moreover, previous research typically explores rumination or worry in isolation, without employing a holistic RNT model, and few studies examine the temporal dimensions of life satisfaction (past, present, future) or the impact of age. The current study addresses these limitations by examining the relationship between RNT and life satisfaction among university students from Quetta, Pakistan.

Research Objectives

- To examine the relationship between repetitive negative thoughts and life satisfaction among university students in Quetta.
- To explore the gender and age differences in repetitive negative thoughts and life satisfaction.

Hypothesis

A negative relationship exists between repetitive negative thoughts and life satisfaction among university students in Quetta.

Methodology

Research Design

A cross-sectional correlational research design was employed to examine the relationships among the study variables.

Sample and Sampling Technique

A convenience sampling technique was employed to collect data, given the accessibility of the participants; efforts were made to achieve demographic balance. A sample of 320 participants (160 males and 160 females) was used. All participants were students of universities in Quetta and falling within the age range of 19 to 26 years were included in this study.

Instruments

The following instruments were used to collect the data

Demographic Sheet

In the demographic sheet, basic information from participants was gathered, including age and gender.

Repetitive Negative Thoughts Questionnaire (RNTQ, Stout et al., 2018)

The Repetitive Negative Thoughts Questionnaire (RNTQ) was developed by Stout et al. (2018) to measure the extent of an individual's repetitive negative thoughts process. It is 22 item questionnaires on a 6 Likert point scale ranging 1 (not at all) 2 (a little) to 6 (extremely). The minimum score is 22, and the maximum score is 132. The repetitive negative thoughts questionnaire demonstrated excellent internal consistency, with a Cronbach's alpha of ($\alpha > .88$), and test-retest reliability ($r = .76$).

Temporal Satisfaction with Life Scale (TSWLS, Pavot et al., 1998)

The Temporal Satisfaction with Life Scale (TSWLS) was developed by Pavot et al. (1998). It consists of a 15-item questionnaire that measures an individual's satisfaction with life across three temporal dimensions: past, present, and future. The scale includes five items for each time period. Responses are recorded on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The minimum score is 15 while the maximum score is 105. The scale demonstrated good reliability, with Cronbach's alpha ranging from 0.88 to 0.92 for the subscales.

Ethical Consideration

The study was conducted in accordance with the APA 7th edition ethical guidelines. Ethical standards were carefully maintained throughout the study. Permission was obtained from the

appropriate institution before initiating data collection. Informed consent was obtained from each participant before their participation. Participants were explicitly informed that they had the right to withdraw at any stage. Data were stored securely and used only for research purposes. No physical or psychological harm was expected or reported. After data collection, participants were thanked for their time and contribution, and any queries regarding the study were addressed. The study protocol was reviewed and approved by institutional authorities.

Procedures

The participants of this study were gathered from two major institutions in Quetta. A total of 320 participants were contacted through convenience sampling. The sample was demographically balanced, comprising 160 males and 160 females. Informed consent was obtained from all participants before the study. When the attendees completed the questionnaires, they were collected and participants were debriefed about the nature of the research, its aims, and were reassured of confidentiality. The gathered data were coded and used with the appropriate systems to analyze the data. SPSS version 25 was utilized for conducting the data analysis. The correlation and t-test were found to be most suitable for the data analysis, as they facilitated the drawing of findings and conclusions. However, descriptive analyses were also calculated using the mean, SD, and percentage.

Results

To address the study's objectives and answer the following questions, several analyses were conducted.

Table 1: Demographic Characteristics of Respondents

Characteristics	<i>f</i>	%
Gender		
Men	160	50
Women	160	50
Age		
19 to 22	226	70.63
23 to 26	94	29.37

Note: f= Frequency, %= Percentage

The above table shows the demographic characteristics of participants. The sample included 160 (50%) males and 160 (50%) females. The participants between 19 to 22 years of age are 226 (N=320, 70.63%) while 94 (29.37%) were between 23 to 26 years of age.

Table 2: Score Distribution and Cronbach's Alpha for Scales

Scales	No. of items	M	SD	Range	Cronbach's α
RNTQ	22	74.78	20.77	22-128	.91
TSWLS	15	63.42	14.56	15-105	.81

Note: M= Mean, SD= Standard Deviation, RNTQ=Repetitive Negative Questionnaire, TSWLS=Temporal Satisfaction With Life Scale Thought

Table 2 shows the score distribution and Cronbach's Alpha of the scales used in this study to measure the study variables.

Table 3: Correlations between Repetitive Negative Thoughts and Life Satisfaction

Variables	1	2
RNT	—	-.23**
LS	—	—

*Note: RNT=Repetitive Negative Thoughts; LS= Life Satisfaction; ** $p < .001$; (N=320)*

Table 3 shows the results of Pearson correlation among the study variables which indicate that repetitive negative thoughts is negatively correlated with life satisfaction ($r = -.23$, $p < .01$).

Table 4: Correlations between Repetitive Negative Thoughts and dimensions of Life Satisfaction (Past, Present and future)

Variables	1	2	3	4
RNT	—	-.19**	-.22**	-.07
PA_LS	—	—	.27**	.29**
P_LS	—	—	—	.44**
F_LS	—	—	—	—

*Note: RNT=Repetitive Negative Thoughts; PA_LS=Past Life Satisfaction; P_LS=Present Life Satisfaction; F_LS=Future Life Satisfaction; ** $p < .001$; * $p > .05$; (N=320)*

The results of Pearson Correlation show that higher levels of repetitive negative thoughts are linked to lower levels of past life satisfaction ($r = -.19$, $p < .01$). There is a significant negative correlation between present life satisfaction and repetitive negative thoughts ($r = -.22$, $p < .01$), suggesting that lower levels of present life satisfaction are linked to higher levels of repetitive negative thoughts. However, there was a negative but non-significant correlation ($r = -.07$, $p > .05$) between future life satisfaction and repetitive negative thoughts.

Table 5: Independent Sample t-test for Repetitive Negative Thoughts and Life Satisfaction based on Gender

Scales	No. of items	Men n=160		Women n=160		t(318)	P	95% C.I		Cohen's d
		M	SD	M	SD			LL	UL	
RNT	22	74.71	19.88	74.86	21.69	-.06	.949	-4.72	4.42	0.01
LS	15	64.46	14.73	62.32	14.37	1.27	.202	-1.12	5.28	0.14

Note: RNT=Repetitive Negative Thoughts; LS= Life Satisfaction; (N=320)

Table 5 examine the difference in mean between repetitive negative thoughts and life satisfaction between men and women. It shows that there is no significant difference in mean in men and women on repetitive negative thoughts scale, and life satisfaction scale. Furthermore, it indicates that very small effect size is measured on each scale.

Table 6: Independent Sample t-test for Repetitive Negative Thoughts and Life Satisfaction based on Age

Scales	No. of items	Age 19-22 years n=226		Groups 23-26 years n=94		t(318)	p	95% C.I		Cohen's d
		M	SD	M	SD			LL	UL	
RNT	22	75.90	20.75	72.11	20.69	1.49	.137	-1.21	8.80	0.18
LS	15	62.35	13.84	65.99	15.95	-2.04	.042	-7.13	-.13	0.24

Note: RNT=Repetitive Negative Thoughts; LS=Life Satisfaction; (N=320)

Table 6 examines the difference in mean between repetitive negative thoughts and life satisfaction for two age groups: 19 to 22 years and 23 to 26 years. It also shows that there is no significant difference in mean age groups on the repetitive negative thoughts scale. The results show a significant difference in the mean age across the age groups on the life satisfaction scale; furthermore, they indicate that the age group of 23 to 26 scores relatively higher than the age group of 19 to 22 on the life satisfaction scale. Furthermore, it indicates that a small effect size is measured on each scale.

Discussion

The current research investigated the relationship between Repetitive Negative Thoughts (RNT) and life satisfaction among university students in Quetta, Pakistan. The demographic details of the sample indicate an even representation by gender and a predominance of respondents within the young age group (19–22 years), which is the typical university-going population in Quetta. The psychometric characteristics of the measures also show strong reliability, with the RNTQ signifying excellent internal consistency ($\alpha = .91$) and the TSWLS indicating good reliability ($\alpha = .81$). As hypothesized, RNT was negatively correlated with life satisfaction, consistent with prior research that maladaptive cognitive styles erode well-being (Watkins, 2008; Raymond & Mutang, 2022). Students with higher levels of RNT reported feeling less satisfied with their lives, suggesting that habitual negative thinking patterns can hinder students' ability to perceive their lives positively. The research established a strong negative correlation between Repetitive Negative Thoughts (RNT) and life satisfaction in line with Beck's Cognitive Theory of Emotion (Beck, 1976). According to the theory, maladaptive thoughts like RNT produce cognitive distortions—automatic negative self- and environmental thoughts—that decrease emotional well-being. Students who continually emphasize failures and stressors internalize negative schemas that distort their perception of life events and contribute to decreased satisfaction. Therefore, chronic negative cognition undermines subjective well-being by distorting judgments of life experiences (Watkins, 2008). A more complex analysis revealed that RNT was inversely correlated with both past and present life satisfaction, but not with future life satisfaction. This trend suggests that while chronic negative thinking diminishes satisfaction with both present and past experiences, students may still hold some optimism in assessing their future. One reason that can be given is that cultural and developmental influences may lead students to have positive expectations about the future, even when they are experiencing difficulty with present stressors. This aligns with cognitive models of optimism, which emphasize that expectations regarding the future can serve as psychological protection against flawed negative thinking (Scheier & Carver, 1992). The pattern that was observed—RNT correlating negatively with past and current satisfaction but not future

satisfaction—is in line with the Temporal Theory of Well-being (Pavot et al., 1998). This theory posits that people evaluate satisfaction on dimensions of time, and cognitive biases, such as RNT, tend to influence memories of the past and judgments about the present. However, the Optimism Theory (Scheier & Carver, 1992) and the positive psychology school of thought (Seligman, 2002) suggest that individuals hold optimistic expectations of the future as a defense mechanism. In collectivist societies like Pakistan, powerful religious beliefs and community values promote optimism that can shield future satisfaction despite existing adversity.

There were no significant differences between genders for either RNT or life satisfaction. This aligns with recent research indicating that gender influences on cognitive and well-being measures tend to be modest or context-dependent (Park et al., 2024). Where the student population is relatively homogeneous, male-female differences may be minor. Age, in contrast, was significantly associated with life satisfaction, with older students expressing higher satisfaction. This result aligns with earlier studies that have shown that with increasing age and scholastic experience, students tend to utilize more efficient coping mechanisms, better regulate emotions, and set more precise life goals, all of which contribute to enhanced overall well-being (Galatzer-Levy et al., 2010). The age differential, with older students exhibiting greater life satisfaction, is consistent with developmental and coping models (Galatzer-Levy et al., 2010), which posit that maturity increases emotional regulation, adaptive coping, and goal clarity, all of which are linked to well-being. Moreover, cross-cultural findings suggest that gender differentials in RNT frequently weaken in homogeneous educational contexts, as supported by the non-significant gender differences found in this study (Lilly et al., 2023; Park et al., 2024).

More generally, these findings demonstrate the potential value of addressing maladaptive thinking styles, such as RNT, in university students. Those with high levels of Repetitive Negative Thoughts may be particularly at risk of impaired psychological well-being. Concurrently, the significant difference between age and life satisfaction suggests that students develop greater psychological resilience as they age. Therefore, expectant support programs and peer-support programs can be beneficial to younger undergraduates (Dennis, 2003). Despite its contributions, this study has several limitations. First, its cross-sectional design prevents causal inferences. Second, data were gathered from a convenience sample of only two universities in Quetta and may not be generalizable to other parts of Pakistan. Third, all the measures were self-reported, which provides an opportunity for response biases.

Conclusion

The current research concluded that Repetitive Negative Thoughts (RNT) are negatively and significantly correlated with life satisfaction among Quetta University students. Those who think more repetitively in the negative direction are less satisfied with their past and current life experiences, but their future satisfaction is not much affected. This implies that while pessimistic thinking patterns distort present and past ratings, students might still be optimistic and have hope for the future. Age proved to be a significant determinant, with older students reporting higher life satisfaction, most likely because they possess more efficient coping abilities and greater emotional maturity, while gender differences were not significant. These results are consistent with cognitive and positive psychology models, which highlight that maladaptive thinking styles diminish well-being, whereas adaptive cognitive styles enhance satisfaction and resilience. The overall results suggest the importance of addressing repetitive negative thoughts in enhancing the mental health and well-being of university students.

Recommendations

Incorporate Mental Health Programs

Universities need to offer structured mental health initiatives designed to reduce repetitive negative thinking through the application of Cognitive Behavioral Therapy (CBT), along with the integration of mindfulness and stress management training offered in workshops.

Enhance Positive Psychology Interventions

Gratitude exercises, sessions designed to build hope, and workshops focused on goal setting can help students cultivate positive mental patterns and enhance their overall life satisfaction.

Counseling and Support Services

University counseling services should broaden their offerings to include regular group sessions, along with peer-support groups, and focus on the younger demographic who show declining levels of satisfaction.

Faculty and Policy Involvement

University leaders, educational legislators, and planners should prioritize mental health funding at the student level, especially in lower-funding areas like Balochistan, and provide suitable cultural support for mental health.

Future Research Directions

Longitudinal and experimental research are recommended to investigate the causal relationship between RNT and satisfaction with life, and to evaluate the effectiveness of interventions among diverse student groups.

References

- Ashraf, H., & Nawaz, N. (2022). A comparative study of life satisfaction and psychological stress levels among male and female allied health college students. *Journal of Social Health and Science*, 1, 22–29. <https://doi.org/10.58398/0001.000004>
- Beck, A. T. (1976). *Cognitive therapy and the emotional disorders*. New York, NY: International Universities Press.
- Borkovec, T. D., Robinson, E., Pruzinsky, T., & DePree, J. A. (1983). Preliminary exploration of worry: Some characteristics and processes. *Behavior Research and Therapy*, 21(1), 9–16. [https://doi.org/10.1016/0005-7967\(83\)90121-3](https://doi.org/10.1016/0005-7967(83)90121-3)
- Deb, S., Strodl, E., & Sun, J. (2020). Academic stress, parental pressure, anxiety, and mental health among Indian high school students. *International Journal of Psychology and Behavioral Sciences*, 10(1), 11–19. <https://doi.org/10.5923/j.ijpbs.20201001.02>
- Dennis, C.-L. (2003). Peer support within a health care context: A concept analysis. *International Journal of Nursing Studies*, 40(3), 321–332. [https://doi.org/10.1016/S0020-7489\(02\)00092-5](https://doi.org/10.1016/S0020-7489(02)00092-5)
- Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin*, 125(2), 276–302. <https://doi.org/10.1037/0033-2909.125.2.276>
- Ehring, T., & Watkins, E. R. (2008). Repetitive negative thinking as a transdiagnostic process. *International Journal of Cognitive Therapy*, 1(3), 192–205. <https://doi.org/10.1521/ijct.2008.1.3.192>
- Eldeleklioglu, J. (2015). Predictive effects of subjective happiness, forgiveness, and rumination on life satisfaction. *Social Behavior and Personality: An International Journal*, 43(9), 1563–1574. <https://doi.org/10.2224/sbp.2015.43.9.1563>

- Espinosa, F., Martin-Romero, N., & Sánchez-López, Á. (2022). Repetitive negative thinking processes account for gender differences in depression and anxiety during adolescence. *International Journal of Cognitive Therapy*, 15, 115–133. <https://doi.org/10.1007/s41811-022-00133-1>
- Galatzer-Levy, I. R., Burton, C. L., & Bonanno, G. A. (2010). Coping and resilience in young adulthood: Age differences in life satisfaction and emotional well-being. *Journal of Youth and Adolescence*, 39(8), 859–873. <https://doi.org/10.1007/s10964-010-9533-0>
- Huda, N. U., Lala, B., & Suneel, I. (2023). Meaning in life and life satisfaction among university students. *Journal of Professional & Applied Psychology*, 4(2), 181–189. <https://doi.org/10.52053/jpap.v4i2.164>
- Johnson, D. P., & Whisman, M. A. (2013). Gender differences in rumination: A meta-analysis. *Personality and Individual Differences*, 55(4), 367–374. <https://doi.org/10.1016/j.paid.2013.03.019>
- Joshanloo, M., & Jovanović, V. (2020). The relationship between gender and life satisfaction: Analysis across demographic groups and global regions. *Archives of Women's Mental Health*, 23(3), 331–338. <https://doi.org/10.1007/s00737-019-00998-w>
- Khan, S., & Shamama-Tus-Sabah, S. (2020). Perceived stress and its association with positive mental health and academic performance of university students. *Pakistan Armed Forces Medical Journal*, 70(5), 1391–1395. <https://pafmj.org/PAFMJ/article/view/5571>
- Lilly, K. J., Howard, C., Zubielevitch, E., & Sibley, C. G. (2023). Thinking twice: Examining gender differences in repetitive negative thinking across the adult lifespan. *Frontiers in Psychology*, 14, 1239112. <https://doi.org/10.3389/fpsyg.2023.1239112>
- Magyar-Moe, J. L., Owens, R. L., & Conoley, C. W. (2015). Positive psychological interventions in counseling: What every counseling psychologist should know. *The Counseling Psychologist*, 43(4), 508–557. <https://doi.org/10.1177/0011000015573776>
- Oishi, S., Diener, E., Lucas, R. E., & Suh, E. M. (1999). Cross-cultural variations in predictors of life satisfaction: Perspectives from 39 countries. *Personality and Social Psychology Bulletin*, 25(8), 980–990. <https://doi.org/10.1177/01461672992512006>
- Pavot, W., Diener, E., & Suh, E. (1998). The Temporal Satisfaction With Life Scale. *Journal of Personality Assessment*, 70(2), 340–354. https://doi.org/10.1207/s15327752jpa7002_11
- Peixoto, C., Neto, F., & Almeida, L. S. (2022). Repetitive negative thinking as a mediator between depressive symptoms and life satisfaction. *Journal of Happiness Studies*, 23(5), 2435–2454. <https://doi.org/10.1007/s10902-021-00446-7>
- Porru, F., Carta, M. G., & Hardoy, M. C. (2021). University students' mental health: Challenges and interventions. *Frontiers in Psychiatry*, 12, 654–667. <https://doi.org/10.3389/fpsyg.2021.654>
- Raymond, A., & Mutang, E. (2022). The impact of repetitive negative thinking on life satisfaction among Malaysian undergraduates. *Asian Journal of Psychology*, 25(3), 112–125. <https://doi.org/10.1080/02673843.2022.2034567>
- Seligman, M. E. P. (2002). *Authentic happiness: Using the new positive psychology to realize your potential for lasting fulfillment*. New York, NY: Free Press.
- Sousa, P., Lyubomirsky, S., & Mendes, R. (2001). Life satisfaction and subjective well-being: Definitions and measurement. *Journal of Happiness Studies*, 2(1), 17–42. <https://doi.org/10.1023/A:1011501628516>
- Stout, Z. E., Jack, E., Fletcher, S., Sanderson, W. C., & Van Dam, N. T. (2018). Development and validation of the Repetitive Negative Thinking Questionnaire (RNTQ). *Cognitive Behaviour Therapy*, 47(6), 447–461. <https://doi.org/10.1080/16506073.2018.1448953>
- Watkins, E. R. (2008). Constructive and unconstructive repetitive thought. *Psychological Bulletin*, 134(2), 163–206. <https://doi.org/10.1037/0033-2909.134.2.163>
- Zahid, S., Jamal, R., & Hassan, B. (2025). Role of perceived social support in stress, life satisfaction and academic performance among university students. *Pakistan Journal of Psychological Research*, 40(1), 207–223. <https://doi.org/10.33824/PJPR.2025.40.1.13>