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Attachment Styles, Interpersonal Cognitive Distortions, and Loneliness among Undergraduate University Students in Karachi, Pakistan

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Abstract

Attachment styles signify an important aspect in interpersonal cognitive distortions which can influence social relationships and lead towards loneliness. The current study aimed to explore the relationship between attachment styles, interpersonal cognitive distortions, and loneliness among undergraduate university students in Karachi, Pakistan. A sample of 670 undergraduate university students (Male =294, Female =376) within the age range of 18 to 25 years (*M*=20.81, *SD*=1.63) completed the survey. Revised Adult Attachment Scale (RAAS), Interpersonal Cognitive Distortion Scale (ICDS), and UCLA Loneliness Scale (Revised Version 3) were used as tools to collect the required data. Afterwards, Statistical Package for Social Sciences (SPSS 26) was employed for data analysis. Significant correlations were found among attachment styles, interpersonal cognitive distortions, and loneliness. Furthermore, male students reported to have higher levels of interpersonal misperception (*M* =9.09, *SD* = 2.49) as compared to female students. The findings of the current research have implications for developing therapeutic interventions fostering healthy attachment styles to reduce interpersonal cognitive distortions and loneliness for better social integration.

Keywords: attachment styles, cognitive distortions, interpersonal, loneliness, students

Introduction

University students experience a lot of challenges and pressures associated with emotional, social, and physical difficulties (Reis & De Matos, 2019). It is a transition phase from adolescence to adulthood and implies leaving their comfort zone to adapt to a new lifestyle, be more responsible, build a strong network, and work hard for their future. This pivotal stage is accompanied by peer pressure, academic stress, self-regulation (Mathew &

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Simon, 2024), choosing a career (Mberia & Midigo, 2018), and adjustment issues (Horgan et al., 2016), all of which negatively affect the students' well-being. Moreover, university students suffer from depression, anxiety, stress, self-esteem issues, alcohol and tobacco use, and many health issues, which significantly affect their overall mental well-being (Ramón-Arbués et al., 2020).

Some individuals respond to stress adaptively. While, others have a higher chance of developing cognitive distortions (Matturro, 2019), which may lead them to become avoidant and lonely. A study by Zaiden and Mahfar (2022) revealed that loneliness and cognitive distortions are positively correlated to each other. Çayir and Kalkan (2018) found that cognitive distortions in an individual, especially one with interpersonal rejection type, have a negative impact on loneliness. Hence, a person who feels rejected may feel lonelier than the rest of the population.

Literature Review

The undergraduate years significantly influence students' personality and well-being, encompassing the transition from adolescence to young adulthood. They navigate through various social, emotional, and academic demands. The transition evokes key questions, such as what elements influence interpersonal relationships among undergraduate students? Further, it is also worth asking how individuals process their thoughts and perceive their social environment which may impact their relationships.

The existing research emphasizes the importance of attachment styles in shaping interpersonal relationships and emotional health. Interpersonal cognitive distortion may distort social interactions, exacerbating the feelings of loneliness and distress. Anxious attachments lead to higher loneliness (Borawski et al., 2022) and university students with secure attachments tend to report lower loneliness (Bernardon et al., 2011).

Attachment theory has been used to conceptualize loneliness from a developmental perspective to understand the role of early attachment styles on an individual's ability to form close relationships and to make social interactions (Wei et al., 2005). Research highlights that the pressure to fit in increases stress which exacerbates cognitive distortions, further increasing loneliness (Seiffge-Krenke, 2010). Cognitive theory explains that individuals exhibit irrational beliefs, which are the root cause of depressive feelings. Moreover, cognitive distortion arises from the negative processing

of information, often leading to interpretations that reinforce a negative outlook, hampering their perceptions (Şimşek et al., 2021). When a person adheres on fixed, rigid thinking patterns, it becomes difficult to maintain healthy relationships due to a lack of flexibility and adaptability in social contexts (Aydın & Akgün, 2022).

Attachment styles have been found to be highly stable over time (Arriaga et al., 2018). These styles and interpersonal cognitive distortions play a vital role in forming and maintaining interpersonal relationships by students, which influences their well-being and how connected or disconnected they feel from the environment.

Figure 1
Theoretical Framework
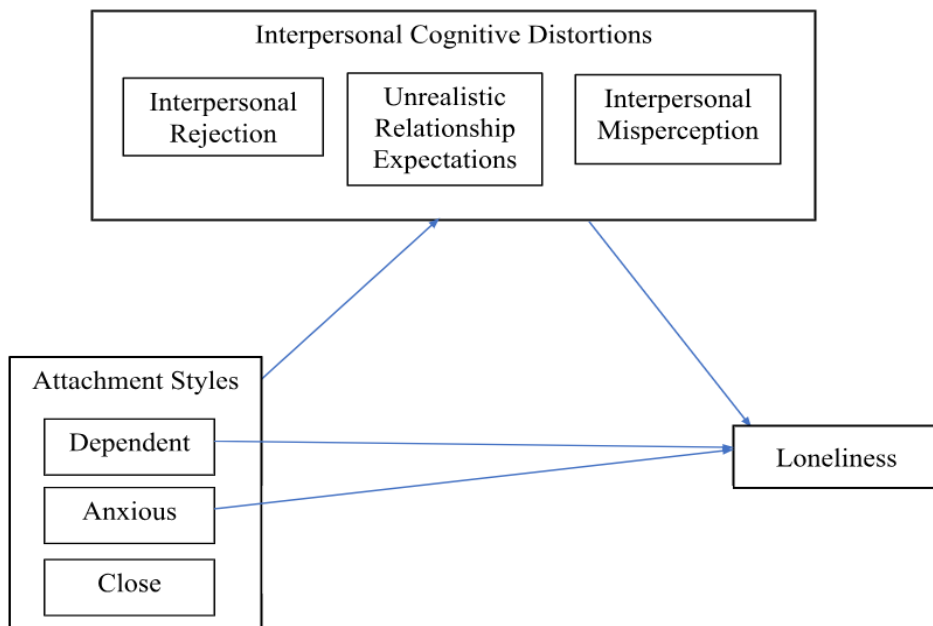
There is limited research available on the proposed framework in Pakistan and exploring these variables is crucial due to the unique sociocultural and collectivistic environment. The current research aims to bridge the gap by investigating the relationship between attachment styles, interpersonal cognitive distortions, and loneliness among undergraduate students. Understanding these factors would help students to adapt more effectively to their social environment and boost their overall mental well-

being by enhancing the quality of interpersonal relationships and nurturing a stronger sense of belongingness.

The objectives of the current research are as follows:

1. To find the relationship between attachment styles, interpersonal cognitive distortions, and loneliness among undergraduate university students in Karachi, Pakistan.

2. To find gender differences in attachment styles, interpersonal cognitive distortions, and loneliness among undergraduate university students in Karachi, Pakistan.

3. To find the specific differences in attachment styles, interpersonal cognitive distortions, and loneliness based on academic programs and university sectors (public and private) in Karachi, Pakistan.

In light of the literature review, the following hypotheses are suggested:

H1: A close attachment style is likely to be negatively correlated with interpersonal cognitive distortions and loneliness among undergraduate students in Karachi, Pakistan.

H2: Dependent and anxious attachment styles, as well as interpersonal cognitive distortions, are likely to be positively correlated with loneliness among undergraduate students in Karachi, Pakistan.

H3: There will be significant gender differences in attachment styles, interpersonal cognitive distortions, and loneliness of undergraduate students in Karachi, Pakistan.

H4: There will be significant differences in attachment styles, interpersonal cognitive distortions and loneliness among undergraduate students in Karachi, Pakistan based on university sector and academic program.

Methodology

Cross-sectional research was designed to investigate the relationship between attachment styles, interpersonal cognitive distortions, and loneliness. A sample of 670 undergraduate university students (Males n =294, Females $n = 376$) within the age range of 18-25 years ($M = 20.9$, $SD = 1.6$) from Karachi, Pakistan was recruited using purposive sampling. The inclusion criteria comprised students who were able to read and

comprehend English, were within the age range of 18-25 years, and currently enrolled in a 4-year undergraduate program, while residing in Karachi, Pakistan. The participants who were not able to meet the above criteria were excluded from the study.

Informed Consent Form provided all the necessary information, such as the objectives, nature, and purpose of the research, as well as the right of the participants for an informed decision to participate or withdraw at any point from the ongoing research. The participants were assured of the safety and confidentiality of their personal information. Furthermore, precautions were taken to prevent any kind of psychological harm. Demographic information sheet consisted of basic personal information about the participants which included their age, gender, university department, academic program, and semester.

Revised Adult Attachment Scale (RAAS)

The Revised Adult Attachment Scale (RAAS) was used to assess the attachment styles of the participants in accordance with their general feelings about relationships in their life. The scale was developed by Collins and Read ([1990](#)) based on an earlier Adult Attachment Scale developed by Hazan and Shaver ([1987](#)). It is a 5-point Likert scale ranging from 1 (*not at all characteristic*) to 5 (*very characteristic of me*). The age range for RAAS is 18-72 years and it consists of 18 items assessing three dimensions of attachment, namely dependence ($\alpha = 0.75$) relates to the degree to which a person trusts others and their availability, anxiety ($\alpha = 0.72$) measures the anxiety related to the fear of being abandoned or unloved, and closeness ($\alpha = 0.69$) measures how comfortable a person is with closeness and intimacy (Collins & Read, [1990](#)).

Interpersonal Cognitive Distortion Scale (ICDS)

The Interpersonal Cognitive Distortion Scale (ICDS) developed by Hamamci and Büyüköztürk ([2004](#)) was utilized to assess the cognitive distortions present in interpersonal relationships. It is a 5-point Likert scale which ranges from 1 (*I don't agree at all*) to 5 (*totally agree*). The age range for ICDS includes both teenagers and adults. The scale consists of 19 items assessing three dimensions, namely unrealistic relationship expectations (having high expectations of self and others' behavior in relationships), interpersonal rejection (having negative attitude towards others), and interpersonal misperception (attempting to comprehend interpersonal

relationships, thoughts, and feelings with unrealistic methods). High individual scoring indicates a high degree of cognitive distortion in interpersonal relationships. The reliability of the scale was analyzed through a test-retest correlation (.74) with the value of Cronbach's alpha (internal consistency coefficient) being .67. The validity of the scale was measured by correlations between scores on ICDS and Conflict Tendency Scale (.53), Irrational Belief Scale (.54), and Automatic Thoughts Scale (.54).

UCLA Loneliness Scale (Revised Version 3)

The UCLA Loneliness Scale (Revised Version 3) was developed by Daniel W. Russell (1996). It is used to assess how often a person feels disconnected from those around them. It is a 20-item scale with 4-point Likert type score ranging from 1 (*never*) to 4 (*always*). The age range for ULSR-20 comprises teenagers and above. The reliability of the scale was analyzed over a 1-year period in terms of test-retest reliability ($r = .73$) with the value of (internal consistency coefficient) Cronbach's alpha ranging from .89 to .94. Convergent validity and construct validity were found to be consistent with different measures of loneliness and the measures of the adequacy of an individual's interpersonal relationships, respectively. They were also found to be consistent through correlations between the measures of well-being, health, and loneliness.

Procedure

In compliance with ethical guidelines set forth by American Psychological Association (APA), the authors of the respective scales were approached via email to obtain permission to use their scales for research purposes. Different universities were also contacted for data collection from their students. After receiving permission, the participants who met the inclusion criteria were approached and provided with the consent form, demographics form, Interpersonal Cognitive Distortion Scale (ICDS), Revised Adult Attachment Scale (RAAS), and UCLA Loneliness Scale Version 3 (ULS-3). The participants took approximately 10-15 minutes each to completely fill the form. All the participants were ensured of confidentiality and were briefed about the nature of research. The data was then analyzed statistically using Statistical Package for Social Sciences (SPSS 26).

Ethical Considerations

Honesty and objectivity were maintained during the entire study. Data was collected, analyzed, and interpreted without any manipulation and biases. Any personal information, if taken, was kept confidential and only utilized for the purpose of the study. Furthermore, the anonymity of the participants was fully maintained and the right to withdraw at any point in time was acknowledged.

Results

The findings were calculated by conducting statistical analysis using Statistical Package for Social Sciences (SPSS 26).

Table 1

Demographics of the Participants (N=670)

Variables	*M*	*SD*	*f*	*%*
Age	20.9	1.6		
Gender				
Male			294	43.9
Female			376	56.1
Department				
Social Sciences & Humanities			110	16.4
Medical Sciences			93	13.9
Business, Commerce & Management Studies			104	15.5
Arts & Fashion			115	17.2
Engineering and Technology			121	18.1
Media Sciences & Communication			127	19
University Year				
1st Year			229	34.2
2nd Year			139	20.7
3rd Year			169	25.2
4th Year			133	19.9
University Sector				
Government			203	30.3
Semi-Government			236	35.2
Private			231	34.5
Socioeconomic Status				
Upper Class			26	3.9
Upper Middle Class			227	33.9
Middle Class			382	57
Lower Middle Class			28	4.2

Variables	M	SD	f	%
Lower Class			7	1
Family Structure				
Nuclear			420	62.7
Joint			219	32.7
Extended Family			31	4.6
Family Details				
Parents living together			604	90.1
Parents separated/divorced			22	3.3
Single parent			42	6.3
Parents have passed away			2	0.3
Marital Status				
Single			636	94.9
Married			29	4.3
Divorced			2	0.3
Widowed/Widower			3	0.4
Occupation				
Student			478	71.3
Student; Part Time Employed			81	12.1
Student; Full Time Employed			30	4.5
Student; Freelancer			52	7.8
Student; Entrepreneur/Business			28	4.2
Other			1	0.1
Residential Status/Accommodation				
Living in a hostel/paying guest			78	11.6
Living with family			567	84.6
Living with a relative/family friend (extended family)			25	3.7

Table 1 provides the demographics of the participants with respect to age, gender, department, university year, university sector, socioeconomic status, family structure, family details, marital status, occupation, and residential status/accommodation.

Table 2

Correlational Analysis between Study Variables (N=670)

Variable	1	2	3	4	5	6	7
1. Close Attachment Style	-						
2. Dependent Attachment Style	.27**	-					
3. Anxious Attachment Style	-.02	-.36**	-				
4. Interpersonal Rejection	-.18**	-.39**	.47**	-			
5. Unrealistic Relationship Expectation	.15**	-.10*	.39**	.42**	-		
6. Interpersonal Misperception	.07	-.15**	.23**	.33**	.39**	-	
7. Loneliness	-.32**	-.41**	.38**	.55**	.13**	.12**	-

Note. $*p < .05$. $**p < .01$.

Table 2 shows that there is a significant positive correlation between interpersonal rejection and loneliness ($r=.55$). There is also a significant positive correlation between anxious attachment style and interpersonal rejection ($r=.47$), between anxious attachment style and loneliness ($r=.38$), and between anxious attachment style and unrealistic relationship expectation ($r=.39$). There is a significant negative correlation between close attachment style and loneliness ($r=.32$), between dependent attachment style and interpersonal rejection ($r=-.39$), and between dependent attachment style and loneliness ($r=-.41$). Furthermore, the results indicate a significant positive correlation between close attachment style and unrealistic relationship expectation ($r=.15$), between anxious attachment style and interpersonal misperception ($r=.23$), between unrealistic relationship expectation and loneliness ($r=.13$), and between interpersonal misperception and loneliness ($r=.12$). Lastly, a significant negative correlation was found between close attachment style and interpersonal rejection ($r=-.18$), between dependent attachment style and unrealistic relationship expectation ($r=-.10$), and between dependent attachment style and interpersonal misperception ($r=-.15$).

Table 3

Independent Samples t-test for Attachment Styles, Interpersonal Cognitive Distortions, and Loneliness Based on Gender (N=670)

Variable	Male (n=294)		Female (n=376)		t	p	Cohen's d
	M	*SD*	*M*	*SD*			
Attachment Styles							
CLOSE	3.0	0.6	3.0	0.6	0.99	0.32	
Dependent	2.8	0.7	2.7	0.7	1.68	0.09	
Anxious	2.8	0.8	2.8	1.0	1.19	0.24	
Interpersonal Cognitive Distortions							
Interpersonal Rejection	23.2	5.4	23.1	6.0	0.14	0.89	
Unrealistic Relationship Expectations	24.3	5.5	23.7	5.8	1.33	0.18	
Interpersonal Misperception	9.1	2.5	8.6	2.8	2.25	0.03	0.17
Loneliness	49.0	7.5	48.8	8.2	0.32	0.75	

Table 3 shows that a significant difference was found in interpersonal misperception among male students (*M=9.1, SD=2.5*) and female students (*M=8.6, SD=2.8*) with a small effect size, t (653.7) = 2.25, *p<.05*, d = 0.17.

Table 4

Analysis of Variance (ANOVA) of Attachment Styles, Interpersonal Cognitive Distortions, and Loneliness Based on University Departments (N=670)

Variable	1 (n=110)		2 (n=93)		3 (n=104)		4 (n=115)		5 (n=121)		6 (n=127)		F	Sig
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD		
Attachment Styles														
CLOSE	3.0	0.7	2.9	0.6	2.9	0.6	3.0	0.6	3.1	0.7	2.9	0.7	0.87	0.50
DEPEND	2.7	0.7	2.7	0.7	2.9	0.7	2.8	0.7	2.8	0.7	2.6	0.8	2.03	0.07
ANX	2.7	0.8	2.7	0.9	2.7	0.9	2.9	1.0	2.9	0.9	2.8	1.0	1.32	0.26
Interpersonal Cognitive Distortions														
INT_REJ	22.2	5.9	23.5	5.5	23.0	5.2	23.2	5.9	24.1	5.9	23.1	5.9	1.45	0.21
UN_REL_EXP	23.4	5.3	24.0	6.0	24.1	5.1	23.5	6.3	24.8	5.2	24.1	5.8	0.86	0.51
INT_MIS	8.5	2.6	8.7	2.9	8.8	2.5	8.8	2.7	9.3	2.5	8.8	2.7	1.03	0.40
Loneliness	48.2	8.0	49.2	5.9	48.3	6.8	48.5	8.2	49.8	8.7	49.1	8.9	0.71	0.61

Note. 1 = Social Sciences & Humanities; 2 = Medical Sciences; 3 = Business, Commerce & Management Studies; 4 = Arts & Fashion; 5 = Engineering & Technology; 6 = Media Sciences & Communication; ATTACH_MENT= Attachment Styles, DEPEND = Dependent Attachment Style, ANX = Anxious Attachment Style, INT_REJ = Interpersonal Rejection, UN_REL_EXP = Unrealistic Relationship Expectations, INT_MIS = Interpersonal Misperception

Table 2

Analysis of Variance (ANOVA) of Attachment Styles, Interpersonal Cognitive Distortions, and Loneliness Based on University Sectors (N=670)

Variable	Government (n=203)		Semi-Government (n=236)		Private (n=231)		F	Sig
	M	SD	M	SD	M	SD		
Attachment Styles								
CLOSE	3.0	0.6	3.0	0.6	3.0	0.7	0.13	0.88
DEPEND	2.8	0.6	2.7	0.8	2.7	0.7	2.10	0.12
ANX	2.7	0.8	2.8	0.9	2.9	1.0	1.87	0.16
Interpersonal Cognitive Distortions								
INT_REJ	23.0	5.5	23.2	6.0	23.3	5.7	0.18	0.83
UN_REL_EXP	24.3	5.3	23.8	5.7	24.0	5.9	0.41	0.66
INT_MIS	8.7	2.5	8.7	2.8	9.1	2.7	1.47	0.23
Loneliness	48.6	6.6	49.2	8.7	48.8	8.2	0.34	0.72

Note. DEPEND = Dependent Attachment Style, ANX = Anxious Attachment Style, INT_REJ = Interpersonal Rejection, UN_REL_EXP = Unrealistic Relationship Expectations, INT_MIS = Interpersonal Misperception

The results of the Analysis of Variance (ANOVA) in Table 4 showed no significant mean differences between the students enrolled in various university departments (Social Sciences & Humanities, Medical Sciences, Business, Commerce & Management Studies, Arts & Fashion, Engineering & Technology, and Media Sciences & Communication) for the means of attachment styles, interpersonal cognitive distortions, and loneliness.

The results of the Analysis of Variance (ANOVA) in Table 5 showed no significant mean differences between university sectors (government, semi-government, and private) on attachment styles, interpersonal cognitive distortions, and loneliness.

Discussion

In the current research, loneliness was found to have a significant relationship with attachment styles and interpersonal cognitive distortions. Consistent with previous research, loneliness was found to be correlated with cognitive bias for social threats (Spithoven et al., 2017). Likewise, Şimşek et al. (2021) found loneliness to be a key mediating factor between cognitive distortions and life satisfaction. Moreover, the fear of negative evaluation has been identified as a determinant between loneliness and cognitive distortions (Cook et al., 2019). Interpersonal rejection significantly influences the experience of loneliness, indicating that students might have difficulty in forming and maintaining close relationships (Lin & Fan, 2023). Loneliness is one of the emotional responses to interpersonal rejection (Leary, 2015). University students who are not accepted by their fellows during class projects may tend to experience loneliness, leading to depression and low self-esteem. The findings reveal a weak to moderate relationship between interpersonal cognitive distortions and attachment styles. The results emphasize the need to explore and address social isolation and withdrawal among university students to improve their interpersonal relationships and social interactions.

Social isolation has been linked to individuals with anxious and avoidant attachments, as they find it difficult to regulate their emotions in their interpersonal relationships (Borawski et al., 2022). Notably, after the COVID-19 pandemic, social isolation caused a rise in loneliness among undergraduates. Moreover, Christiansen et al. (2021) found a significant relationship between social isolation, loneliness, and poor mental health, which can have an impact on attachment patterns with significant others.

Furthermore, Helm et al. (2020) found a strong positive relationship between existential isolation and avoidant attachment style, as compared to the anxious attachment style.

Secure attachment with a primary attachment figure reflects positive parenting, fostering a long-lasting bond with the child. The results highlight the importance to explore childhood history to understand the infant-parent relationship. Indeed, dysfunctional infant attachment and unresolved trauma with the caregiver can result in the formation of irrational cognitive distortions in the child and is later reflected in their attachments in adult life (Taheri et al., 2022). Furthermore, D'Rozario and Pilkington (2022) indicated that adults with a history of parental separation or divorce are more likely to report anxious attachment, as they may have a belief that they will be abandoned in future relationships as well.

Moreover, male students were found to have higher levels of interpersonal misperception as compared to female students. The difference could be attributed to differences in interpersonal emotion regulation (IER), which can play a chief role in interpersonal relationships (Zhang et al., 2023) and gender stereotypical roles (Rogers et al., 2021), leaving an area for consideration in therapeutic interventions to understand gender dynamics. Furthermore, contrary to the current findings, Maurya and Sharma (2019) found that women experience higher cognitive distortion as compared to men. The traditional gender roles may contribute to cognitive distortions in men, resulting in aggressive behavior, as well as relational and emotional disconnect. There is a need to explore cultural dynamics and gender roles to reach any conclusive results within the Pakistani context.

Furthermore, present study found no significant differences were found across academic programs. Existing evidence suggest that Curriculum engagement including the 'Schools Mental Health Programme' and 'Community Mental Health Programme' may contribute to reducing stigma and increasing awareness about psychological health. The inclusion of positive and health psychology courses in academic programs may contribute to improving well-being (Waters et al., 2022). Through the immense efforts of mental health professionals and the government, the 'National Mental Health Policy' and 'Mental Health Act' were implemented in 2001 (Karim et al., 2004). However, due to limited literature, further investigation is needed to explore the role of academic programs in personality development.

Additionally, sector differences were not found to be significant among university students. Previous research showed that private schools are becoming more attractive for students because of their better education system and exam criteria, as compared to public schools which are cheaper but relatively inefficient (Awan & Zia, 2015). On the contrary, public universities are designed according to international standards and offer a standardized curriculum just like high-end private sector universities. It can be the possible reason that the current research did not display any significant differences between the three (public, semi-government, private) sectors.

Conclusion

Attachment styles, interpersonal cognitive distortions, and loneliness play a significant role in forming healthy social relationships. Research highlights the importance of fostering secure attachment styles to build positive and stable social relationships, thereby creating a supportive environment for academic learning and self-growth. Eventually, it will reduce loneliness. Implementing family-targeted interventions to promote secure attachments, addressing interpersonal cognitive distortions, and mitigating loneliness is imperative, as these elements can impact well-being and may aggravate psychological disorders.

Moreover, the role of social support is emphasized, with a strong connection observed between loneliness and well-being. Psychologists can work with cognitive restructuring to combat interpersonal cognitive distortions which hinder social relationships. Additionally, coping interventions can be designed to effectively address undesirable situations that manifest cognitive distortions related to social relationships.

Limitations and Recommendations

Future research is recommended to investigate the role of adverse childhood experiences and perceived social support, as social isolation and parent-child relationship significantly influence attachment styles, as shown in the existing literature (Burns et al., 2022). Hence, future researchers are recommended to gain a better understanding and to derive better therapeutic interventions. Moreover, a larger sample size, different age groups, socioeconomic statuses, and cross-sectional research design is recommended to increase the generalization of the findings, as the current study was only limited to the students of Karachi, Pakistan.

Conflict of Interest

Data Availability

Funding Details

References

Arriaga, X. B., Kumashiro, M., Simpson, J. A., & Overall, N. C. (2018). Revising working models across time: Relationship situations that enhance attachment security. *Personality and Social Psychology* Review, *22*(1), 71–96. https://doi.org/10.1177/1088868317705257

Awan, A. G., & Zia, A. (2015). Comparative analysis of public and private educational institutions: A case study of District Vehari-Pakistan. *Journal of Education and Practice*, *6*(16), 122–130.

Aydın, A., & Akgün, B. M. (2022). Interpersonal cognitive distortions and family role performances in spouses during COVID-19 pandemic process in Turkey. *Perspectives in Psychiatric Care*, *58*(1), 189–196. https://doi.org/10.1111/ppc.12795

Bernardon, S., Babb, K. A., Hakim-Larson, J., & Gragg, M. (2011). Loneliness, attachment, and the perception and use of social support in university students. *Canadian Journal of Behavioural Science*, *43*(1), 40–51. https://doi.org/10.1037/a0021199

Borawski, D., Sojda, M., Rychlewska, K., & Wajs, T. (2022). Attached but lonely: Emotional intelligence as a mediator and moderator between attachment styles and loneliness. *International Journal of Environmental Research and Public Health*, *19*(22), Article e14831. https://doi.org/10.3390/ijerph192214831

Burns, A., Leavey, G., & O'Sullivan, R. (2022). Associations between parental bonding, social isolation and loneliness: Do associations persist in later life and is isolation a mediator between parental bonding and loneliness? *BMC Psychology*, *10*, Article e152.

https://doi.org/10.1186/s40359-022-00855-z

Çayir, G. A., & Kalkan, M. (2018). The effect of interpersonal dependency tendency on interpersonal cognitive distortions on youths. *Journal of Human Behavior in the Social Environment*, *28*(6), 771–786. https://doi.org/10.1080/10911359.2018.1458681

Christiansen, J., Qualter, P., Friis, K., Pedersen, S., Lund, R., Andersen, C., Bekker-Jeppesen, M., & Lasgaard, M. (2021). Associations of loneliness and social isolation with physical and mental health among adolescents and young adults. *Perspectives in Public Health*, *141*(4), 226–236. https://doi.org/10.1177/17579139211016077

Collins, N. L., & Read, S. J. (1990). Adult attachment, working models, and relationship quality in dating couples. *Journal of Personality and Social Psychology*, *58*(4), 644–663. https://doi.org/10.1037/0022-3514.58.4.644

Cook, S. I., Meyer, D., & Knowles, S. R. (2019). Relationships between psychoevolutionary fear of evaluation, cognitive distortions, and social anxiety symptoms: A preliminary structural equation model. *Australian Journal of Psychology*, *71*(2), 92–99. https://doi.org/10.1111/ajpy.12215

D'Rozario, A. B., & Pilkington, P. D. (2022). Parental separation or divorce and adulthood attachment: The mediating role of the Abandonment schema. *Clinical Psychology & Psychotherapy*, *29*(2), 664–675. https://doi.org/10.1002/cpp.2659

Hamamci, Z., & Büyüköztürk, Ş. (2004). The interpersonal cognitive distortions scale: Development and psychometric characteristics. *Psychological Reports*, *95*(1), 291–303. https://doi.org/10.2466/pr0.95.1.291-303

Hazan, C., & Shaver, P. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology*, *52*(3), 511–524. https://doi.org/10.1037/0022-3514.52.3.511

Helm, P. J., Jimenez, T., Bultmann, M., Lifshin, U., Greenberg, J., & Arndt, J. (2020). Existential isolation, loneliness, and attachment in young adults. *Personality and Individual Differences*, *159*(109890), Article e109890. https://doi.org/10.1016/j.paid.2020.109890

Horgan, A., Sweeney, J., Behan, L., & McCarthy, G. (2016). Depressive symptoms, college adjustment and peer support among undergraduate nursing and midwifery students. *Journal of Advanced Nursing*, *72*(12), 3081–3092. https://doi.org/10.1111/jan.13074

Karim, S., Saeed, K., Rana, M. H., Mubbashar, M. H., & Jenkins, R. (2004). Pakistan mental health country profile. *International Review of Psychiatry*, *16*(1–2), 83–92. https://doi.org/10.1080/09540260310001635131

Leary, M. R. (2015). Emotional responses to interpersonal rejection. *Dialogues in clinical neuroscience*, *17*(4), 435–441. https://doi.org/10.31887/DCNS.2015.17.4/mleary

Lin, Y., & Fan, Z. (2023). The relationship between rejection sensitivity and social anxiety among Chinese college students: The mediating roles of loneliness and self-esteem. *Current Psychology*, *42*(15), 12439–12448. https://doi.org/10.1007/s12144-021-02443-7

Mathew, A. G., & Simon, S. (2024). Peer pressure, academic stress and self-regulation among college students. *International Journal for Multidisciplinary Research*, *6*(2), 1–9. https://doi.org/10.36948/ijfmr.2024.v06i02.16930

Matturro, L. (2019). *Stress, cognitive distortions, engagement in self-care, and burnout in psychology graduate students* [Doctoral dissertation, Philadelphia College of Osteopathic Medicine]. DigitalCommons@PCOM. https://digitalcommons.pcom.edu/psychology_dissertations/506/

Maurya, A. K., Sharma, P., & Asthana, H. S. (2016, March 1–2). *Role of gender in cognitive distortions and depression among adolescents* [Paper presentation]. International Conference on Psychosocial Perspectives on Health and Well-being. New Delhi, India.

Mberia, A., & Midigo, R. (2018). Understanding career choice dilemma in Kenya: Issues of informed choices and course availability. *Journal of Education and Practice*, *9*(9), 35–42.

Ramón-Arbués, E., Gea-Caballero, V., Granada-López, J. M., Juárez-Vela, R., Pellicer-García, B., & Antón-Solanas, I. (2020). The prevalence of depression, anxiety and stress and their associated factors in college students. *International Journal of Environmental Research and Public*

Health/International Journal of Environmental Research and Public Health, *17*(19), Article e7001. https://doi.org/10.3390/ijerph17197001

Reis, M., & De Matos, M. G. (2019). Worries, mental and emotional health difficulties of Portuguese university students. *Advances in Social Sciences Research Journal*, *6*(7), 558–569. https://doi.org/10.14738/assrj.67.6818

Rogers, A. A., Nielson, M. G., & Santos, C. E. (2021). Manning up while growing up: A developmental-contextual perspective on masculine gender-role socialization in adolescence. *Psychology of Men & Masculinities*, *22*(2), Article e354. https://doi.org/10.1037/men0000296

Russell, D. W. (1996). UCLA loneliness scale (Version 3): Reliability, validity, and factor structure. *Journal of Personality Assessment*, *66*(1), 20–40. https://doi.org/10.1207/s15327752jpa6601_2

Seiffge-Krenke, I. (2020). Parenting adolescents in an increasingly diverse world: links to adolescents' psychopathology. *Psychology*, *11*(6), 874–887. https://doi.org/10.4236/psych.2020.116057

Şimşek, O. M., Koçak, O., & Younis, M. Z. (2021). The impact of interpersonal cognitive distortions on satisfaction with life and the mediating role of loneliness. *Sustainability*, *13*(16), Article e9293. https://doi.org/10.3390/su13169293

Spithoven, A. W., Bijttebier, P., & Goossens, L. (2017). It is all in their mind: A review on information processing bias in lonely individuals. *Clinical Psychology Review*, *58*, 97–114. https://doi.org/10.1016/j.cpr.2017.10.003

Taheri, A., Javidi, H., Bagholi, H., & Firoozabadi, A. (2022). The mediating role of cognitive emotion regulation and cognitive distortion strategies in relation to attachment styles and dissociative experiences. *Journal of Basic Research in Medical Sciences*, *9*(1), 31–39.

Waters, L., Algoe, S. B., Dutton, J., Emmons, R., Fredrickson, B. L., Heaphy, E., Moskowitz, J. T., Neff, K., Niemiec, R., Pury, C., & Steger, M. (2021). Positive psychology in a pandemic: buffering, bolstering, and building mental health. *The Journal of Positive Psychology*, *17*(3), 303–323. https://doi.org/10.1080/17439760.2021.1871945

Wei, M., Russell, D. W., & Zakalik, R. A. (2005). Adult Attachment, Social Self-Efficacy, Self-Disclosure, Loneliness, and Subsequent Depression for Freshman College Students: A Longitudinal Study. *Journal of Counseling Psychology*, *52*(4), 602–614. https://doi.org/10.1037/0022-0167.52.4.602

Zaiden, F., & Mahfar, M. (2022). Needs analysis of depression and cognitive distortion module among out-of-wedlock pregnant adolescents. *Sains Humanika*, *14*(2), 79–86. https://doi.org/10.11113/sh.v14n2.1847

Zhang, W., Qiu, L., Tang, F., & Sun, H. J. (2023). Gender differences in cognitive and affective interpersonal emotion regulation in couples: An fNIRS hyperscanning. *Social Cognitive and Affective Neuroscience*, *18*(1), ensad057. https://doi.org/10.1093/scan/nsad057