Relationship between Attachment Styles and Cognitive Biases in Young Adults

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Abstract

The study examined the relationship between attachment styles and cognitive biases in young adults and how the attachment styles tend to affect the overall cognitive biases and leads towards cognitive biases. To observe the relationship between the variables, a quantitative study was conducted with young adults, aged 18-25, and a sample of 250 participants was taken. The sample was collected through purposive sampling from the universities of Lahore from public and private sectors. The MANOVA and Pearson correlation were performed as main analyses of the data. Overall, the results of the statical analysis shows that individuals with secure attachment style had no significant correlation with cognitive biases, however a significant correlation between the variables in of insecure attachment styles is observed, positive correlation of anxious attachment style with cognitive biases is observed with negative correlation of dependant attachment style is observed. These findings highlight that insecure attachment styles, particularly anxious and dependent patterns, play a crucial role in shaping cognitive biases among young adults, whereas secure attachment appears to serve as a protective factor.

Keywords: Attachment Styles, Cognitive Biases, Relationship, Young Adults

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Introduction

Attachment, defined as bond an individual forms during their infancy with primary caregivers (Cherry, 2022) which significantly and in long-term shape the extent and nature of their relationships with one another, is observed to help individual form different bonds with others. These bonds can be either with their parents, friends, colleagues, or romantic partner, and was proposed by John Bowlby in 1969. Cognitive biases, one of the factors affected by attachment styles, is defined as where an individual processes the information on basis of their beliefs and the way information is perceived (Gillis et al., 2023).

The development of life in cognitive, emotional, and social spheres is affected by the attachment formed with primary caregivers. According to the research, the way an individual processes their cognitive belief is affected by attachment styles (Cherry, 2022; Gillis et al., 2023).

Attachment theory is monotropic according to Bowlby, which states that attachment with their primary caregiver for survival is formed by infants for the survival. However, the possibility of infants forming multiple bonds, forming attachment hierarchy was not considered by Bowlby, his main focus was on formation of one monotonic bond with the primary caregiver which is the basis of attachment styles (McLeod, 2025). Attachment styles influence grief processing, securely attached individuals navigate grief more efficiently than those with insecure attachments (Ackerman, 2023). Ainsworth emphasizes the importance of maternal

support in the first five years, with its absence potentially leading to depression. Ainsworth's "Strange Situation" experiment identified attachment styles: anxious, dismissive-avoidant, secure, and fearful-avoidant (McLeod, 2023).

The idea of biases in cognition was introduced by Kahneman and Tversky in 1972, defined as systematic errors in information processing (Cherry, 2022; Gillis et al., 2023), which links to decision-making through Prospect Theory. There are over 175 cognitive biases found, with commonly studied ones including confirmation bias, anchoring bias, and belief inflexibility bias (Desjardins, 2021; Murphy, 2023). This study focuses on belief inflexibility bias, jumping to conclusions, external attribution bias, and attention for threat bias. Cognitive biases impact fields like medicine, law, and business, with overconfidence bias being prevalent (Berthet, 2022). The study examines the relationship between attachment styles and cognitive biases, highlighting their influence on behavior and decision making

Literature Review

Attachment theory, introduced by Bowlby, explains the importance of early caregiver relationships in forming an individual's emotional and cognitive development. An important relation of attachment style is with maternal deprivation, which refers to the absence of a mother. Bowlby's did 44 Thieves Study where effects of maternal deprivation on juvenile delinquents and found that most displayed psychopathic traits, lacked empathy, and exhibited aggression (Follan & Minnis, 2016). Experiments on monkeys by Harlow's (1958) further explained the impact of maternal deprivation by demonstrating how monkeys deprived of maternal care exhibited abnormal social and cognitive behaviours (Hub, 2022). Another idea about attachment theory is internal working model, forming in early

childhood and shapes one's worldview and interpersonal relationships. Positive self-perceptions and healthy social interactions are found in individuals with secure attachment style, whereas those with insecure attachment styles may struggle with emotional regulation and social functioning (Ingham, 2023).

Castro et al. (2016) found that avoidant attachment played a moderator in relationship between listening and psychological well-being, linking higher avoidant attachment to lower psychological safety in social interactions. Sheinbaum et al. (2015) also studied attachment styles and daily cognitive appraisal, stating that securely attached individuals had higher self-esteem and social satisfaction, whereas anxiously attached individuals reported higher levels of distress and negative self-perception.

Important roles are played by cognitive biases in various aspects of life, like influencing decision-making, judgment, and belief formation. Research indicates that confirmation bias affects the individuals perceive fake news, with prior beliefs impacting their ability to differentiate real from false information (Moravec et al., 2016). Additionally, biases such as anchoring and overconfidence influence decision-making, particularly in high-pressure situations, where individuals rely on preexisting information rather than objective analysis (Montibeller & Von Winterfeldt, 2015).

Moreover, biases have been linked to real-world disasters, such as the Challenger space shuttle incident, where overconfidence and anchoring led to catastrophic decision-making (Murata et al., 2015). While debiasing techniques exist, they are often challenging to implement effectively (Mfa, 2020; Rezaei, 2020). Overall, cognitive biases significantly shape human judgment, highlighting the need for awareness and strategies to mitigate their effects.

Hypotheses

H1: There is a significant correlation between secure attachment styles and cognitive biases (jumping to conclusion bias, belief inflexibility bias, external attribution bias, attention for threat bias).

H2: There is a significant correlation between avoidant attachment styles and cognitive biases (jumping to conclusion bias, belief inflexibility bias, external attribution bias, attention for threat bias).

H3: There is a significant correlation between dependant attachment styles and cognitive biases (jumping to conclusion bias, belief inflexibility bias, external attribution bias, attention for threat bias).

Method

Research Design

A correlational, cross-sectional study was carried out to observe the relationship between cognitive biases and attachment styles in young adults.

Participants

Young adults with age range of 18-25 (Higley, 2019) from the different public and private universities of Lahore were included as the participants of this study. Other demographic factors that were recorded are age, gender, and year of study (first, second, third, fourth).

Sampling

The sampling technique and procedure that was used is purposive sampling, where individuals from universities of Lahore on undergraduate level were asked to fill paper-based questioner on campus.

Sample Size

To calculate sample size, an estimate percentage of 50%, and confidence level of 95% was considered using G power analysis. The sample obtained based on this data is 250 individuals.

Materials

The variables under study were attachment styles and cognitive biases. The researcher assessed these variables by using the Adult Attachment Scale (AAS) (Hazen & Shaver, 1987) and Davos Assessment of Cognitive Bias (DACOBS) (Van der Gaag et al., 2013) being used as scales.

Adult Attachment Scale

Adult Attachment Style (AAS) scale was used as the tool to measure attachment styles. It was developed based on the work of Hazen and Shaver (1987), while a revised version was introduced in 1996. The AAS scale was form based on three attachment styles as introduced by Hazen and Shaver (1987), consisting of 18 items. The scale measured the following variables: secure, anxious, and avoidant attachment. It is based on 5-point Linkert scale. The revised AAS version which was used contains some revision like replacing words romantic with close relationships. (Simpson et al., 1990). The construct validity of scale is 51.38% and .78 to .85 is Cronbach's alpha (Troisi et al., 2022).

Davos Assessment of Cognitive Biases

Davos Assessment of Cognitive Biases Scale (DACOBS) was used as the second tool. It measured cognitive biases. It was developed in 2012. It is a 7-point Linkert scale is used to measure the variables of this test. The scale is used to measure variables like jumping to conclusion bias, and belief inflexibility bias on basis of forty-two items. The internal consistency of this scale is from .64 to .90 (Van der Gaag et al., 2013).

Procedure

Printed questioners were used to collect data from participants including informed consent form, demographic sheet, Adult Attachment Scale (1987), and Davos Assessment of Cognitive Biases Scale (2013).

Statistical Analysis

SPSS version 25 was used to measure proposed statical analysis of two tailed Pearson Correlation and MANOVA.

Ethical Considerations

The study was conducted based on the ethical considerations, sated below:

Scales Informed Consent
For Adult Attachment Scale (1987), the authors of the scale had given students, researchers, and clinicians permission to use the scale for educational, research and clinical purposes. For Davos Assessment of Cognitive Biases scale (2013), permission has been provided by the authors.

Informed Consent
Participants were given consent form, asking about their consent to participant in study and that they have right to pull out from the research at any moment.

Anonymity and Confidentiality
To maintain the participants confidentiality, participants were asked to use the initials of name and were informed that their anonymity was maintained throughout the research, and it will be maintained after its completion too. For the privacy, the information obtain was only in use of the researcher individuals, stored in encrypted files and the privacy of individuals was be maintained.

Results
Table 1
Frequency of Demographic Variables (N=250)

Demographic Characteristic	f	%	Demographic Characteristic	f	%
Gender			**Age in Years**		
Man	121	48.4	18	14	5.6
Woman	129	51.6	19	42	16.8
Year of Study	f	%	20	47	18.8
First year	63	25.2	21	50	20.0
Second year	43	17.2	22	52	20.8
Third year	58	23.2	23	31	12.4
Fourth year	86	34.4	24	10	4.0

A total of 250 young adult participants were taken from the public and private universities of Lahore and no data was discarded. From the total of 250 participants, 121 (48.4%) were male and 129 (51.6%) were female while there were no participants in category of others. Descriptive analysis was performed to observe the frequency of participants along educational years i.e. first year, second year, third year and fourth year. The individuals studying in fourth year had highest frequency of 86 individuals with 34.4%. In descriptives of age of individuals, the frequencies noted are 20.8% for 22 years old being highest in number and 18 years old, 5.6% being the least in percentage.

Table 2

MANOVA between Attachment Styles and Cognitive Biases (N=250)

Effect	Cognitive Biases	M	SD	F	df	p	η2
Close attachment style	Jumping to conclusion bias	9	7.07	1.89	21	.19	.85
	Belief inflexibility bias	-	-	1.03	21	.52	.75
	Attention for threat bias	-	-	3.27	21	.05	.90
	External attribution bias	-	-	0.50	21	.89	.60
Dependant attachment style	Jumping to conclusion bias	10	4.83	1.29	15	.38	.73
	Belief inflexibility bias	-	-	1.22	15	.41	.72
	Attention for threat bias	-	-	1.93	15	.19	.80
	External attribution bias	-	-	0.70	15	.73	.60
Anxiety attachment style	Jumping to conclusion bias	26	4.94	1.85	22	.20	.85
	Belief inflexibility bias	-	-	2.02	22	.17	.86
	Attention for threat bias	-	-	4.04	22	.03	.92
	External attribution bias	-	-	1.05	22	.51	.76

The Table 2 presents the results of a statistical analysis examining the relationship between attachment styles (Close, Dependant, and Anxiety) and four cognitive biases (Jumping to Conclusion, Belief Inflexibility, Attention for Threat, and External Attribution). For instance, the Close Attachment Style shows a mean of 9 for the Jumping to Conclusion bias with a standard deviation of 7.07, resulting in an *F*-statistic of 1.89 and a *p*-value of .19, indicating no significant effect. In contrast, the Anxiety Attachment Style has a mean of 26 for the Jumping to Conclusion bias, with a standard deviation of 4.94, yielding an *F*-statistic of 4.94 and a *p*-value of .20, suggesting a potential effect.

Table 3

Corelation between Attachment Styles and Cognitive Biases (N=250)

Variable	M	SD	1	2	3	4	5	6	7
Close Attachment Style	18.37	4.14	-						
Dependant Attachment Style	13.01	3.92	.20	-					
Anxiety Attachment Style	18.26	5.74	-.11	-.26**	-				
Jumping to Conclusion Bias	25.34	6.13	.007	-.18**	.004	-			
Belief Inflexibly Bias	20.60	6.03	-.087	-.07	.22**	.24**	-		
Attention for Threat Bias	26.06	7.33	-.089	-.24**	.36**	.19**	.09	-	
External Attribution Bias	22.22	6.78	-.107	-.120	.32**	.20**	.43**	.32**	-

**p<.01

Pearson correlation was performed to observe the correlation between attachment styles and cognitive biases. The data was calculated on basis of a total of 250 participants and the results indicates that there is significant correlation between close attachment style and dependant attachment style. While there was no correlation between close and anxious attachment style observed.

For cognitive biases there was negative correlation between close attachment style and cognitive biases, while in case of dependant attachment negative correlation with cognitive biases was observed. Lastly positive correlation wad observed of anxiety attachment style with cognitive biases. Results are indicated in Table 3.

Table 4

Correlation of Age with Attachment Styles and Cognitive Biases (N=250)

Variable	M	SD	1	2	3	4	5	6	7	8
Age	20.95	1.64	-							
Close attachment style	13.01	3.92	.11	-						
Dependant Attachment Style	18.37	4.14	.04	.20**	-					
Anxiety Attachment Style	18.26	5.74	-.05	-.115	-.26**	-				
Jumping to Conclusion	25.34	6.13	-.06	.007	-.18**	.004	-			
Belief Inflexibility Bias	20.60	6.03	-.16**	-.08	-.07	.22**	.24**	-		.
Attention for Threat Bias	26.06	7.33	-.09	-.08	-.24**	.36**	.19**	.09	-	
External Attribution Bias	22.22	6.78	-.07	-.10	-.12	.32**	.20**	.43**	.32**	-

**p<.01*

To determine the correlation between age and attachment styles and cognitive biases, Pearson correlation was performed. The results indicate that there is a significant positive correlation between close attachment style and age. While no significant correlation is found with other attachment styles and cognitive biases. This could be interpreted as individual tends to grow older one starts to develop a sense of security, losing sense of insecurity which was developed in earlier years thus one form close relationship and attachment styles with others (Table 4).

Discussion

This study explores the relationship between attachment styles and cognitive biases, with attachment styles being the independent variable and cognitive biases being dependent variable. The study employed Pearson correlation and MANOVA statistical analyses to examine these relationships.

According to the correlation investigation there was no significant association between close attachment type and anxious attachment style, however there

was a positive correlation between the two. Furthermore, there was no distinct link between cognitive biases and intimate attachment style. Jumping to conclusions bias and attention for threat bias were negatively correlated with dependent attachment style, whereas external attribution bias was not significantly correlated. Additionally, there was a substantial correlation between it and an anxious attachment style. On the other hand, cognitive biases, specifically the attention for threat, believing inflexibility, and leaping to conclusions biases, were positively correlated with an anxious attachment style.

MANOVA results indicated that close attachment style had a significant effect on attention for threat bias but no significant impact on other cognitive biases. Dependent attachment style was significantly associated with attention for threat bias, whereas anxious attachment style showed significance with attention for threat and external attribution bias.

The findings suggest that individuals with close attachment styles, who had their emotional needs met in childhood, are less likely to experience cognitive biases. They demonstrate rational thinking and reasoning, which reduces inclination to cognitive biases. The significant effect of close attachment style on attention for threat bias implies that securely attached individuals generally feel safe and do not perceive others as threats.

Previous research supports these findings, as Darban et al. (2020) noted that securely attached individuals have a positive outlook on life, cognitive flexibility, and higher quality of life. Though this study does not directly link attachment styles to cognitive biases, it highlights how secure attachment fosters rational thought processes, preventing individuals from relying on irrational beliefs. Dependent attachment style, where individuals rely on others for their needs, influences cognitive processes. The

significant correlation with attention for threat bias suggests that dependency may heighten threat perception. Like one of the research projects highlights that individuals with insecure attachment styles are more prone to receive and dealing with threat in a negative way and less problem-solving way as compared to dependant attachment styles (Li et al., 2021)

Anxious attachment style demonstrated the strongest correlation with cognitive biases. Individuals with this attachment style tend to be people-pleasers, making them more vulnerable to cognitive biases like jumping to conclusions and attention for threat. They may perceive threats more readily and externalize blame, increasing their anxiety when dealing with situations. These findings align with Naderi et al. (2016), who linked anxious attachment style to decreased life satisfaction due to constant struggles with biases and external attributions.

Additional analyses examined the impact of age, gender, and academic year on attachment styles and cognitive biases. ANOVA results indicated that belief inflexibility bias increased with academic progression, peaking in the fourth year. This trend suggests that as individuals gain expertise in their fields, they become less flexible in their beliefs. Correlation analysis showed that close attachment style positively correlated with age, implying that individuals develop stronger relationships and greater emotional security as they grow older. Jones et al. (2017) found similar results, noting that adults tend to exhibit more secure attachment styles compared to younger individuals. Gender differences were analysed using a t-test, which revealed no significant impact of gender on attachment styles or cognitive biases, indicating that these factors are shaped more by individual experiences than by gender.

Implications

The study shows both theoretical and practical implications by explaining the relationship between attachment styles and cognitive biases. In terms of theory, the findings extend to psychological framework like Beck's cognitive theory, where the distortions are observed to lead towards emotional disturbances. The persistent negative thoughts are observed to be related to cognitive biases, like jumping to conclusion which are observed to be correlated with the insecure attachment styles. These theoretical frameworks could be used to observe and study factors, attachment styles and cognitive biases, in more theoretical pattern (Weeland et al., 2017).

In terms of practicality, the findings of this study could be used for clinical practice. In terms of psychology, the psychologist can utilize this knowledge to create targeted interventions aimed at individuals with anxious attachment styles or modify the existing ones according to the needs of individuals, helping them recognize and modify their cognitive distortions. For instance, cognitive-behavioral strategies can be employed to address the tendency to make hasty decisions based on incomplete information or emotional responses (Mikulincer, 2007). By fostering awareness of these patterns, therapists can help clients in developing healthier decision-making processes, ultimately improving their emotional well-being and interpersonal relationships.

In educational and workplace settings, the findings suggest the introduction of programs that promote belief flexibility, that there can be more than one correct way rather than having firm beliefs and critical thinking. Such programs can encourage individuals to challenge their cognitive biases and adopt a more open-minded approach to decision-making. While expertise is valuable, fostering continuous learning and adaptability is crucial in today's fast-paced environments. Educating individuals and helping them develop healthier copying mechanisms about cognitive biases can significantly reduce irrational thinking and enhance decision-making processes, leading to better outcomes in both personal and professional contexts (Li et al., 2021). By implementing these educational initiatives, organizations can cultivate a culture of reflective thinking and informed decision-making, ultimately benefiting their overall effectiveness.

Although the study helped in getting a better understanding of the correlation between the two variables however the data was taken form young adults with purposive sampling that too a cross-sectional study. Other methods like longitudinal study could be done to observe the variables in better way and other forms of sampling can be used.

Ethics Statement

All the ethical standards of APA were met. Informed consent was taken in written form from all the respondents to participate in this study.

Contribution of Authors

Fatima Usman: Conceptualization, Investigation, Methodology, Data Curation, Formal Analysis, Writing – Original Draft,
Easha Shahid: Methodology, Writing - Reviewing & Editing, Supervision

Conflict of Interest

There is no conflict of interest declared by the authors.

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Data Availability Statement

The datasets of the current study are not available publicly due to ethical reasons but are available from the corresponding author [F.U.] upon the reasonable request.

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