

Original Article

Designing and Testing a Structural Model of the Relationship between Attachment Styles and the Dark Triad of Personality: The Mediating Role of Childhood Trauma

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Abstract

Background and Aim: The main objective of the current study was to investigate the role of attachment styles in dark triad of personality with the mediating role of childhood trauma among college students.

Materials and Methods: In this descriptive-correlational (cross-sectional) study, 148 students (26 men and 122 women) who studied at the Faculty of Educational Sciences and Psychology of Shahid Beheshti University in the 2019-2020 educational year, were selected through convenience sampling method. Then, they answered Collins & Read's Attachment Styles Questionnaire, Standard Child Abuse Questionnaire in Iran and Dark Triad Questionnaire. The data obtained in this study, was analyzed through path analysis method using PLS and SPSS software.

Results: The analysis of data indicated that anxious attachment style can predict Machiavellianism by the mediation of childhood trauma ($P < 0.05$). Moreover, anxious attachment style was directly related to narcissism ($P < 0.05$). Furthermore, findings demonstrated other direct paths including anxious attachment style to childhood trauma, childhood trauma to Machiavellianism and anxious attachment style to Machiavellianism ($P < 0.05$).

Conclusion: As a result, individuals with insecure/anxious attachment style and high childhood trauma are more likely to be diagnosed with the dark triad of personality. Therefore, interventions based on repairing attachment styles and childhood trauma should be considered for psychotherapy and modifying dark triad of personality.

Keywords: Attachment styles, Childhood trauma, Dark triad of personality

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Introduction

Personality traits, sustainable patterns of understanding, communicating, and thinking about the environment and oneself, are manifested in a wide range of social and personal situations (1). There are various studies on the relationship between personality traits, interpersonal well-being experience (2, 3) as well as physical health (4). If personality traits are inflexible and incompatible may lead to mental distress, significant impairments in functioning, and personality disorders (1). In the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), personality disorders can be categorized in three clusters; Cluster B contains four antisocial, borderline, histrionic, and narcissistic personality disorders that are of particular importance and have been the focus of many psychiatrists and psychologists due to their high prevalence (6%) (5). In recent years, the theory of dark triad personality traits, including Machiavellianism, narcissism, and psychopathy has been proposed to describe and examine the personality disorders of cluster B more closely (6). These socially disgusting characters have distinctive traits whose main characteristic is their lack of empathy, exploitation,

and other manipulation (7).

Individuals with Machiavellian characteristics are mainly characterized by interpersonal exploitation and emotional detachment (8). Christie and Geis (9) first pointed to the role of Machiavellian traits in social communication. They believe that Machiavellians are characterized by four prominent traits, including a lack of excitement in interpersonal relationships, a lack of concern for morality, a lack of clear psychological trauma, and low commitment (10). Narcissism is a style of personality that is associated with traits such as an exaggerated sense of self-importance, extreme fantasies about power, beauty or success, fluctuations in grandiosity and vulnerability, and a sense of uniqueness (11). Behind all these feelings of superiority, there is a fragile sense of self-esteem that also makes narcissists more vulnerable to minor criticism (12). The narcissism that can be assessed both as a disorder at the clinical level and as a personality trait at the non-clinical level, is often associated with positive outcomes, such as reduced depression, better self-esteem and extraversion, and negative outcomes such as lack of empathy, having a preoccupation to get attention, and extreme confidence in oneself (13-15). Psychopathy is one of the most prominent personality disorders characterized via a pervasive pattern of violating the

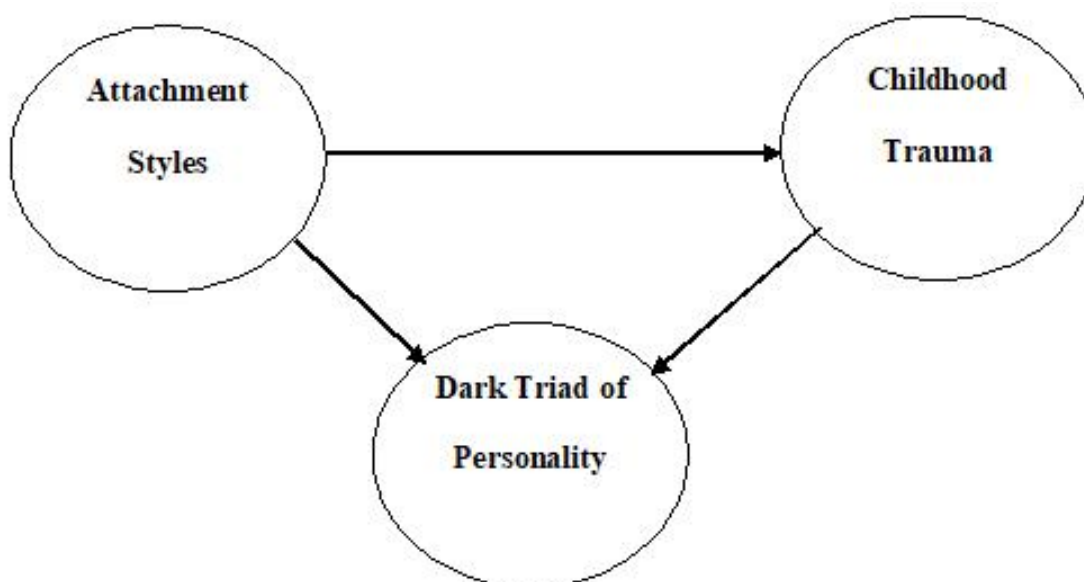


Figure 1. Conceptual model of relationships among attachment styles, childhood trauma, and dark triad of personality.

rights of others, deception for self-interest or pleasure, impulsivity, lack of remorse, persistent irresponsibility, repeated aggression, and disregard for self or others' security (1, 16) which causes reduced social well-being (17).

Despite the different origins of these three characters, they share several characteristics, and the results of previous studies have shown a solid overlap and correlation among them (18, 19). All three personality types exhibit some degree of malicious social temperament along with behavioral tendencies for self-promotion, emotional coldness, and aggression that in interpersonal relationships lead to different negative consequences such as decreased intimacy, especially in marital relationships (18, 20). The results of some research based on the five-factor model of personality suggest that the dark triad of personality traits have a significant relationship with low agreement (20, 21). According to the study of Mohammadzadeh and Ashouri (22), the commonality of personality in the three-factor model or the dark triad of personality is psychoticism.

Many variables can affect or correlate with the dark triad of personality; One of these factors is attachment styles (23). In 1969, Bowlby regarded attachment as an emotional bond between the child and the attachment figure (usually the primary caregiver) which forms in childhood. In his view, attachment expands from the primary caregiver to relatives and subsequently to a wider range of people throughout the life span (24). The attachment pattern has three different secure, insecure-avoidant, and anxious-ambivalent styles (25). Individuals as a result of interacting with their mothers or childhood caregivers achieve expectations of social relationships and visualizations of themselves in the relationship with important people in their lives that are crucial at all stages of life; additionally, the mother-child pattern of the relationship influenced on the child's social adjustment (26). Contemporary models of adult attachment typically regard individual differences in the attachment as being scattered in the continuum of two dimensions of anxiety and avoidant attachments (27). Anxiety and avoidance reflect various ways of experiencing and coping with insecurity (28).

Besser and Priel (29) have stated that narcissistic individuals are highly susceptible to interpersonal

rejection and according to the research findings of Johnson, Lee, and Boss (30), narcissists deliberately engage in behaviors that prevent decay and dissolution of a relationship; thus, it can be said that the relationship between attachment and narcissistic trait remains unclear. Machiavellian individuals prefer to be emotionally detached from others, and high scores in this trait are correlated with avoidant attachment (31). Besides, psychopathy has a meaningful correlation with insecure-avoidant attachment (23).

Another variable associated with the dark triad of personality is childhood trauma (32). The antisocial and impulsive behaviors that characterize these three maladaptive personality traits have been argued to result from the influence of environmental risk factors such as the experience of abuse and neglect during childhood (33). Poythress et al. (34) also showed that childhood trauma was associated with psychopathic and antisocial personality traits, but that this relationship was specific to the impulsive lifestyle features of these personality traits. Other researches have also reported a positive and significant relationship between maladaptive traits with childhood trauma and negative life events (35, 36).

Importantly, many studies have examined the relationship between childhood trauma and attachment styles, which is itself one of the main correlates of the dark personality triad (37, 38). It is shown that avoidant and secure attachment styles have negative correlations with physical and emotional traumas in childhood, but anxious attachment style has a positive relationship with childhood traumas (37). Additionally, the results of proposed model of Firouzabadi et al. indicated that perceived harassment as childhood trauma can mediate the relationship between parenting components and children's avoidant attachment indicators; it also can directly predict avoidant attachment (38).

The present study investigates the relationship among three variables of attachment styles as the predictor variable, childhood trauma as the mediator variable, and dark personality triad as the criterion variable. The significance of this study is that although these variables have been examined separately in previous related studies (23, 31, 34-38), the relationship among these three variables has not been studied in a conceptual model, yet. It is not clear whether mediating one of the first two variables has a significant effect on

the third variable, the dark personality triad, or not. In fact, if the dark triad of personality is directly predicted by attachment styles, repairing these styles should be considered as an important variable to modify dark personality traits. Also, if the relationship between these two variables is indirect and mediated by childhood trauma, the dark sides of personality can be changed by modifying or repairing attachment styles and childhood traumas simultaneously. Therefore, the purpose of the present study is to investigate the predictive role of attachment styles (directly and indirectly) and childhood traumas (directly) on dark triad of personality traits.

Methods

The current research is a descriptive-correlational (cross-sectional) study. The statistical population includes all students who studied at the Faculty of Educational Sciences and Psychology of Shahid Beheshti University in the 2019-2020 educational year. 148 individuals (26 men and 122 women) were selected through convenience sampling method. One of the best methods for determining the volume of statistical sample in studies that apply structural modeling is referring to a common amount. If the number of sample group is 100 to 200, it would be categorized as average or normal sample. Generally, average, or normal samples are used for uncomplicated models. It is also offered that the number of sample's members would be at least two or three times more than the number of latent variables of the model (39). The subjects were selected based on their age (18-35) and university (only Shahid Beheshti University). All subjects in the sample group responded individually to the three questionnaires required for the study and the information was collected for three months. In addition to the instructions provided in the questionnaire guidelines, participants were instructed not to mention their names. Subjects' consent was obtained orally.

Materials

Collins & Read's Attachment Styles Questionnaire

The scale consists of 18 items scored on a 5-point Likert-type scale. It measures adult attachment styles

named Secure, Anxious and Avoidant. Collins and Read (40) reported the Cronbach's alpha for the scale to be higher than 0.80. The validity of the Persian version of this questionnaire was tested on 105 girls and boys in Tehran by Pakdaman (41) and reported 0.97. In this research, Cronbach's alpha and reliability of the questionnaire were determined as 0.64.

Standard Child Abuse Questionnaire in Iran

The Child Abuse Questionnaire was designed by Hosseinkhani *et al.* (42). This scale has 26 items and three components with a three-point Likert scale (never to always) and each item has a value between 1 and 3. The subscales of this questionnaire include three sections: psychological and emotional abuse, physical abuse and neglect. Hosseinkhani *et al.* reported the Cronbach's alpha for the scale to be higher than 0.7 (42). Cronbach's alpha was 0.77 for this study.

Dark Triad Questionnaire

The scale was developed by Johnson and Webster in 2010 and contains 12 items, four for each of the three subscales: Machiavellism, Narcissism, Psychopathy. Responses are offered on a three-step Likert scale. In the research of Qamarani *et al.* (43), Cronbach's alpha coefficients for Machiavellian subscale, narcissism subscale, psychopathic subscale and whole scale were 0.92, 0.68, 0.40 and 0.81, respectively. The validity of the questionnaire was also reported to be favorable. In this research, Cronbach's alpha was 0.69.

All data were put into SPSS 16 and Smart PLS software. Next, descriptive statistics were used to calculate mean and standard deviation and path analysis was used to determine the relationships among the variables of the study.

Results

In the present research, which sought to determine the mediating role of childhood trauma in the relationship between secure, avoidant, and anxious attachment styles with Machiavellianism, narcissism, and psychopathy, 148 subjects were examined most of whom were of 23 to 29 years old. Regarding the education level, most of the subjects equaling 41.4% (70 individuals) were studying in the bachelor's level, 42.6% (72 individuals) were in the master's level, and 3.6% (6 individuals) were in the PhD level. In terms of gender, most subjects, that is, 72.2% (122 individuals)

Table 1: The mean, standard deviation and correlation matrix of the variables.

Variable	M	SD	1	2	3	4	5	6	7
1.Machiavellianism	1.10	0.23	1	-0.007	0.40**	0.24**	-0.02	0.06	0.34**
2. Psychopathy	1.38	0.29	-0.007	1	0.02	0.03	-0.02	0.08	0.10
3. Narcissism	1.90	0.53	0.40**	0.02	1	0.23**	-0.03	0.02	0.38**
4.Childhood Trauma	1.66	0.13	0.24**	0.03	0.23**	1	-0.03	0.08	0.31**
5.Secure Attachment	3.00	0.42	-0.02	-0.02	-0.03	-0.03	1	0.17	0.08
6.Avoidant Attachment	2.87	0.46	0.06	0.08	0.02	0.08	0.17	1	0.37**
7.Anxious Attachment	2.79	0.86	0.34**	0.10	0.38**	0.31**	0.08	0.37**	1

**P<0.01

were female and 14.8% (26 individuals) were male. The following table represents the mean, standard deviation, and also the correlations of the research variables.

Before the data analysis, the assumptions of normality and multicollinearity were investigated the results of which are presented in the following. Skewness and kurtosis for investigating the assumption of normality of the distribution of 7 variables were examined: secure attachment (Ku= 0.47, Sk= 0.23), avoidant attachment (Ku= -0.30, Sk= 0.004), anxious attachment (Ku= -0.79, Sk= 0.049), childhood trauma (Ku= 1.12, Sk= 0.51), Machiavellianism (Ku= 7.14,

Sk= 2.62), psychopathy (Ku= -0.15, Sk= 0.70), and narcissism (Ku= -0.52, Sk= 0.039). It is considered that a cut-off point equaling ± 3 would be suitable for skewness. For the kurtosis index, totally, values greater than ± 10 are problematic in the structural modeling (44). Values obtained for skewness and kurtosis of the variables suggest that the normality assumption is realized. For investigating the assumption of multicollinearity, VIF and tolerance index were used, and since none of the values related to the tolerance index are less than 0.01 and none of the values related to variance inflation factor (VIF) are greater than 10, therefore, we can become certain about the assumption

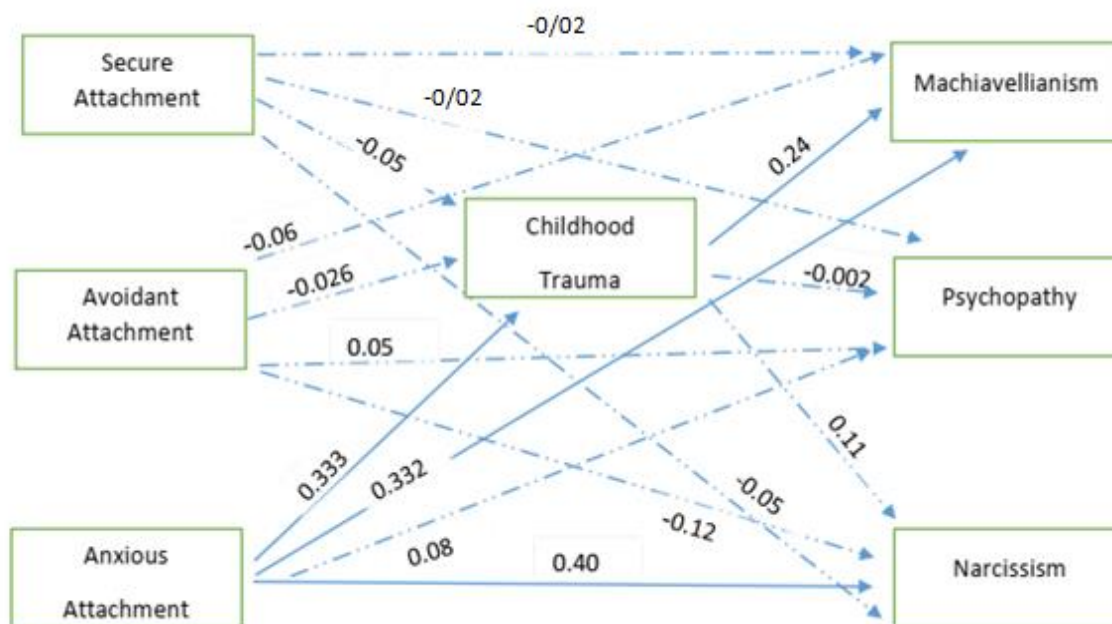
**Figure 1.** Coefficients of the standardized path of the research variables in the model.

Table 2:Investigation of direct relationships among variables in the research model.

Predictive Variable	Criterion Variable	Standardized Coefficients	T	P
Secure Attachment	Machiavellianism	-0.02	-0.53	0.59
Avoidant Attachment	Machiavellianism	-0.06	-0.80	0.42
Anxious Attachment	Machiavellianism	0.332	3.801	0.001
Secure Attachment	Psychopathy	-0.02	-0.54	0.58
Avoidant Attachment	Psychopathy	0.05	0.61	0.54
Anxious Attachment	Psychopathy	0.08	0.93	0.35
Secure Attachment	Narcissism	-0.05	-0.65	0.51
Avoidant Attachment	Narcissism	-0.12	-1.48	0.13
Anxious Attachment	Narcissism	0.40	4.70	0.001
Childhood Trauma	Machiavellianism	0.24	2.78	0.03
Childhood Trauma	Psychopathy	-0.002	-0.023	0.98
Childhood Trauma	Narcissism	0.11	1.39	0.16
Secure Attachment	Childhood Trauma	-0.05	-0.73	0.46
Avoidant Attachment	Childhood Trauma	-0.026	-0.029	0.76
Anxious Attachment	Childhood Trauma	0.333	3.88	0.001

of non-multicollinearity.

In the following, path analysis was used to examine the direct and indirect relationships, the results of which are presented in figure 1 and tables of direct and indirect effects.

In figure 2, significant paths are depicted as solid lines and non-significant paths are depicted as broken lines. In the following, Tables 2 shows the direct relationships of the research variables.

According to Table 2, when t-value is outside the range of (+1.96 and -1.96) or when the significance level is less than 0.05, two variables are significantly associated. As can be seen, the direct path of anxious attachment variable to the Machiavellianism variable is significant ($T=3.801$, $\beta=0.332$). The direct path of anxious attachment to childhood trauma is also significant ($T=3.88$, $\beta=0.333$). The direct path of childhood trauma to Machiavellianism is significant ($T=2.78$, $\beta=0.24$). Moreover, it is shown that the direct path of anxious attachment to narcissism is significant ($T=4.70$, $\beta=0.40$).

For determining the indirect path, the Sobel mediation test was applied, and merely the indirect effect of anxious attachment on Machiavellianism by mediating role of childhood traumas is significant ($P<0.05$, $\beta=0.079$).

Discussion

The current study investigated the relationship among three variables of attachment styles as the predictor variable, childhood trauma as the mediator variable, and dark personality triad as the criterion variable using path analysis.

Findings demonstrated that anxious attachment style can directly predict Machiavellianism which is consistent with previous related studies (23). Anxious attachment is related to some characteristics such as stronger reactions to perceived romantic rejection, overestimation of relationship threats, underestimation of the partner's commitment, and greater distress in response to partner criticism or conflict. In this regard, Machiavellianism is also associated with cynicism, distrust, and this belief that others are manipulative and may threaten them.

Moreover, this study showed that anxious attachment style predicts childhood trauma and childhood trauma directly predicts Machiavellianism that are similar to other studies (32, 37). Therefore, the indirect relationship between anxious attachment style and Machiavellianism by the mediation of childhood trauma was confirmed. Childhood trauma involves psychological, emotional, physical abuse and neglect. Childhood traumatic experiences are often observed in chaotic families failed to provide a secure and

predictable environment that can prevent traumas and on the other hand, these families could be abusive themselves. Such families in turn, play an important role in forming insecure attachment styles including anxious and avoidant. People experiencing more trauma and abuse in their childhood, are more likely to involve in abusive and manipulative relationships in their adulthood. They may experience domination of negative emotions and hostile behavior and believe that it is better to manipulate than be manipulated which are characteristics of Machiavellianism. Furthermore, anxious attachment style had a direct relationship with narcissism. As mentioned earlier, the relationship between attachment and narcissistic traits remains unclear (23). An increasing literature suggests that it is because of two subtypes of narcissism have been differentiated: grandiose (overt) versus vulnerable (covert) narcissism. Whereas grandiose narcissists tend to be dominant, self-assured, exhibitionistic, and aggressive which are consistent with avoidant attachment, vulnerable narcissists tend to be defensive, hypersensitive, and anxiously concerned with their adequacy that are associated with anxious attachment style while harboring an underlying sense of importance. Both types share the same focus of attention—they are more interested in their own need-fulfillment than in the concerns of others (45).

Conclusion

The most significant strength of the present study is that although these variables have been examined separately in previous studies, the relationship among these three variables has not been studied in a conceptual model, yet. However, there were some limitations in this study which should be considered in order to interpret the findings appropriately. Firstly, the study was a cross-sectional one, which reduces causal inferences. Secondly, convenience sampling method was used which led to encountering with the problem of generalizing results. In addition, the present study relied solely on self-report. It is recommended that further studies include additional measures such as collecting information from other sources such as parents, partners, and close friends to

clarify this issue. According to the results, because both insecure/anxious attachment style and childhood trauma have a significant predictive role in dark triad of personality, it would be beneficial to apply interventions based on repairing attachment styles and childhood trauma for modifying dark triad of personality in clinical process.

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Conflict of Interest

The authors declare that they have no conflict of interest.

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