

The relationship between type of attachment style and antisocial
behavior moderated by gender

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February 7th, 2022

Abstract

The present study aimed at investigating the relationship between attachment style during childhood and antisocial behavior in adulthood. Furthermore, it was investigated if gender had a moderating effect. The following research question was developed: Does gender moderate the relationship between attachment style during childhood and antisocial behavior in adulthood? For this a study was conducted, and in total 191 (168 women and 23 men) participants completed the questionnaire assessing attachment during childhood and antisocial behavior in adulthood. The main interest were: the sex difference between antisocial behavior, attachment style and antisocial behavior, and the interaction between attachment style and gender on antisocial behavior. Results indicated that gender did not predict antisocial behavior. Furthermore, results indicated that secure attachment did not have a significant effect on antisocial behavior, while insecure attachment did have a significant effect on antisocial behavior. Insecure attachment during childhood led to more antisocial behavior in adulthood. In addition, the interaction between insecure attachment style and gender was significant. Gender had a moderating effect on the relationship between insecure attachment and antisocial behavior. Contrary to expectation the interaction between secure attachment style and gender did not predict antisocial behavior. Gender did not moderate the relationship between secure attachment during childhood and antisocial behavior in adulthood.

Keywords: Gender Differences; Attachment Style; Antisocial Behavior; Parent-Child Attachment; Childhood (birth-12 years); Adulthood (18 years & older)

Introduction

Bowlby (1969/1982), suggested that a secure infant attachment is a protective factor against the development of antisocial behavior, since it may buffer against emotional problems. Attachment provides children with the 'secure base' that is necessary for children to explore, relate and learn. When children fail to bond with their primary caregiver, they develop an internal working model that sees others as undeserving of their empathy, trust or concern, this can cause behavioral problems when growing up (Bowlby, 1969/1982). Previous research also indicated that secure attachment during childhood created social behavior that stimulates emotional awareness, empathy and positive expressiveness, while minimizing negative expressiveness (Laible, 2007).

By providing research on childhood attachment styles and antisocial behavior, this study aimed at examining whether gender moderates the relationship between attachment style during childhood and antisocial behavior.

Attachment is where the child uses the primary caregiver as a secure base from which to explore and as a haven of safety and source of comfort. It is the relationship between a child and caregiver that is involved with making the child safe, secure and protected (Benoit, 2004). Secure attachment is when a child displays confidence when a caregiver is present, shows mild distress when this person leaves and quickly returns to having contact when the caregiver comes back. On the other hand, an insecure attachment is when a child fails to display confidence when a caregiver is present, he or she sometimes shows signs of distress when this person leaves and reacts with ambivalence or avoidance when the caregiver returns (APA dictionary of psychology,

2020). Avoidant, ambivalent and disorganized are all insecure attachment styles. Avoidant indicates feeling unloved and insignificant. Ambivalent indicates distrust, fear of abandonment and seeking approval from a caregiver. Disorganized attachment indicates difficulty controlling emotions and anger. The present study focused on the distinction between secure and insecure attachment. Ambivalent and avoidant attachment style have both been related to internalizing problems (De Santis, Galgares, & Sibley, 2019). Disorganized attachment style has been related to externalizing problems (Forslund, 2018).

Snow, Sullivan, Martin, and Helm (2005) created a scale in order to gain information regarding an adult's memory perception relating to the mother and father figures during childhood. This scale was called The Adult Scale of Parental Attachment (ASPA), and had 84 items. The five patterns of relating were grouped into secure and insecure attachment. With secure attachment containing safe, dependent and parentified on one end of the continuum, and insecure containing fearful and distant on the other end (Snow et al., 2005). Since it had 84 items it was a long and time consuming scale. Therefore, the Adult Scale of Parental Attachment-Short Form (ASPA-SF) was created (Michael and Snow, 2019). This is a 40-item scale about patterns of relating, divided into 20 items about the relationship with the mother figure and 20 items about the relationship with the father figure. These five patterns of relating are; safe (Mother Safe & Father Safe), dependent (Mother Dependent & Father Dependent), Parentified (Mother Parentified & Father Parentified), Fearful (Mother Fearful & Father Fearful) and Distant (Mother Distant & Father Distant). Safe is related to comfort and security, while dependent indicates a need for the parent to always be available. Parentified indicates feeling responsible to meet the parent's needs, fearful indicates a fear of abandonment and a belief that a parent would

not be available for support, and finally distant indicates disappointment in the parent's support and availability (Michael and Snow, 2019). For this study, no distinction was made between paternal and maternal attachment style. Furthermore, the attachment styles were also grouped into secure attachment and insecure attachment. Secure attachment contained safe, dependent and parentified attachment style, while insecure attachment contained fearful and distant attachment style. When comparing these attachment styles with the classical attachment style, it shows that fearful and distant are related to avoidant, ambivalent and disorganized since they contain similar aspects. The main indicators are fear of abandonment, anger, distrust and seeking approval from caregivers. They have a negative perspective on self, others, or both.

When looking at the relationship between gender and attachment style, previous research has shown that men score higher on avoidant attachment style, while women score higher on the anxious/ambivalent style (Gugová and Heretik, 201; Scharfe, 2016). Furthermore, previous research has shown that insecure attachment is more visible in young men than in young women. (Toth, Lakatos and Gervai, 2013; Bryant, 2011).

According to Acquaviva¹, Ellul, and Benarous (2018), antisocial behavior refers to a heterogeneous set of actions outside the norms, rules, or laws of the social group in which the subject develops, such as physical aggression, theft, and violation of societal rules.

An insecure attachment has a negative impact on behavior in childhood and adolescence (Bowlby, 1969/1982). Furthermore it causes adjustment problems in adulthood (Bowlby, 1944).

The present study aimed at examining whether gender moderates the relationship between attachment style during childhood and antisocial behavior. The research question is: Does gender moderate the relationship between attachment style during childhood and antisocial

behavior in adulthood? The first hypothesis is that people with insecure attachment styles will show more antisocial behavior than people with secure attachment styles. The second hypothesis is that men show more antisocial behavior than women. The third hypothesis is that men with insecure attachment styles will show more antisocial behavior than women with insecure attachment styles. Finally, the last hypothesis is that men with secure attachment styles will show more antisocial behavior than women with secure attachment styles.

Method

Participants

The participants of this study were first-year Psychology students at Tilburg university and other adults who were recruited via social media (e.g. Facebook and Instagram) or through word of mouth. The minimum age of participation was 18 and participants were both male and female. Participants were requested to fill out a questionnaire in which attachment style during childhood and antisocial behavior in adulthood were measured with gender as a moderator. In total there were 252 participants. Out of the 252 participants, 195 completed the questionnaire. Of the remaining 195 participants, three filled out 'non-binary' and one 'prefer not to say' when answering the question about gender. Since these numbers were so small, these participants were taken out, leaving a total sample of 191. In total there were 23 (12%) male participants and 168 (88%) female participants.

The participants were recruited using convenience sampling. They were recruited via social media (e.g. Facebook and Instagram) or through word of mouth. Furthermore, first-year Psychology students at Tilburg university were able to fill out the questionnaire in order to

receive credit and they were recruited via Tilburg university website for experimental subject hours.

A power analysis was conducted, with an anticipated effect size of 0.2, desired statistical power level of 0.8, probability level of 0.05 and four predictor variables namely, attachment style, antisocial behavior, gender and finally loneliness. Loneliness was not relevant for this particular study, however since this survey was in collaboration with someone else it was considered during the power analysis. In total, a minimum of 65 participants was needed for this survey.

The research was approved by the Ethical Review Board.

Measures

Attachment scale: ASPA-SF

The ASPA-SF questionnaire consists of 40 statements. The first twenty statements are related to the attachment the participant has with his/her mother, and the second twenty are related to the attachment the participant has with his/her father. The answers are given in a scale form: never, seldom, sometimes, frequently, constantly. Examples of these statements are: “I had my mother with me when I was upset” , “I got frustrated when my father left me alone”, “I was never certain about what I should do until I talked to my father”. There are five outcomes of this questionnaire: safe (MS & FS), dependent (MD & FD) , Parentified (MP & FP), Fearful (MF & FF) and Distant (MA & FA). Safe is related to comfort and security, while dependent indicates a need for the parent to always be available. Parentified indicates feeling responsible to meet the parent’s needs, fearful indicates a fear of abandonment and a belief that a parent would not be available for support, and finally distant indicates disappointment in the parent’s support and

availability. For this particular study, no distinction was made between paternal and maternal attachment style. The reliability was checked during this study. The Cronbach's alpha for the subscales for the mother were: safe, .90, dependent, .78, parentified, .70, fearful, .70, and distant, .78. The Cronbach's alpha for the subscales for the father were: safe, .91, dependent, .74, parentified, .77, fearful, .73, and distant, .82. This meant that the scales had a good internal reliability since they were all equal to or higher than .70. For this study, the attachment styles were grouped into secure attachment and insecure attachment. Secure attachment contained safe, dependent and parentified attachment style, while insecure attachment contained fearful and distant attachment style

Antisocial behavior scale: STAB

The STAB questionnaire consists of 32 statements. Just like the previous questionnaire, the answer options are given in a scale form, but this time the answers options are: never, hardly ever, sometimes, frequently, and nearly all the time. Examples of these statements are: "felt like hitting people", "made fun of people behind their back", revealed someone's secrets when angry with him/her", and "made negative comments about others appearance". The questionnaire assesses the three three major subtypes of antisocial behavior; aggression, rule-breaking and social aggression. The Cronbach's alpha in this study was .90, meaning that there was a good internal reliability since it was higher than .70.

Procedure

In qualtrics a questionnaire was created combining two existing questionnaires: the Adult Scale of Parental Attachment - Short Form (ASPA - SF) (Michael and Snow 2019) and the Subtypes of Antisocial Behavior Questionnaire (STAB) (Burt and Donnellan, 2009). Since the

questionnaire was created in collaboration with another student, another questionnaire was added to the survey, namely the UCLA Loneliness questionnaire. This questionnaire was not relevant for this study so the results of the UCLA questionnaire were not analyzed.

At the start, students were informed about some general aspects of the survey. Such as that the study was voluntary and that they could withdraw from the study at any time without any consequences. Furthermore, they were informed that completing the questionnaire would expect to take about 30 minutes and that the study was approved by the Ethical Review Board of Tilburg University.

Before the main questions were asked, participants had to fill out questions about their demographic, such as gender and age, and they had to give informed consent before answering any question. First-year Psychology students at Tilburg University had the opportunity to fill in this questionnaire in order to get one credit for their experimental subject hours as compensation for their participation.

Statistical Analysis

SPSS was used for the analysis of the questionnaire. The research was considered to be a correlational research design with the independent variables being the different attachment styles during childhood, and the dependent variable being antisocial behavior during adulthood.

Furthermore, there was a moderator variable namely, gender. 57 participants didn't finish the questionnaire, and three filled out 'non-binary' and one 'prefer not to say' when answering the question about gender. These were, as stated before, deleted from the analysis, leaving a total sample of 191.

Assumptions

When using regression analysis, it was important to test several assumptions. First of all, the assumption of multicollinearity. This was tested using the VIF values. When none of these were higher than ten the assumption was met. In this case the assumption was met since the VIF was below ten. Secondly, when looking at the homoscedasticity assumption, a scatter plot of the residuals was made. This assumption was met as well. Thirdly, the assumption of linear relationship was tested using a Q-Q plot. The Q-Q plot line was very similar to the normally distributed line, meaning that this assumption was met. Fourthly, the P-P plot was used to check the multivariate normality. Here again the outcome was very close to the normally distributed line and thus the assumption was met. Finally, The no-autocorrelation assumption was checked using the Durbin-Watson test. The Durbin-Watson value is 1.873, which is below 1.5 so there is no auto-correlation, thus the assumption is met.

Results

Descriptives

The total sample of this study was 191 participants. Of these, 23 (12%) were male participants and 168 (88%) were female participants. The lowest age of the participants was 18 while the highest age was 53. The mean age was 20.61. For this study, no distinction was made between paternal and maternal attachment style. Results showed that the pearson correlation between attachment style during childhood and antisocial behavior in adulthood was divided between the different attachment styles. When looking at the secure attachment style, combining safe, dependent and parentified, and antisocial behavior the pearson correlation was $-.049$, meaning that the lower level of secure attachment the higher antisocial behavior, however this

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result was not significant ($p = .50$). When looking at the insecure attachment style, combining fearful and distant, with antisocial behavior, the Pearson correlation was .357. Meaning that the higher insecure attachment means a higher level of antisocial behavior, this result was significant ($p < .001$). In table 1, an overview of descriptive statistics has been provided.

Table 1

Sample characteristics and summary table

	N	Minimum	Maximum	Mean	Std. Deviation
Age	191	18	53	20.61	4.320
MS_safe	191	4.00	20.00	14.5602	.27842
MD_dependent	191	4.00	19.00	10.9529	.23468
MP_parentified	191	4.00	20.00	11.4764	.21907
MF_fearful	191	4.00	17.00	7.5550	.20352
MA_distant	191	4.00	18.00	8.2094	.25413
FS_safe	191	4.00	20.00	10.9319	.30546
FD_dependent	191	4.00	19.00	8.6545	.21955
FP_parentified	191	4.00	19.00	9.2513	.23475
FF_fearful	191	4.00	15.00	6.9738	.20726
FA_distant	191	4.00	20.00	8.5340	.28354
AttachmentstyleFemale	168	23.00	79.00	53.6369	.69426
AttachmentStyleMale	23	28.00	62.00	40.0435	1.82265
AntisocialBehaviorFemale	168	33.00	104.00	54.3571	.85673
Antisocial Behavior Male	23	33.00	94.00	56.6957	3.28696

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TotalAntisocialBehavior	191	33.00	104.00	54.6387	.84920
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Note. The abbreviations mean the following: safe (Mother Safe & Father Safe), Dependent (Mother Dependent & Father Dependent), Parentified (Mother Parentified & Father Parentified), Fearful (Mother Fearful & Father Fearful), and Distant (Mother Distant & Father Distant). In the table a difference is made between male and female participants. The total columns mean that there is no distinction between male and female participants.

Analyses

Several hypotheses were created in order to answer the research question.

The first hypothesis is that people with insecure attachment styles during childhood, such as fearful, and distant, will show more antisocial behavior in adulthood than people with a secure attachment style during childhood, such as safe, dependent and parentified. A multiple regression was used to predict antisocial behavior in adulthood based on secure (safe, dependent and parentified) and insecure (fearful and distant) attachment. The results of the regression analysis indicated that the model explained 13% of the variance and the results indicated that the model was a significant predictor of antisocial behavior, ($F(2,188) = 14.02, p < .001$, with an R^2 of .13. Secure attachment during childhood did not contribute significantly ($B = -.044, p < .46$). This was a negative correlation, meaning high scores on secure attachment was related to low antisocial behavior. Insecure attachment during childhood contributed significantly ($B = .45, p < .001$). For every 1 point increase in insecure attachment, there is a .45 increase in antisocial behavior (participants' predicted antisocial behavior is equal to $40.61 + .48$). This shows that indeed people with an insecure attachment style during childhood show more antisocial behavior.

Table 2*Regression table: attachment styles on antisocial behavior*

Variable	B	95% CI	β	t	p
Secure attachment	-.044	[-.162; .073]	-.050	-0.742	.46
Insecure attachment	.45	[.280; .618]	.357	5.246	<.001

The second hypothesis is that men show more antisocial behavior than women. An independent sample t-test was used in SPSS. The results showed that there is no significant difference between men and women related to antisocial behavior ($t = 0.67$ $p = .50$).

The third hypothesis is that men with insecure attachment styles, will show more antisocial behavior than women with insecure attachment styles. For this, process was used in SPSS. The outcome of the overall model was $F(3, 187) = 17.24$, $p = .00$, $R^2 = .22$. Furthermore, when looking at the part if attachment predicts antisocial behavior $b = 1.75$, $t(187) = 5.36$, $p = .00$, it showed that it was a significant result. Meaning that for every 1 unit increase in insecure attachment (higher score means more insecure attachment), we get a 1.75 unit increase in antisocial behavior (more antisocial behavior). Moreover, when looking if gender predicts antisocial behavior we see that $b = 28.98$, $t(187) = 3.21$, $p = .00$, this result was significant. When looking at the interaction between attachment style and gender we see $b = -1.34$, $t(187) = -0.26$, $p = .00$, the result was significant. The outcome of this test showed that the interaction effect of gender and insecure attachment was significant, $p = .00$.

The final hypothesis states that men with secure attachment styles will show more antisocial behavior than women with secure attachment styles. For this, process was used in SPSS. The outcome of the overall model was $F(3, 187) = .39, p < .76, R^2 = .006$. Furthermore, when looking at the part if attachment predicts antisocial behavior $b = .01, t(187) = .07, p = .95$, it showed that it was not a significant result. Moreover, when looking if gender predicts antisocial behavior we see that $b = 1.19, t(187) = 0.09, p = .93$, there was no significant result. When looking at the interaction between attachment style and gender we see $b = -.05, t(187) = -.26, p = .80$, there was no significant result. The outcome of this test showed that the interaction effect of gender and secure attachment was not significant, $p = .80$.

Discussion

The present study aimed at examining whether gender moderates the relationship between attachment style during childhood and antisocial behavior.

The first hypothesis is that people with insecure attachment styles show more antisocial behavior than people with secure attachment styles. Results indicated that secure attachment did not have a significant effect on antisocial behavior, while insecure attachment did have a significant effect on antisocial behavior. Insecure attachment during childhood led to more antisocial behavior in adulthood. This is in line with earlier research where it said that an insecure attachment causes adjustment problems in adulthood (Bowlby, 1944).

The second hypothesis is that men show more antisocial behavior than women. Results indicated that gender did not predict antisocial behavior.

The third hypothesis is that men with insecure attachment styles show more antisocial behavior than women with insecure attachment styles. The interaction between insecure attachment style and gender was significant. Gender had a moderating effect on the relationship between insecure attachment and antisocial behavior.

Finally, the last hypothesis is that men with secure attachment styles show more antisocial behavior than women with secure attachment styles. Contrary to expectation the interaction between secure attachment style and gender did not predict antisocial behavior. Gender did not moderate the relationship between secure attachment during childhood and antisocial behavior in adulthood.

A reason for these contrary findings could be that there were only 23 male participants and 168 female participants. It was expected that men would show more antisocial behavior, however, only 23 men participated in the study therefore it was difficult to really see an accurate gender difference. If more men had participated in the study, there might have been greater gender differences between attachment style and antisocial behavior. A convenience sample was used focusing mainly on first year psychology students at Tilburg university. This created a sampling bias, more females are enrolled in this study than males. This was not thoroughly thought of when distributing the questionnaire.

The first limitation is that there is a low external validity, since the sample consists mainly of students at Tilburg University and 88% of the participants were women, which is not accurate compared to society as a whole. Second, attachment style during childhood and antisocial behavior were not controlled for confounding variables. Only gender was used as a potential moderator. The influence of another variable cannot be excluded and different results

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might have been found if covariates were controlled for. When not controlling for confounding variables there might be an over- or underestimation between attachment style and antisocial behavior. Finally, the research was mainly distributed at Tilburg university due to convenience. Due to this, the sample mainly consisted of first-year psychology students, which was not an accurate representation of the population.

if there would not have been a time limit more effort would have been invested into the distribution of the survey, creating a more accurate sample including more male participants.

This research study had several implications. First of all, the results found in this study have to be interpreted with caution because of the exclusive use of self-report measures, which might lead to the problem of common method variance.

Future research should focus on possible mediators and moderators between attachment style during childhood and antisocial behavior in adulthood. This is important since including mediators and moderators a greater picture of the relationship between the two variables is created which better reflects the real world. Including a moderating variable is important since it provides a way to test whether an intervention has similar effect across groups (Mackinnon, 2021). Since this study included 23 male participants it was difficult to really see an accurate gender difference. If more men had participated in the study, there might have been greater gender differences between attachment style and antisocial behavior. Future research should focus on a more equal gender division. Furthermore, future research should include an investigation in the association between attachment style during childhood, and antisocial behavior at younger ages than adulthood. This way, if antisocial behavior is already present in

younger ages, methods to change this can be established in order to decrease the antisocial behavior instead of just looking at it in adulthood when change is more difficult.

To conclude, a relationship was found between insecure attachment style during childhood and antisocial behavior in adulthood. This relationship was due to the moderating factor of gender. No relationship was found between secure attachment style during childhood and antisocial behavior in adulthood. An insight was gained into the difference of secure and insecure attachment style and the effect it had on antisocial behavior. Insecure attachment style for men showed to be most predictive of antisocial behavior. In order to decrease antisocial behavior more focus should be on secure attachment style methods. Since secure infant attachment is a protective factor against the development of antisocial behavior (Bowlby, 1969/1982) and secure attachment during childhood creates social behavior that stimulates emotional awareness, empathy and positive expressiveness, while minimizing negative expressiveness (Laible, 2007), the focus during childhood should be on secure attachment methods such as play more with children, show warmth and love, use eye contact, apologize, make clear expectations. Behavioral control leads to a decrease in externalizing problems, such as antisocial behavior.

It is important to further investigate these findings and to focus more on the distribution between male and female participants in order to get a more accurate result, and to additionally include possible mediators between attachment style and antisocial behavior, to get a greater picture of the relationship between the two variables.

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