

EFFECT OF ATTACHMENT ON LYING AND MANIPULATION

The effect of attachment style on pathological lying and manipulation in young-adult women

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Abstract

Background: Attachment is important for social interaction as well as the formation of personality. Anxious and avoidant attachment style are formed based on inconsistent or rejected parenting, which can lead to feelings of dependence or avoidance of close relationships. Attachment may specifically influence lying and manipulation. In the current research it is hypothesized that there is a positive effect of attachment on lying as well as manipulation as a personality characteristic. Previous research emphasizes a gender difference regarding both attachment style and psychopathic traits. An effect of attachment on psychopathic traits has already been found for men, but not for women, which is why the focus of this research is on women specifically. **Method:** the sample consisted of 194 heterosexual, Dutch-speaking women aged 16 to 25 ($M=20.8$, $SD=2.417$) who filled out self-report questionnaires to measure psychopathic personality characteristics and attachment. Two multiple regression analyses were executed, where lying and manipulation were the dependent variables, and the anxious and avoidant attachment dimensions were the independent variables. **Results:** The multiple regression analyses showed that avoidant attachment had a significant positive effect on both lying and manipulation, while anxious attachment showed no significant effect. **Conclusion:** Personality characteristics lying and manipulation are influenced by attachment style, where more avoidant attachment may result in a more deceptive and manipulative personality. possibly, anxious attachment showed no effect, because anxiously attached individuals may be less prone to lie out of fear for negative consequences than those with an avoidant attachment. Gender differences may also play a role in the lack of effect. Knowledge regarding the influence of attachment could help improve and understand relationship dynamics.

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Keywords: Attachment, lying, manipulation, avoidant attachment, anxious attachment, maladaptive personality

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Lying is a part of everyday life (DePaulo & Kashy, 1998); it is a human phenomenon that everyone engages in. Lying is an evolutionary phenomenon and the evolutionary development is species-based (Vasconcellos et al., 2019). Both animals and humans have the ability to deceive their peers (Vasconcellos et al., 2019). For humans, as language comprehension developed and language became more complex, the ability to lie increased. People gained the ability to think counterfactually, which they could also communicate to others. This then resulted in skilled deception, where deception could be used for prosocial purposes – such as keeping up a collaborative relationship – as well as personal gain – such as food, sexual connection, status (Vasconcellos et al., 2019). Sexual manipulation is another type of manipulation that can be used for personal gain, for example to gain access to resources or to prevent partner retaliation (Brewer et al., 2019). Women are more likely to lie about having an orgasm in order to manipulate their partner, and are also more likely to use manipulation and deception to avoid confrontations or conflicts with their romantic partner than men (Brewer et al., 2019). The evolutionary development of the functions of lying are in line with the functions of lying that DePaulo and Kashy (1998) as well as Vasconcellos et al. (2019) found in their research, which include: making themselves look or feel better, protecting themselves from getting their feelings hurt or feeling embarrassed, and to gain affection from other people.

To properly understand lying and manipulation as variables, the definitions of lying and manipulation used in this research are: lying is “the tendency to lie frequently and with ease”; manipulation is defined as “the conning and manipulative traits” (Andershed et al., 2002, p. 135). Lying and manipulation are specifically investigated, because of their importance in everyday social interaction, as well as their prominent role in psychopathic and

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antisocial individuals. Therefore, the goal of the present research is to investigate whether attachment affects lying and manipulation, as it may increase the understanding of the behavior of average people within society as well as people with more serious psychopathology.

Being able to lie is something that develops as people grow older. This development happens as children develop a Theory of Mind (Sai et al., 2021; Belsky, 2019). By developing a Theory of Mind, children learn that other people have different thoughts and viewpoints from themselves. Before children develop a Theory of Mind, they are not aware that other people have different mental states, thoughts, knowledge and experiences from their own. As they learn this distinction and grow older, it enables them to lie more. Moreover, high-schoolers and young adults are more accepting of white lies than primary and middle school children do, which in turn could lead to more frequent lie-telling (Buta et al., 2020). Women also portrayed more accepting attitudes towards white lies than man, in a similar fashion as the high-schoolers and young adults did. White lies are defined as “small lies that benefit the sender and receiver” (Buta et al., 2020, p. 71). Primary school children also have a lower tendency to tell self-centered lies than adults. Adults being more accepting of self-centered lies is supposedly explained through the increase of personal gain at no cost for the receiver, while children might not have gained enough social experience to understand this viewpoint. Compared to primary school children and adults, middle and high schoolers lie the most frequently, probably to avoid punishment or gain benefits. Adults show a higher frequency of prosocial lying, which means lying to help others at their own cost, probably due to positive attitudes towards prosocial lies (Buta et al., 2020). It is plausible that, as people develop and age, their attitudes towards lying become more accepting, which might explain the increase in the tendency to lie and the change in type of lies (Buta et al., 2020). Besides age, level of anxiety also has an effect on lying frequency, where people with lower

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levels of anxiety are more likely to lie frequently than those with higher levels of anxiety (Buta et al., 2020). High levels of anxiety may thus be a protective factor of lying. As people with psychopathic tendencies have lower levels of anxiety, lying and manipulation are used more frequently.

Moreover, gender differences also presented themselves; women were for example more likely to tell a lie even when the risk of getting discovered was present, while men were more likely to refrain from lying when such risks occurred (Buta et al., 2020). According to Buta et al. (2020), this gender difference might be displayed, because the women in their sample showed lower social desirability, meaning they care less about what others think of them, which was linked to permissive attitudes towards lying. Although this gender difference in white lies was found, Andershed et al. (2002) found that girls scored significantly lower than boys on multiple facets of the Youth Psychopathy Inventory (YPI, Andershed et al., 2002), among which were Manipulation and Lying. This is in line with earlier research where women scored lower than men on psychopathic traits (Stanford et al., 1994). Because of the lack of reproductive evidence (Buta et al., 2020) regarding the gender difference, it is difficult to say whether this gender difference in lying and attitudes towards lying actually exists.

Although lying is part of everyday life, there are differences between people regarding the reasoning behind telling lies. Previous research has shown that anxiously and avoidantly attached people tell lies for different reasons that may be a consequence of their attachment style (Ennis, 2008). Ennis focused on finding these differences in a hundred university students with a mean age of 23, specifically focusing on lying to strangers and close friends. Results showed that anxiously attached individuals were more prone to lie about themselves or their partner altruistically. In other words, they tell positive lies in order to improve their own or their partner's image. This was explained by anxiously attached

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people fearing other people's judgement and fearing negative consequences when they lie to their partner. On the contrary, avoidantly attached people might fear intimacy and have problems with trusting their partner, so telling altruistic lies about their partners could be a way for them to show affection. At the same time, it was found that they tell self-centered lies for privacy reasons, as they might fear closeness to other people (Ennis, 2008). A similar research was conducted by Cole (2001), using a sample of 128 couples. Specifically, Cole researched how relationships functioning is influenced by deception, why people lie within their romantic relationship and to what extent differences in deception exist within romantic contexts. The goal was to find the link between deception and romantic relationships specifically, and the hypotheses were formed using three domains as possible explanations for lying: reciprocity, avoiding punishments, and intimacy needs, with the last one specifically focusing on attachment style. Results showed that lying/deception is used by avoidant people to keep others at a safe distance, as they might be afraid of intimacy. They control the amount of personal information they give to others. Fabricating information can also increase a feeling of autonomy or relational independence. Anxious people might use deception to regulate their partner's interest, closeness and devotion. It is used to influence people's attitudes and feelings towards oneself. Deception can avoid conflict and promote harmony. Results showed a relationship between lying and attachment, but this link may not be direct, possibly because people may have been raised not to lie. Cole (2001) did not elaborate on this indirect link. There is also little emphasis on the difference between secure and insecure attachment when it comes to frequency of lying, nor the type of lying securely attached people might display. Walsh et al. (2018) mentioned that experiences of parental abuse or neglect is linked to both attachment insecurity and psychopathy, but that it remains unclear which aspects and dimensions of insecure attachment are linked to which specific psychopathic traits, especially between men and women. The current research focuses on the

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difference in attachment style and separates lying and manipulation in order to investigate whether this difference exists or not and whether these pathological dimensions are linked to any specific attachment dimension.

Secure and insecure attachment, like mentioned above, can be divided into multiple attachment styles. Attachment styles are believed to be part of personality development (Bowlby, 1989). Personality develops through environmental influence. This is similar to how attachment develops, namely through interaction with the mother or parent – or lack thereof. In the attachment theory it is proposed that humans need a strong emotional connection to their primary caregiver in the early years of life, in order to survive. For example, people develop a secure attachment style when the parental environment is safe and positive and parents are responsive to their child's physical and emotional needs. This enables them to develop a more resilient personality. Attachment also influences how people perceive and interact with future social relations, which is why forming a secure attachment improves social relations and is important for everyday functioning. If parents are inconsistent in their response to their child's needs, the child may become more anxious and dependent on their caregiver, meaning an anxious attachment develops. In turn, avoidant attachment develops when parents consistently ignore or reject their child or their emotional needs. The child learns to repress their feelings and stops looking for closeness to other people, which results in avoidant behavior in adult life (Bartholomew & Horowitz, 1991). Because of this, Bowlby (1989) states that personality is a result of the attachment style someone attains in their youth. So, if the conditions are unfavorable, people are more likely to develop an insecure attachment style – either anxious or avoidant attachment –, which may result in personality or mental health problems and disturbed personality functioning. Attachment style and personality development both have in common that they are receptive to change in the early stages, but become less receptive as people age (Bowlby, 1989). With

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this in mind, scoring high on manipulation as a personality characteristic may be a result of insecure attachment development, which may have caused disturbed personality functioning.

Gambin et al. (2018) looked into whether psychopathic traits, such as manipulation, were affected by attachment style. It was found that attachment anxiety had a positive correlation with the affective-interpersonal dimension of psychopathy in men, but no significant correlations were found in women. In fact, all the effects found in their research were only significant for men; women with various attachment styles did not significantly differ from each other on psychopathic traits (Gambin et al., 2018). A limitation of this study was that the sample was very specific; namely young adults in a private juvenile institution. Consequently, the results could not be generalized to the general population (Gambin et al. 2018). Due to the lack of difference found in women and the specific sample, the current research focuses on women only, to find out whether women do differ in specific psychopathic traits based on attachment style. By focusing on women only, the main concern will not be the differences between men and women, but to what extent attachment influences women's pathological behavior and the differences within the group of women. Measures for psychopathy and antisocial personality disorder show gender biases, which may decrease the known prevalence of psychopathy within women (Klein Haneveld et al., 2021), possibly explaining the lack of research on women specifically. Besides that, women are socialized differently, which also leads to different manifestations of behavior in line with their attachment style (Monteoliva et al., 2012). Women with an avoidant attachment style for example show more self-disclosure to their partners than avoidant men, even though there is often a lack of self-disclosure in people who are avoidantly attached. Women may feel the tendency to work on their relationships more, as it is expected of them within societal norms to do so (Monteoliva et al., 2012).

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To conclude, the aim of this research is to broaden the knowledge regarding attachment style and its effect on lying and manipulation. Because of the differences in development, as well as the gender difference mentioned by Buta et al. (2020), Andershed et al. (2002), and Brewer et al. (2019), the sample in this current research will consist solely of women between the age of 16-25 years old. The research question is: “what are the interrelations between attachment style and maladaptive personality traits (i.e., lying and manipulation) in women?”. It is hypothesized that there is a positive effect of attachment on lying as well as manipulation as a personality characteristic. For both anxious and avoidant attachment, a positive effect is expected, as both influence social relations and reasons for lying. They are investigated separately to see whether they showcase differences in level of influence and whether or not they both show the same direction of effect.

Method

Participants and Procedure

Participants were approached online through convenience sampling. The inclusion criteria were being female, heterosexual, between the age of 16 and 25 ($M=20.8$, $SD=2.417$), and Dutch-speaking. This resulted in a sample size of 200 participants. Four participants were excluded from the analyses due to at least eighteen missing values and two were excluded as they fell outside of the age range. The current sample thus consisted of 194 women with differing education levels as well as relationship status. See Table 1 for sociodemographic information regarding this sample.

The participants consisted of students, both studying at Tilburg University as well as other universities, and the general public. Those studying at Tilburg University received one credit point, the other participants received no compensation. The participants were asked to fill out a self-report about violence and attachment related topics using Qualtrics. Their participation took approximately 30 to 60 minutes. The participants were informed that the

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research was completely anonymous and that they could withdraw at any moment, meaning it was voluntary. They signed an informed consent form and were also told that withdrawal did not have any repercussions. Moreover, it was specifically asked whether they agreed that the data would be published openly (anonymously) after the data collection. This study was not preregistered, apart from the research design. The Ethics Review Board of Tilburg School of Social and Behavioral Sciences (RP488) has granted ethical permission, and the General Data Protection Regulation (GDPR) guidelines were followed to manage the data.

Measurements

Youth Psychopathy Inventory

The Youth Psychopathy Inventory (YPI; Andershed et al., 2002) is a self-report measure for youth 12 years and older to measure psychopathic traits. The inventory consists of ten subscales with five items per subscale: Dishonest charm, Grandiosity, Lying, Manipulation, Remorselessness, Unemotionality, Callousness, Thrill-seeking, Impulsiveness, and Irresponsibility. In the current research, the focus will be on the Lying (example item: “Sometimes I find myself lying without any particular reason”) and the Manipulation (example item: “I am good at getting people to believe in me when I make something up”) subscales. For every statement, a 4-point Likert scale is used, ranging from 1 (*does not apply at*) to 4 (*applies very well*). A high score indicates that the deceptive and/or manipulative personality characteristic is relatively more present compared to low scores (Andershed et al., 2002).

The YPI overall shows good internal consistency, with a Cronbach’s Alpha for the Lying subscale is .81 and .80 for the Manipulation subscale as measured in a sample of 9th grade students ($N=1,024$, 46% female; Andershed et al., 2002). The YPI shows good validity for both boys (chi-square (32, $N = 446$) = 124.05 $p < .001$) and girls (chi-square (32, $N = 535$) = 184.031 $p < .001$). Andershed et al. (2002) found a good correlation between conduct

problems and several other behavioral problems. In the current research, Cronbach's alpha for the Lying subscale is .67 and .85 for the Manipulation subscale. To conclude, the Lying subscale shows decent internal consistency, but it would be preferable for Cronbach's alpha to have a value of at least .7 (Ponterotto & Ruckdeschel, 2007). The Manipulation subscale shows good internal consistency and is relatively similar to internal consistency found in Andershed et al.'s research.

Revised Adult Attachment Scale – Close Relationships

The Revised Adult Attachment Scale – close relationships (RAAS; Collins, 1996) is a self-report measure for attachment style. The close relationships version switches questions regarding romantic relationships to close relationships. The scale consists of three subscales with six items each. The subscale Close measures how comfortable people are with closeness and intimacy; an example statement would be: "I find it relatively easy to get close to people". Subscale Depend measures how much people feel they can depend on others when needed; an example statement would be: "I find it difficult to allow myself to depend on others". Subscale Anxiety measures how much people worry about being rejected or unloved; an example statement would be: "I often worry that other people don't really love me". The answer options range from 1 (*not at all characteristic of me*) to 5 (*very characteristic of me*).

Some statements are reverse scored in order to calculate the mean. The Depend and Close subscale scores are averaged and reverse scored to get the avoidant attachment dimension; scores on the anxiety dimension are scored and averaged to get Anxious attachment. The avoidant dimension has its focus on the level of discomfort someone may feel when they depend on or are close to others. The anxiety dimension focuses on fear of rejection and abandonment by romantic partners or people close to them (Schachner & Shaver, 2004). Anxiously attached people may form social relationships by using self-disclosure, but they may also show high levels of insecurity and fear of abandonment

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(Bartholomew & Horowitz, 1991). Avoidantly attached women also tend to self-disclose, as socialization influences the way they perceive interpersonal relationships and their own role within maintaining that relationship (Monteoliva et al., 2012). However, generally speaking, avoidantly attached people may tend to avoid forming relationships, specifically intimate ones, by keeping conversations shallow (Bartholomew & Horowitz, 1991).

The Cronbach's Alpha found in Collins (1996) research is .81 for the Close subscale; .78 for the Depend subscale and .85 for the Anxiety subscale, as measured in undergraduate students from the University of Southern California ($N = 135$, 60% female, $M=18.7$). Out of all the participants, 55% were involved in a romantic relationship at time of measurement (Collins, 1996). In the current research, Cronbach's Alpha was computed for the Anxiety and Avoid dimensions. Both show good internal consistency with an Alpha of .85 for the Anxiety dimension and .89 for the Avoid dimension.

Statistical analyses

First, a power analysis was executed (using Gpower), to see how many participants were needed to reach at least a power of .80. Based on the power analysis, a minimum of 34 participants were needed to reach an effect size of $F^2=0.25$, with an alpha of 0.05. With 194 participants, enough participants were included in the analyses for a power of at least .80. SPSS Version 26 was used for all further analyses in this research. First, descriptive information about all variables was computed, as well as the correlation between the variables. The anxious and avoidant attachment dimensions were used as continuous independent variables, and mean scores per participant for both Lying and Manipulation were used as the dependent variables. Mean scores per person were obtained by adding all item values per subscale per person, then dividing them by the total number of items filled out.

Subsequently, outliers and missings were inspected. Outliers were kept in the analysis, as they can represent natural variation in the population. Data points were

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considered outliers when they were more than three standard deviations above the mean. There were eighteen outliers in total, all found in the Lying and Manipulation subscale, but only three of those were marked as extreme seen in a boxplot. These extreme values were all part of the Manipulation subscale. Participants were deleted from the dataset whenever more than 25% of a subscale was not filled out. Concretely this meant six people were removed from the analyses and 194 participants remained in the research.

After deleting participants with too many missing values, the Close and Depend subscale items were averaged to compute the Avoidance dimension of attachment. Similarly, the Anxiety subscale items were averaged to compute the Anxiety dimension of attachment. This through computing a new variable, using the total score for each person, and dividing this by the number of items for each dimension. Remaining item values were used when one item score was missing. The same method was used to compute the mean scores for the Lying and Manipulation subscales.

Before doing a multiple regression analysis, it was checked whether the assumptions were met. These assumptions include: sample size, no multicollinearity, normality and linearity of residuals, independence, and homoscedasticity. The sample size should include at least ten participants per independent variable. As there was a total of 194 participants, and two independent variables, the minimum sample of twenty participants was easily met. Multicollinearity means that two or more predictors are highly correlated with each other, which makes a regression analysis invalid. This assumption can be determined by adding collinearity measures in SPSS when executing the regression analysis, where you look for the variance inflation factor (VIF). If the value is five or above, there is a sign of severe correlation and with that multicollinearity. In both analyses, for both dependent variables using both independent variables, the VIF was 1.610, meaning the assumption of no multicollinearity was met. Normality of residuals assumption indicates that the residuals of

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the model should be normally distributed. This assumption was checked by looking at the P-P plot of regression standardized residuals. The points fell roughly on the diagonal straight line, meaning the assumption was met. The linearity of the residuals was checked by drawing up a scatter plot and checking if the points of the scatter plot roughly fall on a straight diagonal line. This indicated there was a linear relation between the predictors. The independence assumption was met, as the participants could not influence one another during the filling in of the surveys. Homoscedasticity means that the residuals have a constant variance at every point in the linear model. A plot of standardized residuals versus predicted values was drawn. The points were randomly scattered, not showing any pattern, meaning the assumption was met. In conclusion, no assumptions were violated. Subsequently, correlational analyses were executed between the dependent and independent variables. Two multiple linear regressions were executed; one to investigate the effect of attachment on Lying, and one to investigate the effect of attachment on Manipulation. In SPSS, the independent variables used were the dimensions for attachment: Anxiety and Avoidance. The dependent variable in the first analysis included Lying, which was replaced with Manipulation in the second analysis. Moreover, R-squared was used to indicate how much the independent variables together explain the variance in the dependent variables.

Results

Correlation analysis

First off, the correlations between each subscale and attachment dimension were investigated. Table 2 shows significant values for all correlations except between the Anxiety dimension and Manipulation subscale. A Pearson Correlation is considered strong when its value falls between .5 and 1 (Pallant, 2016). There was a strong positive correlation between the Lying and Manipulation subscale ($r = .637, n = 194, p < .001$). The correlation between the Anxiety and Avoid dimension was also positive and strong ($r = .616, n = 194, p < .001$).

Regression analyses

The first regression analysis executed calculated the effect of attachment on Lying. The regression model was significant ($F(2,191) = 8.026, p < .001$), with an R^2 of .078, meaning the predictors together explained 7.8% percent of the variance in lying. As seen in Table 3, participants' predicted score on lying was equal to $-.031 + .030$ (Anxiety) $+ .133$ (Avoid). The avoidance dimension of attachment had a significant positive effect on lying ($t(191) = 2.660, p = .008$), while the anxiety dimension did not ($t(191) = .724, p = .470$). Out of the 7.8 percent variance explained by the entire model, the avoidance dimension alone explained 3.4 percent based on the part correlation.

In the second regression analysis the effect of attachment on the Manipulation characteristic was calculated. The regression was significant ($F(2,191) = 13.440, p < .001$) with an R^2 of .123, meaning the predictors together explained 12.3% of the variance in manipulation. Table 4 shows that the participants' predicted score on manipulation was equal to $-.077 - .088$ (Anxiety) $+ .319$ (Avoid). Similar to the first regression analysis, the avoid dimension had a significant effect on manipulation ($t(191) = 4.875, p < .001$), whereas the anxiety dimension did not ($t(191) = -1.609, p = .109$). Out of the 12.3 percent variance explained by the entire model, avoid alone explained 10.89 percent based on the part correlation.

Discussion

The goal of the current research was to investigate the relationship between attachment style and pathological lying and manipulation. The research question is thus: "What are the interrelations between attachment style and maladaptive personality traits (i.e., lying and manipulation) in women?". Corresponding with the hypothesis, a positive relationship was found between attachment and lying and manipulation. However, this effect was only found between the avoidant dimension and both lying and manipulation.

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Concretely, this means that the anxiety dimension in the current research did not significantly affect lying and manipulation as a personality characteristic. The results also show a bigger effect of attachment on manipulation compared to attachment and lying. It is important to keep in mind that the data was cross-sectional, so it is not possible to make causal interpretations.

The results of the current research are in line with previously conducted research. Ennis (2008) and Cole (2001) both showed interest in the influence of attachment style on lying and found evidential material that attachment style influences the likelihood, the ability and the type of lies people tell. The results of the current research support the idea that attachment style affects lying. The positive effect portrays that the more avoidantly attached someone is, the more they showcase lying and manipulation as personality characteristics. Avoidantly attached individuals have the tendency to distance themselves from other people, as they may fear intimacy (Ennis, 2008), which could explain the positive effect. The lack of effect of anxious attachment on lying and manipulation may be explained due to the protective factor of anxiety on lying (Buta et al., 2020), as anxiously attached people often fear other people's judgement and possible negative consequences when they lie to their partner (Ennis, 2008).

According to Brewer et al. (2019), women have a higher tendency to use manipulation to avoid confrontation or loss of partner than their male counterparts, but also to gain access to resources. However, it is important to keep in mind that women in general still score lower on psychopathic traits than men, so this effect may be smaller than the effect of attachment on men. Still, the effect of attachment on manipulation found in the current sample may confirm Brewer's statement, especially considering that the effect on manipulation in the current sample is higher than the effect of attachment on lying. The distinction between these two differing values may be a result of lower internal consistency

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of the anxiety dimension in this current research. Another possible explanation for confirming evidential information for the hypothesis that attachment affects lying and manipulation comes from the evolutionary functioning of lying. As shown by Buta et al. (2020), high schoolers are most likely to lie, possibly for personal gain as well as better social status by making themselves more likeable. It is possible that the current sample shows significant results, as the age group partly consists of high school-aged women. Age may thus have an important and significant influence on lying, manipulation, and the presence of attachment effects. For example, social status, or not being fully cognitively developed yet, may be possible explanations that need to be researched, as social status and cognitive development are specifically important in young adults compared to adults. As children, people start entering the concrete operational phase – one of Piaget's cognitive development phases (Belsky, 2019, p. 21)–, where children start to think more rationally and start to understand the world around them less by what they simply see, and more by what they can conceptualize (Belsky, 2019, p. 144). This cognitive development makes them more sensitive to making social comparisons (Belsky, 2019, p. 185). Although young teenagers and young-adults have gone onto the next phase of development, formal operations, social sensitivity remains during adolescence and young adulthood (Belsky, 2019, p. 260). During adulthood, people choose their own social circles, which makes social comparisons less important. (Belsky, 2019, p. 185). That could possibly explain the importance and the increase in tendency to lie under young-adults compared to adults: social status is more important. Future research may focus on controlling for age to see whether significant results are found mostly in the younger age group compared to adults and further distinguish why this would be the case.

Stronger points of this research include sample size and power, the focus group, and the internal consistency of most of the subscales. To start with the sample. Differences

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between men and women have often been found. Focusing on women only, and specifically young women, more thoroughly investigates the effects and make it more manageable to generalize to that specific group within the population. It also emphasizes the effect on women instead of emphasizing the difference in effect between men and women as the most important factor. The sample was also big enough for proper power and to successfully perform the regression analyses. Besides the sample, the internal consistency for all but one subscale was generally high, which makes the research sufficiently reliable and valid. Outliers were part of the analysis, which may explain the bigger effect found between attachment and manipulation. Outliers were kept in the analysis, as outliers are also part of normal society. The women in the sample were not delinquent women, but women from the general population. This was important for more representation to gain a more accurate depiction.

Men and women tend to display different levels of psychopathic traits and may also display these traits in a differing manner (Stanford et al., 1994). However, due to a lack of reproductive evidence, this gender difference was not found consistently over all researches (Buta et al., 2020). This could be an interesting factor to consider. For example, this research could be replicated and then diversified by adding a sample of male participants as well. That also leads to some limitations. Although there is indeed an effect of attachment style for women in the current research, this is not in line with research conducted by Gambin et al. (2018). He found significant results of attachment for men, but not for women. However, the current research focuses on women and portrayed significant results. An explanation for that may be a difference in sample, such as age or sample size. Another limitation may be the lack of information on reasons to lie, specifically in the current sample. In previous research, several reasons to lie were displayed, among which the evolutionary functions, but also the specific gender differences. In the current research, there was only a focus on the effect of

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attachment style on lying as a personality trait, but there was no focus on the reasoning behind a lie nor the frequency of lying. Future research could focus on replicating the study with a similar sample, where both attachment style, lying and manipulation, as well as the reasoning behind these behaviors is looked into.

There are also a couple of limitations regarding the general design and analyses. The largest portion of women in the sample have a diploma for VWO level education compared to the rest of the sample, which could change the results. It is still unclear whether the results would be different if all levels of education were more represented, for example a bigger positive effect of attachment. This also makes an interesting topic for future research, where education could be added as a control variable to see if the effects increase or decrease based on people's education. Lastly, there was no significant correlation between the Anxiety dimension and the Manipulation Subscale. Anxious attachment could influence manipulative behavior, as previous research has shown that women use manipulation to prevent loss of partner (Brewer et al., 2019). The lack of correlation, and with that, the lack of effect of Anxious attachment on manipulation is thus not in line with previous research, which is why future research could point out whether the lack of correlation is indeed due to issues with general design or because the effect just does not exist in this population. It may be that the effect was not found, because attachment anxiety is related to the affective-interpersonal dimension of psychopathy in men, but not in women (Gambin et al., 2018). As the sample of the present research only consists of women, it is possible that the effect of anxious attachment indeed just does not exist. It also remains unclear which aspects and dimensions of insecure attachment are linked to which specific psychopathic traits (Walsh et al., 2018). It could thus be that anxious attachment is related to psychopathic traits in general, but not related to lying and manipulation specifically. Future research could focus on psychopathy in

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general in women, and investigate whether anxious attachment influences psychopathy instead of individual traits.

This research contributes valuable information to the research field regarding attachment, since it expands on the influence of attachment style in social relationships. People who are more avoidantly attached tend to show more maladaptive behavior, including lying and manipulation. This knowledge can help with selecting aspects to discuss in therapy and with that, improve people's social interactions, both with their immediate surroundings as with everyday brief social interactions. In conclusion, attachment affects personality characteristics and, with that, influences social interactions. The effects of insecure attachment on social relations can be dealt with in therapy, such as understanding why people or their partners show more manipulative or deceptive behavior. When people show manipulative behavior, attachment style could be investigated as one of the contributing factors outside of for example psychopathy. Knowing that attachment influences the personality traits lying and manipulation can help broaden the focus aspects in therapy to improve social interactions.

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Attachments

Table 1*Sociodemographic Characteristics of Participants*

Characteristic	<i>n</i>	%
Education level ^a		
VMBO	5	2.6
HAVO	23	11.9
VWO	79	40.7
MBO	21	10.8
HBO	36	18.6
WO bachelor	14	7.2
WO master	12	6.2
Missing System	4	2.1
Relationship status		
Single	94	48.5
In a relationship ^b	99	51.0
Rather not say	1	0.5

Note. *N* = 194. Participants were on average 20.81 years old (*SD* = 2.417).

^a Reflects the level of education completed by the participants. Education level is based on the Dutch education system. VMBO through VWO is part of secondary school, where VMBO is the lowest level and VWO the highest. MBO is vocational education, HBO is applied scientific education and WO is university education.

^b Reflects all types of romantic relationships

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Table 2

Descriptive Statistics and Correlations for Study Variables

Variable	Range	<i>M (SD)</i>	1	2	3	4
1. Lying	1 – 5	.398 (.427)	-			
2. Manipulation	1 – 5	.475 (.575)	.637**	-		
3. Anxiety	1 – 4	2.960 (.897)	.208*	.120	-	
4. Avoidance	1 – 4	2.550 (.753)	.274**	.334**	.616**	-

* $p < .01$ ** $p < .001$

Note. Lying and Manipulation have a range of one to five. Anxiety and Avoidance have a range of one to four.

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Table 3

Multiple Regression Results for Lying

Variable	β	b	SE	95% CI	
				LL	UL
Outcome: Lying					
Constant		-.031	.114	-.256	.194
Anxiety	.064	.030	.042	-.052	.133
Avoid	.235*	.133	.050	.034	.232

Note. *N* = 194. CI = confidence interval; *LL* = lower limit; *UL* = upper limit. Effects were considered significant if the 95% CI did not include 0. Significant variables are indicated with a star*

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Table 4

Multiple Regression Results for Manipulation

Variable	<i>Beta</i>	<i>b</i>	<i>SE</i>	95% CI	
				<i>LL</i>	<i>UL</i>
Outcome: Manipulation					
Constant		-.077	.150	-.372	.218
Anxiety	-.138	-.088	.055	-.197	.020
Avoid	.419*	.319	.066	.190	.448

Note. *N* = 194. CI = confidence interval; *LL* = lower limit; *UL* = upper limit. Effects were considered significant if the 95% CI did not include 0. Significant variables are indicated with a star*