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The Impact of Parental Attachment Styles on the Expression of Personality Traits among Emerging Adults: A Study of UK University Students

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ABSTRACT

Prior research indicates that attachment to primary caregivers significantly influences individuals' personality traits and exerts lasting effects on their interpersonal relationships in adulthood. This study investigated the impact of parental attachment styles to primary caregivers on the Big-Five Personality traits during the period of Emerging Adulthood. Participants (N = 184) comprised students enrolled at an English University utilising convenience sampling. Using a quantitative methodology, a one-way multivariate analysis of variance (MANOVA) was employed to examine the relationship between parental attachment styles (Secure, Insecure, and Avoidant) and the Big-Five-Personality traits (Openness, Conscientiousness, Agreeableness, and Neuroticism). Participants completed two online questionnaires (*The Big-Five Inventory Scale* (BFI) and *The Adult Scale of Parental Attachment – Short Form*) to measure the effects of parental attachment style to a primary caregiver on the Big-Five Personality traits. The results revealed a statistically significant main effect of parental attachment style on the Big-Five Personality traits in emerging adults, with Conscientiousness, Agreeableness, and Neuroticism showing notable significance. Furthermore, a gender-based comparison between those reporting a male or female primary caregiver presented similar results, particularly for female primary caregivers. These findings explain the essential role of primary caregivers in shaping their children's development, providing valuable insights that may assist primary caregivers in better understanding their impact on their children's future lives. This study contributes to our understanding of the manifestation of personality traits across the lifespan. It could act as a catalyst for future research investigating personality manifestation at critical periods across the lifespan.

Keywords: emerging adults, attachment styles, Big-5 personality traits, primary caregiver

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1 INTRODUCTION

Attachment styles, defined as patterns of needs, emotions, and expectations in specific relationships, are shaped during infancy through interactions with primary caregivers (Bowlby, 1988; Fraley & Shaver, 2000; Shaver & Hazan, 1993). Research has indicated that the attachment formed with primary caregivers has enduring effects on personality development throughout one's life, influencing traits like extroversion, tender-mindedness, and consociationalism (Öztan-Ulusoy et al., 2018). The type of parental attachment has also been associated with enhanced levels of psychological well-being about extraversion and psychological distress predicted by neuroticism (Wilkinson & Walford, 2001).

The Emerging Adulthood (EA) period, typically spanning ages 18-29 (Arnett, 2000), is seen as a critical point in terms of psychological well-being and the emergence of potential challenges (Schulenberg et al., 2004). Research has found that EAs high in certain personality traits, such as neuroticism, were prone to indulging in risky behaviours like drug addiction (Cooper et al., 2000). Therefore, such findings could also be relevant for primary caregivers and mental health professionals within universities to better understand students and how various factors shape their upbringing. At the time of writing, the authors could not identify any studies which investigated how attachment style investigated the manifestation of personality during this period.

Surprisingly, the literature needs to include investigations into how attachment styles influence personality manifestation during the EA period. Previous studies' focus was on the influence of parental personality on participants' attachment style, subjective well-being (Nguyen et al., 2021), psychopathic tendencies (Krupić et al., 2020), and social development (Mensah & Kuranchie, 2013; Kuppens & Ceulmans, 2019). While it is acknowledged that parental personality is a determinant of attachment style, this study also posits that attachment style is associated with how personality manifests in later life. This relationship has been supported by several modern studies (see below) adopting this theoretical framework.

Recent studies have suggested a relationship between adult attachment and personality traits, with anxious adult attachments showing differences in neuroticism and introversion (Al-Sabeelah & Abou-Amerrh, 2013). However, most of this research has focused on older adults (e.g., 32-year-olds) (Young et al., 2019), raising questions about the effects of intervening factors.

The findings of Nguyen et al.'s (2021) study contributed significantly to increasing understanding of parental personality and attachment; however, this study was not representative of the general public based on gender and ethnicity. Furthermore, Yahya et al. (2021) found that parental attachment predicted Big-Five Personality traits. The findings failed to distinguish between attachment to parents and close friends and its influence on the Big-Five Personality traits. Therefore, it is difficult to isolate the effect of parental attachment specifically.

Some studies, however, focused on the influence of participants' parental attachment style on their Big-Five Personality traits, and these studies primarily focused on high school adolescents or adults aged 32, indicating a lack of focus on emerging adults (Ajduković et al., 2019; Young et al.,

2019; Yahya et al., 2021). Most importantly, the EA period is considered a 'between condition' of adolescence and adulthood where personalities become consolidated (Arnett, 2005; Hopwood et al., 2011). Thus, had the studies mentioned above addressed the EA period, the findings could have significantly contributed to understanding how infants form attachments with their primary caregivers and how it predicts their Big-Five Personality traits during a period deemed crucial for personality development.

Research into the effect of a primary caregiver being male or female is scant; however, some research has examined the effect of losing a parent. Ovtscharoff and Braun (2001) identified brain differences in rodents who suffered maternal separation. In contrast, Allyon and Ferriria-Batista (2015) identified variance in health between children raised by a single parent compared with a "*cohabitation with both progenitors*". No papers could be identified which looked at the concept of attachment influencing personality based on the gender of the PCG.

To address these gaps, this study, conducted in the United Kingdom, aimed to investigate the relationship between students' parental attachment styles and the manifestation of their personalities in later life. Given students' higher prevalence of poor mental health (Stallman, 2011) and their unique environmental circumstances, understanding these relationships is of utmost importance. We hypothesised that reported attachment styles would lead to statistically significant differences in personality traits, and these relationships may vary based on whether the participant reported a male or female primary caregiver. Our findings aspire to contribute valuable insights and serve as a foundation for future research.

2 METHODS

2.1 Participants

Following Cohen's guidelines (see Steyn & Ellis, 2009), effect sizes $f^2(V)$ of 0.15 were used as a benchmark for medium effect sizes. A power analysis suggested that a sample of 87 would provide sufficient statistical power. This study recruited 184 undergraduate students aged 18 to 29 from an English university. However, several participants were excluded during data analysis for various reasons: four participants were removed from the analysis, two provided identical answers to all questions, and the remaining two did not fall within the specified age range. Additionally, seven participants were excluded because they had similar scores on at least two of their attachment styles, making it impossible to determine a dominant attachment style. Furthermore, one more participant was excluded because their scores exceeded the threshold for the Mahalanobis critical value. The final sample reflected ethnic diversity, with participants distributed as follows: White (48.4%), Asian/Asian British (27.2%), Black/Black British (16.3%), other ethnic groups (Arab) (4.9%), and Mixed ethnic groups (3.3%).

2.2 Design

This project employed a quantitative, cross-sectional approach, utilising a multivariate analysis of variance (MANOVA) to address the research question. A one-way MANOVA was conducted,

with the independent variable defined as attachment style (categorised as secure, insecure and avoidant) and the outcome variables encompassing the "Big-Five" personality traits.

2.3 Measures

Responses were collected via Jisc and were marked as "required", meaning that there was no missing data. Then, depending on the gender of their primary caregiver, they were required to answer a gender-specific adult scale of parental attachment – short form (see Figure 1).

a. *The Big-Five Inventory Scale* (BFI) (John & Srivastava, 1999) was used to assess an individual on the Big-Five factors dimension of personality, i.e., Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. It was used to measure participants' Big-Five Personality traits. The 44-item scale used a self-report approach in which participants answered questions like "I see myself as someone… who is talkative". Participants responded to items using a 5-point Likert Scale from 1 (Disagree strongly) to 5 (Agree strongly), and some of the questions were reverse scored before the calculation. The Big-Five Personality traits showed high reliability with a Cronbach's alpha of (Openness = 0.663, Conscientiousness = 0.705, Extraversion = 0.813, Agreeableness = 0.755, Neuroticism = 0.826).
b. *The Adult Scale of Parental Attachment – Short Form (*Michael & Snow, 2014) represents a shortened version of the original scale (Martin et al., 2005); however, it was later developed into a short form by Michael and Snow (2014). This scale is a 40-item questionnaire used to measure an adult's perception of attachment relating to either mother or father figure (Michael & Snow, 2014). Thus, participants who chose a mother figure or the person they identified as a mother figure, like a step-parent, grandmother, or aunt and spent most of their time with before the age of fourteen, answered a question like 'I was helpless without my mother'. On the other hand, participants who chose a father figure or the person they identified as a father figure, like a step-parent, grandfather, uncle, or an unrelated man but a primary caregiver and spent most of their time with before the age of fourteen answered a question like 'I felt abandoned when my father was away for a few days'. Participants answered all the questions on a 5-point Likert Scale, from 1 (Never) to 5 (Constantly). Moreover, during the calculation of each participant's score, a safe pattern refers to participants who are secure in their attachment with their primary caregiver, dependent/parentified patterns refer to those with insecure-anxious attachment style, and fearful/distant patterns are denoted to insecure-avoidant attachment style. Each of the respective attachment styles in relation to the primary caregiver showed high reliability with a Cronbach's alpha of (Mother Secure = 0.888, Mother Insecure = 0.706, Mother Avoidant = 0.807, and Father Secure = 0.646, Father Insecure = 0.616, Father Avoidant = 0.859).

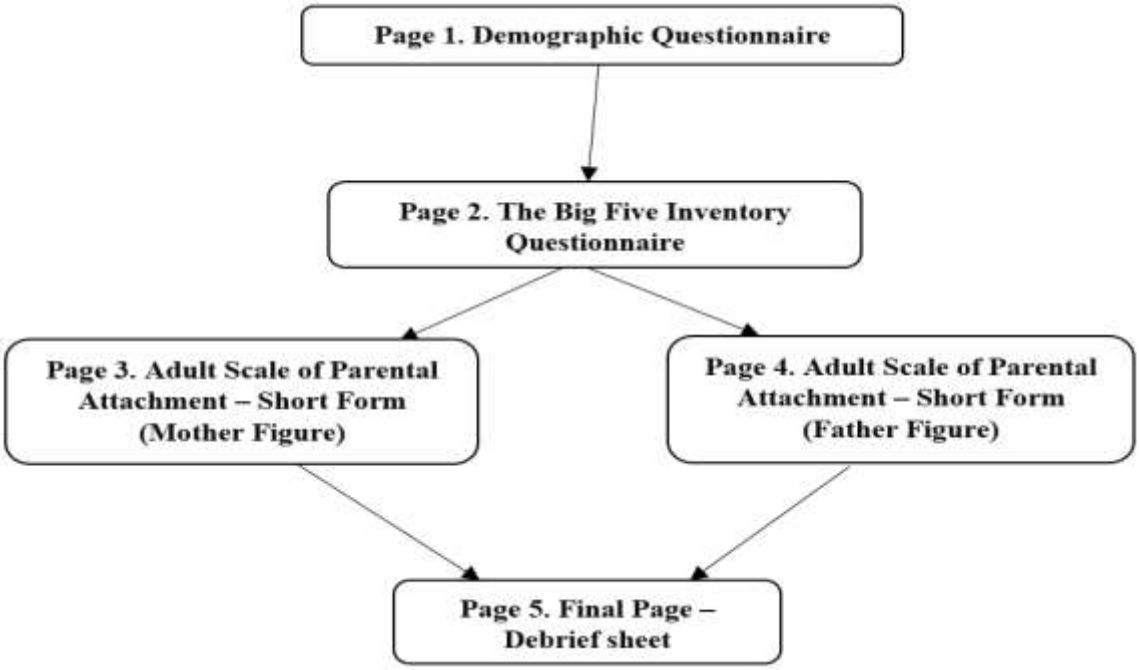

Figure 1. Study design.

2.4 Procedure

Participants who volunteered for this study received a Participants Information Sheet (PIS). After providing informed consent and confirming their eligibility, participants responded to three demographic inquiries regarding their gender, age group, and ethnic background. Next, participants completed *The Big-Five Inventory Scale* (BFI) (John & Srivastava, 1999). They were then asked to specify their primary caregiver during their upbringing (mother figure/father figure). They were directed to the corresponding version of *The Adult Scale of Parental Attachment – Short Form* (Michael & Snow, 2014), which included separate questionnaires for mother and father figures. Upon completion of the study, participants were provided with a debrief sheet explaining the study's objectives and aims. They were also provided information and resources for mental health support services to mitigate potential emotional harm. It is worth noting that the hypotheses were pre-registered as part of the ethics process, and the study received ethics approval from Coventry University's Ethics Committee. To ensure participant confidentiality, all data were securely stored on Coventry University's password-protected One Drive file and will be accessible through an openly accessible open science framework link.

3 RESULTS

3.1 Descriptive Statistics

Preliminary assumption checks were run to ensure the appropriateness of running a one-way MANOVA. Table 1 illustrates the dependent variables' descriptive statistics disaggregated by the independent variable.

Table 1. Descriptive statistics for personality disaggregated by attachment.

	Attachment Style	*M*	*SD*	*N*
Openness	Secure	35.5556	4.15665	9
	Insecure	34.9706	5.43915	136
	Avoidant	35.3846	5.54700	39
	Total	**35.0870**	**5.38598**	**184**
Conscientiousness	Secure	34.8889	7.72082	9
	Insecure	29.6544	5.09230	136
	Avoidant	27.6154	4.73295	39
	Total	**29.4783**	**5.34693**	**184**
Extraversion	Secure	27.4444	6.52133	9
	Insecure	23.5882	6.07663	136
	Avoidant	23.7179	6.32850	39
	Total	**23.8043**	**6.17281**	**184**
Agreeableness	Secure	38.2222	2.43812	9
	Insecure	33.8676	5.79375	136
	Avoidant	31.3590	5.61243	39
	Total	**33.5489**	**5.80821**	**184**
Neuroticism	Secure	21.2222	6.01618	9
	Insecure	28.3162	6.37670	136
	Avoidant	27.4359	5.48584	39
	Total	**27.7826**	**6.33893**	**184**

3.2 Assumption checks and One-way Manova analysis

For the one-way MANOVA, preliminary assumption testing was conducted. Box plots revealed the presence of three mild outliers, all of which were retained in the dataset as they fell within the ± 3.0 interquartile range. Shapiro-Wilks tests indicated that all dependent variables, except one, commonly demonstrated distribution within the three attachment style groups (see Appendix 1). As MANOVA is robust to deviations from the normality assumption (Lix et al., 1996), data transformation was deemed unnecessary.

To assess multivariate outliers, the Mahalanobis distance was computed, and none of the distances exceeded the critical value of 20.52 (max value. = 17.35) (Tabachnick et al., 2013), supporting the assumption of multivariate normality and revealing the absence of outliers. Furthermore, Pearson's correlation analysis (See Appendix 2) suggested that the premise of multicollinearity was satisfied, with a significant yet not problematic (>0.9) association between variables (Tabacknick & Fidell, 2007). The homogeneity assumption of variance-covariance matrices was confirmed based on the

Box's M test results, with a *p-value of* 0.515. Additionally, Levene's test result revealed that the assumption of homogeneity of variance held, as the variance of each variable, except for agreeableness, was equal across groups ($p > 0.05$) (see Appendix 3).

Table 2 presents the outcomes of the one-way MANOVA. The analysis demonstrated a statistically significant main effect of attachment style on the Big-Five Personality traits by F (10, 354) = 3.187, $p < .001$; Wilks' $\Lambda = .842$; and a partial $\eta^2 = .083$ (see Appendix 4). Specifically, attachment styles exerted a significant impact on conscientiousness, F (2, 181) = 7.553, $p < .001$, and an associated $\eta^{2} = .077$. The magnitude of the partial eta squared showed a strong effect, suggesting that 7.7% of the variance in conscientiousness scores is attributable to attachment styles.

Furthermore, when considering the Bonferroni adjustment, it is noteworthy that the scores for agreeableness (F (2, 181) = 6.227, $p = .002$, $\eta^{2} = .064$) and neuroticism (F (2, 181) = 5.631, $p = .004$, $\eta 2 = .059$) also showed borderline significance about the main effect. It is essential to mention that while similar trends were observed when examining female primary caregivers separately, the subset of participants reporting male primary caregivers was limited in size, resulting in reduced statistical power. Nevertheless, it is worth noting that extraversion, in particular, exhibited a marked decrease in significant values within the male primary caregiver subset, approaching significance (p=0.052) compared to the female primary caregiver group.

Table 2. A MANOVA which investigated the overall effects of attachment style on personality disaggregated by Gender of Primary Caregiver (PCG).

Sample	Dependent Variable	Type III Sum of squares	df	Mean Square	F	Sig.	Partial Eta Squared	Adjusted r squared
Male and Female PCG	Openness	7.273	2	3.637	.124	.883	.001	0.01
	Conscientiousness	403.036	2	201.518	7.553	<.001	.077	0.067
	Extraversion	125.896	2	62.948	1.664	.192	.018	0. 007
	Agreeableness	397.412	2	198.706	6.227	.002	.064	0.054
	Neuroticism	430.755	2	215.377	5.631	.004	.059	0.48
Female PCG	Openness	16.089	2	8.045	.271	.763	.003	0.009
	Conscientiousness	383.254	2	191.627	7.193	.001	.078	0.067
	Extraversion	144.012	2	72.006	1.856	.159	.021	0.010
	Agreeableness	365.451	2	182.725	5.708	.004	.063	0.052
	Neuroticism	483.264	2	241.632	6.720	.002	.073	0.062
Male PCG	Openness	26.095	1	26.095	1.402	.267	.135	0.039
	Conscientiousness	61.095	1	61.095	2.449	.152	.214	0.127
	Extraversion	51.852	1	51.852	5.025	.052	.358	0.287
	Agreeableness	53.640	1	53.640	1.575	.241	.149	0.054
	Neuroticism	65.004	1	65.004	1.053	.332	.105	0.005

Tukey Post-Hoc utilised an adjusted alpha of 0.0167 (0.05/3) to avoid error accumulation. As shown in Table 3, the analysis showed that for conscientiousness scores, secure versus avoidant (p < .001) and secure versus insecure (p = .010) had a statistically significant; however, this difference did not exist between insecure versus avoidant (p = .079) and secure versus insecure (p = .010). Agreeableness was statistically significantly different for avoidant attachments with secure only. Neuroticism was found to be significant for insecure and secure attachments only.

Table 3. Multiple comparisons of personality traits demonstrated the main effects.

Tukey HSD						95% Confidence Interval	
Dependent Variable	**(I)Attachment Style**	**(J)Attachment Style**	**Mean Difference (I-J)**	**Std. Error**	**Sig.**	**Lower Bound**	**Upper Bound**
Conscientiousness	Secure	Insecure	5.2345*	1.77778	.010	1.0333	9.4356
		Avoidant	7.2735*	1.91008	<.001	2.7597	11.7873
	Insecure	Secure	-5.2345*	1.77778	.010	-9.4356	-1.0333
		Avoidant	2.0390	.93821	.079	-.1781	4.2562
	Avoidant	Secure	-7.2735*	1.91008	<.001	-11.7873	-2.7597
		Insecure	-2.0390	.93821	.079	-4.2562	.1781
Agreeableness	Secure	Insecure	4.3546	1.94434	.067	-.2402	8.9494
		Avoidant	6.8632*	2.08904	.003	1.9265	11.8000
	Insecure	Secure	-4.3546	1.94434	.067	-8.9494	.2402
		Avoidant	2.5087*	1.02612	.041	.0838	4.9335
	Avoidant	Secure	-6.8632*	2.08904	.003	-11.8000	-1.9265
		Insecure	-2.5087*	1.02612	.041	-4.9335	-.0838
Neuroticism	Secure	Insecure	-7.0940*	2.12857	.003	-12.1241	-2.0638
		Avoidant	-6.2137*	2.28697	.020	-11.6181	-.8092
	Insecure	Secure	7.0940*	2.12857	.003	2.0638	12.1241
		Avoidant	.8803	1.12334	.714	-1.7743	3.5349
	Avoidant	Secure	6.2137*	2.28697	.020	.8092	11.6181
		Insecure	-.8803	1.12334	.714	-3.5349	1.7743

**The mean difference is significant at the .05 level.*

4 DISCUSSION

The results show that the central hypothesis of reported attachment styles influencing how personality manifested in later life was supported. Results found a statistically significant main effect on neuroticism, conscientiousness and agreeableness. It must be noted, however, that not all aspects of personality were statistically significantly different, with extraversion and openness not demonstrating significant main effects.

Interestingly, some differences emerged when comparing our results to prior studies on adult attachment (Abou-Amerrh & Al-Sabeelah, 2013). While our study and previous research found a statistically significant relationship with neuroticism, extraversion was only significant in adult relationships. Furthermore, while conscientiousness and agreeableness were non-significant in adult relationships, they were significant in our study. These differences suggest something unique about the Emerging Adulthood (EA) period.

Specifically, to parental attachment style, research has previously suggested that agreeableness was influenced by attachment, albeit in an adult population. Our analysis demonstrated an overall effect on agreeableness, but pairwise comparisons indicated this was not present between secure and insecurely attached individuals. The current results could imply that parental attachment style shapes one's personality traits, and its impact may extend beyond the EA period. Early research in preschool children found a link between avoidant attachment and social performance (Sroufe, 1983) and struggled to integrate themselves into social scenarios. This would be consistent with these findings; however, research simultaneously suggested links between insecure attachment and divorce (Lewis et al., 2003), which one could reasonably expect would manifest disagreeable behaviour.

Furthermore, based on the analysis of parental attachment style's influence on the Big-Five Personality traits separately, the results indicated that secure, insecure, and avoidant attachment styles to primary caregivers predicted agreeableness. Consistent with Young et al.'s (2019) study, it noted that all attachment styles, secure, insecure, and avoidant, highly indicated individuals' propensity to agreeableness. However, the current study examined this effect during the EA period (18-29), whereas the previous survey tested it at 32. This could further emphasise a lifelong impact. This also supported previous studies' emphasis on the enduring effects of attachment style to a primary caregiver on personality development throughout the life-span (Bowlby, 1979; Öztan-Ulusoy et al., 2018; Simpson & Belsky, 2008; Shaver & Brennan, 1992).

Previous research had yielded inconsistent results; however, it generally suggested that neuroticism was influenced by parental attachment. However, there needed to be more consistency regarding the effect on openness and extraversion (Shaver & Brennan, 1992). In line with consistent findings, neuroticism was influenced; however, this research found a statistically non-significant relationship between openness and extraversion. While this research investigated a very specific cohort, i.e., emerging adults, it does suggest that the manifestation of certain personality traits at different times throughout the lifespan is complicated and warrants further research.

4.1 Implications

This research suggests that parental attachment style may shape an individual's personality traits, and its influence may extend beyond the EA period. The study's results on agreeableness imply that the impact of parental attachment style on personality traits may persist throughout one's life. This aligns with previous research emphasising the enduring effects of attachment style to a primary caregiver on personality development across the lifespan. This research poses broader questions as to the variability of personality traits. It may suggest that personality manifestation may be influenced differently at specific critical periods rather than stable throughout the lifespan.

This population cohort is limited regarding the differences between those who reported a male primary caregiver; therefore, the sample was limited. It should be noted, however, that while all variables returned non-significant results when comparing significance values between the cohort's extraversion values, they dropped markedly to the point where they were approaching significance.

While caution must be taken when interpreting non-significant results, the findings raise interesting questions about the role of attachment depending on whether a PCG is male or female.

4.2 Strengths and Limitations

The research was limited in the presentation of participants from certain types of attachment styles, and the gender of the PCG was unbalanced. Furthermore, the sample by design only investigated students. While the results suggest that attachment influences personality-specific characteristics, significantly neuroticism may affect how individuals perceive their attachment to their primary caregivers. Research has shown that neurotic individuals may be subject to memory biases (Norris et al., 2019). While a rationale for this theoretical framework is given in the introduction section, the issue of the directionality of the relationship must be mitigated partially.

4.3 Directions for future research

The findings suggest that the relationship between personality manifestation and attachment style could be influenced differently at different lifespan points. Our study focused on a specific cohort, emerging adults, and revealed intriguing findings. These results underscore the intricate nature of personality development at various life stages and warrant more extensive research to uncover the underlying mechanisms and dynamics. To test this idea, longitudinal data such as the Millennium cohort panel study should be used to track the same individuals over significant periods of time to determine if these relationships are present among participants over substantial periods of time.

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OPEN SCIENCE STATEMENT

The study materials and data can be accessed at the following link https://osf.io/3cmde/?view_only=ab3eafcc85f94b4e83d1fd2e64bcb168

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Appendix 1. Tests of Normality

		Kolmogorov-Smirnov*			Shapiro-Wilk		
	Attachment_Style	Statistic	df	Sig.	Statistic	df	Sig.
Openness	Secure	.201	9	.200*	.929	9	.470
	Insecure	.079	136	.038	.990	136	.448
	Avoidant	.093	39	.200*	.959	39	.162
Conscientiousness	Secure	.152	9	.200*	.959	9	.786
	Insecure	.061	136	.200*	.987	136	.229
	Avoidant	.089	39	.200*	.969	39	.338
Extraversion	Secure	.197	9	.200*	.909	9	.310
	Insecure	.086	136	.014	.988	136	.296
	Avoidant	.161	39	.013	.951	39	.088
Agreeableness	Secure	.203	9	.200*	.943	9	.612
	Insecure	.067	136	.200*	.988	136	.288
	Avoidant	.093	39	.200*	.963	39	.223
Neuroticism	Secure	.231	9	.182	.890	9	.200
	Insecure	.119	136	<.001	.973	136	.008
	Avoidant	.096	39	.200*	.974	39	.499

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Appendix 2. Correlations

		Openness	Conscientiousness	Extraversion	Agreeableness	Neuroticism
Openness	Pearson Correlation	1	.197**	.169*	.163*	-.036
	Sig. (2-tailed)		.007	.022	.027	.630
	N	184	184	184	184	184
Conscientiousness	Pearson Correlation	.197**	1	.351**	.314**	-.448**
	Sig. (2-tailed)	.007		<.001	<.001	<.001
	N	184	184	184	184	184
Extraversion	Pearson Correlation	.169*	.351**	1	.168*	-.335**
	Sig. (2-tailed)	.022	<.001		.023	<.001
	N	184	184	184	184	184
Agreeableness	Pearson Correlation	.163*	.314**	.168*	1	-.286**
	Sig. (2-tailed)	.027	<.001	.023		<.001
	N	184	184	184	184	184
Neuroticism	Pearson Correlation	-.036	-.448**	-.335**	-.286**	1
	Sig. (2-tailed)	.630	<.001	<.001	<.001	
	N	184	184	184	184	184

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

Appendix 3. Levene's Test of Equality Error Variance [a]

		Levene Statistic	df1	df2	Sig.
Openness	Based on Mean	.568	2	181	.567
	Based on Median	.697	2	181	.499
	Based on Median and with adjusted df	.697	2	179.266	.499
	Based on trimmed mean	.559	2	181	.573
Conscientiousness	Based on Mean	2.761	2	181	.066
	Based on Median	2.235	2	181	.110
	Based on Median and with adjusted df	2.235	2	169.500	.110
	Based on trimmed mean	2.714	2	181	.069
Extraversion	Based on Mean	.040	2	181	.961
	Based on Median	.020	2	181	.981
	Based on Median and with adjusted df	.020	2	179.138	.981
	Based on trimmed mean	.036	2	181	.964
Agreeableness	Based on Mean	3.313	2	181	.039
	Based on Median	3.212	2	181	.043
	Based on Median and with adjusted df	3.212	2	174.808	.043
	Based on trimmed mean	3.380	2	181	.036
Neuroticism	Based on Mean	.816	2	181	.444
	Based on Median	.730	2	181	.483
	Based on Median and with adjusted df	.730	2	177.593	.483
	Based on trimmed mean	.793	2	181	.454

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Attachment_Style

Appendix 4. Multivariate Tests

Effect		Value	*F*	Hypothesis *df*	Error df	*p*	Partial Eta Squared
Intercept	Pillai's Trace	.982	1892.116[b]	5.000	177.000	<.001	.982
	Wilks' Lambda	.018	1892.116[b]	5.000	177.000	<.001	.982
	Hotelling's Trace	53.450	1892.116[b]	5.000	177.000	<.001	.982
	Roy's Largest Root	53.450	1892.116[b]	5.000	177.000	<.001	.982
Attachment Style	Pillai's Trace	.164	3.182	10.000	356.000	<.001	.082
	Wilks' Lambda	.842	3.187[b]	10.000	354.000	<.001	.083
	Hotelling's Trace	.181	3.191	10.000	352.000	<.001	.083
	Roy's Largest Root	.128	4.564[c]	5.000	178.000	<.001	.114

a. *Design: Intercept + Attachment_Style*

b. *Exact Statistic*

c. *The statistic is an upper bound on F that yields a lower bound on the significance level.*

d. *Computed using alpha = .05*