



Investigating Attachment Styles as a Predictor of Depressive Symptoms and Friendship
Quality; Gender Differences

Sophie Nugent

17404986

Supervisor: Dr. Michelle Kelly

B.A (Hons) in Psychology

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Name: Sophie Nugent

Student Number: 17404986

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Abstract

Research has shown that insecure attachment is associated with higher levels of depressive symptoms and a range of other mental health issues. However, attachment and friendship quality in adulthood is scarcely examined in the literature. The present study sought to expand on previous findings about attachment and mental health, and investigate the association between attachment, depressive symptoms and friendship quality within an Irish context. Gender differences in these variables are examined. 408 participants with ages ranging from 18-68 participated in this study of three questionnaires (The Adult Attachment Scale, The Beck Depression Inventory and The Friendship Quality Scale). Results from multiple regression analysis, independent samples t-tests and Mann Whitney U tests indicate higher levels of depressive symptoms predict insecure attachment to a statistically significant level, and that these are both more prevalent in females than males. Attachment styles were not found to predict friendship quality in males or females. The results of the study suggest the need for future investigations into factors associated with the gender difference in attachment within relationships and depressive symptoms. Implications and recommendations for future research are discussed.

Key words: attachment, depressive symptoms, friendship quality

Introduction

Attachment was initially studied mainly in relation to infants and their caregivers. Bowlby's (1958, 1973, 1980) contributions to the field explained how infants become attached to their primary caregiver, seek proximity to them, and become distressed when separated from them. Ainsworth & Bell (1970) built on Bowlby's hypotheses and coined three different attachment styles – secure, avoidant and anxious-ambivalent, with each infant in their study falling into one of the three categories. The fourth style coined disorganised attachment was not discovered until later when Main & Solomon (1986) replicated the study by Ainsworth & Bell. Later, attachment was studied in adults in relation to romantic relationships and is believed to continue to be important throughout the lifespan (Hazan & Shaver, 1987).

In recent years, the literature on the topic has explored how childhood attachment style can predict dynamics in adult romantic relationships, or adult attachment styles (Bifulco et al., 2006; Bryant et al., 2017; Diehl, Elnick & Bourbeau, 1998; Neal & Frick-Horbury, 2001). The theory of adult attachment styles observes a four-group model consisting of: 1. Secure attachment (comfortable with closeness and intimacy, positive view of themselves and those around them), 2. Preoccupied/anxious ambivalent (idealised view of others with a negative view of the self, seeks acceptance and approval), 3. Fearful avoidant (has a negative view of everyone including themselves, expects rejection and does not seek closeness), and 4. Dismissive avoidant (negative view of other people with a positive view of the self, expectation of potential partners to be unavailable); (Bartholomew & Horowitz, 1991). Attachment styles can therefore have the potential to shape how we view the world in many ways, and different attachment styles have been closely linked to depressive symptoms, anxiety, and personality disorders (Cassidy, 1994; Crawford et al., 2007; Davila, Steinberg & Kachadourian, 2004; Meyer & Pilkonis, 2005).

Attachment and Mental Health

Over time, extensive literature has developed on depressive symptoms and attachment styles; for example, Hankin et al. (2005) found that avoidant attachment styles were a significant predictor of depression, while anxious attachment predicted both depression and anxiety symptoms. Similarly, a study of 248 adults found fearful avoidant and preoccupied attachment styles to be the most strongly linked to both depression and general anxiety symptoms, with dismissive attachment only significantly correlated with depression (Marganska, Gallagher & Miranda, 2013). This has also briefly been explored in clinical patients in the literature, with studies suggesting that insecure childhood attachment styles in vulnerable populations can predict further or ongoing depressive symptoms after discharge from an inpatient clinic (Delhaye et al., 2013; Reiner et al., 2016). Similarly, in women with anorexia or bulimia, insecure childhood attachment was also found to be a strong correlate of negative body image (Troisi et al., 2006), while patients with these disorders were also more likely to have had early separation anxiety (Troisi et al., 2006).

Much of the research examining the impact of adult attachment on depression relies heavily on self-report measures to assess depressive symptoms. Bifulco, Moran, Ball & Bernazzani (2002) addressed this challenge by examining a clinical sample of women with depression over a 12-month period using a mixed methods approach, accessing the participants through GP patient lists. They assessed the symptoms and determined the clinical case status by using the DSM (APA, 1987) checklist and including those presenting with depressed mood among four additional key symptoms. This study and a later study conducted by Bifulco, Moran, Ball & Lillie (2002) found that most insecure adult attachment (apart from one style they labelled withdrawn avoidance) was significantly related to clinical depression. Childhood experience of neglect and abuse and dismissive adult attachment best

predicted depression. All non-standard attachment was related to poor support and low self-esteem (Bifulco, Moran, Ball & Bernazzani, 2002; Bifulco, Moran, Ball & Lillie, 2002).

Attachment and mental health in adolescents and young people has also been quite widely researched, and most of the literature is consistent in its conclusions. Securely attached adolescents from 12-14 years of age have been found to have significantly lower levels of depressive symptoms (Muris, Meesters, van Melick & Zwambag, 2001), while both anxious and avoidant styles can predict changes in both depressive and anxiety symptoms after controlling for baseline levels in 11-17 year olds (Lee & Hankin, 2009). Additionally, Khan, Fraley, Young & Hankin (2020) used longitudinal measures to investigate the quality of children's attachment to their parents over a 3-year period in 690 children and adolescents and discovered similar results. Specifically, they found that when children in the study started off anxiously attached, their levels of depressive symptoms increased over time. It is now widely accepted that childhood attachment styles can largely influence general mental health status in adolescence and adulthood (Bethell et al., 2019; Bucci, Roberts, Danquah & Berry, 2015; Herronkhol et al., 2013; Horwood, Fergusson & McLeod, 2016), and predict depressive symptoms (Brenning et al., 2012; Dujardin et al., 2016; Scharfe, 2007).

Attachment and Interpersonal Relationships

As well as impacting mental health outcomes for adolescents and adults, attachment styles may also influence later decision making, behaviour and personal relationships. For example, evidence additionally suggests that attachment categorised into anxious or avoidance can determine moral judgements and reasoning based on interpersonal experiences (Koleva & Selterman, 2014; Robinson, Joel & Plaks, 2015), although research on this remains limited and briefly addressed. Likewise, depressive symptoms have been previously found to be predicted by attachment insecurity or anxious attachment in relation to caregiving, and people who provide care to an adult or older family member with insecure

adult attachment may be a greater risk for developing negative mental health outcomes (Dark-Freudeman, Greskovich & Terry, 2016; Shaver, Mikulincer & Cassidy, 2014). River, Borrelli & Nelson-Coffey (2016) expanded on this with a larger sample and found similar results in relation to caregiving in a parental context, which may suggest that attachment style can predict behaviour in many different situations. The researchers later found evidence that attachment avoidance is associated with lower levels of positive emotion towards caregiving as a parent, however this is not the case for attachment anxiety (Nelson-Coffey, Borrelli & River, 2017). However, these studies demonstrate the requirement for more longitudinal research on the topic, as they were cross sectional, and the samples were all parents of children aged 1 to 3. Additionally, experimental research with control groups of parents with older children, or individuals without children could produce more concrete evidence to support these suggestions.

In a related study, findings showed that insecure or anxious childhood attachment style in mothers, was associated with lower levels of self-esteem, a higher Negative Evaluation of Self, and was more significant in single or divorced mothers (Kadir & Bifulco, 2013). This is consistent with Rawatlal, Kliewer & Pilay's (2015) later findings which examined maternal parents' attachment and their adolescent's vulnerability to depression. The implications of maternal figures being vulnerable to depression predicted by their attachment style could be that their children may develop the same vulnerability. This was reported in the research conducted by Rawatlal, Kliewer & Pilay (2015). However, some limitations of this are that most of the research on parental and child attachment is on heterosexual participants with no control group of parents of other sexual orientations. It is also usually solely focused on the maternal figure, rather than the father or paternal figure.

In examining the effect of attachment on romantic relationships, March and-Reilly (2012) discovered that a sample of 18-25 year old college students had significantly higher

depressive symptoms when anxiously attached to their partner. Higher abandonment anxiety and anxious attachment was correlated with higher levels of each partner's own depressive symptoms, but did not have a significant effect on their partner's (Marchand-Reilly, 2012). However, Desrosiers et al. (2014) found that in young adult couples expecting a child, depressive symptoms in one partner were also correlated with higher levels of depressive symptoms in the other, and anxiously attached partners had higher levels of depressive symptoms when their partner was avoidant. While males were more likely to have an avoidant style, the females who had an avoidant style were also more likely to exhibit depressive symptoms (Desrosiers et al., 2014). The conflicting evidence as to whether one young adult's partner's attachment style and depressive symptoms influence the other's, could be explained by the added stress expecting a child could bring. Therefore, more conclusive research on young adult romantic attachment is required, as this could have the potential to form generations of adults who are more securely attached to their partners or co parent of their children. The benefits of this could possibly be fewer mental health issues and better mental health outcomes for developing adolescents and adults, and possibly their children. However, much of the research on adolescents relates to parental and familial attachment, or attachment within friendships, rather than relationships (Markiewicz, Doyle & Brendgen, 2001).

Attachment and Friendship Quality

Similar to attachment and romantic relationships; attachment and friendship quality have been previously correlated, with the literature primarily focusing on adolescents and students (Dwyer et al., 2010; Raboteg-Saric & Sakic, 2014; Wilson & Gore, 2013). A study of 343 students explored identity formations, friendship and attachment and discovered that attachment avoidance and attachment anxiety was correlated with feelings of loneliness, and with fewer good quality friendships (Doumen et al., 2012). Evidence strongly suggests that

securely attached individuals will have better quality friendships (Pace, Zappulla & DiMaggio, 2016; Pallini et al., 2014), however as stated above, this is mainly addressed in the literature in samples of adolescents.

Weimer, Kerns & Oldenberg (2004) found consistencies with previous literature and reported that two secure best friends in a pair were most likely to have the highest quality friendship. A strength of this study was that the methodology adopted an observational and self-report approach by videotaping an intimate conversation between pairs of best friends, and also measured attachment and friendship on scales. However, the study did not account for gender differences, like later research by Saferstein, Neimeyer & Hagans (2005), and Graber, Turner & Madill (2016). These researchers found that women reported higher levels of companionship with their best friends, and that both anxious and avoidant undergraduates had higher levels of conflict in their opposite sex relationships, compared with same sex (Saferstein, Neimeyer & Hagans, 2005), and that being male with a dismissive avoidant style was the highest predictor of having lower quality friendship (Graber, Turner & Madill, 2016). Males have previously been found to have better quality friendships when they had higher tendencies to gossip, a result that has not been found in females (Watson, 2012). This suggests that perhaps attachment style could be a confounding variable in this finding, as it is possible that avoidant individuals may be reluctant to speak or open up in such a way. However, this has not been investigated in the literature. Two studies have found that rejection sensitivity related to friendship is associated with avoidant attachment styles and lower friendship quality (Natarajan, Somasundaram & Sundaram, 2011; Ozen, Sumer & Demir, 2011), but one showed evidence that being fearful avoidant and being female is the highest predictor of low friendship quality (Erozkan, 2009). However, this shows inconsistencies with existing research (Graber, Turner & Madill, 2016).

Rationale, Research Aims and Hypotheses

Attachment is widely and broadly studied in relation to romantic partners and parental relationships (Millings, Walsh, Hepper & O'Brien, 2013; Wright, 2015; Zayas & Shoda, 2005; DeWall et al., 2011), or in relation to friendship and romantic relationships (Chow & Ruhl, 2014; Kochendorfer & Kerns, 2017; Miller, Denes, Diaz & Buck, 2014). However, even with some evidence to suggest there is a relationship between friendship quality and attachment style (Welch & Houser, 2010), there are still key questions to be addressed. Firstly, adult friendship quality and attachment is rarely addressed in the literature as most research focuses on samples of children and adolescents. Secondly, does attachment act as a predictor of the quality of platonic friendships in adults as it does with romantic relationships (Pietromonaco & Beck, 2015). And finally, there are inconsistent findings regarding gender differences overall. For example, Arefi, Navabinezhad & Sanai (2006) found gender had no influence on the impact of attachment styles on adolescent friendships, however this has not been replicated since. In contrast, a study mentioned earlier by Desrosiers et al. (2014) reported significant gender differences in romantic relationships; specifically, adolescent females who were avoidantly attached to their romantic partner were more likely to show depressive symptoms than their male partners who were also avoidant. It remains to be answered whether this gender differential result is reliable or if it was due to confounding variables in the study. This might suggest that even though males are more likely to be avoidant, females are more likely to show signs of depression when they are (Desrosiers et al., 2014). This is interesting as it has been widely reported in the literature discussed above, that anxious attachment is usually correlated with higher levels of depressive symptoms. However, gender does not always seem to be accounted for. There are questions to be answered about the relationship between depressive symptoms, attachment styles and gender.

A question which also remains to be answered is if the correlation between depressive symptoms and anxious/avoidant attachment styles is generalisable to an Irish population.

Therefore, the research aims are to investigate whether attachment styles predict depressive symptoms and the quality of friendships, and to examine gender differences across findings. The research questions, based on the literature discussed above, are 1. Can adult attachment style predict depressive symptoms? 2. Can adult attachment style predict friendship quality? 3. Is there a significant gender differences in attachment style, depressive symptoms, and the quality of friendships? The hypotheses based on the literature discussed above are 1. Insecure attachment styles will predict higher levels of depressive symptoms, 2. Secure and anxious attachment styles will predict better friendship quality than dismissive/avoidant attachment, 3. There will be a significant gender difference in the results.

Methodology

Participants

The initial sample consisted of 413 participants. (Males: $n = 95$; Females: $n = 313$; Non-binary or gender non-conforming: $n = 4$; Other: $n = 1$). They ranged between the ages of 16 and 68. Some data was removed, as it was a requirement to be 18 to participate. Therefore, the final sample size for analysis was $n = 408$. The participants were recruited through non-probability sampling techniques. Convenience sampling was used to recruit participants online through the researchers online social media platforms Facebook, Twitter, Instagram and LinkedIn. Snowball sampling was also used as others shared the research questionnaire on their own social media platforms and used the retweet feature on Twitter to share with their own followers. Gender identity and age were the only demographics collected about the participants.

An a priori power analysis was conducted in G*Power to determine the required sample size for the between-groups analysis (research question 3), assuming unequal sample sizes (half the number of males to females). For a medium effect size of 0.5 at a power of 0.95, the required sample size was calculated as 157 for Group 1 (females) and 79 for Group 2 (males). The total recommended sample size was 236. The final sample size of 408 in this study was therefore large enough to observe a significant result.

Measures

Firstly, demographics were asked in the first section of the online questionnaire (See Appendix B). These included questions on Gender and Age. Three scales were then used; The Adult Attachment Scale (Collins & Read, 1990) to measure attachment style, the Beck Depression Inventory (Beck, 1996) to measure depressive symptoms, and the Friendship Quality Scale (Berry, Willingham & Thayer, 2000) to measure the quality of a close friendship (See Appendix C, D & E).

Adult Attachment Scale

The Adult Attachment Scale (Collins & Read), based on Hazan and Shaver's (1987) categorical measure, is an 18 item, self-reported questionnaire measured on a 5-point Likert scale ranging from 'not at all characteristic of me' to 'very characteristic of me'. The original 21 items on this scale were split according to the three categorised styles of attachment – secure, avoidant and anxious ambivalent. Therefore 7 statements referred to each of the three models of attachment, however, 3 were excluded from the questionnaire as they were too highly correlated with each other. The final 18 items on the scale include statements such as 'I find it difficult to depend on others' (avoidant), 'I do not often worry about being abandoned' (secure), and 'I worry that my partner does not really love me' (anxious). The resultant subscales of Close (extent of which a person is comfortable with closeness and intimacy), Depend (the extent of which someone feels they can depend on others) and Anxiety (the extent to which a person worries about being abandoned or unloved) each have 6 questions, all of which relate to anxious, avoidant and secure attachment. The first 6 statements on the questionnaire make up the 'Depend' subscale, the next 6 are 'Anxiety', and the remaining items are the 'Close' subscale (See Appendix C). The maximum possible score on each scale is 30 and the minimum is 6. A higher score indicates higher anxiety and avoidance and less security in relationships. The 'secure' items on each of the three scales were reverse scored to reflect this. A higher score on any of the subscales therefore indicates a negative result, further from a secure attachment style. Cronbach's Alpha for the Depend, Anxiety and Close subscales is .75, .72 and .69 (Collins & Read, 1990). This justifies the use of the scale for this research project as it is quite highly reliable and has internal consistency. Cronbach's alpha for the sample in this study was .79 (Depend), .73 (Anxiety) and .68 (Close).

Beck Depression Inventory

The Beck Depression Inventory (Beck et al., 1961; Beck & Steer, 1984; Beck, Steer & Brown, 1996) was most recently revised in 1996 to keep up to date with DSM criteria for depression, and consists of 21 items on a self-reported scale from 0 to 3. People are asked to answer in relation to their feelings over the past 2 weeks. The scale contains statements such as 'I am sad all the time and I can't snap out of it', 'I feel discouraged about the future', and 'I feel guilty a good part of the time' (Beck, Steer & Brown, 1996). This is scored in a linear fashion with the lowest score being zero and the highest being 63. This measure of depressive symptoms has a Cronbach's Alpha of .92 so this suggests a very high level of internal consistency. When calculated for the sample in this study, Cronbach's alpha was also .92. (See Appendix D).

Friendship Quality Scale

The Friendship Quality Scale (Berry, Willingham & Thayer, 2000) is another self-reported measure in which participants evaluate the quality of their friendships by answering questions in relation to one friend that comes to mind, on a 9-point Likert scale. This ranges from 'not at all' to 'very much'. Examples of questions on this scale are 'Compared to other friends you've had, how important is this friendship to you?' and 'Compared to other friendships, how much conflict do you have with your friend?' (See Appendix E). Alphas for these ranged between .82 and .84, suggesting high reliability and internal consistency. However, when calculated for the sample in this study, Cronbach's alpha for this scale was .26. The justification for the use of the three scales in this study was that they are valid, reliable and tested. The scales did not need to be altered in any way for this research project.

Design

This research was a quantitative, cross-sectional study and all data were analysed through quantitative methods and statistical tests. The design was conceptualised as a mixed,

within and between participants design. There were two independent/predictor variables (attachment style and gender) and two dependent/criterion variables (depressive symptoms and friendship quality). The research questions 1 and 2 used a correlational, within-participants design, while question 3 used a between-participants design.

Procedure

Data was collected through an online Google Forms survey. Participants were recruited through public social media posts. To participate, they first clicked on the link provided on social media platforms Facebook, Twitter, Instagram and LinkedIn to get to the questionnaire. The link directed participants first to an information sheet detailing information such as the researcher's name and contact details, their anonymity status as a participant, and the nature of the study. Participants were also informed of the voluntary nature of the research and their right to withdraw at any time during the questionnaire (See Appendix A). They could then either decide to give their informed consent to take part in the study or exit at this point if they wished. It was communicated that by ticking the box to consent to take part, they were confirming they were over 18. If they decided to consent and participate, they were taken to a questionnaire which first asked for their gender and age, and then contained three scales (See Appendix B, C, D & E). Completion of these three scales would take approximately 10 to 15 minutes.

Participants were free to take breaks at their own leisure as it was an unsupervised online questionnaire. When the questionnaire was completed, the participant was redirected to an online debrief form which included some resources for the unlikely event that distress arose upon completing the study (See Appendix F). The researchers' contact details were provided in both the information and debrief sheets in the case that a participant wanted to contact them for any reason related to the study, as well as the supervisor's details.

Ethical Considerations

This study was approved by the National College of Ireland's ethics committee and is in accordance with both the PSI Code of Professional Ethics, and NCI Ethical Guidelines and Procedures for Research Involving Human Participants. No new interventions, scales or tests were used for this study, and the answers to the questionnaire were completely anonymous.

This study consisted of a non-clinical sample of adults which minimises risk of any harm. All efforts were made to avoid any potential or possible harm, which included handling data safely and securely, keeping data anonymous, not asking for any identifying information, and providing resources for the unlikely event distress arose in any participants.

Results

Descriptive Statistics

Descriptive statistics were performed for all variables. Of the final sample ($n = 408$) 23.3% were male ($n = 95$), 75.6% were female ($n = 310$) and 1.2% were gender non-conforming or other ($n = 3$). The mean age was 24, and standard deviation was 8.79. The age ranged from 18 to 68. Tests of normality were performed, and Means, Standard Deviations, Medians and Ranges on the data were obtained. Preliminary analyses indicated that the data was not normally distributed for some continuous variables, indicated by a significant result ($p < .01$) of the Shapiro-Wilk test, therefore the assumption of normality was violated. Histograms showed that data on the continuous variable 'Friendship Quality' was positively skewed, and data on the variable 'Depressive Symptoms' was negatively skewed. The data for the three attachment subscale variables were approximately normally distributed. Descriptive statistics are displayed for these variables in table 1 below.

Table 1*Descriptive statistics for continuous variables*

	Mean	Median	Standard Deviation	Minimum	Maximum
Depressive Symptoms	39.93	39	11.81	21	78
Friendship Quality	32.49	33.5	4.32	12	40
Attachment – Depend	19.51	20	4.88	6	30
Attachment – Anxiety	17.73	18	5.39	6	30
Attachment – Close	15.81	16	4.76	6	30

Inferential Statistics

Research Question 1 -

To determine what degree attachment styles could predict depressive symptoms to, multiple regression analysis was conducted. Preliminary analyses were performed to ensure no violations of the assumption of normality, linearity and homoscedasticity. A spearman's correlation coefficient was calculated to assess the relationship between the predictor variables and the criterion variable (See Table 2 below). Each of the three predictor variables were significantly positively correlated with the criterion variable, and these significant effects ranged from .420 to .570. Correlations between predictor variables were also assessed, with r values ranging from .246 to .503.

Table 2

Spearman's correlation between continuous variables

Variables	1	2	3	4
1. Close	1			
2. Anxiety	.246***	1		
3. Depend	.503***	.368***	1	
4. Depressive Symptoms	.420***	.570***	.500***	1

Note. Statistical significance: *p < .05; **p < .01; ***p < .001

Tests of multicollinearity demonstrated that all Tolerance and VIF values were in an acceptable range, therefore there was no violation of the assumption of multicollinearity. Therefore, the data was suitable for examination through multiple linear regression analysis. Examination of the scatterplot indicated the presence of one outlier but was within the possible score range so was still included for the purpose of analysis. Multiple regression analysis was performed using SPSS to investigate how well depressive symptoms could be explained by attachment styles expressed as three variables according to subscales (close, depend and anxiety). Since no a priori hypothesis was made to determine the order of entry of the predictor variables, a direct method was used for the analysis. The three predictor variables explained 43.1% of variance in depressive symptoms ($F(3, 406) = 102.54, p < .001$). All three attachment variables predicted depressive symptoms to a statistically significant level: depend ($\beta = .248, p < .001$), anxiety ($\beta = .413, p < .001$), close ($\beta = .183, p < .001$) (See Table 3).

Table 3

Multiple regression model predicting depressive symptoms

Variable	R ²	B	SE	β	<i>t</i>	<i>p</i>
Model	.431					.000***
Attachment – Depend		.602	.111	.248***	5.422	.000***
Attachment – Anxiety		.906	.089	.413***	10.205	.000***
Attachment – Close		.452	.110	.183***	4.125	.000***

Note. R² = R squared; B = unstandardised beta value; SE = standard error; β = standardised

beta value; *t* = *t* statistic; Statistical significance: * $p < .05$; ** $p < .01$; *** $p < .001$

Research Question 2 –

To address the degree to which attachment could predict friendship quality, another multiple regression analysis was run. This analysis was to explain how well friendship quality could be explained by the three predictor variables, close, depend and anxiety. Preliminary analyses were performed to ensure no violations of the assumption of normality, linearity and homoscedasticity. A spearman's correlation coefficient was calculated to assess the relationship between the predictor variables and the criterion variable (See Table 4 below). Two of the three predictor variables were significantly correlated with the criterion variable. Correlations between predictor variables were also assessed, with r values ranging from .246 to .503, as previously observed in table 2 above.

Table 4

Spearman's correlation between continuous variables

Variables	1	2	3	4
1. Close	1			
2. Anxiety	.246***	1		
3. Depend	.503***	.368***	1	
4. Friendship Quality	-.102*	.010	-.100*	1

Note. Statistical significance: *p < .05; **p < .01; ***p < .001

Tests of multicollinearity demonstrated that all Tolerance and VIF values were in an acceptable range, therefore there was no violation of the assumption of multicollinearity. Therefore, the data was suitable for examination through multiple linear regression analysis. Since no a priori hypothesis was made to determine the order of entry of the predictor variables, a direct method was used for the analysis. The three predictor variables explained 1.5% of variance in friendship quality ($F(3, 406) = 1.999, p = .113$). None of the variables predicted friendship quality to a statistically significant level: depend ($\beta = -.106, p = .078$), anxiety ($\beta = .044, p = .408$), close ($\beta = -.038, p = .515$) (See table 5).

Table 5

Multiple regression model predicting friendship quality

Variable	R ²	B	SE	β	<i>t</i>	<i>p</i>
Model	.015					.113
Attachment		-.094	.053	-.106	-1.765	.078
– Depend						
Attachment		.035	.043	.044	.828	.408
– Anxiety						
Attachment		-.034	.053	-.038	-.651	.515
- Close						

Note. R² = R squared; B = unstandardised beta value; SE = standard error; β = standardised beta value; *t* = *t* statistic; Statistical significance: **p* < .05; ***p* < .01; ****p* < .001

Research Question 3 –

Independent samples t tests were conducted to compare gender differences in attachment styles using the three attachment subscales. For the purpose of the analysis, participants who identified as gender non-conforming or other were removed for these tests, as there weren't enough participants to observe a significant finding ($n = 405$). Due to the difference in sample size between males and females, Levene's Test for Equality of Variances was examined. Non-significant results of this test were present for each test, therefore the 'equal variances assumed' scores were reported. No significant difference was found in the degree to which males ($M = 15.02, SD = 4.6$) and females ($M = 16, SD = 4.79$) were comfortable feeling close to someone (attachment close subscale), $t(403) = 1.754, p = .08$, two tailed. However, there was a significant difference in the degree to which males ($M = 18.17, SD = 4.86$) and females ($M = 19.89, SD = 4.81$) feel they can depend on others (attachment depend subscale), $t(403) = 3.027, p = .003$, two tailed. The magnitude of the differences in the means (mean difference = 1.71, 95% CI: 0.6 to 2.82) was small (Cohen's $d = .35$). Significant differences in the degree to which males ($M = 16.52, SD = 5.01$) and females ($M = 18.06, SD = 5.46$) worried about being abandoned or unloved (attachment anxiety subscale) were also observed, $t(403) = 2.46, p = .014$, two tailed. The magnitude of the differences in the means (mean difference = 1.55, 95% CI: 0.31 to 2.78) was small (Cohen's $d = .29$). In both cases, females had higher levels of insecure attachment, and worried more about being abandoned and unloved.

As preliminary analyses indicated a non-normal distribution of data, a non-parametric alternative was used to compare gender differences in friendship quality and depressive symptoms. Two Mann Whitney U tests were conducted to compare depressive symptoms and friendship quality between males and females. A significant difference in depressive symptoms was observed in males (MD = 34, $n = 95$) and females (MD = 41, $n = 310$), $U =$

10295.5, $z = -4.439$, $p < .001$. Females showed higher levels of depressive symptoms than males. However, no significant difference was observed between males (MD = 33, $n = 95$) and females (MD = 34, $n = 310$) in their quality of friendships. $U = 13521$, $z = -1.212$, $p = 0.23$.

Discussion

The current study aimed to investigate attachment styles as a predictor of depressive symptoms and friendship quality, and the gender differences between them. Based on previous literature investigating this, three hypotheses were formulated. First, it was hypothesised that insecure attachment would predict higher levels of depressive symptoms (H1). In line with H1, it was discovered through multiple regression analysis that insecure attachment did predict higher levels of depressive symptoms to a significant level, therefore, the null hypothesis can be rejected. This is consistent with previous literature stating that anxious and avoidant attachment styles are associated with depressive symptoms and mental health issues (Bethell et al., 2019; Brenning et al., 2012; Hankin et al., 2005). The present study further confirmed these findings.

The second hypothesis (H2) stated that secure and anxious attachment styles would predict better friendship quality than dismissive/avoidant. Contrary to H2, there was no difference observed in friendship quality across all levels of attachment through a multiple regression analysis, therefore there was no significant finding. Research on this is scarce in adult populations, however in adolescents it has been observed that secure attachment is associated with better quality friendships (Pallini et al., 2014). Contrary to this finding, this effect was not observed in the present study, thus the null hypothesis was retained.

Hypothesis 3 (H3) stated that there would be a significant gender difference in the results. In support of H3, it was observed through t tests that there was a significant gender difference in attachment styles, based off two of the attachment subscales, Depend and Anxiety. Females had higher levels of abandonment anxiety and found it more difficult to depend on other people. Thus, females were found to have significantly higher levels of insecure attachment than males. Females also scored higher on the Close subscale, meaning females also had more difficulty feeling close to others, however this was not to a statistically

significant level. Additionally, females showed significantly higher levels of depressive symptoms than males, observed through a Mann Whitney U test. This is in accordance with an extensive body of research stating that females generally suffer more with depression than males (Albert, 2015; Baxter et al., 2014; Cyranowski et al., 2000), often becoming prevalent in adolescence (Lewis et al., 2015). However, a Mann Whitney U test revealed no gender difference in friendship quality in this study.

Interpretation of Results

The gender difference in attachment dynamics observed in the present study, in which women were found to be more insecure, anxious and worried about depending on a partner could be explained by socialisation. Men are generally raised to be the provider (Loscocco & Spitze, 2007), and to value wealth, success, power and dominance (Connell, 1995), while women are raised to be nurturing and to value love and relationships (Umberson et al., 1996). Although these gender roles may not be prevalent in modern relationships, it is possible that due to early socialisation, women may unconsciously place more value onto the relationship while men withdraw more, thus accounting for the results observed. The insecurities women have in their romantic relationships compared to men, may manifest because of this. Alternatively, it could simply mean that women suffer more with feelings of anxiety than men for reasons unrelated to gender socialisation. Future investigations into why this difference exists may be desirable, and measuring attachment style and gender roles within participants' relationships may aid researchers in their findings.

An important question associated with mental health issues, particularly depression, is why females are more susceptible. One explanation for the gender difference in depressive symptoms observed in the present study, could be coping styles. Men and women have previously been found to differ in their coping styles, with women leaning towards more emotion-focused coping than men (Matud, 2004). Another possible explanation of difference

in levels of depressive symptoms could be fluctuations due to the menstrual cycle and hormonal changes in women. Yu, Han & Nam (2017) found that menstrual cycle irregularity was associated with depressed mood and high stress levels, similar to findings of Smith et al. (2015) which state that hormonal fluctuations in women are associated with suicidal ideation.

Pregnancy, and more notably postnatal depression, could also be a potential explanation of the rates of depression among women compared to men, as it has been reported in the literature to be under assessed and misunderstood (Leahy-Warren & McCarthy, 2007). It is also notable that most of the literature on this is focused on effects it will have on the child, rather than the mother (Cogill et al., 1986; Murray et al., 2011; Parsons et al., 2012; Poobalan et al., 2007; Sharp et al., 1995), and some research also focuses on effects of the mother's mental health on the father (Beestin, Hugh-Jones & Gough, 2014). Research focusing solely on mothers' postnatal mental health irrespective of the child's development is limited. This is vital in understanding women's mental health and future research could examine this further, with the mother's mental health being the variable of interest.

Women are also more likely to be victims of domestic violence (1 in 7 women compared to 1 in 17 men) (National Crime Council and ESRI, Domestic Abuse of Women and Men in Ireland, 2005) and crimes such as rape and gender-based violence, with 87% of survivors attending rape crisis centres being female and 13% being male (Rape Crisis Network Ireland, 2013), which could factor into and account for some of the difference in mental health issues across genders. Overall, there are many possible factors that could account for the gender difference observed in the present study and previous literature, in depressive symptoms. It is a question of future research to investigate these factors.

Strengths, Limitations and Future Research

The current study had a large sample size, as the final sample ($n = 408$) was much larger than what was required to observe a significant effect. Two of the three scales (The Beck Depression Inventory and Adult Attachment Scale) had high reliability and internal consistency when calculated for the sample used. This was a strength of the current study and suggests that the findings are reliable. There is a clear advantage in the method of self-report measures in the form of online questionnaires, as many more participants can be reached than otherwise would be, in the case of an in-person interview or experiment. However, the Friendship Quality Scale had low internal consistency when calculated for the sample in this study (Cronbach's $\alpha = 0.26$). The results of all tests measuring friendship quality were non-significant, suggesting that the scale reliability may have presented as a limitation within this study. To address this limitation, future research is necessary to determine results based off a more reliable measure of friendship. The scale used in the present study only consisted of five statements, so perhaps a more robust questionnaire may aid researchers in making a significant discovery about adult friendship quality. The instructions may have also been misleading or could have skewed results, as participants were instructed to base their answers off their 'best friend'. Perhaps this is a limitation as this solely measures the quality of participants self-reported 'best' friendship, thus not really capturing the experience of a lower quality friendship. Perhaps future research could address this issue by instructing participants to answer based on 'the friend you see most often', or 'the friend you speak to most frequently'. Future investigations into adult friendships could potentially utilise qualitative methods in addition to a self-report questionnaire, as it is possible that not all aspects of the experience of friendship can be captured through only quantitative measures, as it is a unique experience for everyone. A qualitative or mixed-methods approach may address this issue in future research.

In addition, Aristotle's theory of friendship, stating that the categorisation of friends can be split into friendships based on utility, friendships based on pleasure, or friendships grounded in virtue (Cooper, 1977), or a revised or refined version of this, could be employed. Friendship pairs could be grouped into one of the three, to investigate further which variables account for overall quality of a friendship. Alternatively, gender within individual friendship pairings was also not accounted for in this study, which can also account for many differences in quality, and overall expectations of a friendship, as suggested by Felmlee & Muraco (2009). Some researchers also suggest that opposite sex friendships exist only for mating purposes from an evolutionary perspective (Bleske & Buss, 2000; Lewis et al., 2011). However, these findings are from a heterosexual perspective of a male-female friendship, not accounting for any other sexual orientations or gender identities. Future researchers may consider the differences in friendships according to traditional friendship type, or gender within friendship pairs, while being inclusive of friendships across all sexual orientations and identities. The scale used in the present study was not reliable enough to make any significant discovery about friendship quality, therefore the methods suggested may prove desirable for researchers in the future to employ, as there are still significant gaps in the literature to be addressed about friendship in adulthood.

A further limitation of the present study was that it was decided not to collect demographic information from participants, however, it is possible that variables such as socioeconomic status, for example, could have potential effects on the significant results observed about depressive symptoms and attachment style. Future research could consider the potential effects of this on these results, as well as investigating other demographic variables such as education levels. The relationship between socioeconomic status and depression has been widely examined in the literature (Domenech-Abella et al., 2018; Goodman, Slap & Huang, 2003; Miech & Shanaha, 2000; Sancakoglu & Sayar, 2012; Wang,

Schmitz & Dewa, 2010; Xue et al., 2021). However, socioeconomic status and attachment style is scarcely investigated, along with socioeconomic status and friendship. This is one example of a variable that could have been investigated in this study among others, which may have limited the findings observed.

Finally, the use of a convenience sample restricts the generalisation of the results. Small effect sizes of significant results could also inhibit the findings slightly. However, the large sample size and diversity of the sample in terms of age (18-68) can guarantee a certain generalisation of the significant findings for H1 and H3. Furthermore, the study was cross-sectional so did not allow for any causal findings.

Implications

The findings of the current study have some practical and societal implications. This study demonstrates the differences in attachment style and feelings of insecurity in relationships in males and females. Perhaps the HSE could provide sex and relationship education at first and second level to highlight the importance of having healthy relationships throughout the lifespan. Government funding could be allocated to this to aid in the formation of more secure individuals, as there is currently no education in schools around navigating platonic or romantic relationships.

The implications for the results in the difference in depressive symptoms for males and females, could be an allocation of funding to researching women's health. Evidence suggests that disorders such as premenstrual dysphoric disorder are vastly underdiagnosed (Futterman, 2010), which could be a large factor in the gender difference in depressive symptoms observed in the current study. Menstrual cycle fluctuation and depression have been loosely linked but no explanation has been found as to why women suffer more with mental health issues than men. To close this gap, government funding for research into women's health is essential.

Conclusion

The present study found significant differences in males and females and their attachment styles and depressive symptoms. No significant findings were made about friendship quality, contrary to what was hypothesised. This study adds to the existing body of research stating that women have higher rates of depression than men, which strengthens the findings of previous literature. It is recommended that future researchers employ qualitative methods to examine friendship quality. Additionally, experimental and longitudinal research could be beneficial as the current study employed solely cross-sectional methodology. This study was the first to measure the variables depressive symptoms, friendship quality and attachment, within an Irish context, therefore it was a novel attempt to build on previous findings about each variable. The broader implications discussed for this research are how the government and HSE could allocate more funding to education about relationships, and research into women's mental health.

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Appendices

Appendix A

Information Sheet

Investigating Attachment Styles as a Predictor of Depressive Symptoms and Friendship Quality; Gender Differences

Information Sheet

My name is Sophie Nugent. I am a final year Psychology student in the National College of Ireland. This is my research project for my thesis in which I will be investigating the relationship between attachment styles and depressive symptoms & friendship quality. The way I will be measuring this is through anonymous questionnaires in people over 18. This is an invitation to participate voluntarily in my study. If you are under 18 please do not participate. Please read the information provided before consenting to participate.

Participation

This study requires you to answer three short questionnaires, rating your answer on a scale. An example of a question you will be required to answer on a scale if you consent to take part in this study is:

0 I am not particularly discouraged about the future.

1 I feel discouraged about the future.

2 I feel I have nothing to look forward to.

3 I feel the future is hopeless and that things cannot improve.

It should take 10-15 minutes in total to complete the three questionnaires.

Anonymity

This study is completely anonymous. The only piece of personal information the researcher will ask for is your gender. The data collected will not be identifiable in any way.

Consent

Participating in this study is completely voluntary. If you decide to participate, you can withdraw and exit the study at any time before completion if you change your mind. However, as the data collected is anonymous, once you have submitted your answers they will not be able to be excluded from the study if you decide you no longer would like to participate. If you do consent, you are confirming you are over 18 years of age.

Risk

The risks of participating in this study are very minimal. A potential risk of taking part is mild distress arising as a result of some of the questions asked. To address this unlikely risk, some resources will be left at the end. As stated above, withdrawal at any point before completion is possible if distress arises and you decide you do not want to complete the study.

Benefits

There are no direct benefits or rewards being offered to participate in this study. No payment will be provided. Participation is completely voluntary.

Contact Information

If you have any further questions, you can contact me at x17404986@student.ncirl.ie, or my supervisor

_____ at _____.

Appendix B

Age

Gender

Male

Female

Gender non-conforming

Other

Appendix C

Adult Attachment Scale

- I find it difficult to allow myself to depend on others (Av)
- People are never there when you need them (Av)
- I am comfortable depending on others (S)
- I know that others will be there when I need them (S)
- I find it difficult to trust others completely (Av)
- I am not sure that I can always depend on others to be there when I need them (Ax)
- I do not often worry about being abandoned (S)
- I often worry that my partner does not really love me (Ax)
- I find others are reluctant to get as close as I would like (Ax)
- I often worry my partner will not want to stay with me (Ax)
- I want to merge completely with another person (Ax)
- My desire to merge sometimes scares people away (Ax)
- I find it relatively easy to get close to others (S)
- I do not often worry about someone getting close to me (S)
- I am somewhat uncomfortable being close to others (Av)
- I am nervous when anyone gets too close (Av)
- I am comfortable having others depend on me (S)
- Often, love partners want me to be more intimate than I feel comfortable being (Av)

Appendix D

Beck Depression Inventory

1.
 - 0 I do not feel sad.
 - 1 I feel sad
 - 2 I am sad all the time and I can't snap out of it.
 - 3 I am so sad and unhappy that I can't stand it.
2.
 - 0 I am not particularly discouraged about the future.
 - 1 I feel discouraged about the future.
 - 2 I feel I have nothing to look forward to.
 - 3 I feel the future is hopeless and that things cannot improve.
3.
 - 0 I do not feel like a failure.
 - 1 I feel I have failed more than the average person.
 - 2 As I look back on my life, all I can see is a lot of failures.
 - 3 I feel I am a complete failure as a person.
4.
 - 0 I get as much satisfaction out of things as I used to.
 - 1 I don't enjoy things the way I used to.
 - 2 I don't get real satisfaction out of anything anymore.
 - 3 I am dissatisfied or bored with everything.
5.
 - 0 I don't feel particularly guilty
 - 1 I feel guilty a good part of the time.
 - 2 I feel quite guilty most of the time.
 - 3 I feel guilty all of the time.
6.
 - 0 I don't feel I am being punished.
 - 1 I feel I may be punished.
 - 2 I expect to be punished.
 - 3 I feel I am being punished.
7.
 - 0 I don't feel disappointed in myself.
 - 1 I am disappointed in myself.
 - 2 I am disgusted with myself.
 - 3 I hate myself.
8.
 - 0 I don't feel I am any worse than anybody else.
 - 1 I am critical of myself for my weaknesses or mistakes.
 - 2 I blame myself all the time for my faults.
 - 3 I blame myself for everything bad that happens.
9.
 - 0 I don't have any thoughts of killing myself.
 - 1 I have thoughts of killing myself, but I would not carry them out.
 - 2 I would like to kill myself.
 - 3 I would kill myself if I had the chance.
10.
 - 0 I don't cry any more than usual.
 - 1 I cry more now than I used to.
 - 2 I cry all the time now.
 - 3 I used to be able to cry, but now I can't cry even though I want to.
11.
 - 0 I am no more irritated by things than I ever was.
 - 1 I am slightly more irritated now than usual.
 - 2 I am quite annoyed or irritated a good deal of the time.
 - 3 I feel irritated all the time.
12.
 - 0 I have not lost interest in other people.
 - 1 I am less interested in other people than I used to be.

- 2 I have lost most of my interest in other people.
3 I have lost all of my interest in other people.
13.
- 0 I make decisions about as well as I ever could.
1 I put off making decisions more than I used to.
2 I have greater difficulty in making decisions more than I used to.
3 I can't make decisions at all anymore.
14.
- 0 I don't feel that I look any worse than I used to.
1 I am worried that I am looking old or unattractive.
2 I feel there are permanent changes in my appearance that make me look unattractive
3 I believe that I look ugly.
15.
- 0 I can work about as well as before.
1 It takes an extra effort to get started at doing something.
2 I have to push myself very hard to do anything.
3 I can't do any work at all.
16.
- 0 I can sleep as well as usual.
1 I don't sleep as well as I used to.
2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
3 I wake up several hours earlier than I used to and cannot get back to sleep.
17.
- 0 I don't get more tired than usual.
1 I get tired more easily than I used to.
2 I get tired from doing almost anything.
3 I am too tired to do anything.
18.
- 0 My appetite is no worse than usual.
1 My appetite is not as good as it used to be.
2 My appetite is much worse now.
3 I have no appetite at all anymore.
19.
- 0 I haven't lost much weight, if any, lately.
1 I have lost more than five pounds.
2 I have lost more than ten pounds.
3 I have lost more than fifteen pounds.
- 20.
- 0 I am no more worried about my health than usual.
1 I am worried about physical problems like aches, pains, upset stomach, or constipation.
2 I am very worried about physical problems and it's hard to think of much else.
3 I am so worried about my physical problems that I cannot think of anything else.
21.
- 0 I have not noticed any recent change in my interest in sex.
1 I am less interested in sex than I used to be.
2 I have almost no interest in sex.
3 I have lost interest in sex completely.

Appendix E

Friendship Quality Scale

‘Compared to other friendships you’ve had, to what extent do you consider yourself to be close to your friend?’

‘Compared to other friends you’ve had, how important is this friendship to you?’

‘How much does your friend ‘get on your nerves’?’

‘Compared to other friendships, how much conflict do you have with your friend?’

‘How important to you is it that the two of you remain close friends?’

Appendix F

Debrief Form

Debriefing Form

Thank you for participating in this research. If at any point you felt distressed as a result of the study, don't hesitate to contact a helpline or listening service, or use the resources I have provided below.

Samaritans – 116 123

Pieta House – Freephone 1800 247 247 or text HELP to 51444

As stated at the beginning of the study, this research is completely anonymous

Appendix G

	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure	Role
1	Age	Numeric	7	0		None	None	12	Right	Scale	Input
2	Gender	Numeric	21	0		{1, Female}...	None	21	Right	Nominal	Input
3	Attach_Scal...	Numeric	40	0	I find it difficult t...	None	None	12	Right	Ordinal	Input
4	Attach_Scal...	Numeric	40	0	People are nev...	None	None	12	Right	Ordinal	Input
5	Attach_Scal...	Numeric	36	0	I am comfortabl...	None	None	12	Right	Ordinal	Input
6	Attach_Scal...	Numeric	40	0	I know that oth...	None	None	12	Right	Ordinal	Input
7	Attach_Scal...	Numeric	40	0	I find it difficult t...	None	None	12	Right	Ordinal	Input
8	Attach_Scal...	Numeric	40	0	I am not sure th...	None	None	12	Right	Ordinal	Input
9	Attach_Scal...	Numeric	40	0	I do not often w...	None	None	12	Right	Ordinal	Input
10	Attach_Scal...	Numeric	40	0	I often worry th...	None	None	12	Right	Ordinal	Input
11	Attach_Scal...	Numeric	40	0	I find others are...	None	None	12	Right	Ordinal	Input
12	Attach_Scal...	Numeric	40	0	I often worry m...	None	None	12	Right	Ordinal	Input
13	Attach_Scal...	Numeric	40	0	I want to merge...	None	None	12	Right	Ordinal	Input
14	Attach_Scal...	Numeric	40	0	My desire to m...	None	None	12	Right	Ordinal	Input
15	Attach_Scal...	Numeric	40	0	I find it relativel...	None	None	12	Right	Ordinal	Input
16	Attach_Scal...	Numeric	40	0	I do not often w...	None	None	12	Right	Ordinal	Input
17	Attach_Scal...	Numeric	40	0	I am somewhat...	None	None	12	Right	Ordinal	Input
18	Attach_Scal...	Numeric	39	0	I am nervous w...	None	None	12	Right	Ordinal	Input
19	Attach_Scal...	Numeric	40	0	I am comfortabl...	None	None	12	Right	Ordinal	Input
20	Attach_Scal...	Numeric	40	0	Often, love part...	None	None	12	Right	Ordinal	Input
21	BDI_1	Numeric	40	0	Sad	{1, I do not f...	None	14	Right	Ordinal	Input
22	BDI_2	Numeric	40	0	Future	{1, I am not ...	None	50	Right	Ordinal	Input

Appendix H



