

The Relationship Between Aggression, Rumination and Self-Esteem in Third-Level Students

Kelly Hamilton

16476246



**National
College *of*
Ireland**

Submitted to the National College of Ireland, April 2019

National College of Ireland
Research Students Declaration Form
(Thesis/Author Declaration Form)

Name: Kelly Hamilton

Student Number: 16476246

Degree for which thesis is submitted: Bachelor (Hons) in Psychology

Material submitted for award

- (a) I declare that the work has been composed by myself.
- (b) I declare that all verbatim extracts contained in the thesis have been distinguished by quotation marks and the sources of information specifically acknowledged.
- (c) My thesis will be included in electronic format in the College Institutional Repository TRAP (thesis reports and projects)
- (d) I declare that no material contained in the thesis has been used in any other submission for an academic award.

Signature of research student: *Kelly Hamilton*

Date: 31/3/2019

Submission of Thesis to Norma Smurfit Library, National College of Ireland

Student name: Kelly Hamilton

Student number: 16476246

School: School of Business

Course: Psychology

Degree to be awarded: BA (Hons) in Psychology

Title of Thesis: The Relationship Between Aggression, Rumination, and Self-Esteem

One hard bound copy of your thesis will be lodged in the Norma Smurfit Library and will be available for consultation. The electronic copy will be accessible in TRAP (<http://trap.ncirl.ie/>), the National College of Ireland's Institutional Repository. In accordance with normal academic library practice all theses lodged in the National College of Ireland Institutional Repository (TRAP) are made available on open access.

I agree to a hard bound copy of my thesis being available for consultation in the library. I also agree to an electronic copy of my thesis being made publicly available on the National College of Ireland's Institutional Repository TRAP.

Signature of Candidate: *Kelly Hamilton*

For completion by the School:

The aforementioned thesis was received by _____ Date: _____

Acknowledgements

I would like to take this opportunity to firstly thank my supervisor Michael Cleary-Gaffney for his guidance, support, patience, and assistance throughout the duration of my dissertation.

I wish to thank all the tutors who have guided me in different areas of psychology for the past three years.

Thank you to all who participated in my study as you made this possible.

I express my gratitude to my friends for their kindness and encouragement.

I would also like to thank my dog, Honey, for relieving my stress through walks around the town, and cuddles.

Finally, I would like to thank my mother, sister, and grandparents for their unconditional and continuous love and support. I count my blessings each day that I have the most amazing, caring, kind, and supportive people that I can call my family, and never take your love for granted.

Abstract

The current study was carried out to examine the rates of aggression, self-esteem and rumination of thought among adult students currently attending third-level education. A sample of students (N = 112) was obtained through convenience sampling along with snowball sampling as they had the choice to forward the questionnaire on social media if they wished. A cross-sectional self-report design was adopted. All participants were administered the Aggression Questionnaire, Rosenberg Self-Esteem Scale, and the Self-Critical Rumination Scale to measure their levels of aggression, self-esteem and rumination. No significant relationships were found between self-esteem or rumination of thought being predictors of aggression. Gender differences were statistically significant with males scoring higher on both aggression and self-esteem. Contradictory to the third hypothesis, self-esteem was shown to decrease as age increased. These findings suggest that males may exhibit aggression more than women to adhere to society's view of aggression being seen as masculine. It also displays that self-esteem may decline as age inclines due to a reduction in social experiences, possibly evolving into a sense of loneliness.

Table of Contents

Introduction	7
1 .1 Self-Esteem	7
1 .2 Aggression	7
1 .3 Rumination of Thought	8
1 .4 Self-Esteem and Aggression	9
1 .5 Self-Esteem and Rumination	12
1 .6 Demographic Disparities	13
1 .7 Area of Interest	13
1 .8 Rationale and Hypotheses	14
Methods	16
2 .1 Participants	16
2 .2 Procedure	17
2 .3 Measures	18
2 .4 Design	19
Results	20
3 .1 Descriptive Statistics	20
3 .2 Inferential Statistics	25
Discussion	28
4 .1 Discussion of the Results	28
4 .2 Implications	28
4 .3 Limitations	29
4 .4 Suggestions for Future Research	30
4 .5 Conclusion	31
References	32
Appendices	38

Introduction

1.1 Self-Esteem

Self-esteem is considered to refer to an individual's evaluation of his or her value as a person (Neff, 2011). High self-esteem is highly sought after as it encourages behaviours to be persistent when faced with failure (Sowislo & Orth, 2013). People with high self-esteem are more likely to appraise themselves in a reasonably positive manner, while individuals possessing low levels of self-esteem have the tendency to assess themselves by more negative means or at the very least are neutral or unsure about themselves as a person (Zeigler-Hill, Dahlen, & Madson, 2017). However, it should also be noted that low self-esteem has benefits also, even though they may be very few. When persistence becomes dysfunctional, for example when one is faced with impractical challenges, individuals with high self-esteem persist less than those with low self-esteem (Sowislo & Orth, 2013).

1.2 Aggression

Aggression is an instinctive behaviour in human beings as a species as argued by prominent figures in psychology such as Sigmund Freud, the founding father of psychoanalysis, and Konrad Lorenz, an expert in animal behaviour made known as one of the founding fathers of ethology (Kalat, 2010). Of course there are flaws or limitations with every theory. The instinct theory seems to disregard variations in aggression when faced with different personalities and cultures. Despite this, it is important to note that every individual exhibits aggression in some form at some points in their lives (Myers, 2010). It is when aggression is experienced regularly, or to such a high degree that it results in violent or aggressive acts upon others or oneself that it becomes an issue. Kalat (2010) highlights that according to the frustration-aggression hypothesis,

the ultimate leading cause of aggression is frustration. Kalat contends that frustration may only lead to aggression if an individual believes the other person's act was intentional. When faced with the term aggression, the average person will often think of physical harm, however, aggression approaches in a variety of forms (Richardson, 2014). Direct aggression entails behaviours like yelling or striking another person, whereas indirect aggression refers to the attempt to hurt someone through the means of another individual or object such as spreading rumors and damaging someone else's belongings or property (Richardson, 2014).

1.3 Rumination of Thought

According to Peled and Moretti (2009), rumination describes a conscious and repetitive thought pattern that often encompasses a common theme. Additionally, they argue that ordinarily these thoughts become intrusive and unpleasant. It may be speculated that because these thoughts are so intrusive and upsetting, this could, in turn, alter our self-esteem based on the nature of our reflections on past experiences. Moreover, the negative emotions associated with repeating and disconcerting thoughts could induce a sense of frustration by not being able to cease the same thoughts circulating in the mind, and in this way according to the frustration-aggression hypothesis, initiate aggression. In 2011, Pederson et al. carried out a study in order to attain information on the process of rumination affecting aggression. They found that angry affect, aggressive action cognition, and cardiovascular arousal are all influenced by provocation-focused rumination, while self-critical negative affect, angry affect, and arousal cognition were each elevated through self-focused rumination. Further research has exposed the idea that the nature of the thoughts being ruminated on leads to a similar state of mind to be experienced, being that ruminating on sadness results often in a depressed or low mood, whereas ruminating on anger

will frequently lead to displaying aggression (Peled & Moretti, 2009). This concept regarding the nature of rumination determining the nature of behaviour is reinforced in other academic works such as Peters et al. 2015.

1.4 Self-Esteem and Aggression

An ongoing debate within the domain of psychology is whether the level of aggression displayed may be influenced by low self-esteem or high self-esteem. Garofalo, Holden, Zeigler-Hill, and Velotti (2015) conducted research looking at a possible connection between low self-esteem and aggression in a sample of incarcerated violent offenders, as well as a community sample of individuals. The sample of violent offenders reported having lower self-esteem in comparison to the community sample participants, in addition to higher levels of emotional non-acceptance and antagonism. Walker and Bright (2009) carried out an analysis of 19 articles from 1986 to 2006 in order to find out how self-esteem could potentially be related to aggression. It was concluded from their review that there is copious attestation to suggest that low self-esteem is more significantly associated with aggression compared to high self-esteem. In 2010, Ybrandt and Armelius carried out a study in which they looked at a sample of 204 adolescents between the ages of 12 and 16. One of the key findings in the paper was that for both peer aggressors and aggressor victims, the link between internalizing issues and involvement in peer aggression was mediated by self-esteem. Shaheen and Jahan (2014) also reinforce the idea of low self-esteem impacting aggression. In their study, 100 male and 100 female adolescents were viewed in order to consider the contribution of self-esteem in the development of aggressive behaviour in youth. They discovered that a significant correlation existed between low-self esteem and aggression.

Moreover, male adolescents scored notably higher than females in their self-esteem scores as well as on the different dimensions of aggression.

In contradiction to these findings, there are individuals who disagree and associate very high self-esteem to be linked to aggression. Although not quite the same excessively high self-esteem and narcissism are exceptionally similar. Kalat (2011) defines narcissism as an excessive admiration of oneself or an inflated sense of self which may be viewed as a consequence of exceedingly high self-esteem. Many regard this extreme admiration of a person's self to be the cause for aggression to occur as their egotism is threatened by another individual (Anwar, Mahmood, & Hanif, 2016; Bushman et al., 2009). Additionally, research has found that increased self-esteem does not bring with it as many benefits as would be thought, as raising self esteem was found by Baumeister and Vohs (2018) to be unrelated to individuals being moral and upstanding citizens, less likely to partake in early experimentation of mature activities (that is smoking, drinking alcohol, having sexual relations) or being less aggressive towards others. It has been argued that individuals may engage in dysfunctional behaviours in accordance to achieve a sense of high self-esteem, and those who wish to maintain high self-esteem perhaps dismiss negative feedback, and consequently attribute failure to external causes which leads to less personal responsibility to be taken. Thus they tend to grow aggressive when others challenge their ego (Neff & Vonk, 2009).

Perhaps neither high nor low self-esteem is beneficial in the abatement of aggressive behaviour, but a moderate level of self-esteem where the individual acknowledges their worth but not excessively where they see themselves as worth more than anyone else. Self-esteem can at times take practice to build on which can involve mental exercises such as reciting positive

affirmations or writing down positive qualities. With this focus going on in our minds, it can be simple for negative thoughts to fester and sabotage positive ones which could pose a threat to our aggressive tendencies if self-esteem is not well-balanced.

Self-esteem's influence on aggression has been an area of dispute for decades, especially when discussing aggressive criminal activity. Some claim that it is the lack of self-esteem bordering on narcissism that is the issue, when it comes to negating this type of conduct. Anwar et al. (2016) found significant differences in gender when it came to narcissism, with men scoring higher than women. This begs the question of whether this could be the case for self-esteem levels.

Bushman et al. (2009) examined directly the relationship between aggression and self-esteem. They found that individuals with both high levels of self-esteem and narcissism displayed the highest levels of anger. A possibility as to why this may be could be that they feel other people are not fit to criticise or advise them on problematic behaviour or attitudes that they partake in. If someone is narcissistic, they are known to be very self-centered with little to no regard about what happens to others or how they feel as long as it doesn't affect that person in some way. There is a sense of entitlement and superiority which encourages them to become aggressive or violent with those who question them (Bushman, 2018). This result is crucial as it adds to existing literature dismissing the hypothesis that aggression stems from low-self-esteem.

Golmaryami and Barry (2010) examined in adolescents the relations between self-reported and peer-nominated relational aggression, self-esteem and narcissism. They found that

narcissism was linked to peer-nominated relational aggression, in particular with adolescents with increased self-esteem.

Thomaes, Bushman, de Castro, Cohen, and Denissen (2009) studied young adolescents to investigate narcissistic aggression in conjunction with self-esteem. They deduced that the group who took part in a self-affirmation writing assignment had reduced narcissistic aggression in comparison to those who did not do the task. The results of the study elude to the concept that reinforcing self-esteem as opposed to boosting it, can be an effective practice of reducing aggressive behaviours in youth who are deemed at risk. Many researchers believe that it is in fact the combination of high self-esteem and narcissism which predicts aggression.

Although a majority of research disputed low or high self-esteem being related to aggression, a study by Diamantopoulou, Rydell and Henricsson (2008) conducted research to see if it is both high and low self-esteem in unison that results in aggressive actions within a sample of 12 year old children. They formed the conclusion that low levels of global self-worth in combination with exaggerated self-esteem were linked to aggression. These results imply that depending on how self-esteem is perceived, aggressive children could seem to have both high and low self-esteem. It should also be noted that exaggerated self-esteem was more strongly associated with aggression in males as opposed to females.

1.5 Self-Esteem and Rumination

Despite a substantial amount of literature on aggression relating to self-esteem or rumination being available, it is noted that the same may not be said for self-esteem and rumination. This leads on to the fact that all three of these variables have not been examined in

unison. Through a review of the research discussed previously, it has come to the attention of the researcher that the study of these variables and how they interact with, or impact on, one another is considered in samples consisting of children or adolescents more than any other demographic, with older and younger adult samples being very rare in studies of this nature. One issue that tends to appear repeatedly in the literature is the contradiction regarding gender differences. Some articles suggest no significant disparity exists within the topic whereas others find that male participants are notably more prone to aggression than females.

1.6 Demographic Disparities

It has been seen that gender differences in, and the levels of, aggression, self-esteem and rumination have been looked at predominantly in adolescent or child samples. Research into these variables in an adult sample may prove to be what is essential for any convincing, concrete, and comparable results to be made. To carry out research with participants aged 18 or over would provide a more in-depth variety of academic research, making the topic more inclusive and applicable to the population. Research investigating a relationship between self-esteem and rumination is lacking so it is believed that this should be looked into and tested also as a means to improve our understanding of the area.

1.7 Area of Interest

It could be of high importance to assume that aggression, self-esteem and rumination interact together rather than any two of these variables alone. In times of receiving unfavourable or unwarranted criticism, an individual may have either high or low self-esteem when faced with these experiences. If the individual has low self-esteem, they may grow frustrated at their

perceived incapability and failure, or if they are excessively high in self-esteem they may grow frustrated that someone they deem as inferior is censuring them. According to the frustration-aggression hypothesis introduced by Dollard, Miller, Doob, Mowrer, and Sears in 1939 (as cited by Kalat, 2011), these instances may very well result in aggression being displayed depending on whether the individual is able to suppress the sensation. Contrarily, one of the variables may diffuse the feeling of anger and in this way prevent unfavourable or unlawful acts from being carried out. This is why it is imperative to conduct the present research as there are not substantial measures of work completed within the area involving all three variables and how they might interrelate. Therefore, researchers are unsure as to if rumination and self-esteem inflict more harm or assist in the behavioural result of aggression.

1.8 Rationale and Hypotheses

There are three aims to the present study. The first aim is to answer the question: Is there a significant relationship between aggression and self-esteem, aggression and rumination, or rumination and self-esteem? The second aim is to view if any gender differences are present in order to compare this to other articles' findings on gender disparities found. The third objective is to investigate whether or not any consistencies lie in self-esteem scores based on age.

It is hypothesised that positive significant relationships will be found between aggression and self-esteem, as well as aggression and rumination of thought in an adult sample of student participants aged 18 and over attending college. It is also hypothesised that male students may experience more aggression, as society has encouraged the portrayal of 'manly' men to display their masculinity through physical aggression and react to disrespect with anger, as well as the

fact that throughout their lives they are told that the expression of emotions is appropriate in women but makes men look weak (Fox & Pease, 2012). However, there does not seem to be as much pressure applied to males in terms of physical appearance or personality compared to women so self-esteem may be higher also (Fernandez & Pritchard, 2012; Gentile et al., 2009; Moksnes, Moljord, Espnes, & Byrne, 2010; Slater & Tiggemann, 2015) .

The final hypothesis is that self-esteem scores will increase simultaneously with age, as people tend to grow more accepting of themselves with time, and cease to care as much for societal influence regarding what they ‘should’ be like (von Soest, Wichstrom, & Kvalem, 2016; Twenge, Carter, & Campbell, 2017; Orth, Robins, & Widaman, 2012; Orth, Robins, & Trzesniewski, 2010; Erol & Orth, 2011).

Aggression will be the criterion variable, with self-esteem and rumination being the predictor variables.

Methods

2.1 Participants

Data were obtained from 112 third-level students currently attending college or university. Participants' ages ranged from 18 to 44 with a mean of 21.86 years ($SD = 3.80$). Of the sample, 33 were males (29.5%) and 78 were females (69.6%). Additionally one participant (0.09%) preferred not to disclose their gender when completing the survey. The minimum amount of participants needed, in order for statistical power to be a possibility, was calculated through G*Power 3.1. The generated total sample size needed was 74 participants.

2.2 Procedure

A standard data collection routine was conducted through the use of surveys. Permission was sought from the NCI Ethics Committee in order to receive confirmation to begin participant recruitment. Once no ethical issues were found, it was made clear that the data collection process could begin as there was no risk of harm posed to participants. A questionnaire was created using Google Forms. The study consisted of a self-report data collection questionnaire consisting of three different surveys. The link to the questionnaire was distributed online through social media sites, namely Facebook and Instagram, as well as the forum discussion site, Reddit. The link was posted on the researcher's personal account on both of the social media platforms for friends to view and participate in if they desired to do so. The researcher exchanged their questionnaire on Facebook pages designed to help students find suitable for their independent study. In return for an individual taking the time to fill out a questionnaire, the other person would return this favour. When posting on Reddit, the researcher posted the link to the survey, along with a brief

description of what participating would entail, on sub-reddit groups including r/SampleSize, r/University and r/psychology.

Upon clicking the link to the questionnaire, each participant was met with an information sheet detailing the purpose of the study, who was invited to take part in it, and the contact details of the researcher and their supervisor if any queries were left unanswered.

The consent form was then introduced outlining the academic origin of the researcher, the absence of ethical risk, and the responsibilities of the researcher. It also included information about the nature of the questionnaire, the confidentiality of each participant's identity and the information they issue, the details of consent and the point of submission where it may no longer be retracted. The average duration of the study as well as helpline phone numbers for those who may feel affected by the material involved, were also listed. Finally, there was a statement of consent that the participant was required to agree to if they wished to proceed with their participation followed by demographic questions relating to their gender, age, student status, and what year of study they were studying in.

Once having accepted the terms, participants were presented with the Aggression Questionnaire, the Rosenberg Self-Esteem Scale, and the Self-Critical Rumination Sale in that order. All participants were asked to indicate as accurately as possible to what degree each item on each scale related to them personally. Having completed each section, the participant clicked the submit button which then sent the data given to the researcher for interpretation. Having collected a sufficient sample size, the recruitment process was discontinued by the researcher no

longer accepting responses. The information given was then transported into a programme (IBM SPSS Statistics, version 25) where statistical analysis could occur.

2.3 Measures

Aggression Measure

Participant aggression scores were measured through the use of the Aggression Questionnaire (Buss & Perry, 1992). The Aggression Questionnaire has 29 items, and has four dimensions specifically: physical aggression, verbal aggression, anger, and hostility. Participants have a selection of five answers on a Likert scale to choose from when answering each question: 1-extremely characteristic of me, 2-somewhat characteristic of me, 3- neither uncharacteristic or uncharacteristic of me, 4-somewhat characteristic of me, and 5-extremely characteristic of me. The scoring is reversed for two items in the survey. Each participant is asked to select the option that best represents their general likelihood of displaying or feeling what is stated in each instance. An analysis of the reliability of the scale produced a Cronbach alpha coefficient of .91 indicating excellent internal consistency.

Self-Esteem Measure

To account for self-esteem scores generated for each student, the Rosenberg Self-Esteem Scale (RSES) was used (Rosenberg, 1965). This scale is compiled of 10 items with five items to be reverse –scored. Items are rated on a Likert scale with answers being: 1-strongly agree, 2-agree, 3-disagree, and 4-strongly disagree. The participant is to decide which option best describes their opinion of themselves in regard to the questions presented. An analysis seeking the reliability for the RSES was run which produced a Cronbach alpha coefficient of .92 which indicates excellent internal consistency of the scale.

Rumination Measure

The Self-Critical Rumination Scale (SCRS) (Smart, Peters, & Baer, 2016) was issued in order to obtain rumination scores for each participant. The SCRS is composed of 10 items, with each regarding a statement of a self-critical behaviour. No items in this scale are reverse scored. Responses for each item are rated on a Likert scale which range from 1-not at all, 2-a little, 3-moderately, and 4-very much. Participants are asked to select the response that best relates to them personally for each item. An analysis was run to test the reliability of the scale which produced a Cronbach's alpha coefficient of .92 indicating excellent consistency of the scale.

2.4 Design

The design selected for the current research was a cross sectional, quantitative design and participants were recruited through convenience sampling. Snowball sampling was also put in place to some degree as participants were informed to feel free to forward the questionnaire to friends or family who also studied at a third-level institution if they felt they wanted to do so, this was mentioned previous to the participant filling out the questionnaire.

Results

3.1 Descriptive Statistics

Descriptive statistics were administered to measure the mean, standard deviation, and range for the continuous variables (age, total aggression, total self-esteem, and total ruminations). Out of the 112 participants, ages ranged from 18 to 44 ($M = 21.86$, $SD = 3.80$). The scores for total aggression ranged from 35 to 118 ($M = 69.76$, $SD = 18.70$). In relation to total self-esteem, scores ranged from 10 to 38 ($M = 23.10$, $SD = 7.68$). Finally, the scores obtained for total rumination of thought ranged from 10 to 40 ($M = 28.06$, $SD = 7.61$) (*see Table 1*).

Age, total aggression, and total rumination indicated non-normally distributed data through utilization of the Kolmogorov-Smirnov normality test ($p < .05$), while total self-esteem eluded to normally distributed data ($p > .05$). Age and total aggression were positively skewed whereas total rumination scores were negatively skewed. Total self-esteem scores were normally distributed.

Table 1
Descriptive statistics for all continuous variables

Variable	Mean (95% Confidence Intervals)	Std. Error Mean	Median	SD	Range
Age	21.86 (21.15 - 22.57)	.36	21	3.80	26
Total Aggression	69.76 (66.26 – 73.26)	1.77	67	18.70	83
Total Self-Esteem	23.10 (21.66 – 24.54)	.73	23	7.68	28
Total Rumination	28.06 (26.64 – 29.49)	.72	29	7.61	30

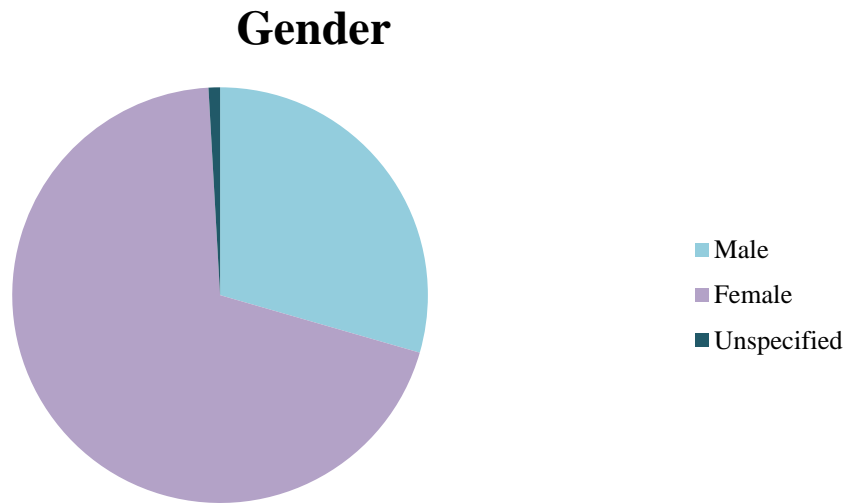


Figure 1. Gender distribution of the sample (N = 112)

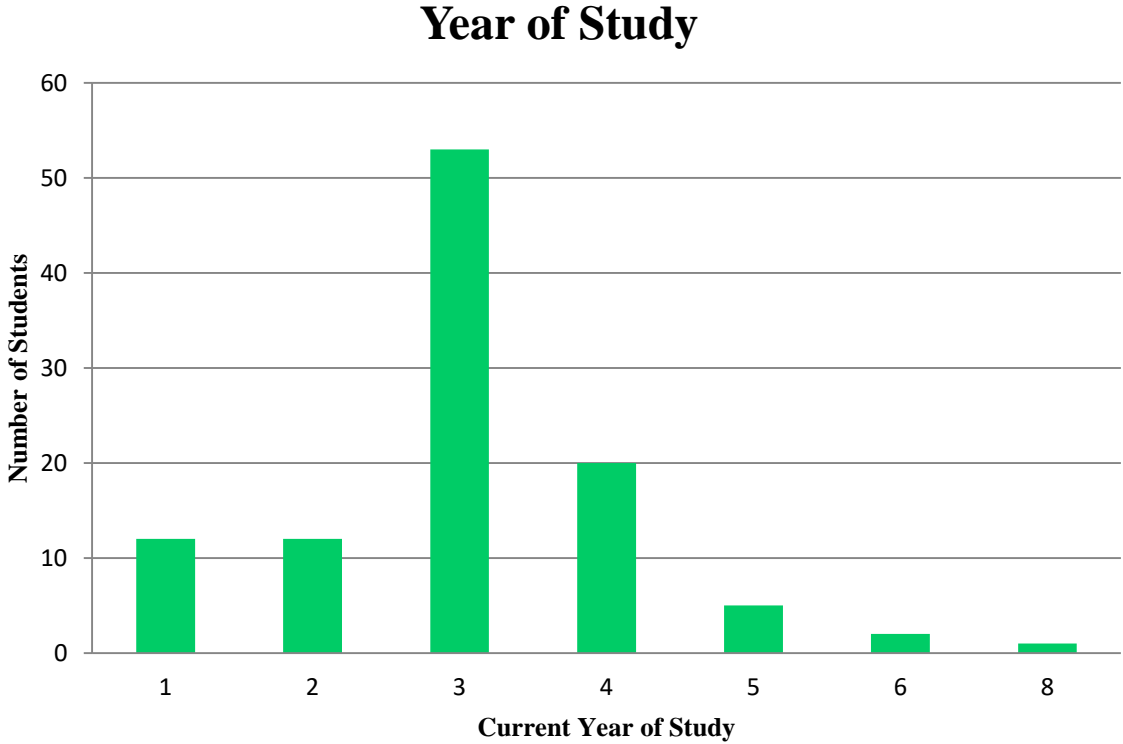


Figure 2. Number of students in each year of study (N = 106).

Table 2
Frequencies Obtained for Age

Variable	Frequency	Valid Percentage
Age		
18	9	8.0
19	8	7.1
20	22	19.6
21	31	27.7
22	15	13.4
23	9	8.0
24	4	3.6
25	6	5.4
26	1	.9
27	1	.9
28	1	.9
29	1	.9
32	1	.9
33	1	.9
41	1	.9
44	1	.9

Table 3
Frequencies Obtained for Gender and Year of Study

Variable	Frequency	Valid Percentage
Gender		
Male	33	29.5
Female	78	69.6
Rather not say	1	.9
Year of Study		
1	12	11.3
2	13	12.3
3	53	50.0
4	20	18.9
5	5	4.7
6	2	1.9
8	1	.9

Note: Six values are missing for year of study as participants instead stated the name of the course they were partaking in where it asked for their current year of study.

Table 4
Reliability Statistics for Each Scale

Questionnaire	Number of Items	Cronbach's Alpha
Aggression Questionnaire	29	.91
Rosenberg Self-Esteem Scale	10	.92
Self-Critical Rumination Scale	10	.92

3.2 Inferential Statistics

Multiple regression analysis was performed to determine how well aggression levels could be explained by three variables including gender (being male), total self-esteem, and total rumination.

Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, and homoscedasticity. The correlations between the predictor variables and the criterion variable included in the study were examined (*see table 4 for details*). All three of these predictor variables were insignificantly correlated with the criterion variable.

Since no *a priori* hypothesis had been made to determine the order of entry of the predictor variables, a direct method was used for the analysis. The three predictor variables explained 11.2% of variance in aggression levels ($F(3,108) = 4.53, p < .05$). None of the three variables were found to uniquely predict aggression scores to a statistically significant level.

Table 5
Results of Standard Multiple Regression Analysis for Gender, Total Self-esteem, and Total Rumination on Predicting Total Aggression

	R ²	β	B	SE	CI95% (B)
Model	11.2***				
Gender		-.14	-5.68	3.68	-12.98 / 1.61
Total Self-esteem		.14	.34	.26	-.17 / .85
Total Rumination		.17	.42	.25	-.08 / .93

*** $p < .001$ (2-tailed)

An independent-samples t-test was conducted to compare the aggression scores for males and females. There was a significant difference in scores for males ($M = 75.70$, $SD = 20.28$) and females ($M = 67.26$, $SD = 17.64$; $t(109) = 2.20$, $p = .03$, two-tailed). The magnitude of the difference in the means (mean difference = 8.44, 95% CI: .84 – 16.04) was small (Cohen's $d = .44$).

An independent-samples t-test was also conducted to compare the self-esteem scores for males and females. There was a significant difference in scores for males ($M = 25.76$, $SD = 8.14$) and females ($M = 22.04$, $SD = 7.28$; $t(109)$, $p = .02$, two-tailed). The magnitude of the difference in the means (mean difference = 3.72, 95% CI: .62 – 6.82) was small (Cohen's $d = .48$) (see table 6).

Table 6

Independent Samples T-test for Aggression and Self-Esteem in Males and Females

Variable	Males (n = 33)		Females (n = 78)		<i>t</i>	<i>p</i>
	M	SD	M	SD		
Aggression	75.70	20.29	67.26	17.65	2.20	.03
Self-Esteem	25.76	8.14	22.04	7.28	2.38	.02

The relationship between depression and coping was investigated using Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. There was a small, negative correlation between the two variables ($r = -.20$, $N = 112$, $p < .05$). This indicates that the two variables share approximately 4% of variance in common. Results indicate that higher levels of self-esteem are associated with younger adults (*see table 7*).

Table 7
Pearson Product-moment Correlations Between Age and Total Self-esteem, Total Aggression, and Total Rumination

Scale	1	2	3	4
1. Age	-	-.20*	.02	-.24**
2. Total Self-esteem		-	.26**	.50**
3. Total Aggression			-	.26**
4. Total Rumination				-

* $p < 0.05$ (2-tailed)

** $p < 0.01$ (2-tailed)

Discussion

The current study examined the relationships between aggression and self-esteem, in addition to aggression and rumination. Differences in aggression and self-esteem scores were investigated amid genders. The relationship between self-esteem and age was also evaluated.

4.1 Discussion of the Results

Standard multiple regression was carried out which did not present any scores of statistical significance for any of the variables being predictive of aggression. This finding suggests for the null hypothesis to be accepted in the case of significant relationships being found between aggression and self-esteem, in addition to aggression and rumination.

An independent-samples t-test was executed in order to compare aggression scores for both males and females in the sample. A significant difference in scores was found with males scoring higher than females. A second independent-samples t-test was fulfilled for the comparison of self-esteem levels between both sexes. This also produced a significant difference with men scoring substantially higher than women. This proved to support the second hypothesis as it was anticipated that men would score higher than women in both variables.

Correlation analysis was implemented in order to illustrate the direction and strength of the linear relationship between age and self-esteem. A small, negative correlation between both of the variables was established. These results imply that the final hypothesis should be rejected as self-esteem was proclaimed to decrease as aging continues.

4.2 Implications

No significant relationships arose between aggression and self-esteem which is very uncommon as a majority of other studies found a significant relationship between these variables,

be it positive or negative (Bushman et al., 2009; Walker & Bright, 2009). This may suggest that self-esteem and aggression are completely unrelated and neither is predictive of the other. The results obtained regarding no significant relationship between aggression and rumination is incongruent with other studies (Pederson et al., 2011; Peled & Moretti, 2009).

As aggression was seen to be higher in males than females, it may be fair to say that societal influence in regards to how men are pressured to act remains a prominent issue today, as the results are congruent to existing literature published in the last decade (Bosson, Vandello, Burnaford, Weaver, & Wasti, 2009; Fox & Pease, 2012). Despite this, males were seen to be higher in self-esteem when compared to females, which is also in agreement with other articles' findings (Slater & Tiggemann, 2015; Brunet, Sabiston, Dorsch, & McCreary, 2010; Bleidorn et al., 2016), while additionally contradicting others (Aryana, 2010).

It was found that as the age of the participant increased, the level of self-esteem decreased. This is very inconsistent with the other literature in relation to the topic. This was surprising as it is generally believed that people are more self-conscious of themselves at a young age, and as time passes and they mature in age, a natural presence of acceptance or pride ensues (Erol & Orth, 2011; Carter & Campbell, 2017; Orth, Robins, & Widaman, 2012).

4.3 Limitations

Prior to forming any purposeful interpretations of results, researchers need to acknowledge the limitations that are present. The researcher conducted the present study solely adopting a self-report measure for the gathering of data. Self-reporting methods of research makes it impossible to distinguish if results are undeniably valid, due to the possible issue of individual report bias. However, participants were informed that since using an online

environment for the administration of the survey, their identities in addition to the information that they issued would be kept anonymous at all times during and after data collection. Because of this anonymity online, participants would most likely have been truthful in their answers seeing as their identities and information were replaced with numbers, making it impossible for them to be identified.

Although a large sample size was obtained, the majority of participants identified as females. It is always preferable in mixed gender samples to have as close to an equal amount of both sexes as possible. An equal amount of females and males makes it easier to acquire valid and reliable outcomes that may be attributed to the population as a whole.

The lack of research when looking at the relationship between self-esteem and rumination, along with relationships between self-esteem, rumination, and aggression, may pose as a limitation as there was little to no academic source to expand on or learn from in terms of design or measures. Due to the fact there is nothing to learn from initially or elaborate on the area further, this could induce flaws in the design of the study meaning that true results may go unnoticed until the appropriate design or measure is selected for testing.

4.4 Suggestions for Future Research

It would be advised that in the instance of future research of this area, an experimental, non-self-report design be selected for testing. This would diminish the likelihood of individual bias when answering questions. If the researcher is directly asking the participant the questions, there is a strong likelihood that the individual would answer quickly without having given much thought to how their answer reflects on them.

It may also be beneficial to gather at least a reasonably equal sample of both genders, provided a mixed gender sample is still sought. This would provide a sense of security in the validity and reliability of the results received, making any comparisons to other academic works more secure in terms of confidence and strength.

4.5 Conclusion

In conclusion of the present study, it has been determined that no significant predictive power of self-esteem or rumination on aggression is present, thus no significant relationships existing. Moreover, self-esteem and age have a relationship of an opposite nature in comparison to the one hypothesised in the current stud, possibly suggesting a more varied sample in terms of age to be studied at some point in the future. However, the results attained for gender differences for aggression and self-esteem scores alike remain consistent with various other academic studies which could be seen as a strength of this research as it adds to the validity and variety of the existing academic literature.

References

- Anwar, M., Mahmood, B., & Hanif, M. K. (2016). Mental Health Issues in Young Adults of Pakistan: The Relationship of Narcissism and Self-Esteem With Aggression. *Journal of Behavioural Sciences, 26*(2), 135-155.
- Aryana, M. (2010). Relationship Between Self-esteem and Academic Achievement Amongst Pre-University Students. *Journal of Applied Sciences, 10*(20), 2474-2477.
- Baumeister, R. F., & Vohs, K. D. (2018). Revisiting Our Reappraisal of the (Surprisingly Few) Benefits of High Self-Esteem. *Perspectives on Psychological Science, 13*(2), 137-140.
DOI: 10.1177/1745691617701185
- Bleidorn, W., Arslan, R. C., Denissen, J. J. A., Rentfrow, P. J., Gebauer, J. E., Potter, J., & Gosling, S. D. (2016). Age and gender differences in self-esteem – A cross-cultural window. *Journal of Personality and Social Psychology, 111*(3), 396-410. DOI: 10.1037/pspp0000078
- Bosson, J. K., Vandello, J. A., Burnaford, R. M., Weavers, J. R., & Wasti, S. A. (2009). Precarious Manhood and Displays of Physical Aggression. *Personality and Social Psychology Bulletin, 35*(5), 623-634. DOI: 10.1177/0146167208331161
- Brunet, J., Sabiston, C. M., Dorsch, K. D., & McCreary, D. R. (2010). Exploring a model linking social physique anxiety, drive for muscularity, drive for thinness and self-esteem among adolescent boys and girls. *Body Image, 7*(1), 137-142. DOI: 10.1016/j.bodyim.2009.11.004

- Bushman, B. J., Baumeister, R. F., Thomaes, S., Ryu, E., Begeer, S., & West, S. G. (2009). Looking Again, and Harder, for a Link Between Low Self-Esteem and Aggression. *Journal of Personality, 77*(2), 427-446. DOI: 10.1111/j.1467-6494.2008.00553.x
- Bushman, B. J. (2018). Narcissism, Fame Seeking, and Mass Shootings. *American Behavioral Scientist, 62*(2), 229-241. DOI: 10.1177/0002764217739660
- Buss, A. H., & Perry, M. (1992). *Aggression Questionnaire* [Database record]. Retrieved from PsycTESTS. DOI: <http://dx.doi.org/10.1037/t00691-000>
- Diamantopoulou, S., Rydell, A., & Henricsson, L. (2008). Can Both Low and High Self-esteem Be Related to Aggression in Children? *Social Development, 17*(3), 682-698.
- Erol, T. Y., & Orth, U. (2011). Self-Esteem Development From Age 14 to 30 Years: A Longitudinal Study. *Journal of Personality and Social Psychology, 101*(3), 607-619. DOI: 10.1037/a0024299
- Fernandez, S., & Pritchard, M. (2012). Relationships Between Social Self-Esteem, Media Influence and Drive for Thinness. *Eating Behaviors, 13*(4), 321-325. DOI: 10.1016/j.eatbeh.2012.05.004
- Fox, J., & Pease, B. (2012). Military Deployment, Masculinity and Trauma: Reviewing the Connections. *The Journal of Men's Studies, 20*(1), 16-31. DOI: 10.3149/jms.2001.16
- Garofalo, C., Holden, C. J., Zeigler-Hill, V., & Velotti, P. (2015). Understanding the connection Between Self-Esteem and Aggression: The Mediating Role of Emotion Dysregulation. *Aggressive Behavior, 42*(1), 3-15. DOI: 10.1002/ab.21601

- Gentile, B., Grabe, S., Dolan-Pascoe, B., Twenge, J. M., Wells, B. E., & Maitino, A. (2009). Gender Differences in Domain-Specific Self-Esteem: A Meta-Analysis. *Review of General Psychology, 13*(1), 34-45. DOI: 10.1037/a0013689
- Golmaryami, F. N., & Barry, C. (2010). The Associations of Self-Reported and Peer-Reported Relational Aggression with Narcissism and Self-Esteem Among Adolescents in a Residential Setting. *Journal of Clinical Child & Adolescent Psychology, 39*(1), 128-133. DOI: 10.1080/15374410903401203
- Moksnes, U. K., Moljord, I. E. O., Espnes, G. A., & Byrne, D. G. (2010). The association between stress and emotional states in adolescents: *The role of gender and self-esteem. Personality and Individual Differences, 49*(5), 430-435. DOI: 10.1016/j.paid.2010.04.012
- Myers, D. G. (2010). *Social Psychology*. New York, NY: McGraw-Hill.
- Neff, K. D. (2011). Self-Compassion, Self-Esteem, and Well-Being. *Social and Personality Psychology Compass, 5*(1), 1-12. DOI: 10.1111/j.1751-9004.2010.00330.x
- Neff, K. D., & Vonk, R. (2009). Self-Compassion Versus Global Self-Esteem: Two Different Ways of Relating to Oneself. *Journal of Personality, 77*(1), 23-48. DOI: 10.1111/j.1467-6494.2008.00537.x
- Orth, U., Robins, R. W., & Trzesniewski, K. H. (2010). Self-Esteem Development From Young Adulthood to Old Age: A Cohort-Sequential Longitudinal Study. *Journal of Personality and Social Psychology, 98*(4), 645-658. DOI: 10.1037/a0018769

- Orth, U., Robins, R. W., & Widaman, K. F. (2012). Life-Span Development of Self-Esteem and Its Effects on Important Life Outcomes. *Journal of Personality and Social Psychology, 102*(6), 1271-1288. DOI: 10.1037/a0025558
- Pederson, W. C., Denson, T. F., Goss, R. J., Vasquez, E. A., Kelley, N. J., & Miller, N. (2011). The impact of rumination on aggressive thoughts, feelings, arousal, and behaviour. *British Journal of Social Psychology, 50*(2), 281-301. DOI: 10.1348/014466610x515696
- Peled, M., & Moretti, M. M. (2009). Ruminating on Rumination: are Rumination on Anger and Sadness Differentially Related to Aggression and Depressed Mood? *Journal of Psychopathology and Behavioral Assessment, 32*(1), 108-117.
- Peters, J. R., Smart, L. M., Eisenlohr-Moul, T. A., Geiger, P. J., Smith, G. T., & Baer, R. A. (2015). Anger Rumination as a Mediator of the Relationship Between Mindfulness and Aggression: The Utility of a Multidimensional Mindfulness Model. *Journal of Clinical Psychology, 71*(9), 871-884. DOI: 10.1002/jclp.22189
- Thomaes, S., Bushman, B. J., Castro, B. O. D., Cohen, G. L., & Denissen, J. J. A. (2009). Reducing Narcissistic Aggression by Buttressing Self-Esteem An Experimental Field Study. *Psychological Science, 20*(12), 1536-1542. DOI: 10.1111/j.1467-9280.2009.02478.x
- Richardson, D. S. (2014). Everyday Aggression Takes Many Forms. *Current Directions in Psychological Science, 23*(3), 220-224. DOI: 10.1177/0963721414530143

- Rosenberg, M. (1965). *Rosenberg Self-Esteem Scale* [Database record]. Retrieved from PsycTESTS. DOI: <http://dx.doi.org/10.1037/t01038-000>
- Shaheen, F., & Jahan, M. (2014). Role of Self Esteem in Development of Aggressive Behavior Among Adolescents. *International Journal of Education and Psychological Research (IJEPR)*, 3(4), 54-57.
- Slater, A., & Tiggemann, M. (2015). Media Exposure, Extracurricular Activities, and Appearance-Related Comments as Predictors of Female Adolescents' Self-Objectification. *Psychology of Women Quarterly*, 39(3), 375-389. DOI: 10.1177/0361684314554606
- Smart, L. M., Peters, J. R., & Baer, R. A. (2016). *Self-Critical Rumination Scale* [Database record]. Retrieved from PsycTESTS. DOI: <http://dx.doi.org/10.1037/t58522-000>
- Sowislo, J. F., & Orth, U. (2013). Does Low Self-Esteem Predict Depression and Anxiety? A Meta-Analysis of Longitudinal Studies. *Psychological Bulletin*, 139(1), 213-240. DOI: 10.1037/a0028931
- Twenge, J. M., Carter, N. T., & Campbell, W. K. (2017). Age, Time Period, and Birth Cohort Differences in Self-Esteem: Reexamining a Cohort-Sequential Longitudinal Study. *Journal of Personality and Social Psychology*, 112(5), 9-17. DOI: 10.1037/pspp0000122

- von Soest, T., Wichstrom, L., & Kvalem, I. L. (2016). The Development of Global and Domain Specific Self-Esteem From Age 13-31. *Journal of Personality and Social Psychology, 110*(4), 592-608. DOI: 10.1037/pspp0000060
- Walker, J. S., & Bright, J. A. (2009). False inflated self-esteem and violence: a systematic review and cognitive model. *The Journal of Forensic Psychiatry & Psychology, 20*(1), 1-32. DOI: 10.1080/14789940701656808
- Ybrandt, H., & Armelius, K. (2010). Peer Aggression and Mental Health Problems, Self-Esteem as a Mediator. *School Psychology International, 31*(2), 146-163. DOI: 10.1177/0143034309352267
- Zeigler-Hill, V., Dahlen, E. R., & Madson, M. B. (2017). Self-Esteem and Alcohol Use: Implications for Aggressive Behavior. *International Journal of Mental Health and Addiction, 15*(1), 1103-1117. DOI: 10.1007/s11469-017-9764-9

Appendices

Appendix A

Information Sheet

The purpose of this research is to investigate if any relationships exist between an individual's levels of self-esteem, rumination (deep repetitive contemplation of something) and aggression in third-level students.

The researcher invites people who are third-level students to participate. In this study, a series of questions will be asked relating to three different subjects: Self-esteem, rumination, and aggression. In answering these questions, you will allow the researcher to develop a greater knowledge and insight into this research topic. The results from this study will provide a more extensive selection of research on the topic, and an opportunity for the researcher to investigate whether their proposed questions can be answered.

In addition, if you have any concerns about any aspect of the present study, you may contact me through the email address x16476246@student.ncirl.ie
You may also reach my supervisor through the email address micheal.cleary-gaffney@ncirl.ie.

Thank you for taking part!

Appendix B

Consent Form

This research is being administered by Kelly Hamilton, an undergraduate final year student studying psychology at the School of Business, National College of Ireland. The method proposed for this research project has been approved by the Departmental Ethics Committee, meaning that the committee has no concerns about the procedure itself as detailed by the student. However, it is Kelly Hamilton's responsibility to adhere to ethical guidelines in their dealings with participants and collection and handling of information.

The current study includes material relating to self-esteem, rumination (deep repetitive contemplation of something), and aggression. All data from each participant will be treated confidentially similar to the participant's identity. The information will be compiled, analysed and submitted in a report to the Psychology Department in the School of Business. No data given by any participant will be identified at any stage throughout the whole process of this study. The results obtained from this study will be reported to NCI and during a presentation at NCI research conference. All participants will be able to withdraw from the study up until the point of clicking the 'SUBMIT' button at the end of the survey. If the participant clicks the 'SUBMIT' button, they will no longer be able to withdraw from the study.

This survey takes approximately 10-15 minutes to complete.

The aim of this research is to examine if a relationship between aggression, rumination, and self-esteem exists within a third-level student population. Male and female students are invited to take part. Please feel free to pass this on to family or friends that are also third-level students.

If you have any concerns about participation, please acknowledge that you may refuse to participate or retract from the study at any time up to completion of the questionnaire by simply exiting the questionnaire. If you choose to click the 'SUBMIT' button at the end of the survey, you will no longer be able to retract the information you have given.

If you feel affected by this study and the questions asked, please contact the Samaritans - 116 123, or NiteLine - 1800 793 793

After reading the information sheet and consent form, do you agree to participate in this study?

I agree

Gender*

- Male
- Female
- Rather not say
- Other

Age*

Are you a college student?*

- Yes
- No

What year of study are you in?*

Appendix C

Aggression Questionnaire

Below are a set of questions that relate to aggression. Items are rated on a Likert scale ranging between 1 (extremely uncharacteristic of me), 2 (somewhat uncharacteristic of me), 3 (neither uncharacteristic or characteristic of me), 4 (somewhat characteristic of me), and 5 (extremely characteristic of me). There are no right or wrong answers.

Physical Aggression

1. Once in a while I can't control the urge to strike another person.
2. Given enough provocation, I may hit another person.
3. If somebody hits me, I hit back.
4. I get into fights a little more than the average person.
5. If I have to resort to violence to protect my right, I will.
6. There are people who pushed me so far that we came to blows.
7. I can think of no good reason for ever hitting a person.*
8. I have threatened people I know.
9. I have become so mad that I have broken things.

Verbal Aggression

1. I tell my friends openly when I disagree with them.
2. I often find myself disagreeing with people.
3. When people annoy me, I may tell them what I think of them.
4. I can't help getting into arguments when people disagree with me.
5. My friends say that I'm somewhat argumentative.

Anger

1. I flare up quickly but get over it quickly.
2. When frustrated, I let my irritation show.
3. I sometimes feel like a powder keg ready to explode.
4. I am an even-tempered person.*
5. Some of my friends think I'm a hothead.
6. Sometimes I fly off the handle for no good reason.
7. I have trouble controlling my temper.

Hostility

1. I am sometimes eaten up with jealousy.
2. At times I feel I have gotten a raw deal out of life.
3. Other people always seem to get the breaks.
4. I wonder why sometimes I feel so bitter about things.

5. I know that “friends” talk about me behind my back.
6. I am suspicious of overly friendly strangers.
7. I sometimes feel that people are laughing at me behind my back.
8. When people are especially nice, I wonder what they want.

Note: * The scoring of these items is reversed.

Appendix D

Rosenberg Self-Esteem Scale (RSES)

The Rosenberg self esteem scale measures the quality of an individual's self esteem. Items are rated on a Likert scale of 1 (strongly agree), 2 (agree), 3 (disagree), and 4 (strongly disagree). There are no right or wrong answers.

1. I feel that I am a person of worth, at least on an equal basis with others.
2. I feel that I have a number of good qualities.
3. All in all, I am inclined to feel that I am a failure.*
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of.*
6. I take a positive attitude toward myself.
7. On the whole, I am satisfied with myself.
8. I wish I could have more respect for myself.*
9. I certainly feel useless as times.*
10. At times I think I am no good at all.*

Note: * reverse scored

Appendix E

Self-Critical Rumination Scale SCRS

This questionnaire is used to examine the level of self-critical rumination an individual engages in. It consists of 10 items on a Likert scale from 1 (not at all), 2 (a little), 3 (moderately), and 4 (very much). There are no right or wrong answers.

1. My attention is often focused on aspects of myself that I'm ashamed of.
2. I always seem to be rehashing in my mind stupid things that I've said or done.
3. Sometimes it is hard for me to shut off critical thoughts about myself.
4. I can't stop thinking about how I should have acted differently in certain situations.
5. I spend a lot of time thinking about how ashamed I am of some of my personal habits.
6. I criticize myself a lot for how I act around other people.
7. I wish I spent less time criticizing myself.
8. I often worry about all of the mistakes I have made.
9. I spend a lot of time wishing I were different.
10. I often berate myself for not being as productive as I should be.

Note: Items are rated on a Likert-type scale ranging from 1 to 4 (1 = not at all, 2 = a little, 3 = moderately, 4 = very much)

Appendix F**Confirmation of Consent**

I acknowledge that once having clicked the 'SUBMIT' button below, I may no longer retract my participation from this study

- I consent to being a participant in this study