

Self-evaluation and Aggression: Different Types of Self-esteem Predict Different Types of Aggression

Suzana Amad ^{1,2}

Nicola S. Gray ^{3,4}

Robert J. Snowden¹

Author Note

¹ School of Psychology, Cardiff University, Cardiff, CF10 3AT, UK.

² Department of Psychology, Kuliyyah of Islamic Revealed Knowledge and Human Sciences (KIRKHS), International Islamic University Malaysia, Malaysia.

³ School of Psychology, Swansea University, UK

⁴ Caswell Clinic, Abertawe Bro Morgannwg University Health Board, UK.

Correspondence concerning this article should be addressed to Robert Snowden, School of Psychology, Cardiff University, Cardiff, CF10 3AT, UK.

snowden@cardiff.ac.uk

Author Contributions

Suzana Amad contributed to the study conceptualization, the data collection, data preparation, data analysis, and commented on several drafts of the report. Nicola Gray contributed to the study conceptualization, and commented on several drafts of the report. Robert Snowden was the PhD supervisor of Suzana Amad. He contributed to the study conceptualization, data analysis, and was the main author of the report.

Abstract

Objective. To examine the relationship between self-esteem, narcissism, and measures of proactive and reactive aggression in two large community samples of young adults from two countries (UK and Malaysia). **Method.** Self-esteem and narcissism were measured via the Multidimensional Self-Esteem Inventory and the Narcissistic Personality Inventory, while aggression was measured by the Reactive-Proactive Aggression Questionnaire in 501 young adults with approximately equal numbers of men and women. **Results.** In both countries, low levels of self-esteem were associated with reactive aggression while high levels of narcissism were associated with proactive aggression. While this pattern was similar for both genders, the associations between both types of self-evaluation and proactive aggression were greater for men. **Conclusions.** The results suggest that people with low self-esteem are prone to greater reactive aggression due to anger and hostility, while those with high levels of narcissism can act with deliberate, planned aggression to achieve a goal. These effects appear stable across gender and culture.

Keywords: self-esteem, narcissism, violence, proactive vs reactive aggression, culture, gender.

Self-esteem, Narcissism and Aggression: Different Types of Self-esteem Predict Different Types of Aggression

There is a common belief that poor self-esteem (a negative evaluation of oneself) is linked to a large variety of psychological problems, including antisocial acts and violence to others (e. g., Brown, 1998). However, the stereotype of an aggressive person, such as a psychopath, is of one who is bold, assertive, self-assured, and perhaps even narcissistic. Hence, the nature of the relationship between aggression and self-esteem has been much debated. In this paper we examined whether these two views might be reconciled by a consideration of the nature of the aggressive acts committed. Specifically, we attempted to divide the aggressive actions into those that are reactive (done in the heat of the moment in reaction to frustration or a perceived threat) and those that are proactive (done deliberately for the purpose of some form of gain) and then examined if the two forms of aggression are differentially predicted by the different forms of self-evaluation (global self-esteem vs narcissism) in a large cohort of young adults from two different cultures.

Self-esteem and Narcissism.

We all hold a view of ourselves: our talents and our foibles. This internalised view of the self has been termed self-evaluation and some aspects of these self-evaluations lead to self-esteem (Leary & Terry, 2013). There are two competing hypotheses in regard to the link between self-evaluation and aggression. One view suggests that low self-esteem leads to violent behavior (e.g., Donnellan, Trzesniewski, Robins, Moffitt, & Caspi, 2005). This relationship appears well-established (for reviews see Teng, Liu, & Guo, 2015; Walker & Bright, 2009).

The second view suggests that violence stems from high (or overly-inflated) self-esteem (e.g., Baumeister, Smart, & Boden, 1996). Such overly inflated views of the self are termed

narcissism. Several lines of research converge on the finding that high scores on measures of narcissism are associated with aggression (Barry et al., 2007; Bushman & Baumeister, 1998; Donnellan et al., 2005; Fossati, Borroni, Eisenberg, & Maffei, 2010; Lambe, Hamilton-Giachritsis, Garner, & Walker, 2016; Locke, 2009; Maples et al., 2010; Twenge & Campbell, 2003).

Reactive and Proactive aggression

Many researchers have made the distinction between acts of violence that are reactive versus proactive (Parrott & Giancola, 2007). Reactive aggression occurs in a state of high arousal (hot-bloodedness) following a particular event and is unplanned. It has been described as affective, defensive, and involving angry outbursts in response to actual or perceived provocation or threats. In contrast, proactive aggression tends to be planned, occurs for some purpose or individual gain (e.g., robbery or revenge) and may be done in a state of relative low-arousal (cold-bloodedness). Hence, we might expect different forms of self-evaluation (e.g., self-esteem vs narcissism) to have different associations to these different types of aggression.

Salmivalli (2001) suggested that those with narcissistic traits may be particularly prone to committing acts of proactive aggression. Recent evidence provides some support for this notion in children and school age students (Barry et al., 2007; Fite, Stoppelbein, & Greening, 2009; Maples et al., 2010). For example, Fite et al. (2009) looked at children resident within a psychiatric inpatient facility and found that narcissism (rated by a caregiver) was positively associated with self-reported proactive aggression, and also positively related to both proactive and reactive aggression rated by the caregiver. Other studies have shown that high levels of narcissism are predictive of both proactive and reactive aggression (Fossati et al., 2010; Twenge & Campbell, 2003).

Does Gender Moderate the Relationship between Self-esteem and Aggression?

Surprisingly, only a few studies have examined possible gender differences in the relationship between self-esteem and aggression and the findings are not consistent. Von Collani and Werner (2005) found that women had a stronger negative association between self-esteem and aggression than men. Canning, Andrew, Murphy, Walker, and Snowden (2017) also found that low global self-esteem is a stronger predictor of aggression for women in comparison to men in a sample of vulnerable young adults. Barnett and Powell (2016) found that self-esteem was negatively related to aggression in a large sample of college students, but found that this relationship was similar for both men and women. Finally, Webster (2006) found that the negative relationship between self-esteem and verbal aggression was greater for men than for women.

Hence, while all these studies agree that low self-esteem is related to aggression, they disagree as to whether this relationship is greater, the same, or lesser for women than for men. Therefore, there is a need to unravel the gender dynamics surrounding the association between self-esteem and aggressive behaviour (Ostrowsky, 2010, p. 74).

Does Gender Moderate the Relationship between Narcissism and Aggression?

The relationship between narcissism and aggression has also been found to be sensitive to gender. All studies agree that higher levels of narcissism are associated with aggression in both men and women, but disagree as to whether this relationship is greater, the same, or lesser for women than for men. For example, Von Collani and Werner (2005) found that women have a stronger positive association between narcissism and aggression than men. However, Twenge and Campbell (2003), Donnellan et al. (2005), and Barnett and Powell (2016) failed to find any effect of gender on the relationship between narcissism and aggression. Webster (2006) found that the relationship between narcissism and trait aggression was greater for men. Terrell, Hill, and Nagoshi (2008) found that narcissism was related to a measure of laboratory-based aggression for men but not for women.

Cultures, Self-esteem, and Aggression

Although aggression has been termed as a universal feature of human social relations, cultural variation in aggression implies that culture might play an important role in shaping or moulding this behavior. As a simple example, homicide rates differ markedly across different countries. To pick a few examples, rates of intentional homicide per 100,000 are 26.7 for Brazil, 4.9 for the United States of America, 0.9 for the United Kingdom, and 0.3 for Japan¹.

The reasons for this wide variation are complex (Bergeron & Schneider, 2005). One factor that has been shown to be related to levels of aggression is the culture's level of individualism-collectivism (Hofstede, 1983). Individualistic cultures have only loose ties between its members and people are expected to take care of themselves and their close family only (e.g., USA and UK). Collectivistic cultures promote selflessness and the needs of the community rather than the individual (e.g., Japan and Malaysia).

Societies with an individualistic culture are more accepting of aggressive behavior than those of the collectivistic culture (Bergeron & Schneider, 2005; Forbes, Zhang, Doroszewicz & Kass, 2009). The use of aggression in individualistic cultures may aid individuals in achieving their personal goals and this is broadly understood and tolerated (within limits). Conversely, aggression in collectivistic cultures is less acceptable as it would affect the social harmony in society, hence impairing collectivity (Xu, Farver, Schwartz & Chang, 2004).

Societies that are collective might be expected to have lower levels of aggression overall. However, such societies are also characterised by having a high "power distance" (an acceptance of unequal power distribution, authoritarian attitudes, and the use of coercion) which is, in turn, associated with high levels of violence and aggression (Bergeron &

¹ <https://www.indexmundi.com/facts/indicators/VC.IHR.PSRC.P5/rankings>

Schneider, 2005). Consistent with this hypothesis, Fung, Raine, and Gao (2009) examined levels of aggression in East Asian youths using the Reactive-Proactive Aggression Questionnaire (RPQ) (Raine et al., 2006) and found that proactive aggression increased with age for boys but not for girls, whereas there were no gender differences for reactive aggression. Similar results have been reported for Western samples (Raine, et al., 2006). However, Fung et al. (2009) note that due to difficulties in equating samples on such dimensions as grade levels, and possible differences in questions due to translation, direct comparisons of levels of proactive and reactive aggression were not possible..

The vast majority of research into the relationship between self-esteem and aggression has used samples from a “western” society which may limit their application to other countries and societies. In order to address this we collected data from two countries, one western (UK) and one eastern (Malaysia).

The Present Study

Previous findings have generally shown that global self-esteem is negatively related to aggression but that narcissism is positively related to aggression. However, this simple story is complicated by the nature of the aggressive acts (reactive vs proactive). There also appeared to be possible gender differences in these relationships, but the research findings are inconsistent to the point of being contradictory. Given the inconsistencies of previous findings on the relationships between global self-esteem, narcissism, and gender with different types of aggression, we examine these in a large sample of young adults.

We hypothesise that self-esteem is negatively related to reactive aggression, but not to proactive aggression, while narcissism is positively related to proactive aggression, but not to reactive aggression. We examine whether these relationships are moderated by gender. However, given the inconsistent pattern of results from previous studies, we do not make any specific hypotheses relating to gender. Finally, we use two samples, one from a society thought

to be individualistic (UK) and one from a collectivist culture (Malaysia) (see Oyserman, Coon and Kimmelmeir, 2002) in order to examine the generality of the relationship between self-esteem and aggression, and between narcissism and aggression, with respect to diversity of countries.

Methods

Procedure

All procedures were developed with the assistance of the university's student counselling services, and were given approval by the Ethical Committee of the School of Psychology, **** University, and were approved by the relevant departments in the Malaysian universities.

Participants were recruited via electronic noticeboards within the Universities sampled that advertised for participants in psychological experiments. Participants attended the laboratory in small groups and completed the scales individually in individual booths within the laboratory. Participants gave informed consent. The data were gathered as part of the PhD thesis work of *** over the years 2012-2014.

Participants

Based on previous findings (e.g., Donnellan et al., 2005), typical effect sizes in research on self-evaluation and aggression are on the order of $r = .20$. Hence, we aimed to recruit at least 150 participants per gender group, which would give us a power of .80 for an alpha of .05 (one-tailed) (Cohen, 1988).

Participants were 502 students taken from two sites in the UK and Malaysia. The UK sample were 214 students (153 females; 71.5%) at a large urban University in the UK. They had a mean age of 20.4 years ($SD = 2.4$, range 18 - 38). Self-reported ethnicity was white (95.3%), with 4.7% consisting of other ethnic categories. Participants from the School of Psychology

received course credits (one hour) for their participation while other participants received a small cash payment (£10.00) for participation.

The Malaysian sample consisted of 288 students (151 females; 52.4%) from three universities in Malaysia. They had a mean age of 22.7 years ($SD = 2.5$, range 19 - 39). Self-reported ethnicity was Malay (61.1%), Malaysian - Chinese (32.6%), Malaysian- Indian (4.2%) and others, including Indigenous (2%). Participants received a small gift (e.g. a coffee mug from ** University) for their participation.

All measures were delivered in two languages: English and Bahasa Malaysia. All instructions and items were presented in English, followed by the Malay translation below them. This helped the participants comprehend the items or instructions whenever they were unclear of certain words. For the Bahasa Malaysia translation, the measures were translated from English into Malay by the researcher, and the Malay version was retranslated into English by two academic researchers.

Measures

Self-esteem.

The Multidimensional Self-Esteem Inventory (MSEI) (O'Brien & Epstein, 1988) assesses a global measure of self-evaluation (Global Self-esteem) and several sub-components of self-esteem. Responses are evaluated using a 5-point scale from 1 = “*completely false*”, to 5 = “*completely true*”, or 1 = “*almost never*” to 5 = “*very often*”. Though participants completed the whole 116 item questionnaire, we only used the measure of Global Self-esteem in this study. The score from the 10 items that form the global self-esteem scale (e.g., “*I sometimes have a poor opinion of myself*”) were summed to form a scale from 10 to 50 with higher scores indicating greater self-esteem.

The global scale of the MSEI is well validated and has good psychometric properties (O'Brien & Epstein, 1988). For example, it has a high correlation ($r = 0.81$) with the Rosenberg Self-esteem Scale (RSES; Rosenberg, 1965) and has excellent internal reliability ($\alpha = 0.90$). In the present sample the mean score was 30.3 with a standard deviation of 6.7. The internal reliability was excellent ($\alpha = .91$).

Narcissism.

The Narcissistic Personality Inventory (NPI) (Raskin & Terry, 1988) is based on the Diagnostic and Statistical Manual of Mental Disorders (DSM) criteria for narcissistic personality disorder. The NPI is a 40- item self-report questionnaire where the person chooses which of two statements they most closely identify with (e.g., A. "*I prefer to blend in with the crowd*" or B. "*I like to be the center of attention*") to produce a total score in the range 0 – 40 with higher scores indicating greater narcissism. The NPI is well validated and has good psychometric properties. For example, it has good internal reliability ($\alpha = 0.80 - 0.82$) and test-retest reliability (0.81) (del Rosario & White, 2005). The mean score for this sample was 12.8 (SD = 6.3) with a high internal consistency ($\alpha = .86$).

Aggression.

The Reactive-Proactive Aggression Questionnaire (RPQ) (Raine et al., 2006) is a 23-item self-report questionnaire where the participant rates how often an aggressive behaviour has occurred in the past on a 3-point scale ("never", "sometimes", "often"). It provides two separate measures, one relating to Proactive Aggression via 12 questions (e.g., "*Used force to get others to do what you want*") giving a range of scores from 0 - 24, and the other to Reactive Aggression via 11 questions (e.g., "*Become angry or mad or hit others when teased*") giving a range of score from 0 - 22. Higher scores on both scales indicate greater levels of aggression.

The RPS is well validated and has been used in many other studies of aggression (e.g., Fossati et al., 2010). It has good psychometric properties. For example, the scales have internal reliabilities of .84 for reactive aggression and .86 for proactive aggression (Raine et al., 2006). In the present sample, the mean score was 2.1 (SD = 2.6) for Proactive Aggression and 6.9 (SD = 3.8) for Reactive Aggression. The internal reliability was good for both scales (Reactive Aggression $\alpha = .83$; Proactive Aggression $\alpha = .74$).

Analytic Plan.

The data is openly available through the Mendeley Data website (***, 2019). Outliers (> 3 SD from mean) were capped at this value. Normality of distributions was judged by visual inspection (Tabachnick & Fidell, 2007). Most scales showed approximately normal distributions with the exception of the Proactive aggression scale of the RPQ which showed a strong negative skew (with approximately 40% of participants scoring 0 on this scale). Analyses involving this variable were therefore rerun using non-parametric statistics. The pattern of results for the parametric and non-parametric statistics was identical and so only the parametric analyses are presented here. The residuals were normally distributed and other assumptions such as multicollinearity, outliers, linearity, and homoscedasticity were not violated.

Group comparisons (e.g., male vs female) were examined via simple *t*-tests. We then looked at the zero-order correlations between the measures of self-evaluation and the measures of aggression for the sample as a whole, and then broken down by gender and by country. We then examined whether the measures of self-evaluation were able to predict levels of aggression through hierarchical regression analyses. Data for group membership were dummy coded (-1 for UK sample and +1 for Malay sample; -1 for men and +1 for women) and entered into the regression analyses at step 1. At step 2, self-esteem and narcissism scores (*z*-scored, see Aiken

& West, 1991) were entered to determine their unique relationship with each form of aggression. The 2-way interaction terms were entered at step 3, and the three-way interaction terms at step 4. At each step of the model, the ΔR^2 value was inspected. Where prediction had been significantly improved, individual β values were examined to determine which variables demonstrated a unique significant influence on the aggression outcome. This initial analysis showed that while the country variable was associated with proactive aggression (the beta value was positive indicating greater levels of proactive aggression in the Malaysian sample), there were no other significant results related to this variable. Therefore, to produce a simpler model, we again entered this variable at step 1 of the model, but did not enter any of the interaction terms (and hence only had three steps).

Results

Levels of self-esteem and aggression

Table 1 illustrates levels of self-esteem and reactive and proactive aggression as a function of gender and country. As expected, levels of narcissism were greater in men than in women in both countries, while there were no differences in levels of self-esteem. Levels of proactive aggression were also greater in men, but this was only significant for the UK sample. The only differences related to country were that women in the Malaysian sample had greater levels of self-esteem and of proactive aggression.

Zero-order correlations

As predicted, for all four groups (male, vs female, UK vs Malaysia) proactive aggression was positively related to narcissism but not to global self-esteem, whereas reactive aggression was associated with lower global self-esteem but not with narcissism (with the exception that reactive aggression was significantly related to narcissism in the UK sample).

Not surprisingly, the two measures of self-evaluation, self-esteem and narcissism, showed a moderate correlation ($r = .48, p < .001$), with similar values across all four groups ($r_s = .40 - .51$).

Regression Analyses

Results are shown in Table 3. At step 1 (gender and country) there was a significant model for the prediction of the Proactive Aggression but not for Reactive Aggression. Both gender (being male) and country (being Malaysian) were predictive of greater aggression for Proactive Aggression.

The addition of self-esteem and narcissism scores at step 2 produced significant increases in model fit for both measures of aggression. Examination of the beta coefficients shows that self-esteem was negatively related to both forms of aggression (Proactive: $\beta = -.21, p < .01$; Reactive: $\beta = -.33, p < .001$), while narcissism was positively related to both forms of aggression (Proactive: $\beta = .27, p < .001$; Reactive: $\beta = .24, p < .001$).

Step 3 (addition of the interaction terms with gender) produced no significant increase in prediction of the model for Reactive aggression, but did for Proactive aggression. For the Proactive aggression scale, gender interacted with both self-esteem and with narcissism. Figure 1 shows that low self-esteem scores were predictive of aggression for men ($\beta = -.26, p < .001$) but not for women ($\beta = -.02, ns$). High narcissism scores were predictive of proactive aggression for both men ($\beta = .34, p < .001$) and women ($\beta = .18, p < .01$). However, the significant interaction term and inspection of Figure 1 shows that the slope was greater for men than for women. Thus, both forms of self-evaluation had a stronger influence on aggression for men than for women.

Discussion

The results from the zero-order correlations are in accord with our main hypotheses. Self-esteem was negatively correlated with reactive aggression, but not with proactive aggression. Conversely, narcissism was positively associated with proactive aggression, but was not related to reactive aggression. However, when both self-esteem and narcissism were entered into the regression model together, they were both significant predictors of both forms of aggression, with a consistent pattern of self-esteem being negatively related to aggression and narcissism being positively related to aggression. This pattern of results was found across both our UK and Malaysian samples. Finally, we found evidence that gender moderated the relationship between self-esteem and proactive aggression, and between narcissism and proactive aggression. In both cases the associations were greater for men than for women.

Self-esteem and aggression

Previous studies of self-esteem and aggression have generally found a negative relationship between these concepts, but the results have been very mixed (see Introduction). In the present study, we are able to suggest why previous studies may have produced such mixed results. Self-esteem was strongly related to the concept of reactive aggression but has far weaker associations to proactive aggression. Hence, we might expect to see different results depending on how much the particular measure of aggression used captures these two related but different forms of aggression.

While we found no relationship between self-esteem and proactive aggression in the zero-order analysis, a significant relationship was found for self-esteem when narcissism was also entered in the analysis. Such a finding is indicative of a “suppressor effect” (Tabachnick and Fidell, 2007) where the suppressor variable suppresses variance that is irrelevant to the prediction of the dependent variable. In this case, as self-esteem and narcissism are correlated ($r = .46$), narcissism must be suppressing some aspects of self-esteem (presumably those most related to

narcissism) allowing the remaining variance in the self-esteem measure to show its negative relationship to proactive aggression. In a similar manner, it is notable that self-esteem's ability to predict reactive aggression is greater in the regression analysis (when narcissism is also in the equation) than its zero-order correlation.

Narcissism and aggression

In our study, high scores on narcissism are significantly related to proactive aggression, but were not significantly related to reactive aggression (though there appears to be a trend towards a small effect here). These findings are consistent with many previous studies that have shown a positive association between narcissism and aggression (Bushman & Baumeister, 1998; Donnellan et al., 2005; Fossati et al., 2010; Maples et al., 2010; Twenge & Campbell, 2003). Further, it is also consistent with previous findings that have specifically examined proactive and reactive aggression and found greater relationships for narcissism with proactive aggression than for reactive aggression (Barry et al., 2007; Seah & Ang, 2008) though these former studies were in children.

While the zero-order relationship between narcissism and reactive aggression failed to reach significance, the relationship between narcissism and reactive aggression was significant (and larger) in the regression analysis when entered alongside self-esteem. This suggests that self-esteem is acting as a suppressor variable allowing the remaining variance within the narcissism measure to show a stronger (positive) relationship with reactive aggression..

Gender and aggression

We found that men reported higher levels of proactive aggression than women, but we found no gender differences for levels of reactive aggression. These results are broadly in line with those of Hecht, Berg, Lilienfeld & Latzman (2016) who also found greater levels of

proactive aggression in men. However, Hecht et al. (2016) also found a small effect such that women showed more reactive aggression than men, while we did not find any effects of gender for this variable. The reason(s) for this small discrepancy between the studies is not clear.

The present study showed similarities in the relationships between self-evaluation and aggression between men and women. The exception was that a stronger negative relationship was found between self-esteem and reactive aggression, and a stronger positive relationship was found between narcissism and proactive aggression, in the male sample. The present results add to the picture of the role of gender in the relationship between self-evaluation and aggression (Ostrowsky, 2010), and suggests that the same relationships exist between self-evaluations and aggression for both men and women, but may be more marked in men due to their greater levels of aggression overall.

Culture and aggression

We found that rates of reactive aggression were similar between the UK and Malaysian samples. However, the Malaysian sample reported greater rates of proactive aggression than the UK sample. There is currently very little data on possible differences in rates of aggression between Western and East Asian countries that can be compared to our data.

We chose to compare these two countries due to the differences in collective/individualistic cultures and so one might be tempted to conclude that cultures with collective cultures are more prone to proactive aggression. However, the countries also differ in many other ways. One such way is on a scale of “power distance” (the extent to which the lower ranking individuals of a society accept and expect that power is distributed unequally) with East Asian cultures typically showing higher levels of power distance. There is evidence that countries with high power distance have higher levels of aggression (Bergeron & Schneider, 2005) and

this might account for the present findings. Clearly, further work is needed to examine if levels of aggression are influenced by differences in collective/individualistic culture and/or by power distance and a consideration of the type of aggression (proactive versus reactive) will be important given the current findings.

Strengths and Limitations

A major strength of the present study is the use of two separate samples from quite different countries: one Western and an individualistic culture, and one Eastern and a collectivist culture. Previous research has tended to use just a single country/culture, which is more often than not, from a western nation. The finding that the results were highly similar across these two countries/cultures, suggests that the role of self-evaluation on aggression may be the same across diverse countries and cultures. However, the participants in the present study were university students and hence would not be expected to have high levels of aggression. It would be of interest to see if similar relationships between self-evaluation and aggression hold in samples that have far greater levels of aggression and poorer levels of socialisation, such as offender groups or prison populations.

The study has relied on self-report measures. It is quite feasible that people may not honestly report their aggressive behaviour, showing either minimisation and positive impression management, or exaggerated and “macho” responses. In our study, the participants’ responses were anonymous and so we hoped such distortions of reporting were kept to a minimum. Nevertheless, it would be of value to look at behavioral measures of aggression, such as the Response Choice Aggression Paradigm (Maples et al., 2010). The increasing literature on the use of indirect measures to examine self-esteem (Greenwald & Banaji, 1995), which may be less prone to faking, may also prove useful in investigating the links between self-esteem and aggression (Schroeder-Abe, Rudolph, Wiesner, & Schuetz, 2007).

Our data were cross-sectional in nature and so we cannot make any claims of causality in the relationships between the measures of self-evaluation and aggression. Clearly, it would be of interest to look at intervention programmes that aim to boost self-esteem (in those with low self-esteem) to see if any changes in self-esteem would be accompanied by the predicted decrease in reactive aggression. Further, longitudinal studies examining moderators or management of narcissism may lead to a reduction in proactive aggression.

Conclusions

Our data supported our hypotheses that low self-esteem is associated with reactive aggression, while high narcissism is associated with proactive aggression. Risk assessments for future violence and the subsequent management of these risks of aggression need to take into account these two distinct forms of self-esteem in order to better understand how best to intervene and manage violent behaviors. Further, the data suggest that increasing self-esteem in those with low self-esteem might produce a decrease in aggressive behaviour for these people. However, for those with narcissism efforts should be made to decrease levels of narcissism, in order to reduce levels of planned, or instrumental, violence.

References

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. London: Sage.
- ****, S. B. (2015) *Self-esteem and aggression: The relationships between explicit-implicit self-esteem, narcissism, and reactive-proactive aggression*. PhD Thesis, *** University, *****
- Barnett, M. D. & Powell, H. A. (2016) Self-esteem mediates narcissism and aggression among women, but not men: A comparison of two theoretical models of narcissism

among college students. *Personality and Individual Differences*, 89, 100 – 104.

doi:10.1016/j.paid.2015.09.042.

Barry, T. D., Thompson, A., Barry, C. T., Lochman, J. E., Adler, K., & Hill, K. (2007). The importance of narcissism in predicting proactive and reactive aggression in moderately to highly aggressive children. *Aggressive Behavior*, 33(3), 185-197. doi: 10.1002/ab.20198

Baumeister, R. F., Smart, L., & Boden, J. M. (1996). Relation of threatened egotism to violence and aggression: The dark side of high self-esteem. *Psychological Review*, 103(1), 5-33.

Bergeron, N., & Schneider, B. H. (2005). Explaining cross-national differences in peer-directed aggression: A quantitative synthesis. *Aggressive Behavior*, 31(2), 116-137. doi: 10.1002/ab.20049

Brown, J. D. (1998) *The self*. Boston, MA. McGraw-Hill.

Bushman, B. J., & Baumeister, R. F. (1998). Threatened egotism, narcissism, self-esteem, and direct and displaced aggression: Does self-love or self-hate lead to violence? *Journal of Personality and Social Psychology*, 75(1), 219-229. doi: 10.1037/0022-3514.75.1.219

Buss, A. H., & Perry, M. (1992). The aggression questionnaire. *Journal of Personality and Social Psychology*, 63, 452-459.

Campbell, W. K., Miller, J. D. & Hoboken, N. J. (2011) *The handbook of narcissism and narcissistic personality disorder : Theoretical approaches, empirical findings, and treatments.*: John Wiley & Sons. [ISBN 9781118093108](#). [OCLC 784135838](#).

- Canning, A., Andrew, E., Murphy, R., Walker, J. S., & Snowden, R. J. (2017). Gender differences in the relationship between self-esteem and aggression in young people leaving care. *Violence and Gender, 4*(2), 49-54. doi: 10.1089/vio.2017.0002
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioural Sciences, 2nd Ed.* Hillsdale, NJ: Erlbaum.
- del Rosario, P. M., & White, R. M. (2005). The Narcissistic Personality Inventory: Test–retest stability and internal consistency. *Personality and Individual Differences, 39*(6), 1075-1081. doi: <https://doi.org/10.1016/j.paid.2005.08.001>
- Donnellan, M. B., Trzesniewski, K. H., Robins, R. W., Moffitt, T. E., & Caspi, A. (2005). Low self-esteem is related to aggression, antisocial behavior, and delinquency. *Psychological Science, 16*(4), 328-335.
- Fite, P. J., Stoppelbein, L., & Greening, L. (2009). Proactive and reactive aggression in a child psychiatric inpatient population. Relations to psychopathic characteristics. *Criminal Justice and Behavior, 36*(5), 481-493. doi: 10.1177/0093854809332706
- Forbes, G., Zhang, X., Doroszewicz, K., & Haas, K. (2009). Relationships between individualism-collectivism, gender, and direct and indirect aggression: A study in China, Poland and the US. *Aggressive Behavior, 35*, 24-30.
- Fossati, A., Borroni, S., Eisenberg, N., & Maffei, C. (2010). Relations of proactive and reactive dimensions of aggression to overt and covert narcissism in nonclinical adolescents. *Aggressive Behavior, 36*(1), 21-27. doi: 10.1002/ab.20332
- Fung, A. L.-C., Raine, A., & Gao, Y. (2009). Cross-cultural generalizability of the Reactive-Proactive Aggression Questionnaire (RPQ). *Journal of Personality Assessment, 91*(5), 473-479. doi: 10.1080/00223890903088420
- Greenwald, A. G., & Banaji, M. R. (1995). Implicit social cognition: Attitudes, self-esteem and stereotypes. *Psychological Review, 102*(1), 4-27.

- Hecht, L. K., Berg, J. M., Lilienfeld, S. O., & Litzman, R. D. (2016). Parsing the heterogeneity of psychopathy and aggression: Differential associations across dimensions and gender. *Personality Disorders: Theory, Research, and Treatment*, 7, 2-14.
- Hofstede, G. (1983). The cultural relativity of organizational practices and theories. *Journal of International Business Studies*, 14(2), 75-89. doi: 10.1057/palgrave.jibs.8490867
- Lambe, S., Hamilton-Giachritsis, C., Garner, E., & Walker, J. (2018). The role of narcissism in aggression and violence: A systematic review. *Trauma, Violence, & Abuse*, 19, 209–230. <https://doi.org/10.1177/1524838016650190>
- Leary, M. R. & Terry, M. L. (2013) *Self-evaluation and self-esteem*. In: The Oxford Handbook of Social Cognition, Carlston, D. (Ed). DOI:10.1093/oxfordhb/9780199730018.013.0026
- Locke, K. D. (2009). Aggression, narcissism, self-esteem, and the attribution of desirable and humanizing traits to self versus others. *Journal of Research in Personality*, 43(1), 99-102. doi: <https://doi.org/10.1016/j.jrp.2008.10.003>
- Maples, J. L., Miller, J. D., Wilson, L. F., Seibert, L. A., Few, L. R., & Zeichner, A. (2010). Narcissistic personality disorder and self-esteem: An examination of differential relations with self-report and laboratory-based aggression. *Journal of Research in Personality*, 44, 559-563.
- O'Brien, E. J., & Epstein, S. (1988). *MSEI. The Multidimensional Self-Esteem Inventory*: PAR, Inc.

Ostrowsky, M. K. (2010). Are violent people more likely to have low self-esteem or high self-esteem? *Aggression and Violent Behavior, 15*(1), 69-75. doi:

10.1016/j.avb.2009.08.004

Oyserman, D., Coon, H. M., & Kemmelmeier, M. (2002) Rethinking individualism and collectivism: Evaluation of theoretical assumptions and meta-analyses. *Psychological Bulletin, 128*, 3-72

Parrott, D. J., & Giancola, P. R. (2007). Addressing "The criterion problem" in the assessment of aggressive behavior: Development of a new taxonomic system.

Aggression and Violent Behavior, 12, 280-299. doi: 10.1016/j.avb.2006.08.002

Raine, A., Dodge, K., Loeber, R., Gatzke-Kopp, L., Lynam, D., Reynolds, C., . . . Liu, J. H.

(2006). The reactive-proactive aggression questionnaire: Differential correlates of reactive and proactive aggression in adolescent boys. *Aggressive Behavior, 32*(2),

159-171. doi: 10.1002/ab.20115

Raskin, R., & Terry, H. (1988). A principle-components analysis of the Narcissistic

Personality Inventory and further evidence of its construct validity. *Journal of Personality and Social Psychology, 54*, 890-902.

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princetone, NJ: Princeton University Press

Salmivalli, C. (2001). Feeling good about oneself, being bad to others? Remarks on self-esteem, hostility, and aggressive behavior. *Aggression and Violent Behavior, 6*(4),

375-393. doi: 10.1016/s1359-1789(00)00012-4

Schroeder-Abe, M., Rudolph, A., Wiesner, A., & Schuetz, A. (2007). Self-esteem

discrepancies and defensive reactions to social feedback. *International Journal of Psychology, 42*(3), 174-183. doi: 10.1080/00207590601068134

Seah, S. L., & Ang, R. P. (2008). Differential correlates of reactive and proactive aggression in Asian adolescents: Relations to narcissism, anxiety, schizotypal traits, and peer relations. *Aggressive Behavior, 34*, 553-562.

, ** (2019), "Aggression and self-evaluation_UK and Malay data_, ***, ***,",
Mendeley Data, v1 <http://dx.doi.org/10.17632/jbp4rz7d7y.1>

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics (5th Ed)*. Boston: Pearson.

Teng, Z. J., Liu, Y. L., & Guo, C. (2015). A meta-analysis of the relationship between self-esteem and aggression among Chinese students. *Aggression and Violent Behavior, 21*, 45-54. doi: 10.1016/j.avb.2015.01.005

Terrell, H. K., Hill, E. D., & Nagoshi, C. T. (2008). Gender differences in aggression: The role of status and personality in competitive interactions. *Sex Roles, 59*(11), 814-826. doi: 10.1007/s11199-008-9486-3

Twenge, J. M., & Campbell, W. K. (2003). "Isn't it fun to get the respect that we're going to deserve?" - Narcissism, social rejection, and aggression. *Personality and Social Psychology Bulletin, 29*(2), 261-272. doi: 10.1177/0146167202239051

von Collani, G., & Werner, R. (2005). Self-related and motivational constructs as determinants of aggression. An analysis and validation of a German version of the Buss-Perry Aggression Questionnaire. *Personality and Individual Differences, 38*(7), 1631-1643. doi: 10.1016/j.paid.2004.09.027

Walker, J. S., & Bright, J. A. (2009). False inflated self-esteem and violence: A systematic review and cognitive model. *Journal of Forensic Psychiatry & Psychology, 20*(1), 1-32. doi: 10.1080/14789940701656808

Webster, G. D. (2006). Low self-esteem is related to aggression, but especially when controlling for gender: A replication and extension of Donellan et al. (2005).

Representative Reseach in Social Psychology, 29, 12-18.

Xu, Y. Y., Farver, J. A. M., Schwartz, D., & Chang, L. (2004). Social networks and aggressive behaviour in Chinese children. *International Journal of Behavioral*

Development, 28(5), 401-410. doi: 10.1080/01650250444000090

Table 1. Comparison of self-evaluation and measures of aggression across gender and the two countries.

Measure	Men				Women			
	UK		Malaysia		UK		Malaysia	
	M	SD	M	SD	M	SD	M	SD
Self-esteem	30.3	8.0	32.1	5.9	27.9*	7.6	30.9*	5.0
Narcissism	13.7+	7.2	14.7+	5.7	11.0+	6.5	12.2+	5.7
Proactive aggression	2.3+	2.9	3.0	3.1	0.8+*	1.3	2.4*	2.3
Reactive aggression	7.7	4.4	6.9	3.9	6.3	3.7	7.2	3.6

+ Men vs women sample differ $p < .05$; * UK vs Malaysia sample differ $p < .05$

Table 2. Correlations between the measures of self-evaluation and measures of aggression.

Numbers in bracket show 95% confidence interval.

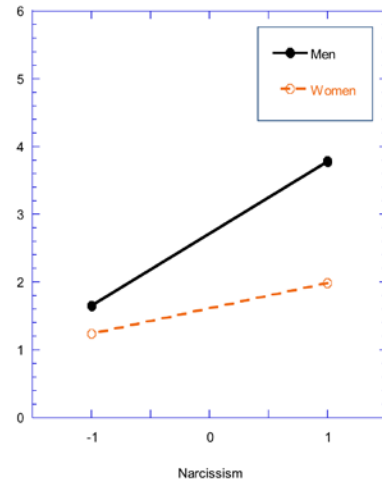
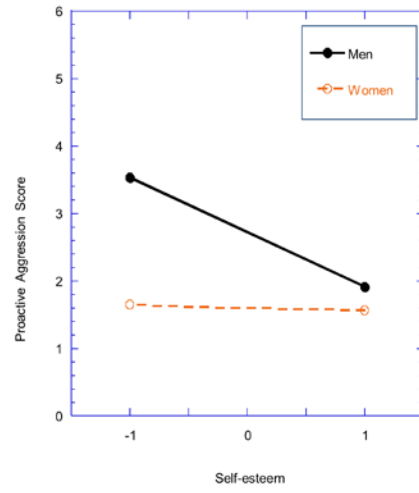
SE	Group	RPQ	
		Proactive	Reactive
MSEI	All	.02 [-.07, .11]	-.19* [-.27, -.10]
	Men	-.10	-.23*
	Women	.06	-.17*
	UK	.02	-.19*
	Malay	-.11	-.22*
NPI	All	.24* [.16, .32]	.10 [.01, .19]
	Men	.21*	.08
	Women	.17*	.11
	UK	.28*	.16*
	Malay	.17*	.06

* $p < .05$

Table 3. Hierarchical multiple regression analyses predicting aggression outcomes.

	Proactive			Reactive		
	β Step 1	β Step 2	β Step 3	β Step 1	β Step 2	β Step 3
Gender	-.18***	-.16***	-.16***	-.04	-.03	-.03
Country	.25***	.30***	.29***	.03	.10	.10
Self-esteem		-.18***	-.21***		-.32***	-.33***
Narcissism		.25***	.27***		.24***	.24***
Self-esteem x gender			.13***			.06
Narcissism x gender			-.13***			.03
ΔR^2	.12***	.05***	.02***	.003	.09***	.002

* $p < .05$, ** $p < .01$, $p < .001$



Author Biographies

Suzana Amad, PhD, CPsychol. is an Assistant Professor in the Department of Psychology, Kuliyyah of Islamic Revealed Knowledge and Human Sciences (KIRKHS), International Islamic University Malaysia (IIUM). She received her PhD from Cardiff University.

Nicola Gray, PhD, is a professor in the Department of Psychology, Swansea University and a Consultant Clinical and Forensic Psychologist in the NHS (Abertawe Bro Morgannwg University Health Board). Her main areas of interest are the evaluation of risk, including the factors underpinning offending behavior and the prevention of suicide and self-harm. She has a special interest in psychopathy and how the behavioural and psychological features of the psychopathic disorder lead to offending behaviour.

Robert Snowden, PhD, is a professor of psychology at Cardiff University. He received his PhD from Cambridge University and worked as MIT before coming to Cardiff University. His research interests cover the domains of forensic and clinical psychology, and visual perception.