

Running Head: THE EFFECTS OF PSYCHOPATHY ON PROACTIVE AGGRESSION IN
A NON-CLINICAL SAMPLE OF ADOLESCENTS

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The Effects of Psychopathy on Proactive Aggression in a Non-Clinical sample of Adolescents

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ABSTRACT

This study aims to explore the relation between psychopathy and proactive aggression among non-clinical adolescents, while controlling for sex. The study uses a sample consists of 146 participants which consists out of 29 male participants (19.9%) and 117 female participants (80.1%). Psychopathy is measured by two constructs, CU-traits and Narcissism, both being measured by the APSD (Anti-social Process Screening Device). Proactive aggression is measured via the subscale of the RPQ (Reactive-Proactive-Questionnaire). Results of the hierarchical multiple regression analyses found a significant positive effect between CU-traits and proactive aggression, and narcissism and proactive aggression. It can be concluded that the current study offers support for the existing literature revealing a positive relation between psychopathy and in particular proactive aggression among non-clinical adolescents.

Keywords: Callous-unemotional traits; narcissism; psychopathy; proactive aggression; non-clinical

Introduction

In 1968, eleven-year-old Mary Bell lured a neighborhood boy to a deserted house and strangled him. His body was found by playing children nearby. Two months after her first murder she strangled another neighborhood boy, partially skinned his genitals and carved the letter “M” on his stomach. After her arrest Mary told the police she liked to hurt little things that cannot fight back. At the funeral, she was observed to be laughing when the coffin was brought out. The psychiatrist evaluating her claimed he had never seen such a severe case of child-psychopathy (Wade & Myers, 2004).

In the case of Mary Bell, her behavior shows components of psychopathic traits, such as the lack of empathy and manipulative behavior contribute towards her ability of committing such horrifying crimes. Psychopathy is a set of personality traits which distinguishes certain complex key aspects such as narcissistic, manipulative, antisocial and impulsive behavior (Feilhauer & Cima, 2013). In North American forensic (clinical) psychiatric samples, the prevalence of psychopathy is estimated around 29 percent. Psychopathy as a personality disorder is acknowledged when scoring above 30 on the Psychopathy Checklist-Revised (Cooke & Michie, 1999). Although the exact prevalence of psychopathy in non-forensic samples remain unknown, Coid and colleagues (2009) state in their research that < 1% of society meets criteria for psychopathy, using the PCL:SV (Psychopathy Checklist: Screening Version).

The construct of psychopathy describes a severe and violent group of society. Individuals with psychopathic traits are more likely to face serious problems than non-psychopathic individuals, for example alcohol and drug abuse, relationship problems, difficulty maintaining employment and higher rates of crime (Colins, Fanti, Salekin & Andershed, 2017). Logically, a psychopathic personality condition may lead to substantial destruction to oneself and to society. So, the question of ‘what’ psychopathy is can be answered fairly extended. An evident answer to ‘why’ psychopathy is, is somewhat harder to determine. The etiology of psychopathy cannot be attributed to one key aspect, however there are certain physiological aspects that have been researched before. For instance, Hare (1970) stated that psychopaths have a lower level of arousal than non-psychopaths. This should lead towards a constant state of stimulation and sensation seeking behavior. In search of this stimulation, rule breaking behavior goes hand-in-hand with low levels of arousal (Vien & Beech, 2006).

As stated above, psychopathy can lead towards hostile and aggressive behavior. In 1968, Moyer first introduced typical forms of aggression through an animalistic view (e.g., predatory, irritable and defensive). Current research indicates that the construct of aggression is characterized by two underlying factors that differ within emotional processing: reactive aggression and proactive aggression (Pechorro, Ray, Raine, Maroco & Abrunhosa Gonçalves, 2017). Reactive aggression tends to be motivated by hostile attribution, or even provocation (Pechorro et al., 2017). Also, it is related to internalizing problems such as anxiety and depression (Card & Little, 2006). In contrast, proactive aggression holds a callous-unemotional trait (CU-trait), while being instrumental and motivated by external rewards (Cima, Raine, Meesters & Popma, 2013). Reactive aggression is associated with social rejection and correlates with a high matter of negative emotionality and 'rage' (Barker et al, 2010) in comparison with proactive aggression which is mostly related to peer status (Cima, et al., 2013). Moreover, proactive aggression tends to associate with delinquency, while reactive aggression does not show this association (Fite, Colder, Lochman, & Wells, 2008). In addition, Hubbard and colleagues (2004) compared reactive aggression with proactive aggression and found a difference in emotional and physiological processing. According to them proactive aggression is attributed to a low state of physiological arousal, while reactive aggression is characterized by a high level of physiological arousal (Vien & Beech, 2006). In conclusion, several studies towards both constructs show that psychopathy and proactive aggression are related to low levels of arousal.

The current study focuses on two main aspects of psychopathy: narcissism and callous-unemotional traits. Narcissism is complex and acknowledged as a construct with a multifaceted nature with distinctive features. This includes the feeling to be superior to others, grandiose self-worth, a lack of empathy, a sense of entitlement, and a need to get admiration from others (Ang & Yusof, 2005). Based on the Self-regulatory processing model (Morf & Rhodewalt, 2001) it is important to approach the traits of narcissism to both the underlying psychological processes and the regular characteristic cognitive and behavior patterns (Morf & Rhodewalt, 2001). Several studies substantiate the positive association between narcissism and both delinquency and aggression (Barry et al., 2007b; Lau, Marsee, Kunimatsu, & Fassnacht, 2011).

Apart from the link between narcissism and aggressive behavior the occurrence of psychopathic traits in children, such as the presence of callous-unemotional traits (CU-traits; the lack of empathy, a lack of showing feelings of remorse or guilt) gained a lot of attention

as a prediction for adult psychopathy (Feilhauer & Cima, 2013). CU-traits are associated with a greater severity, variety and stability of antisocial behavior such as violent sex offending, sadistic violence and other forms of aggressive behavior (Frick, Cornell, Christopher, Doug Bodin & Dane, 2003). All these forms of aggressive behavior can be attributed to the proactive variant of aggression for they are highly motivated by external rewards, based on oneself (Cima et al., 2013).

The results conducted by earlier mentioned research provide promising suggestions of predicting severe antisocial and aggressive behavior in youth suffering from CU-traits and narcissism. However, these studies contain some limitations. For example, most studies were performed on adults and rely on clinical forensic adult samples, and forensic adolescents only. Therefore, results cannot be generalized towards everyday society, but only towards forensic samples, while the relationship between the two constructs does exist in everyday society. Logically, for someone to function on forensic levels of psychopathy and proactive aggression, he has to act accordingly, whereas the problems already exist before the inclusion on forensic care. This study focusses on the non-clinical sample and can be generalized towards non-clinical adolescents. This sample also holds value due to potential prevention of delinquent aggression, by providing more accurate estimates of the variables that explain the occurrence of proactive aggressive behavior. As stated, proactive aggression associates with delinquency and rule-breaking behavior (Fite, Colder, Lochman, & Wells, 2008). Thus, by having more accurate estimates of predictors of delinquency, intervention and prevention programs can be better specified.

Also, the costs of delinquency in society have increased with 12% in 2015, compared with 2005. In the Netherlands, 12.9 billion euros are spent on a secure society in 2015. A portion of this figure (15%) is reserved for severe criminal acts, such as violence and sex offending crimes (Molenaar, Vlemmings, van Tulder & De Winter, 2017). Hence, prevention of delinquency is necessary to reduce these costs. Lastly, there is limited research of proactive aggression in combination with narcissism and CU-traits.

The main focus of this study is to test the relationship between psychopathic traits and proactive aggression in a non-clinical sample of adolescents in everyday society, while controlling for sex. Based on the existing literature it is expected that in this sample psychopathic traits positively correlate with the presence of proactive aggression. Besides, sex is expected to be a predictor of different categories of aggression. In a study performed by Vassileva, Thomson, Bozgunov, et al. (2018), males are more likely to present antisocial

aggressive behavior. Based on the literature it is expected that participants who have higher scores on psychopathic traits and proactive aggression are male. Sex is included as a control variable to prevent biases.

Methods

This research studies the relation between psychopathic traits (independent variable) and proactive aggression (dependent variable). The research is quantitative. Data is conducted via questionnaires and used to perform statistical analyses for correlational measurements. The main goal of the current study is to test whether psychopathic traits predict proactive aggression in a non-clinical sample of adolescents. Also, as a covariate 'sex' is included in the research design.

Procedure

Convenience sampling is used by spreading a questionnaire on social media (i.e. Facebook, Linked-in, Twitter) within the network of 12 researchers. This type of sampling makes it so that there is an uneven chance of adolescents to participate. In this typical research there is a main focus on a specific group, namely adolescents ranging from 12 to 23 years old. Informed consent is set on the first page of the questionnaire. Further it is stated in the questionnaire that the research is focused on youth delinquency, in combination with behavioral aspects. Also, demographic data is conducted. Furthermore, anonymity and directions for completing the questionnaire are stated in the introduction. Confidentiality of the conducted data is specified. Logically, participants have to accept the informed consent in order to proceed to the questions of the questionnaire.

Sample

A sample size of at least 30 participants is needed for effective statistical analyses (Allen, Bennett, & Heritage, 2014). The final sample size used for statistical analyses consists of 146 participants whom have all filled in the questionnaire in its totality. Also, this sample contains non-clinical adolescents ranging from 12 to 23 years old, while being part of everyday society. This met the criteria for being a non-clinical sample.

Participants filled in the questionnaire online via Limesurvey. The sample consists of 29 male participants (19.9%) and 117 female participants (80.1%). Although not used in statistical analyses the sample differentiates ethnicity. A total of six ethnicities were differentiated. In the sample, 139 participants were Dutch (94.6%), one was of Surinamese origin (0.7%), two were of Antillean origin (1.4%), one was of Indonesian origin (0.7%), one was of Moroccan origin (0.7%) and three were of an unspecified origin (2.0%). Lastly, the

mean age of the participants was 19.41 years old, with a minimum of 13 and a maximum of 23 and a standard deviation of 2.68.

Measurements

Antisocial Process Screening Device (APSD). The self-report APSD is used to measure CU-traits and narcissism. This device is a 40-item scale that assess the presence of psychopathic traits in children. Each item is rated from “totally not true”, to “a little bit true”, “reasonably true” and “totally true”. An example item is “feelings of others do not concern me”. For this study, only the items measuring CU-traits and narcissism (22 items) on subscales were used to check for psychopathic traits. A recent study found an alpha of .74 in the subscale of narcissism (Laajasalo, Saukkonen, Kivivuori, Salmi, Lipsanen & Aronen, 2014). The present study found a Cronbach’s alpha of .71 for the total score of the narcissism subscale and .70 for the subscale CU-traits, without removal of items. This value is considered to be sufficiently reliable (Tilburg University, 2018). Therefore, no items have been removed from the scale.

Reactive-Proactive Aggression Questionnaire (RPQ). Proactive aggression is measured by the RPQ. The RPQ measures reactive and proactive aggression in a 24-item questionnaire. For this study, only the proactive scale (including 12 items) is used. Each item is rated from 0 to 2 (“sometimes” to “often”). An example item is “I use force to manipulate others”. A high score means a high level of proactive aggression. The scale scores are determined by adding up the participants’ total scores.

In this study, a Cronbach’s alpha of .83 was found for the proactive scale. No items have been removed from the scale as the internal consistency is labeled as ‘high’ (Tilburg University, 2018).

Plan of Analysis

In this study two concepts of psychopathy, narcissism and CU-traits, have been measured to validate the correlation with proactive aggression. Research questions are examined by using a multiple hierarchical regression analysis, controlled for sex (0 = male, 1 = female). The research data is analyzed with the program ‘Statistical Package for the Social Sciences 24.0 (SPSS)’. The R square (R^2) and R squared change (ΔR^2) are noted in the results.

Results

To test the hypothesis of a positive relation between psychopathy and proactive aggression (controlled for sex), in a non-clinical sample, a hierarchical multiple regression analysis (HMRA) has been performed on a sample $N = 146$. In all analyses 'sex' was controlled by enforcing its entry first in the regression. Missing data cases were excluded in the analysis by sorting the data for completely filled in questionnaires when extracting from Limesurvey.

In Table 1 the descriptive statistics are shown. For the descriptive statistics the mean was calculated by dividing the sum scores by the total items for the scale. The standard deviation was calculated by taking the square root of the variance.

Table 1

Descriptive statistics of the variables CU-traits, Proactive Aggression and Sex

Variable	<i>M</i>	<i>SD</i>	<i>n</i>
Sex			
Male	-	-	19.9%
Female	-	-	80.1%
CU-Traits			
	28.58	4.4	146
Male	31.21	4.7	29
Female	27.93	4.1	117
Narcissism			
	9.37	2.51	146
Male	11.28	3.81	29
Female	8.91	1.82	117
Proactive Aggression			
	13.27	2.53	146
Male	14.72	4.0	29
Female	12.91	1.5	117

Note. The maximum score for CU-Traits is 43. The maximum score for Narcissism is 24. The maximum score for Proactive Aggression is 31.

Assumptions

After deducting the descriptive statistics for the sample, several assumptions have been checked before conducting the HMRA. For starters the assumption of N (cases) has not been violated. In an ideal situation N should be $104 + (k)$, where k indicates the number of predictors. In this study $N = 147$ and $k = 2$. The normal distribution for both the dependent and independent variables have been checked via the Shapiro-Wilk test. Proactive aggression does not show a normal distribution according to the Shapiro-Wilk test ($p < .001$) and is positively skewed (4.09 before transformation). A log-10 and square-root transformation of the dependent variable (proactive aggression) did not show significant improvement of the distribution. The skewness remains positively significant from the normal distribution (2.73 and 3.33). The independent variable (CU-traits) shows a normal distribution following the same test for normality ($p > .13$). Narcissism was tested via stem-and-leaf plots and boxplots. This showed that narcissism was right skewed. Transformation of the variable did not show improvement of the distribution.

The Mahalanobis distance was used to identify multivariate outliers. The critical c^2 for $df = 2$ (at $\alpha = .001$) of 13.82 was exceeded for one case indicating that multivariate outliers were of concern. The Cooks distance gave a value of < 1.0 for the case, meaning the influence of the multivariate outlier that exceeded the Mahalanobis distance is not significant on the model. Based on these findings the multivariate outliers were ignored in further analysis. Being a study towards defining the relationship between CU-traits, narcissism and proactive aggression in a non-clinical sample it is expected that some outliers present extreme scores, in compliance with societal figures on psychopathy and proactive aggressive behavior. For the assumption of collinearity, the critical VIF (Variance Inflation Factor) and Tolerance did not meet the level of significance (Tolerance = .93 and VIF = 1.10). Therefore, this assumption has not been violated. The independent variables (CU-traits and narcissism) were centered at zero to minimize collinearity.

Hierarchical Multiple Regression Analysis

CU-traits. After checking the assumptions, the HMRA was performed twice, for both independent variables (narcissism and CU-traits). For CU-traits, the first entry block was 'sex'. A second block was added for the independent variable, CU-traits. Both models are significant at the $p < .01$ level, although more variance is explained via the controlling variable sex ($R^2 = .07$) versus the independent variable CU-traits ($R^2 = .06$). Combined, CU-

traits and sex account for a significant 14% of the variance in the relationship between psychopathy and proactive aggression, with CU-traits, $R^2 = .14$, adjusted $R^2 = .12$, $\Delta R^2 = .06$, $F(2, 144) = 11.32$, $p = <.001$. Unstandardized (B) and standardized (b) regression coefficients and squared semi-partial ('part') correlations (sr^2) for each predictor in the regression model are reported in Table 2. The effect size of the model is calculated at $f^2 = .16$. This is considered as a medium effect.

The significance of the model and the accounted 14% of variance confirms the hypothesis that CU-traits are related to proactive aggression. In other words, higher scores on CU-traits positively correlates with higher scores on proactive aggression.

Table 2

Unstandardised (B) and Standardised (β) Regression Coefficients, R square (R²), R square change (ΔR²) and Squared Semi-Partial Correlations (sr²) for Each Predictor Variable on Each Step of a Hierarchical Multiple Regression Predicting Proactive Aggression (N = 146)

Variable	B	[95% CI]	β	R^2	ΔR^2	sr^2
Step 1				.07	.07	
Sex	1.50	[0.63, 2.38]	0.27**			.07
Step 2				.14	.06	
Sex	1.12	[0.24, 2.00]	0.20*			.04
CU-traits	0.14	[0.05, 0.22]	0.26**			.06

Note. CI = confidence interval.
* $p < .05$. ** $p < .01$

Narcissism. In Table 3 the unstandardized and standardized regression coefficients and squared semi-partial correlations for each predictor are described. Both Model 1 and Model 2 are significant ($p = <.01$). The regression revealed that at stage one, Sex contributed significantly to the model and accounted for 7% of the variation ($R^2 = 0.07$) in Proactive

aggression. The Narcissism variable explained an additional 16% of the variation ($\Delta R^2 = 0.16$) in Proactive aggression. This change is found to be significant. In the second model, including the variable Narcissism and Sex, a significant 23% is accounted for the variance in Proactive aggression, $R^2 = 0.23$, $\Delta R^2 = .22$, $F(2, 144) = 21.65$, $p < .001$. When both variables were included to the model, sex is not a significant predictor of Proactive aggression. The Pearson correlations for Proactive aggression and Narcissism is noted as a significantly positive relation ($r = .47$). The effect size of Model 2 is accounted to be .30 of Cohen's f^2 . That could be interpreted as a medium to large effect size (Cohen, 1988). Altogether, the results confirm the hypothesis that narcissism positively effects the degree of proactive aggression in adolescents.

Table 3

Unstandardized (B) and Standardized (β) Regression Coefficients, Squared Semi-Partial Correlations (sr^2), R squared (R^2) and R squared Change (ΔR^2) for Each Predictor Variable on Each Step of a Hierarchical Multiple Regression Predicting Proactive Aggression (N = 146)

Variable	B	[95% CI]	β	sr^2	R^2	ΔR^2
Step 1					0.07**	0.07
Sex	1.50	[0.63, 2.38]	0.27*	0.27		
Step 2					0.23**	0.16
Sex	0.72	[-0.13, 1.57]	0.13	0.12		
Narcissism	0.39	[0.05, 0.22]	0.42**	0.40		

Note. Dependent variable: Proactive Aggression
 CI = confidence interval.
 * $p < .01$. ** $p < .001$.

Discussion

The purpose of the present study was to explore the relation between psychopathy and proactive aggression. Psychopathy is distinguished in CU-traits and narcissism. In this discussion the hypotheses and results are evaluated for both variables. Also, the limitations are discussed, including suggestions for future research.

It was expected that both narcissistic and CU-traits correlate positively with proactive aggression in a non-clinical sample of adolescents. It can be concluded that the hypotheses are confirmed in view of the HRMA. First of all, the results of the HRMA of CU-traits confirm the hypothesis that there is a positive correlation between CU-traits and proactive aggression. This means that participants with high scores on subscales that measure CU-traits also had a high score on the proactive aggression scale. The effect size is considered as a medium effect. Also, narcissism is significant and positively related to proactive aggression, when interpreting the results from the HRMA. This means that participants with high scores on narcissism subscales also had a high score on the proactive aggression scale. The effect size is considered as a medium to high effect. Both CU-traits and narcissism confirm the hypothesis as expected and endorse the aforementioned literature (Feilhauer & Cima, 2013; Barry et al., 2007b). The HRMA was controlled by sex, to prevent biases in the analyses. In the HRMA of CU-traits sex is found to be significant. Male sex has found to be a moderator for the relationship between CU-traits and proactive aggression, which means that male sex amplifies the relationship between high scores on CU-traits and high scores on proactive aggression. The HRMA of narcissism does not show a significant effect of sex.

In conclusion, the temporal precedence can be described as adequate. No high scores on proactive aggression were acquired without high scores on psychopathic traits. Therefore, the covariation of cause and effect is consistent. It is expected that the same results will be found in a different research while maintaining the same instruments and design. Therefore, this study holds a robust value. The relevance and strength of this study is the distinction in the relation between psychopathic traits and proactive aggression in a non-clinical sample. The current study contributes to more knowledge about the relation between psychopathy and proactive aggression in adolescents of everyday society.

Limitations and future research

The internal validity is somewhat difficult to define and therefore not completely reliable. In the HRMA some violations of assumptions have occurred, possibly interfering with causal results. This can be explained via convenience sampling. The female population was overrepresented when comparing with the male. Therefore, generalizability is mostly possible for the non-clinical female population ranging from 12 to 23 years old, and less for males. When reproducing the research, it is recommended that the sample is representative for societal figures on sex.

Also, while measuring CU-traits, narcissism and proactive aggression, other variables (criminality, impulsivity and indifference) were measured. For a more in-depth coverage of these subjects, it is recommended to focus more on the underlying structures of CU-traits and narcissism. Furthermore, other aspects of psychopathy can be distinguished (besides CU-traits and narcissism). In this research narcissism and CU-traits participated as independent variables, however psychopathy defines more constructs than these mentioned variables. In order to get a more comprehensive view on which variables account for significant explained variance in proactive aggression, other constructs should be examined. Besides, only self-report is used to measure the constructs. For a more reliable view on the relation between psychopathy and proactive aggression in adolescents, parents' and teacher's reports are useful to include.

Lastly, more research is recommended to non-clinical adolescents, to find more substantiation and directions in view of the relation between psychopathy and proactive aggression. With more information about this relation, more effective preventive measures may be used, in order to prevent adolescents ending up in clinical or forensic settings.

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