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ANGER AND SELF-REPORTED DELINQUENCY IN UNIVERSITY STUDENTS

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Abstract

The association between anger and criminal, particularly violent, behaviour is firmly established in the literature. However, most of the extant research has been conducted with clinical and legally sanctioned forensic populations. The present study sought to examine anger in a non forensic population using a self-report measure of delinquency. The Novaco Anger Scale and Provocation Inventory (NAS-PI; Novaco, 2003) and the Self-Report Delinquency Questionnaire (Elliot & Ageton, 1980) were completed by male and female university students. The total anger score was associated with overall delinquency and specifically with crimes against the person and against property. Males reported higher levels of anger and a greater involvement in criminal acts. The practical implications of the findings within a legal context are discussed.

Keywords: Anger, Delinquency, Student population.

Resumen

La literatura ha sido establecido firmemente una asociación entre ira y comportamiento criminal, específicamente el violento. Sin embargo, la mayoría de la investigación existente se ha llevado a cabo con poblaciones clínico-forenses. El presente estudio tiene por objeto examinar la ira en una población no forense por medio de una medida de autoinforme de la delincuencia. La Novaco Anger Scale y el Provocation Inventory (NAS-PI; Novaco, 2003) y el Self-Report Delinquency Questionnaire (Elliot y Ageton, 1980) fueron cumplimentados por estudiantes universitarios. Los resultados mostraron que la ira se relacionaba con la delincuencia y, específicamente, con delitos contra las personas y contra la propiedad. Los varones informaban de mayores niveles de ira y de una mayor implicación en actos criminales. Se discuten las implicaciones prácticas de estos hallazgos para el contexto legal.

Palabras clave: Ira, Delincuencia, Población estudiantil.

Introduction

There is a longstanding association between anger and violent criminal behaviour (Tsytarev & Grodnitzky, 1995; Zamble & Quinsey, 1997) that includes violent acts by young people (Colder & Stice, 1997; Sigfusdottir, Farkas, & Silva, 2004; Swaffer & Hollin, 1997) and offences, such as arson, against property (Kolko & Ammerman, 1988). In theoretical accounts of anger, Novaco's (1975, 1994, 2006) model is predominant and has informed a great deal of contemporary research and practice. In Novaco's model anger is seen as a subjective emotional state that culminates from perceptual and other cognitive processes reciprocally interacting with physiological arousal in response to environmental cues. Thus, the psychological and physiological processes lead to "angry" behaviour that impacts upon other people's behaviour. The individual's perception of the effect of their behaviour on others may assuage or intensify their angry state.

With respect to the cognitive aspect of the model, Novaco (2003) described four discrete cognitive processes: these are justification of angry responses, suspicion of other people and their intentions, rumination over anger provoking situations, and a hostile attitude to other people. Novaco's model also includes provocation and regulation: provocation concerns the nature of the situations associated with anger; regulation refers to the degree of control an individual has over their anger.

The majority of the extant research concerning anger and violent criminal behaviour has been carried out with clinical and forensic populations. These are singular populations in that they may be at the high extreme of the distribution of anger and violent behaviour across the general population. It is evident that violent behaviour of varying degrees of severity can be found in other parts of the population. Tremblay, Graham, and Wells (2008) reported that about one in four university students, particularly male students, reported involvement in an incident where physical aggression, including physical force, took place. In terms of a potential link with anger, Anestis, Anthesis, Selby, and Joiner (2009) reported that anger rumination plays an important role in aggressive behaviour amongst university students. It is likely that not all of the violent incidents involving university students will have led to an appearance in court. Thus, on those occasions when practitioners encounter violent offenders from non forensic populations and are engaged in tasks such as writing court reports and

making recommendations to the court they will have limited information to assist their work.

With a student population a self-report methodology offers an efficient means by which to gather information about delinquent behaviour. Elliot and Ageton (1980) devised a measure of self-reported delinquency (SRD) that consists of six categories of delinquent act, including both crimes against the person and crimes against property. This scale has been used with a variety of populations, including university students (e.g., Palmer & Hollin, 1997; 2001a, b). While there are obvious issues of veracity and completeness with self-report (Farrington et al., 2003), self-reported delinquency can be reasonably accurate (Connell & Farrington, 1996; Huizinga & Elliott, 1986).

A further point of interest lies in the possibility of a gender difference in the anger-delinquency relationship. Traditionally, males are seen as more delinquent (Moffitt, Caspi, Rutter, & Silva, 2001), although not necessarily more angry (Broidy & Agnew, 1997; Sigfusdottir et al., 2004).

The aim of the current study was to consider, for a student population, the relationship between anger and self-reported delinquency, particularly acts of violence. There was additional interest in the comparison of the anger reported by males and females, in terms of both level of anger and the predominance of the various subcomponents and their relationship with self-reported delinquency.

Method

Participants

The participants were 90 male (mean age 20.02 years, SD = 1.45) and 95 female (mean age 19.43 years, SD = 2.28) undergraduate students from the University of Leicester.

Measures

Anger

The Novaco Anger Scale and Provocation Inventory (NAS-PI; Novaco, 2003) consists of two parts: (1) the 60-item NAS contains 16 items for each of the cognitive, arousal and behavioural domains of anger, and 12 items for the regulation domain: it uses a

3-point Likert-type scale and has a minimum of score of 60 and a maximum of 180; (2) the PI consists of 25-items assessing provocation to anger: it uses a 4-point Likert-type scale giving a minimum score of 25 score and a maximum of 100. The NAS total score consists of the combination of the scores for the anger cognition, anger arousal, and anger behaviour subscales; anger regulation and anger provocation are considered separately (Novaco, 2003). The NAS-PI has strong reliability and validity.

Self-reported delinquency

Following Palmer and Hollin's (1998, 2001a, b) research with a student population, Elliot and Ageton's (1980) self-report measure of delinquency (SRD) was used. Given the nature of the sample two items -- having sexual intercourse with a person other than your husband/wife and under-age consumption of alcoholic beverages -- were omitted from the original scale. The SRD measure gathers information on the frequency of six types of delinquency which might have been committed over the past 12 months: (i) crimes against the person (9 items), e.g. aggravated assault, robbery; (ii) crimes against property (14), e.g. fraud, vandalism; (iii) illegal service crimes (4), e.g. prostitution, buying alcohol for a minor; (iv) public disorder (8), e.g. carrying a concealed weapon, disorderly conduct; (v) status offences (5), e.g. truancy, alcohol use; and (vi) hard drug use (5), e.g. using amphetamines or heroin. The 45 items use an 8-point Likert scale response format (1 = never, 2 = 2-3 times a year, 3 = once a month, 4 = 2-3 times a month, 5 = once a week, 6 = 2-3 times a week, 7 = once a day, 8 = 2-3 times a day) to give a minimum total score of 45 and a maximum total of 360. The SRD contains a final, single item question: "Do you have a criminal record?" which requires a yes/no response. This measure has high test-retest reliability and the data it produces compare favourably with interview data (Hindelang, Hirschi, & Weis, 1981).

Design and Procedure

Ethical approval for the study was obtained through formal university procedures. The participants completed the questionnaires in paper-based format in their own time: the questionnaires took approximately 20 minutes to complete. To control for potential order effects the order of presentation of the questionnaires was randomised.

Results

Data Inspection

As recommended by Novaco (2003), the data were examined for inconsistent responding: the Inconsistent Responding Index on the NAS-PI identified 18 such cases (10 males and 8 females) which were subsequently removed along with another case where the NAS-PI had not been completed. Following Pallant (2005), box plots were then inspected to identify any outliers. The distribution of NAS-PI scores contained 14 outliers but no extreme outliers and so the outliers were retained to preserve the sample size; the SRD scale contained six extreme outliers and these were removed. Thus, the final sample was 161 participants with 75 males, mean age 19.96 years ($SD = 1.44$), and 86 females, mean age 19.24 years ($SD = 1.25$). There was reliable internal consistency for the SRD measure ($\alpha = 0.72$).

Data Analysis

The mean scores and standard deviations for the anger and self-reported delinquency measures are shown in Table 1. As the analysis used multiple tests across the same data set a Bonferroni correction was applied as appropriate to adjust the significance level.

Table 1. Anger and Delinquency Scores ($N = 161$).

	Mean	SD
<i>Anger</i>		
NAS Subcomponents		
Cognitive Domain	29.34	4.58
Arousal Domain	27.75	5.65
Behavioural Domain	24.89	5.11
Total NAS*	81.98	13.37
Anger Regulation	25.67	3.44
Anger Provocation	63.68	12.44
<i>Delinquency</i>		
Against Person	9.44	0.93
Against Property	16.53	2.96
Services Crimes	4.50	0.81
Public Disorder	12.07	2.95
Status Crimes	7.93	2.01
Hard Drug Use	5.09	0.45
Total Delinquency	55.21	6.99

Note. *The total NAS score is the sum of the scores for anger arousal, cognition, and behaviour.

Across the sample, total NAS score correlated significantly with total SRD score, $r_s(161) = .14, p < .05$; with crimes against the person, $r_s(161) = .22, p < .01$; and with crimes against property, $r_s(161) = .15, p < .05$. For the NAS subscales, there were significant correlations between the cognitive domain and crimes against the person, $r_s(161) = .23, p < .01$, and crimes against property, $r_s(161) = .18, p < .05$; the behavioural domain correlated significantly with crimes against the person, $r_s(161) = .27, p < .01$, and crimes against property, $r_s(161) = .17, p < .05$; and anger regulation correlated significantly with hard drug use, $r_s(161) = .13, p < .05$.

There was no significant difference in the total NAS scores of males and females, $t(159) \leq 1$. A 2 (gender) x 5 (NAS-PI subscales) between-groups MANOVA was conducted to examine gender differences on the NAS subscales. As the correlations between NAS total score and the sub-scales were greater than .70, NAS total was not entered into this analysis as, following Pallant (2005), this would have violated multicollinearity. The sample size allows confidence in the robustness of the MANOVA (Tabachnick & Fidell, 2007).

The MANOVA revealed a significant main effect for gender across the NAS subscales, $F(5, 154) = 5.53, p < .001, Wilks' Lambda = .85, \eta^2 = .15$. The univariate between-subjects effects from the MANOVA showed: (i) males ($M = 26.53, SD = 3.36$) had significantly higher anger regulation scores ($M = 24.92, SD = 3.34$), $F(1, 159) = 9.29, p < .01, \eta^2 = .06$; (ii) females ($M = 65.12, SD = 12.47$) had significantly higher provocation scores ($M = 60.73, SD = 11.73$), $F(1, 159) = 5.01, p < .05$; (iii) females ($M = 28.74, SD = 6.06$) had significantly higher arousal scores ($M = 26.60, SD = 4.94$), $F(1, 159) = 7.01, p < .001$.

As several assumptions for the use of a MANOVA were violated with the SRD scores, a series of Mann Whitney-*U* tests were conducted to test for gender differences. Males gave a significantly higher total score, $U = 2182.00, p < .05$, and higher scores for crimes against the person, $U = 2330.50, p < .05$, crimes against property, $U = 2335.00, p < .05$, and public disorder crimes, $U = 2335.00, p < .05$.

The correlation between total SRD and total NAS was not significant for females, $r_s(86) = .08, p > .05$; but was highly significant for males $r_s(75) = .36, p < .001$.

Discussion

The young people did report their involvement in the full range of types of crime, although none had been convicted. This finding reinforces the point that students are not a section of the population that practitioners will be familiar with when such a case arises. The assessment of anger in populations such as university students is dependent upon on a valid means of assessment. The current finding of significant relationships between anger and self-reported acts of violence against people and property, together with the absence of an association between anger and non violent forms of delinquency, are in keeping with the literature (Colder & Stice, 1997; Heaven, 1993; Novaco, 1994; Sigfusdottir et al., 2004; Tsytsarev & Grodnitzky, 1995; Zamble & Quinsey, 1977). Further, the cognitive and behavioural aspects of anger were associated with violent acts against the person and against property.

In Novaco's theory the cognitive domain plays a central role in the experience of anger so its prominence here is fully in accord with both the theory and research into aggression generally (Gannon, Ward, Beech, & Fisher, 2007). Unlike Anestis et al. (2009), there was no indication of an association specifically between rumination and violent behaviour. This disparity may be due to the different measures used in the two studies.

With respect to gender, there was no difference in total anger score, which is again consistent with the literature (Broidy & Agnew, 1997; Heaven, 1993; Novaco, 2003; Sigfusdottir et al., 2004). Males reported a greater likelihood of being provoked to anger; which was balanced by their greater anger control. The males also reported significantly more delinquency overall and also for several types of crime, including crimes against the person. This pattern of findings is in keeping with the traditional view that males are more delinquent than females (Moffitt et al., 2001). There was a highly significant association between total delinquency and anger for the males but not for females, supporting Sigfusdottir et al. (2004).

The pattern of findings strongly suggests that for a student sample anger and delinquency are associated in a similar way as seen with clinical and forensic populations. This study therefore implies that the assessment for legal purposes of educated young people who are involved in acts of violence may proceed on this understanding. Further, recommendations for court mandated treatment may be made

with confidence that traditional methods of anger management are appropriate for this population.

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Instructions

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Title page (include the authors' name, affiliations, full contact details).

Full paper text (double spaced with numbered pages and anonymised).

References (APA style).

Tables and figures placed at the end of the paper or attached separately.

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