

Gender Differences in School Anger

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This study examined gender differences in the affective, behavioural, and cognitive components of anger in 102 students completing their first year of high school. Results supported not only the hypothesis that girls and boys do not differ in their experience (affective) of anger but also the belief that girls are more likely to express positively (behavioural) their anger than boys. Additionally, results supported the expectation that boys are more hostile (cognitive) towards school than girls. Suggestions for future research and the relevance of the findings for schools are also addressed.

school anger, gender differences in anger, bullying, school violence,
classroom management

INTRODUCTION

Anger has been defined in many ways from “a negative, phenomenological (or internal) feeling state” (Kassinove & Sukhodolsky, 1995, p. 7) to “a basic emotion whose function is to provide the organism with motivated capacities to overcome obstacles” (Lewis, 1993, p. 150). However, the present study utilises the conceptualisation of anger presented by Novaco (1975). He defined anger as having four distinct components: physiological, affective, behavioural and cognitive. In this study, gender differences in the latter three components of anger were examined in first year high school students.

The affective component of anger, also referred to as anger experience, relates to the strength of emotional responses toward anger provoking situations. The behavioural component refers to coping mechanisms, which may be positive or destructive, that people use to express anger. The cognitive component reflects the types of negative beliefs, or hostility, that people have about the world and in particular refers to the negative attributions they hold towards others or places.

The experience and expression of anger have particularly been explored in anger research. Anger has been identified in young infants and its initial experience and expression have been associated with constructive responses such as the ability to persist when encountering frustration (Lewis, 1993). Lewis reports that gender differences in the experience and expression of anger do not appear at this young age.

Studies involving adolescents and children have mainly reported results indicating no differences between boys and girls on the experience of anger (Fabes & Eisenberg, 1992; Zahn-Waxler, Cole, Richardson, & Friedman, 1994). However, these studies and others have reported significant gender differences in the expression of anger (Maccoby, & Jacklin, 1980; Crick, 1997). In both these studies boys were more likely than girls to use physical expression of their anger. In contrast to these results, Swaffer and Epps (1999), in their study of male and female adolescents, found no significant differences in either the experience or expression of anger. However, in a study of elementary, middle, and high school students

Cox, Stabb, and Hulgus (2000) found boys were significantly more likely to express their anger outwardly than girls.

Gender differences in the experience and expression of anger have also been investigated in adults with generally no significant differences being found (Averill, 1983; Stoner and Spencer, 1986). Newman, Gray, and Fuqua (1999), for example, found no significant differences between men and women on six different subscales measuring both state and trait anger. Biaggio (1989), however, reported significantly more anger producing situations for men than women. These results were tabulated from a self-monitoring two week period that failed to be replicated under more controlled conditions. Sharkin's (1993) review of gender differences in the experience and expression of anger suggests that results are inconclusive and that this may reflect a need for further study in the area.

Overall, studies tend to suggest that males are more comfortable in expressing anger over other emotions, such as sadness (Newman et al., 1999; Nunn & Thomas, 1999; Sharkin, 1993). Plant, Hyde, Keltner, and Devine (2000) also report that people generally stereotype when interpreting emotions such as anger and sadness. It is more likely that displays of anger will be interpreted as an exclusively male domain. In general, however, most studies of anger in adult males and females have failed to report significant gender differences in the experience and expression of anger.

Research into gender differences in hostility, the cognitive component of anger, has been neglected in most studies and particularly in school settings. However, there is some limited research that indicates that negative cognitions relate to lower levels of adjustment to high school (Boman & Yates, 2001). This relationship between negative cognitions and school adjustment was especially evident in males.

Research into attributional bias in aggressive boys (Graham, Hudley, & Williams, 1992; Nasby, Hayden, & DePaulo, 1980) suggests that boys also are more likely to be more hostile towards school. In school settings, it appears that school aged males are more likely, based on previous research in non-school populations, to express their anger negatively. It is also appears there are no significant gender differences in the experience of anger.

Although most anger studies do not specifically target anger directed towards school, this study tested the hypotheses that boys and girls do not differ in their experience of school anger and that girls are likely to be more constructive in their expression of anger at school. It also tested the hypothesis that boys would be more hostile towards school than girls.

In this study, the Multidimensional School Anger Inventory, as developed by Smith, Furlong, Bates and Laughlin (1998), was used to measure the different components of anger. It was predicted that there would be no significant gender differences in the experience of anger, girls would be more likely to express their anger in positive ways, and boys will have higher levels of school hostility than girls.

METHOD

Participants

Data for this study were collected from a metropolitan high school in South Australia. The sample comprised 102 Year 8 students (55 male and 47 female) in their first year of high school. Parental consent forms were sent to approximately 200 students and those who returned them within three days were chosen for the study. The students and parents were informed that the study was confidential, anonymous, that participation was voluntary, and that they could withdraw from the study at any time. The students were mostly Caucasian

(82%) though 13 per cent were of Asian background. Some (33%) were also receiving government assistance in the form of School Card, a program for economically disadvantaged students.

Analytical procedure

Rasch measurement

Survey data obtained from the administration of questionnaires with multiple response options are ordinal in nature, and this limits the range of statistical procedures available for their analysis. However, responses are taken to indicate strength of an individual's attitude on an underlying trait and they can be modelled against a probability function for that trait. Rasch analysis does just this and enables the set of item responses to be converted to an interval measure of known precision on the trait (Wright & Masters, 1982). It includes an internal check of the fit of items to the modelled response function, and where a misfit is found, the item is deleted from the set. The Rasch analyses were undertaken using the program Quest (Adams & Khoo, 1997).

Materials

Multidimensional School Anger Inventory-Revised. The MSAI-R, a revision of the MSAI developed by Smith et al. (1998) was used. It included some extra items added by Smith et al. that made the questionnaire more appropriate for both genders as the original was designed for males only. The MSAI-R measures affective (19 items), cognitive (13 items), and behavioural (22 items) components of school anger which consisted of 9 positive coping and 13 destructive expression items. Some items were adapted for Australian conditions, which were approved by Smith and Furlong (personal communication). These adaptations involved language variations and did not change item content. For example, "You asked to go to the bathroom and the teacher says no" became "You asked to go to the toilet and the teacher says no."

The data were subject to Rasch analysis and the fit statistic revealed that two items on the affective subscale (Items 5 & 6), and one from the behavioural subscale (Item 47), did not attain adequate scalar properties and were subsequently removed. Only one distinct behavioural subscale was also evident, that is, only one total coping score was allocated to each student. The internal consistency reliability scores with the above mentioned items removed were good with the affective subscale at .84, the cognitive .74, and the behavioural subscale at .76.

The affective subscale measures *anger experience* and presented hypothetical school situations which the students reported their own level of anger on a 4-point Likert scale: (1) I wouldn't be angry at all, (2) I'd be a little angry, (3) I'd be angry, (4) I'd be very angry. The behavioural subscale represented *positive coping* strategies on which the students reported how often they may use them in dealing with their anger. Once again it employed a 4-point scale: (1) never, (2) sometimes, (3) often, (4) always. A high score reflected positive coping strategies while a low score reflected destructive ones. The cognitive subscale measured the students level of *school hostility* to a series of statements on a 4-point scale: (1) strongly disagree, (2) disagree, (3) agree, (4) strongly agree.

Procedures

The students were administered the MSAI-R in the school resource centre at the beginning of their final term for the year. The author, a research assistant, and the school's English coordinator carried out the administration during the students' regular English lesson time.

The students were told that the MSAI-R generally asked them about their feelings and thoughts on school. Students were able to raise their hands to ask for help if they needed some clarification of items.

RESULTS

Descriptive Statistics

Mean scores, and standard deviations, for the three anger sub-scales including gender differences are presented in Table 1. Girls' mean scores were higher for both anger experience and positive coping. Boys, however, had a higher mean score for school hostility.

Table 1. Means and Standard Deviations for Anger Sub-scales

SUBSCALE		Total	Males	Females	t	p
Affective	Mean	44.3	43.7	45.0	0.83	ns
	SD	7.4	7.4	7.5		
Behavioural	Mean	59.5	57.8	61.4	2.55	.006
	SD	7.4	6.8	7.6		
Cognitive	Mean	29.0	30.2	27.5	2.75	.004
	SD	5.0	5.5	4.0		

ns = not significant

Inferential Statistics

t-tests

Independent samples *t*-tests were conducted to test whether boys and girls mean scores significantly differed on the anger subscale scores. The results are also reported in Table 1. There was no significant difference on anger experience. However, boys were less likely to use positive coping strategies than girls $t(100)=2.55$, $p=.006$ (one tailed). Boys were also significantly more hostile towards school than girls $t(100)=2.75$, $p=0.004$ (one tailed).

Correlations

A Pearson correlation revealed that there was a significant negative relationship between anger experience and positive coping $r=-0.24$, $p<0.05$. The relationship accounted for 5.6 per cent of the variance. There was also a significant negative relationship between hostility and positive coping $r=0.59$, $p<0.05$. The relationship accounted for 35 per cent of the variance. The results are presented in Table 2.

Table 2. Correlations of the three components of anger

	Affective	Behavioural	Cognitive
Affective		0.11	-0.24*
Behavioural			-0.59*
Cognitive			

* $p<0.05$

Item Analyses

Independent samples *t*-tests were also conducted on each individual item within the MSAI sub-scales to determine which items, if any, significantly differed for boys and girls. These results are presented in Table 3. Only two of the 23 anger experience items differed significantly. Girls were, first, more likely to be angered by someone spreading a rumour about them, and second, making fun of their hair or clothes.

Table 3. Significant gender mean difference items in MSAI subscales

SUBSCALE	Boys (n=55)	Girls (n=47)	t
Anger Experience			
Someone starts a mean rumour about you that spreads all over the school	3.25	3.57	2.12*
Your best friend makes fun of your hair or clothes	2.16	2.83	3.32**
Anger Coping			
I talk it over with another person when I'm upset	1.82	2.62	4.76**
When I get angry at school I share my feelings	1.55	2.19	4.24**
When I'm angry I break things	1.76	1.23	3.32**
When I'm upset I calm myself down by reading, writing, painting or some similar activity	1.67	2.34	4.00**
I cry when I'm angry	1.35	2.06	5.05**
When I get angry my stomach or head aches	1.75	2.26	3.00**
I punch something when I'm angry	2.53	1.05	5.19**
When I'm angry at a teacher, I make jokes in class to get my friends laughing	2.16	1.77	2.02*
School Hostility			
School is really boring	2.82	2.30	3.44**
Adults at school don't care about students	2.36	1.94	2.84**
Most days I get annoyed at someone or something at school	3.07	2.47	3.46**
At this school teachers go out of their way to help students through tough times	2.44	2.79	2.29*

* $p < 0.05$ ** $p < 0.01$

Eight of the 22 anger coping items had significant differences. Girls were more likely to talk things over with someone, to share their feelings, and calm themselves by reading or writing when angry. Girls were also more likely to cry or have a head or stomach ache. Boys, however, were more likely to break things when angry. Boys were also more likely to disrupt a class when angry at a teacher or to want to get back at a teacher for receiving a bad grade.

Significant differences were found in four of the 13 school hostility items. Boys found school more boring and were more likely to be annoyed by someone or something at school. Girls were more likely to believe adults at school cared about students and that teachers would go out of their way to help them.

DISCUSSION

This study, as predicted, found no significant gender differences in the experience of anger. Males were found to use more destructive coping mechanisms than females. In relation to the cognitive component of anger, it was found that males were significantly more hostile towards school. Interestingly, students who indicated low levels of hostility towards school also tended to indicate lower levels of anger experience and show more constructive coping mechanisms.

Although no significant gender differences in the experience of anger were found, it is worth noting that two anger experience items did significantly differentiate between males and females. These two items involved spreading a rumour and having a best friend make fun of one's hair or clothing. These items were specifically added by Dr Furlong (personal communication) to render the MSAI (Smith et al., 1998) more relevant to the female experience of anger.

Regarding anger expression, females were more likely to have positive coping mechanisms. These coping mechanisms were all of a passive nature. For example, girls were more likely to share their feelings or talk things over with someone else when angry. Males were more likely to indicate destructive coping mechanisms and it was noted that these were active in character. For example, boys were more likely to break things or disrupt a class when angry. This is consistent with other studies that have reported adolescent males are more likely to outwardly express their anger (Cox, Stabb, & Hulgus, 2000; Maccoby & Jacklin, 1980; Crick, 1997). Not all studies have reported this difference between the inward and outward expression of anger (Averill, 1983; Newman, Gray, & Fuqua, 1999; Stoner & Spencer, 1986). However, those studies that have not reported this have been of adults rather than adolescents.

One of the unique contributions of the current study is the exploration of the cognitive component of anger. This exploration was achieved by examining school hostility. It was found that males had higher levels of hostility towards school than females. Interestingly, on a relational level, girls were more inclined to trust adults within the school setting. This may reflect a greater inclination of girls to share feelings and to talk things over with others. It may also be that these findings are idiosyncratic to the current study. However, studies of attributional bias in aggressive boys have reported that they are more hostile (Graham et al., 1992; Nasby et al., 1980) and this concurs with the present study's findings that boys are more hostile towards school. Overall, future research is needed to further explore this under investigated area.

One of the more interesting findings of the present study was the link between the cognitive component of anger and the behavioural and affective aspects of anger. Based on this study's results, it appears that the cognitive component of anger relates to the more healthy expression of anger and may moderate the actual experience of anger. The relationship between positive coping and lower levels of hostility towards school was particularly strong. This may be of importance and relevance when schools are addressing issues such as bullying and other types of harassment and violence.

In conclusion, the author has three main suggestions. Firstly, further studies are needed to actually measure and investigate the cognitive component of anger. These studies could also further explore the possible link between the cognitive, expressive, and experiential components of anger. Future studies may also wish to explore the passive/active aspects of anger coping and its relationship to gender. Secondly, intervention programs designed to help young people cope in healthy ways with their anger could be advised to address differentially the needs of angry females and males and to include the important cognitive aspect of anger. Finally, it may be very helpful for teachers to pay attention to statements made by students that suggest an underlying hostility towards school. This could be useful in preventing some later behavioural problems, both in the classroom and schoolyard, which reflect destructive anger coping strategies.

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