
Treating Aggression in High-Risk Adolescent Girls: A Preliminary Evaluation

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ABSTRACT

This pilot study examined whether aggressive responses and attitudes of high-risk adolescent girls would decrease after a group treatment that focused on the specific needs of aggressive adolescent girls. Twelve girls, aged 12-16 years from two residential facilities, participated in eight, one-hour group sessions. Results indicated a statistically significant decrease in direct aggression responses and antisocial beliefs from pretest to posttest, but no significant changes on prosocial responses or attitudes toward other girls. There were significant correlations between direct aggression and antisocial beliefs ($r(11) = .49, p < .05$), and between age and aggression ($r(11) = -.59, p < .05$), indicating that older adolescents chose less aggressive responses than younger adolescents. The results are discussed from a feminist, ecological understanding of the importance of developing gender-sensitive programming to deal effectively with adolescent female aggression.

RÉSUMÉ

Le but de cette étude pilote était d'examiner si les réponses et les attitudes agressives des adolescentes à risque élevé diminueraient à la suite d'un traitement de groupe visant les besoins particuliers des adolescentes agressives. Douze filles, âgées de 12 à 16 ans et vivant dans des établissements résidentiels, ont participé à huit séances de groupe d'une heure. Les résultats des tests administrés avant et après la période de traitement ont indiqué qu'il y a eu une baisse statistiquement significative des réponses agressives directes et des croyances antisociales des adolescentes, mais qu'il n'y a pas eu de changements significatifs dans leurs réponses et attitudes sociales positives envers d'autres filles. Il y avait des corrélations significatives entre leur agression directe et leurs croyances antisociales, $r(11) = 0,49, p < 0,05$, et entre leur âge et leur agression, $r(11) = -0,59, p < 0,05$, ce qui indique que les adolescentes plus âgées choisissent des réponses moins agressives que les adolescentes plus jeunes. Les auteurs discutent des résultats dans une optique féministe et écologique qui reconnaît l'importance d'établir des programmes tenant compte des sexes pour traiter l'agression chez les adolescentes de façon efficace.

While Canadian data have suggested a slight decrease in the official rate of adolescent violence during the past decade, statistics have also indicated a 66% increase in criminal charges for female adolescents (Canadian Centre for Justice Statistics, 2002). Although these statistics combine serious and minor forms of violence into one violent crime index, the data indicate that the most significant

increase occurred in simple assaults (Savioe, 2000). A thorough discussion about the frequency, severity, and causes of violent incidents by females is beyond the scope of this review, but a number of researchers believe that the increase may be due to changes in policing and charging of girls, rather than due to actual changes in girls' behaviour (e.g., Chesney-Lind, Artz, & Nicholson, 2002; Chesney-Lind & Brown, 1999; Leschied, Cummings, Van Brunschot, Cunningham, & Saunders, 2001; Reitsma-Street, 1999). In addition, it is important to note that this increase for female adolescents represents a small proportion of the overall youth crime rate, with male adolescents committing 93% of violent offences in Canada (Canadian Centre for Justice Statistics), a finding that is consistent across cultures worldwide (Odgers & Moretti, 2002).

What is generally accepted, however, is that service providers in youth justice are being challenged to match appropriate programming to the unique needs of these girls who find themselves in a variety of residential and nonresidential programs as a result of their charges. The current study was designed to examine the effectiveness of a group counselling intervention for high-risk adolescent girls that addressed the unique needs and contributing factors of aggression in adolescent girls. Of particular importance are the contributing factors of attitudes, behaviours, and the impact of "girl culture," which will be discussed below.

PATTERNS OF AGGRESSION BY ADOLESCENT GIRLS

Research by Artz (1998) found that some young women report using violence as a means of gaining power over other girls. These girls use violence to intimidate others in an attempt to ensure safety and respect from their peer group. In many instances, research (Hazler & Carney, 2000) shows that female aggression does not begin with a single isolated event, but rather stems from a progression of traumatizing factors that build over time. Concern for this problem has also reached the popular press with such recent books as *Odd Girl Out* (Simmons, 2002), *Fast Girls* (White, 2002), and *Queen Bees and Wannabes* (Wiseman, 2002).

Research is sparse regarding beneficial treatment programs for aggressive girls. Indeed, much of the previous research that examined treatment programs and interventions was based on aggressive adolescent boys, with the results being generalized to girls regardless of the appropriateness of this generalization (Chesney-Lind et al., 2002). Although there may be some similarities between aggressive adolescent boys and girls, researchers are beginning to realize that the experiences of adolescent girls are unique and require specialized conceptualization, treatment, and planning (Leschied & Cummings, 2002).

Although some girls use direct physical and verbal aggression, research (e.g., Paquette & Underwood, 1999; Russell & Owens, 1999) has shown that girls' aggression is more often expressed through covert acts, referred to as relational aggression. Crick et al. (2001) define relational aggression as trying to hurt others by manipulating friendships, excluding peers from social groups, and gossip or backstabbing. Mullin-Rindler (2003) takes this definition one step further by

asserting that relational aggression is a form of bullying. A recent review of research on aggression in adolescent girls by Leschied et al. (2001) concluded that aggression by adolescent girls is not a unitary construct, but can be physical, verbal, and relational.

INFLUENCE OF "GIRL CULTURE"

Another integral component for understanding adolescent female aggression is the influence of "girl culture." Several researchers (e.g., Brown, 1998; Eder, Evans, & Parker, 1995; Tanenbaum, 2000) have been interested in how girls use negative labels, gossiping, and "girl bashing" in an attempt to control other girls. Eder et al. found that labels such as "slut" and "bitch" are commonly used among adolescent girls for revenge or to control other girls' sexuality, and in doing so "end up reinforcing the strong constraints that society places on their own sexuality and that of all women" (p. 132).

Tanenbaum (2000) believes that competitiveness and "girl bashing" among adolescent girls is rooted in circumstances beyond their control: e.g., girls lash out at other girls because they recognize that no matter how hard they try, they will always have more to prove than do boys. However, girls who use insults such as "slut" and "bitch" must still be held accountable. "They may be victims themselves, but that should not give them licence to victimize others" (p. 201). For real change to occur, Tanenbaum believes that girls need to change the way they relate to one another and overcome their competitive impulses. One way of accomplishing this goal is through groups that provide girls with opportunities to discuss issues that affect them. Thus, one goal of girls' counselling groups is to help them learn that other girls are potential allies, rather than enemies. These aspects of girl culture need to be included in effective treatment programs for aggressive adolescent girls.

INFLUENCE OF COGNITIONS AND ATTITUDES

Another important factor in understanding adolescent female aggression is the role of attitudes. Adolescents who behave aggressively are also likely to have more positive attitudes toward aggression, and believe that aggression is a justifiable response in many social situations (Slaby & Guerra, 1988). Cummings and Leschied (2001b) found support for this view in their sample of 71 high-risk adolescent girls. When the girls were victims of physical violence, they believed it was acceptable to behave aggressively toward the perpetrator in self-defence. In addition, the girls frequently justified their own acts of aggression as self-defence.

Of equal importance for understanding attitudes is understanding girls' cognitions. Knowing what girls are thinking while they are behaving aggressively is helpful, because it may then be possible to intervene at the level of cognitions (Cummings & Leschied, 2002). One study that addressed this issue (Cummings & Leschied, 2001b) found that during a physical or verbal fight some girls

reported negative thoughts about wanting to hurt the other person. Miller (1991) explains this situation as a “power-over” model, which is usually more typical of male behaviour than of female behaviour. This model assumes that one individual is controlling another, through the use of power, strength, or expertise. Miller believes that women are more likely to choose a “power-with” model, which emphasizes mutuality and equality in relationships in order to enhance everyone’s personal power. However, girls with histories of victimization may be more likely to use a “power-over” approach to others because that has been their experience from abusers. Cummings and Leschied (2001b) found that 73% of the 71 high-risk adolescent girls had histories of abuse (physical, sexual, emotional, and/or witnessing parental abuse).

Thus, it is important that intervention programs help aggressive girls make the link between their previous experiences with violence and their current behaviour, as well as provide them with information and skills on how to interact from a “power-with” position instead of a “power-over” position (Cummings & Leschied, 2001b). Andrews and Bonta (2001) have noted that effective intervention programs are characterized as being clinically relevant to the extent that they reflect underlying causes of a particular disorder: in this case, female aggression. The following section summarizes promising program approaches that reflect known factors related to adolescent female aggression, namely, the influence of girl culture and attitudes.

SPECIFIC GENDER-INFORMED YOUTH VIOLENCE PROGRAMS

Although there are a number of violence prevention and intervention programs developed for the school system (e.g., anger management, peer relations, decision-making about antisocial behaviour) (Heilbron, Tingley, Cummings, & Leschied, 2002), there are very few gender-specific programs that focus on the needs of girls. Gender-specific programming is a comprehensive approach for treating adolescent girls who are at risk for behavioural problems by including attitudes, cognitions, and cultural perspectives (Office of Juvenile Justice and Delinquency Protection, 2000). It assists girls in positive female development because it takes into account the specific developmental needs of girls during adolescence (e.g., the importance of peers, the effects of girl culture). Girls are taught that the quality of “femaleness” is something to be valued, celebrated, and honoured, and they are encouraged to learn the necessary skills to build more positive relationships with others.

Given the relational needs of girls, groups may be the most beneficial treatment context for aggressive adolescent girls. Group counselling can provide adolescent girls with the opportunity to work together and utilize their relationships to solve problems. Activities done within the context of all-girl groups can help break down rigid mental barriers that girls erect for self-protection and help them deal with difficult issues with peers (Gubitz & Kutcher, 1999). Group interventions appear to be an effective means of promoting prosocial strategies, while at the

same time allowing girls an opportunity to address problematic and stereotypical values and beliefs they have internalized. Finally, group counselling can be beneficial because it provides an opportunity for girls to gain insight into why they hate, hurt, and humiliate one another, rather than help, develop hope in, and support one another (Smead, 2000).

A GIRLS' RELATIONAL GROUP

The treatment, A Girls' Relationship Group, was developed by the authors to (a) educate girls about the effects of their gender-role socialization on their interaction patterns with other girls; (b) teach girls about various forms of aggression, especially verbal and relational aggression; (c) examine the impact of violence in their lives, both inside and outside of the home; (d) teach them nonaggressive coping strategies for dealing with stressful interpersonal situations; and (e) encourage more positive self-images. The focus of the group was on aggression between girls because recent research suggests that girls direct verbal and relational aggression more often toward other girls than toward boys (Russell & Owens, 1999). A brief outline of the sessions is provided below, but a more detailed description is provided by Cummings, Hoffman, and Leschied (in press).

Session 1, "Who Am I?" is designed to start the group process by introducing members to the group experience, discussing issues of confidentiality, and beginning exploration of being an adolescent girl in this culture. Session 2, "Why Is It So Hard to Be an Adolescent Girl?" focuses on helping girls become aware of the impact of gender-role socialization on their behaviour and feelings about others. Session 3, "Why Do They Keep Calling Me Names?" is designed to increase awareness of different types of aggression, especially relational aggression, and why girls fight with each other. In Session 4, "Hurting in My Home," girls talk about the effects of experiencing violence in their homes and what they learned from those experiences about relating to other people. Session 5, "I Can Make Different Choices," helps girls link their own aggressive behaviours to prior experiences in their homes and then explore different choices for dealing with their family situations through role play. Session 6, "There's Got to Be a Better Way," focuses on discovering methods for dealing with difficult interpersonal peer situations in nonaggressive ways and practicing these methods in role plays. In Session 7, "TGIF: Thank Goodness I'm Female," girls explore the positive aspects of being a young woman by acknowledging each others' strengths. Session 8, "Where Do I Go From Here?" is designed to help girls talk briefly about what they will take with them from the group experience, as well as anticipate problem situations in the future and how to deal with them nonviolently.

THE PRESENT STUDY

The current pilot study examined the effectiveness of a group treatment approach that focused on the specific needs of adolescent girls who had past

experiences of being aggressive or who were at risk of being aggressive in the future. The group intervention was designed to help adolescent girls explore their beliefs, aggressive behaviour, and girl culture. It was predicted that after treatment girls' prosocial responses to problematic situations and positive attitudes toward other girls would increase, while their aggressive responses and antisocial beliefs would decrease.

In addition to examining whether change occurred on these variables after the group experience, it is also important to understand the relationship among these variables in order to provide appropriate intervention. With a sample of 152 adolescent girls, Cummings, Leschied, and Heilbron (2002) found statistically significant correlations for antisocial beliefs with direct aggression (.53) and relational aggression (.42). On the basis of this research, it was predicted that girls who scored high on direct and relational aggression would also score high on antisocial beliefs and low on positive attitudes toward girls. Finally, relationships between the major variables and aggression characteristics of the girls at pretest will be examined to provide a more multidimensional picture of female adolescent aggression.

METHOD

Participants

The participants included 12 aggressive adolescent girls. The girls ranged in age from 12 to 16, with a mean age of 14.7 years. Of the 12 girls, 10 identified themselves as Caucasian and two as Native. The girls were from two residential/correctional (custody) facilities in southwestern Ontario. Residential staff selected girls whose behaviour was not volatile and who could thus benefit from a group intervention. Participation was voluntary and informed consent was given by participants and their guardians. All participants had experienced abuse in their homes (physical, sexual, emotional, and/or witnessed). Ten girls had been involved in a physical fight and two girls had been in a verbal fight (yelling, swearing) with peers in the last year.

Instruments

Beliefs and Attitudes Scale (BAS) (Butler & Leschied, 1997). The BAS is a shorter version of the Criminal Sentiments Scale (CSS) (Gendreau, Grant, Leipziger, & Collins, 1979) with the wording modified to be appropriate for adolescents. It was used to assess antisocial beliefs, attitudes, and values. The BAS consists of 12 subscales. Five of these subscales were used in the study because they were most relevant to aggressive adolescent girls: Identification of Criminal Others Scale (5 items; e.g., "I am very different from kids who never get in trouble"), Tolerance for Overt, Aggressive Antisocial Behaviour with Peers Scale (9 items; e.g., "It's not fair to kick a kid in a fight"); Tolerance for Overt, Aggressive Antisocial Behaviour with Parents Scale (13 items; e.g., "Bullying my mother helps me get what I want"); Valuing Aggressive Behaviour Scale (6 items; e.g.,

“It’s fun and exciting to belong to a gang”); and Perceptions of World as a Hostile Place Scale (10 items; e.g., “I think people are always trying to get me in trouble”). Participants rated the 43 items on a three-point scale, with ratings of Disagree (0), Not Sure (1), and Agree (2). A high score on the BAS indicates high antisocial beliefs, and the highest possible score was 86. Reliability and validity of the BAS as a measure of antisocial attitudes is consistent with that of the Criminal Sentiments Scale (Gendreau et al., 1979). Support for construct validity of the total score of these five scales comes from statistically significant correlations for the BAS with father and mother physical aggression subscales of the Conflict Tactics Scale: $r(108) = .30, p < .01$, and $r(146) = .41, p < .01$, respectively, and with the Relational and Direct Aggression Scale (RDAS) subscales reported below (Cummings, Leschied, & Heilbron, 2002). Cummings and Leschied (2001b) found an internal consistency rating of .86 using the total score of these five subscales. Internal consistency for the total pretest score for the present study was .87. Only the total score was used in analyses.

Relational and Direct Aggression Scale (Cummings, Leschied, & Heilbron, 2002). The RDAS was used to measure relational and direct aggression and prosocial responses. It was developed to assess female adolescent aggression by providing situations that commonly occur in the lives of adolescent girls in combination with three types of responses. The RDAS consists of 27 items with a 7-point Likert-scale response format, ranging from Never (1) to Always (7). It consists of three subscales: Direct Aggression, which includes both physical and verbal aggression (13 items; e.g., “A girl is threatening to beat you up because she thinks you owe her money. You know you did not borrow money from her. How likely are you to hit her?”); Relational Aggression, which includes gossiping, exclusion, and backstabbing (8 items; e.g., “Your friend tells one of your secrets to another. How likely are you to get back at her by telling one of her secrets?”); and Prosocial, which includes responses that enhance relationships and avoid aggression (8 items; e.g., “Your friend is yelling at you because she thinks that you stole her boyfriend when you did not. How likely are you to try to calmly explain that it is not true?”). High scores on the Direct Aggression subscale and the Relational Aggression subscale indicate greater endorsement of aggressive responses, either direct or relational. A high score for the Prosocial subscale indicates a greater endorsement of nonaggressive responses. Scores used in analyses included the three individual subscales, an aggression score (Direct and Relational subscales combined), and a total score. The range for total score is 27–189 and is an aggregate with Prosocial responses reverse scored.

Cronbach alpha values for internal consistency reported by Cummings, Leschied, and Heilbron (2002) were .88 for the Direct Aggression subscale, .81 for the Relational Aggression subscale, .60 for the Prosocial subscale, and .89 for the entire measure. These values indicate that even though the RDAS is new, answers are consistent and reliable for total score and two subscales, with moderate reliability for the Prosocial subscale. Internal consistency of the RDAS total score for the present study was .85. Support for construct validity is provided by correlations

between the subscales of the RDAS and subscales of the Conflict Tactics Scale (Straus, 1979) (.22–.26). As well, all five BAS subscales and the total BAS score correlated significantly with the RDAS Direct and Relational Aggression subscales and total score (.29–.56) (Cummings, Leschied, & Heilbron, 2002).

Attitudes Towards Girls Scale (ATGS; Cummings & Leschied, 2001a). The ATGS was developed to assess girls' feelings about other girls. It consists of 12 items (e.g., "I feel close to other girls"; "I think that boys make better friends than girls") with a 5-point Likert-scale response format, ranging from Strongly Disagree (1) to Strongly Agree (5). The ATGS is a new scale that was developed because, to our knowledge, there are no existing scales that address this issue. A high score on the ATGS indicates a positive attitude toward other girls. Scores range from 5 to 60 and a total score was used in analyses. For the present study, a reliability analysis performed on pretest ATGS scores resulted in an alpha value of .62, indicating moderate internal consistency.

Personal History Questionnaire. An 8-item personal history questionnaire developed by the authors measured age, ethnicity, number of schools attended, number of physical and verbal fights experienced in the last year, and types of childhood abuse experienced by participants.

Procedure

A group facilitator administered the instruments individually one week before the groups began and again one week after the groups ended. Individual testing was used to ensure that the girls could read all of the items and so the facilitator could begin building a therapeutic relationship with each participant. The group treatment included eight, one-hour sessions that occurred twice a week for four weeks at the facilities. The groups were facilitated by two Master's level counselling interns using a detailed treatment manual. The groups were closed so that no one could join after the first session. The group facilitators met weekly with a research team to ensure treatment fidelity, for support, and to make minor revisions to the treatment when needed to increase treatment effectiveness. The treatment manual for A Girls' Relationship Group (Cummings, Tingley, & Leschied, 2002) is available from the second author on request. This study was the first time that the treatment manual was used and evaluated.

RESULTS

The first hypothesis predicted that girls in the treatment group would improve their prosocial responses and decrease their aggressive responses to problematic situations between pretest and posttest. To investigate this hypothesis, pre-post paired sample *t*-tests were performed on the three subscales of RDAS. Results indicated that participant responses significantly decreased on the Direct Aggression subscale ($t(11) = 1.9, p < .05, 1$ tailed) with $M = 66.1$ at pretest and $M = 62.2$ at posttest (see Table 1). This result was further supported by their postsession qualitative evaluation of the group sessions. When asked, "What will

you do the next time you feel like fighting?" 75% said they would walk away or think about whether it was worth a fight. Scores did not decrease on the Relational subscale or increase on the Prosocial subscale.

TABLE 1

Means, Standard Deviations, and Tests of Significance for Major Variables (N = 12)

Variables	Pretest		Posttest		<i>t</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>	
Attitudes Towards Girls Scale	36.4	6.4	35.2	6.0	.8
Relational and Direct Aggression					
Direct aggression	66.1	13.5	62.2	13.5	1.9*
Relational aggression	36.0	8.3	36.9	10.3	-.4
Prosocial	34.8	4.4	35.0	4.2	-.1
Total score	112.5	18.9	110.4	23.5	.6
Beliefs and Attitudes Scale	35.5	13.9	32.2	13.3	2.4*

* $p < .05$ (one-tailed).

The second hypothesis predicted that the girls' positive attitudes toward other girls would increase between pretest and posttest. A paired samples *t*-test of the ATGS was not statistically significant, $t(11) = .85$, $p > .05$. The third hypothesis predicted a decrease in antisocial beliefs between pretest and posttest. A *t*-test performed between the pretest and posttest responses on the BAS total score was statistically significant, $t(11) = 2.4$, $p < .05$, 1 tailed, with scores decreasing between pretest ($M = 35.5$) and posttest ($M = 32.2$).

Based on previous research (Cummings, Leschied, & Heilbron, 2002), it was predicted that girls who scored high on direct and relational aggression would also score high on antisocial beliefs and low on attitudes toward girls at pretest. This relationship was assessed by Pearson product-moment correlations among the pretest variables. As can be seen in Table 2, results indicated that the RDAS Direct Aggression subscale was significantly correlated with the BAS ($r = .49$, $p < .05$). The correlation between antisocial beliefs and attitudes toward girls approached significance ($r = -.41$, $p = .1$).

Correlations were also computed between the major variables and aggression characteristics of the girls at pretest. Beginning with physical aggression, significant positive correlations were found for number of physical fights with the Direct Aggression subscale ($r = .61$, $p < .05$), the Prosocial subscale ($r = .53$, $p < .05$), number of verbal fights ($r = .50$, $p < .05$), and total score on the RDAS ($r = .54$, $p < .05$). These significant correlations indicated that girls who reported more frequent use of physical aggression also endorsed other forms of aggression more frequently. However, the significant positive correlation between number of physical fights and the Prosocial subscale was surprising, indicating that frequent fighters also chose more prosocial responses.

TABLE 2
Pearson Correlations Between Major Variables, Abuse and Demographic Variables at Pretest (N = 12)

Demographic, Abuse Variables	ATGS	Major Variables					RDAS Total	BAS Total	Verbal Fights
		RDAS Direct	RDAS Relational	RDAS Combined	RDAS Prosocial	RDAS Total			
Age	.25	-.44	-.48	-.56 *	.41	-.59*	-.34	-.17	
Schools	-.46	.18	.11	.18	-.25	.25	.22	.15	
Physical fights	.09	.61*	.06	.47	.53*	.54*	.27	.50*	
Verbal fights	-.28	.53*	-.15	.36	-.09	.56*	.52*	—	
Total abuse	.33	-.11	.34	.03	-.04	.10	-.30	-.27	
BAS total	-.41	.49*	-.01	.36	-.18	.40	—	.52*	

* $p < .05$ (one-tailed).

Note. BAS = Beliefs and Attitudes Scale; RDAS = Relational and Direct Aggression Scale; ATGS = Attitudes Towards Girls Scale.

When verbal aggression was examined, significant positive correlations were found for use of verbal fights with RDAS total score ($r = .56, p < .05$), with the BAS ($r = .52, p < .05$), and with the Direct Aggression subscale ($r = .53, p < .05$). These correlations indicate that girls who frequently used verbal aggression also endorsed other forms of aggression and antisocial beliefs more frequently.

Statistically significant correlations also resulted for age with RDAS total score ($r = -.59, p < .05$) and Direct and Indirect Aggression subscales combined ($r = -.56, p < .05$), indicating that younger girls endorsed the use of more aggressive responses than did older girls.

DISCUSSION

This pilot study examined whether aggressive attitudes and responses of high-risk adolescent girls decreased after a group treatment. This population is difficult to obtain for research purposes and, thus, the sample was small. Nevertheless, some of the results were supportive of the hypotheses and provide encouragement for future research using the Girls' Relationship Group with larger samples.

As indicated in the results, a significant decrease occurred between pretest and posttest scores on the Direct Aggression subscale of the RDAS. This result was corroborated by the majority of girls who reported that the next time they felt like fighting they would either walk away or first think about whether what they were about to fight over was worth it. These results indicated that the treatment intervention likely helped to begin the process of modifying the girls' instinctive use of physical aggression. Thus, for treatment programs, knowing what situations cause girls' fights can be a good entry point for providing opportunities for girls to practice more prosocial options through role play. Hollin (1990) supports this view by contending that an important component of any

preventative treatment is to teach adolescents how to identify problems, generate alternatives, understand the social context of the problem, and then choose an appropriate response.

In contrast, there was no change in girls' positive attitudes toward other girls. This result may be due to the short time period (four weeks) that the girls were together in treatment. Viewing other girls as competitors, rather than allies, is likely a well-entrenched belief and attempting to teach them about the destructive power of their negative feelings toward one another may require months rather than weeks. Similarly, it likely takes more time to teach girls that a "power-with" interaction style is a more appropriate way to interact, when their current "power-over" interaction style may seem to benefit them in their relationships. In addition, a new instrument was used to assess this variable because, at present, a standardized assessment tool for assessing attitudes toward girls could not be found. Although the instrument demonstrated acceptable internal reliability, a larger number of items may have provided a better assessment of the construct.

As expected, there was a decrease in antisocial beliefs and attitudes between pretest and posttest. It appeared that the group sessions provided girls with an opportunity to examine their existing belief patterns. This finding suggests that in order to modify aggressive behaviours, it is essential to target cognitions that may be supporting those behaviours. In other words, it is not enough to simply focus on behaviour; focus must also be given to the internal mechanisms (belief systems) that may be contributing to the behaviour. Slaby and Guerra (1988) reported that aggressive adolescents often believe that their use of aggression is justifiable in many social situations. Thus, it appears that until problematic belief systems are modified, aggressive behaviour is more likely to continue. For this reason, a number of the group sessions in the Girls' Relationship Group (e.g., "Hurting in My Home" and "I Can Make Different Choices") focused on how prior experiences in the girls' lives and homes may have influenced their beliefs about their own use of aggression.

When relationships among the major variables were examined, the results supported findings by Cummings, Leschied, and Heilbron (2002) that girls who scored high on aggression also scored high on antisocial beliefs and low on attitudes toward girls. With the present sample of 12 girls, finding the same relationship between direct aggression and antisocial beliefs that had been found with 152 girls indicates a strong association. This relationship is understandable, given that cognitive theory (Dodge, 1986) asserts that cognitions, emotions, and behaviours exert mutual influence on one another.

Statistically significant correlations were found between the number of verbal or physical fights and endorsement of direct aggression in problematic situations (RDAS), as well as between use of verbal aggression and antisocial beliefs. In conjunction, these findings demonstrate that girls who used aggressive behaviours also endorsed direct aggression responses on the RDAS and had higher antisocial beliefs. Because of this connection between behaviours and beliefs, it was likely helpful that four of the eight sessions focused on identifying and modifying

existing antisocial beliefs and understanding the roots of these beliefs. Research (Hanish & Guerra, 2000) shows that aggressive youth frequently affiliate with peers who validate their aggressive behaviours, thus making it more difficult for aggressive girls to stop using aggression and instead choose more prosocial options, such as walking away. The meaning of the significant positive correlation between number of physical fights and prosocial responses is less clear. It may be that the assertive nature of the prosocial responses appealed to girls who were more aggressive.

A statistically significant correlation was found between age and aggression with more younger girls endorsing aggressive responses than older girls did. This result is supported by previous researchers (Bjorkqvist, Lagerspetz, & Kaukiainen, 1992; Lindeman, Harakka, & Keltikangas-Jarvinen, 1997), who speculate that the higher incidence of aggressive reactions at early and middle adolescence might be due to some teens not having the necessary prosocial skills to deal with interpersonal situations, and thus engaging in aggressive behaviours. For this reason, these researchers recommend providing preventative treatment at earlier ages to girls rather than providing remedial treatment after aggressive behaviour has become problematic.

Although a number of important results were obtained from the present pilot study, it is necessary to consider the results within the context of the study's limitations. The first limitation was the lack of a comparison group. Without a comparison group, it is difficult to ascertain whether the changes from pretest to posttest were a result of the treatment program. Second, the data were collected from a small sample of respondents who may not be representative of aggressive adolescent girls. Although aggression between adolescent girls and boys is also important, it was beyond the scope of this study to address relevant issues for both genders. Another limitation may have been the short length of the treatment over only four weeks, which may not have been enough time for girls to process information and internalize changes in their attitudes and consequent behaviours. Similarly, group sessions may have been improved by spending more time addressing underlying trauma because most girls had experienced some form of abuse in their past. Finally, the use of self-report measures could have resulted in exaggeration or minimization of responses with participants trying to present themselves in a more positive light, and the moderate reliability of the Prosocial subscale may have had an impact on the findings with that subscale.

Although this pilot study had a number of limitations, there are some implications that can be drawn for clinicians. First, these aggressive adolescent girls had a decrease in their antisocial beliefs and endorsement of aggression in a relatively short amount of time. The study also provided additional support for previous research showing higher aggressive responses in younger adolescents than in older adolescents. This finding highlights the importance of focusing on aggression in adolescent girls at a younger age. Furthermore, this study demonstrated some benefit from using gender-specific programming. As stated previously, most of our knowledge about treatment of aggressive adolescent girls

comes from studies that include aggressive adolescent boys, with the results generalized to girls regardless of the appropriateness of this generalization (Chesney-Lind et al., 2002). By applying the principles of gender-specific programming, girls in the current study had an opportunity to be with other girls to explore, discuss, and understand their use of aggression, as well as possible triggers for aggression and antisocial beliefs.

Currently, there is considerable opportunity for continuing research in the area of treatment for aggression in adolescent girls. Because this was a small pilot study, it would be helpful to replicate the current study with a larger number of treatment groups and compare results with girls who do not receive the treatment intervention. Possible future research could examine the best age for treatment impact, that is, whether treatment is more helpful for preteen girls or early adolescent girls. Future research could also examine the benefits of incorporating additional sessions that allow girls to deal more with any underlying trauma. Finally, it would be helpful to include additional sessions that focus more intensely on the concepts of relational aggression in order to address girls' negative feelings toward other girls.

Nevertheless, although treatment interventions for aggressive adolescent girls are extremely important, the key to dealing with this issue is prevention. Hartwig and Myers (2003) recently suggested that a *wellness paradigm* should be used to describe the promotion in girls of healthy and positive attitudes that are inconsistent with the generation of violent and inappropriate responses. In addition, to interrupt the progression of aggression, at-risk girls and their families need resources to help them deal with issues that have contributed to their aggressive behaviour, such as their abuse histories. Future research should focus on determining what components of violence prevention programs are most effective for adolescent girls, as well as developing an understanding of the possible protective factors that deter girls from becoming aggressive, such as education and having a female role model (Schwiebert, Deck, Bradshaw, Scott, & Harper, 1999).

The most helpful finding from this pilot study was that after aggressive adolescent girls went through a uniquely designed group treatment, there was a decrease in their antisocial beliefs and aggressive responses. This finding is important for three reasons. First, the results demonstrate that it seems possible to help adolescent girls identify their aggressive behaviours and negative belief systems, which may enable them to make different choices about their use of aggression in future situations. Second, the study is a promising beginning in offering group treatment that is specific to the needs of adolescent girls. By providing adolescent girls with an opportunity to meet in an all-girl atmosphere, they were able to explore issues specific to girls and women. Finally, this study clarifies the importance of continuing this field of research to identify possible preventative strategies in the hopes of reducing the number of adolescent girls who become aggressive.

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