



cent sample, and is therefore predominantly concerned with indirect relational aggression, which is the term we will use to describe our study. However, our review of the literature on sex differences will use the original terms used by the authors to delineate each aggressive behavior.

Victims of relational aggression have been found to experience long-term psychologically damaging consequences, such as having a heightened sense of anxiety, depression, loneliness, and peer rejection [e.g., Craig, 1998]. These effects may be more prevalent in girls than boys, as relational aggression targets social relationships, a commodity that girls highly value [Archer and Coyne, 2005; Geary et al., 2003].

Although the use of relational aggression may be particularly destructive among girl social groups, the research surrounding sex differences is mixed, with some studies finding that girls use more relational aggression than boys [e.g., Crick and Grotpeter, 1995; Lagerspetz et al., 1988], some finding no sex difference [e.g., Coyne et al., 2006], and some finding that boys use more relational aggression than girls [e.g., Henington et al., 1998]. Archer's [2004] meta-analysis revealed that girls use slightly more indirect (relational) aggression than boys: however, this effect was very small and appeared to be dependent on the age of the participant and the elicitation method. Any sex differences that do exist appear to be greatest in late childhood to early adolescence, and gradually taper off in adulthood [Archer, 2004]. Therefore, as a whole, there seems to be little evidence of a large sex difference in the use of relational aggression by boys and girls.

In any case, the use of relational rather than physical aggression appears to be more socially acceptable in the "girl world," as it is often covert and the aggressor can remain unidentified [Owens et al., 2000; Richardson and Green, 1999]. It is more socially acceptable because this type of "communion-related" behavior is consistent with the female gender role, whereas physical aggression is more closely linked to the agency-related male gender role [Eagly, 1987]. Crick [1997] found that girls who used this "normative" form of aggression for their sex experienced less maladjustment than girls who used nonnormative forms of aggression, such as physical violence. Crick also found that the use of relational aggression by boys was perceived as a nonnormative form of aggression; accordingly, these boys experienced more problems than those using physical aggression. Societal rules dictate that girls should be sweet, gentle, and nonaggressive, unlike their male counterparts who are expected to be confident,

assertive, and even aggressive in many cultures when their honor is threatened [e.g., Nisbett and Cohen, 1996]. These rules are reflected in the gender stereotypic traits described to each sex [Bem, 1974; Spence et al., 1974]. Thus, relational aggression is a way of hurting others while staying in the bounds that society has prescribed as a norm for women. It should be noted that perceptions of normative and acceptable behavior may differ depending on age. For example, Basow et al. [2007] found that college students rated relational aggression by women and physical aggression by men as more negative than the same aggression by the opposite sex.

As a result aggressive boys and girls are perceived differently by observers. Condry and Ross [1985] showed undergraduates a video of two preschool children playing in the snow and asked them to rate the behavior of one of the children (the target child). The target child engaged in fairly "rough" behavior, such as hitting, jumping on, and throwing snowballs at the other child. Both children were wearing snowsuits; therefore, participants were unable to decipher the sex of either child in the video. Participants were told one of four scenarios that the children were a boy/boy pair, boy/girl pair, girl/boy pair, or a girl/girl pair, and were asked to rate how aggressive the behavior of the target child was. Overall, participants viewed the boy/boy pair as the least aggressive as their behavior was more likely to be attributed to rough-and-tumble play than to intentional harm. As boys are much more likely than girls to engage in rough-and-tumble play [e.g., Boulton, 1996; Goldstein, 1992], participants most likely viewed such behavior by girls as aggression, rather than as play. In a similar study, the sex of the children was made clear to participants by the use of sex-typed clothing and hairstyles [Susser and Keating, 1990]. When the sex was known, participants rated boys and girls as equally aggressive. Boys' aggression, however, was seen as more intentional and masculine, particularly by sex-typed participants. One other study found that young boys' and girls' relational aggression was perceived as equally aggressive by adult coders, although men were less accurate overall at correctly identifying the type of aggression portrayed [Ostrov et al., 2005].

It should be noted that most of the above studies consisted of adult participants viewing very young children engaging in real-life aggression. As children develop, the use of relational aggression becomes much more subtle and sophisticated [Archer and Coyne, 2005]. Therefore, same-age observers may have different perceptions regarding aggression than different-age observers as they are likely to

experience and be familiar with very different types of relational aggression. To our knowledge, only one study has examined same-age perceptions of adolescent relational aggression. Galen and Underwood [1997] showed examples of real-life social (relational) aggression to a group of adolescents. Girls rated the aggressors as angrier than boys did, although these researchers only showed examples of social aggression by *girls*. However, it is not known how adolescents perceive male relative to female relational aggression. A major aim of this study is to examine perceptions of relational aggression in this context. Similar to Condry and Ross's [1985] study we decided to examine perceptions of aggression through the medium of television. Indirect (relational) aggression is extremely common on TV [Coyne and Archer, 2004; Coyne and Whitehead, 2008] and has been shown to increase aggressive behavior in real life [Coyne, 2004; Coyne and Archer, 2005; Coyne et al., 2004]. As such, perceptions regarding televised relational aggression may have an influence on subsequent attitudes and aggressive behavior.

The aim of this study is to establish whether adolescent boys and girls differ in their perceptions of male and female indirect relational aggression. The major analysis consisted of a 2 (sex of participant)  $\times$  2 (sex of aggressor/victim) design. The sex of the major aggressor and the victim portrayed in the video was manipulated and participants' perceptions of the televised aggression were measured through the use of a questionnaire. Although previous research has found that real-life relational aggression by boys and girls is viewed as equally aggressive by adults [Ostrov et al., 2005], no research has examined whether perceptions differ in other contexts. Aggression is in general viewed as both more typical of, and desirable for, a man than a woman [Spence et al., 1974]. However, the study by Ostrov et al. examined a form of aggression that is stereotypically associated with girl social groups [Crick, 1997]. Because of this, we predicted that adolescents would rate indirect forms of relational aggression by girls as more justified and normal. If this is true, it would follow that participants would also have less empathy for a girl victim.

Condry and Ross [1985] stated that more experience with a certain behavior will enhance stereotypical beliefs, but only when there is a real difference between the sexes. Although relational aggression may be more acceptable in girl social groups, most recent research supports the view that there is a small to negligible sex difference in the actual use of relational aggression [see Archer,

2004]. Therefore, we did not predict a sex difference between participants regarding their perceptions of indirect forms of relational aggression.

## METHOD

### Participants

One hundred and sixty adolescents (89 boys, 71 girls) from an average-sized high school in the North West of England participated in the study. The age of participants ranged from 11 to 14 (boys:  $M = 12.66$ ,  $SD = .89$ ; girls:  $M = 12.44$ ,  $SD = .98$ ). It was decided to initially focus on adolescents as indirect forms of relational aggression peak around this age [Björkqvist et al., 1992]. Participants were tested as a class during their regular personal and social education class time. Class size ranged from 18 to 25 students and consisted of mixed ability. A total of eight classes were tested, two from Year 7 (sixth grade US equivalent), three from Year 8 (seventh grade US equivalent), and three from Year 9 (eighth grade US equivalent). A power analysis based on a medium effect size of  $d = .50$  revealed that 85 participants were required for each condition for a power = .90. This effect size was used as similar studies have not been conducted and we were interested in finding medium effects [Cohen, 1969]. Classes were randomly assigned to conditions by drawing class names out of a hat. There were 82 participants in the condition portraying male indirect relational aggression and 78 participants in the condition portraying female indirect relational aggression.

### Materials

**Videos.** One of the two videos was shown to participants, a "girl" video or a "boy" video. The main aggressor, victim, and popular character were female in the girl condition and male in the boy condition. We decided to only focus on same-sex indirect relational aggression (and not opposite-sex aggression) in this study for two main reasons. Although most studies do not assess victim sex, sex segregation occurs throughout childhood and adolescence; therefore, aggression is usually aimed at a same-sex peer [e.g., Archer, 1992]. Secondly, studies that do assess victim sex generally find that girl-to-girl and boy-to-boy aggression are both very common [e.g., Richardson and Green, 1999].

Both videos used the same script and were filmed in the same locations. Only the names were changed according to the sex of the main characters (e.g.,

Rachel in the girl condition; Robert in the boy condition). The videos were filmed in a small town in the Western United States and used amateur, but experienced actors. Though the study took place in the UK, a large amount of television programs aired in the UK originate in the United States; therefore, adolescents would be used to viewing American actors on TV. The videos were filmed with a digital video camera and were edited using Adobe Premier (San Jose, CA). Each video lasted approximately 22 min, the time of a "real" episode on television excluding commercials. There were a total of ten scenes, with one portraying a number of examples of indirect forms of relational aggression. This scene accounted for approximately 30% of the total time of each video.

The videos centered on the friendship of two students at a local high school. In the video, one friend (Beth/Matt) leaves the other friend (Rachel/Robert) for a more popular group of students. Rachel/Robert is hurt by this and uses a variety of relationally aggressive techniques to try to win Beth/Matt back. The aggression in the video included spreading a nasty rumor, stealing a biology essay behind the victim's back, putting up embarrassing pictures around the hallways, and breaking up the victim's newly formed relationship with their popular boyfriend/girlfriend. These aggressive tactics are successful in making Beth/Matt apologize and resume friendship with Rachel/Robert. The videos end with a final act of aggression where the reinstated friends covertly throw eggs at a popular group member's new sports car (though perceptions regarding this act of aggression were not analyzed). All of the relational aggression in the videos were portrayed as justified and rewarded, as this is how this type of aggression on television is likely to be portrayed [Coyne and Archer, 2004]. Aggression portrayed in such a way is likely to have a larger impact on subsequent attitudes and behavior, as opposed to aggression that is portrayed negatively [Bandura, 2001].

The actors playing the different roles were matched for acting experience, skill, and appearance as much as was possible (though it should be noted that this was not quantitatively measured). The two actors playing the main aggressor both had considerable acting experience and had been in a number of productions together, both playing lead roles. They both had taken a number of acting classes, were blonde, fair skinned, and relatively short for their sex. The two actors playing the main victim were less skilled and had only been in a few productions. These actors were a brother/sister pair who looked very much alike; both had fair skin,

brown hair, and were fairly tall for their sex. Accordingly, these actors appeared very similar. To ensure only same-sex aggression was portrayed, the popular character was also the same sex of the main characters, as these characters aggress against the character toward the end of the video. The two actors portraying the popular characters were both very experienced and had been in a number of productions together. They both had fair skin, brown hair, were very short, and were dressed in clothing typical of a popular teenager (e.g., letterman jacket). All supporting characters remained constant in both videos. Thus, the finished videos were very similar in all aspects besides the sex of the main characters.

As the excitement level of a video has been shown to influence subsequent aggression [Zillman, 1971], participants were initially asked how exciting the video was on a scale of 1 (not exciting) to 5 (extremely exciting). No difference in excitement level was found between conditions using this method,  $t(158) = .27$ ,  $P = .79$ , boy condition,  $M = 3.71$ ; girl condition,  $M = 3.42$ .

**Questionnaire.** A 12-item television questionnaire was used to assess participants' perceptions of the video they viewed. There were four questions relating to the justification of the aggressive behavior (e.g., How much do you think Beth deserved it, when Rachel got Scott to break up with her?), two relating to empathy for the victim (e.g., How sorry did you feel for Beth when Rachel took her Biology essay?), three assessing how normal the portrayed aggression was (e.g., How often do people at your school spread rumors, like Rachel did in the video?), and three filler questions (e.g., How funny did you think the video was?). The purpose of these filler questions was to keep with the cover story as described below. Participants were asked to answer the questions by circling a number on a Likert scale ranging from 1 (not at all) to 5 (extremely). The reliability of the questionnaire was fairly good considering the very low numbers of items on these scales [Cortina, 1993; normality,  $\alpha = .71$ ; justification,  $\alpha = .60$ ; empathy,  $\alpha = .68$ ].

## Procedure

Participants were tested as a group in their normal classrooms. Consent was previously obtained from the deputy headteacher, parents, and the students. Participants were told that the primary researcher (S. M. C.) worked in the television department at a university in Utah, who was interested in developing a new television program aimed at teenagers. The department wanted to eventually air this program in

both the United States and Britain; therefore, participants were also told that the researcher was travelling around Britain collecting teenagers' opinions on the video. They were also told that the sound and the picture on the video were not of high quality, as the department wanted to get people's opinions on the video before they spent a large amount of money developing them. No participant expressed suspicion about this story.

After viewing one of the two videos, participants were asked to complete the television questionnaire. They were told that this questionnaire would help the department decide whether they should further develop the program or take on a new project. Participants were also told that this questionnaire would help the department to decide how likeable the actual characters were. The questionnaires were collected and participants were excused. Participants were fully debriefed a week later when all the classes had been tested. This would prevent participants from telling their peers the true nature of the study.

## RESULTS

Questions from each scale were collated to give each participant a mean score for justification, empathy, and normalcy. The three filler items were not used in the subsequent analyses. Overall, participants rated the aggressive behavior as rather justified ( $M = 3.57$ ,  $SD = .76$ ). As a whole, they were moderately empathetic to the victim's feelings ( $M = 3.56$ ,  $SD = .75$ ), and felt that similar behavior was fairly normal at their school ( $M = 3.41$ ,  $SD = .76$ ).

### Condition and Sex of Participant: Effects on Justification, Empathy, and Normalcy

A 2 (sex of participant)  $\times$  2 (condition: sex of the aggressor/victim in the video) multivariate analysis of variance was conducted for justification, empathy, and normalcy of the aggression between the two conditions (the video portraying boys and the video portraying girls). A significant multivariate effect was revealed for the sex of the aggressor and the victim in the videos viewed,  $F(3,154) = 4.62$ ,  $P < .005$ . When the univariate effects were examined, only justification was significant,  $F(1,156) = 13.70$ ,  $P < .001$ . An inspection of the means given in Table I reveals that participants in the male condition rated the aggressor as more justified for his aggressive behavior than those in the female condition ( $d = .58$ ). There was no significant difference between the two

**TABLE I. Means and Standard Deviations for All Variables for Male and Female Video Conditions**

Variables	Condition			
	Male		Female	
	Mean	SD	Mean	SD
Justification**	3.78	.63	3.35	.85
Empathy	3.54	.69	3.57	.82
Normalcy	3.43	.76	3.40	.76

\*\* $P < .005$ .

conditions for empathy,  $F(1,156) = 0.11$ ,  $P = .74$ , or normalcy,  $F(1,156) = 0.06$ ,  $P = .81$ . Furthermore, there was no overall sex difference (of the participants),  $F(3,154) = 0.77$ ,  $P = .51$ , or interaction between sex and condition,  $F(3,154) = 1.20$ ,  $P = .31$ .

## DISCUSSION

Participants viewing boy-to-boy indirect forms of relational aggression rated the aggressor as more justified for his behavior than those viewing girl-to-girl aggression. This effect was found even though the script, location, and supporting characters were exactly the same: only the sex of the aggressor and the victim was different. The existing stereotype asserts that boys are more physically aggressive than girls and that this aggression is acceptable in many situations. Aggressive girls are often frowned upon by society as straying away from their appropriate gender roles, even though indirect forms of relational aggression are portrayed as a stereotypically feminine trait on television [Coyne and Archer, 2004]. This study suggests that aggression by boys is still regarded as more justified than aggression by girls, even when that aggression is shown to be relational. The stereotype of the "aggressive boy" persists even though relational aggression is viewed as more acceptable in girl social groups. This is consistent with the original designation of "aggressive" as both more typical and more desirable in a man than a woman [Eagly, 1987; Spence et al., 1975].

Participants viewing boy-to-boy indirect relational aggression, however, did not have more empathy for the victim or feel that the aggression was more normal than those viewing girl-to-girl aggression. This highlights the importance of studying this type of aggression in boy peer groups, as it may be perceived to be as common and hurtful as in girl peer groups (at least on television).

We also did not find any differences in how boys and girls perceived the aggression. Because there is little evidence of a genuinely large sex difference between boys and girls, Condry and Ross [1985] would suggest that there should be no differences in perceptions of aggression. There is also one other possibility of why sex differences were not found. This study found that overall, the aggression by boys was rated as more justified, in effect, falling back to the old stereotype that “men are more aggressive than women.” Therefore, it appears that the presumed stereotype that girls are more likely to, and are more justified in engaging in indirect forms of relational aggression, may not actually exist. If the stereotype does not exist concerning aggression and girls, this was probably enough to wash out any sex differences that may have been apparent.

### Limitations and Future Research

This study only examined perceptions of *indirect* relational aggression after viewing girl-to-girl and boy-to-boy aggression. Future studies may wish to examine perceptions regarding boy-to-girl and girl-to-boy relational aggression, as it is possible that viewing this type of aggression has an influence on aggressive behavior in these types of relationships. Perceptions regarding *direct* relational aggression may also differ.

It may also be asked whether the participants actually considered the films to be aggressive. Werner et al. [2006] found that mothers who were exposed to preschoolers' relational aggression often did not perceive it as aggressive. However, it appears that children and adolescents may perceive relational aggression differently than adults. When Galen and Underwood [1997] showed children and adolescents real-life examples of social (relational) aggression, participants reported that the aggressor was angry and disliked the victim. It should also be noted that participants who viewed these same videos in a different study subsequently behaved more aggressively toward a confederate of the study [Coyne et al., 2004]. Therefore, although we did not specifically ask participants if they thought the behavior they viewed was aggression, it is likely that they perceived it in such a way.

It should also be noted that several of the scales did not meet the reliability criteria as specified by Bakeman and Gottman [1986]. Therefore, results concerning these scales should be viewed with caution.

### CONCLUSION

As a whole, adolescents rated boy-to-boy indirect forms of relational aggression as more justified than girl-to-girl aggression. Although relational aggression has been shown in many studies to be more acceptable in girl social groups, this study shows that the stereotype regarding aggressive boys is still being perpetuated. As indirect forms of relational aggression by boys and girls is perceived differently it will be important to establish the effect of viewing this type of behavior on subsequent attitudes and aggressive actions.

### ACKNOWLEDGMENTS

We thank the Money and the Hansen families and many other friends and family members for their extensive help with acting and filming the video. We also acknowledge Adam Palmer for his help with editing the videos.

### REFERENCES

- Archer J. 1992. Childhood gender roles: Social context and organisation. In: McGurk H (ed.), *Childhood Social Development: Contemporary perspectives*. Hove, UK: Lawrence Erlbaum Associates Publishers, pp 31–61.
- Archer J. 2004. Sex differences in aggression in real-world settings: A meta-analytic review. *Rev Gen Psychol* 8:291–332.
- Archer J, Coyne SM. 2005. An integrated review of indirect, relational, and social aggression. *Pers Soc Psychol Rev* 9:212–230.
- Bakeman R, Gottman JM. 1986. *Observing Interaction: An Introduction to Sequential Analysis*. Cambridge, UK: Cambridge University Press.
- Bandura A. 2001. Social cognitive theory: An agentic perspective. *Annu Rev Psychol* 52:1–26.
- Basow SA, Cahill KF, Phelan JE, Longshore K, McGillicuddy-DeLisi A. 2007. Perceptions of relational and physical aggression among college students: Effects of gender of perpetrator, target, and perceiver. *Psychol Women Q* 31:85–95.
- Bem SL. 1974. The measurement of psychological androgyny. *J Consult Clin Psychol* 42:155–162.
- Björkqvist K, Österman K, Kaukiainen A. 1992. The development of direct and indirect aggressive strategies in males and females. In: Björkqvist K, Niemelä P (eds). *Of Mice and Women: Aspects of Female Aggression*. San Diego: Academic Press, pp 51–64.
- Boulton MJ. 1996. A comparison of 8- and 11-year old girls' and boys' participation in specific types of rough-and-tumble play and aggressive fighting: Implications for functional hypotheses. *Aggr Behav* 22:271–287.
- Cohen J. 1969. *Statistical Power Analysis for the Behavioural Sciences*. Hillsdale, NJ: Erlbaum.
- Condry JC, Ross DF. 1985. Sex and aggression: The influence of gender labels on the perception of aggression in children. *Child Dev* 56:225–233.
- Cortina JM. 1993. What is coefficient alpha? An examination of theory and applications. *J Appl Psychol* 78:98–104.

- Coyne SM. 2004. Indirect aggression on screen: A hidden problem? *The Psychologist* 17:688–691.
- Coyne SM, Archer J. 2004. Indirect aggression in the media: A content analysis of British television programs. *Aggr Behav* 30:254–271.
- Coyne SM, Archer J. 2005. The relationship between indirect and physical aggression on television and in real life. *Soc Dev* 14:324–338.
- Coyne SM, Whitehead E. 2008. Indirect aggression in animated Disney films. *J Commun*, in press.
- Coyne SM, Archer J, Eslea M. 2004. Cruel intentions on television and in real life: Can viewing indirect aggression increase viewers' subsequent indirect aggression? *J Exp Child Psychol* 88:234–253.
- Coyne SM, Archer J, Eslea M. 2006. "We're not friends anymore! Unless..." The frequency and harmfulness of indirect, relational, and social aggression. *Aggr Behav* 32:294–307.
- Craig W. 1998. The relationship among bullying, victimization, depression, anxiety, and aggression in elementary school children. *Pers Individ Differences* 24:123–130.
- Crick NR. 1997. Engagement in gender normative versus nonnormative forms of aggression: Links to social-psychological adjustment. *Dev Psychol* 33:610–617.
- Crick NR, Grotpeter J. 1995. Relational aggression, gender, and social-psychological adjustment. *Child Dev* 66:710–722.
- Eagly A. 1987. *Sex Differences in Social Behavior: A Social Role Interpretation*. Hillsdale, NJ: Lawrence Erlbaum.
- Galen BR, Underwood MK. 1997. A developmental investigation of social aggression among children. *Dev Psychol* 33:589–600.
- Geary DC, Byrd-Craven J, Hoard MK, Vigil J, Numtee C. 2003. Evolution and development of social behavior. *Dev Rev* 23:444–470.
- Goldstein J. 1992. Sex differences in aggressive play and toy preference. In: Björkqvist K, Niemelä P (eds). *Of Mice and Women: Aspects of Female Aggression*. San Diego: Academic Press, pp 65–76.
- Henington C, Hughes J, Cavell T, Thompson B. 1998. The role of relational aggression in identifying aggressive boys and girls. *J Sch Psychol* 36:457–477.
- Lagerspetz K, Björkqvist K, Peltonen T. 1988. Is indirect aggression typical of females? Gender differences in aggressiveness in 11- to 12-year old children. *Aggr Behav* 14:403–414.
- Nelson DA, Springer MM, Nelson LJ, Bean NH. 2008. Normative beliefs regarding aggression in emerging adulthood. *Soc Dev*, in press.
- Nisbett RE, Cohen D. 1996. *Culture of Honor: The Psychology of Violence in the South*. Boulder, CO: Westview Press.
- Ostrov JM, Crick NR, Keating CF. 2005. Gender-biased perceptions of preschoolers' behavior: How much is aggression and prosocial behavior in the eye of the beholder? *Sex Roles* 52:393–398.
- Owens L, Shute R, Slee P. 2000. I'm in and you're out explanations for teenage girls' indirect aggression. *Psychol Evol Gen* 2:19–46.
- Richardson R, Green L. 1999. Social sanction and threat explanations of gender effects on direct and indirect aggression. *Aggr Behav* 25:425–434.
- Spence JT, Helmreich R, Stapp J. 1974. The Personal Attributes Questionnaire: A measure of sex role stereotypes and masculinity–femininity. *JSAS Catalog Sel Doc Psychol* 4:43 (Ms. 617).
- Susser SA, Keating CF. 1990. Adult sex role orientation and perceptions of aggressive interactions between girls and boys. *Sex Roles* 23:147–155.
- Underwood MK. 2003. *Social Aggression Among Girls*. New York: Guilford Press.
- Werner NE, Senich S, Przepyszny KA. 2006. Mothers responses to preschoolers' relational and physical aggression. *Appl Dev Psychol* 27:193–208.
- Zillman D. 1971. Excitation transfer in communication-mediated aggressive behavior. *J Exp Soc Psychol* 7:419–434.

Copyright of *Aggressive Behavior* is the property of John Wiley & Sons Inc. and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.