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Young Adolescents’ Gender-, Ethnicity-, and Popularity-Based Social Schemas of Aggressive Behavior

Katherine H. Clemans¹ and Julia A. Graber²

Abstract
Social schemas can influence the perception and recollection of others’ behavior and may create biases in the reporting of social events. This study investigated young adolescents’ \(N=317\) gender-, ethnicity-, and popularity-based social schemas of overtly and relationally aggressive behavior. Results indicated that participants associated overt aggression with being male and African American and relational aggression with being female. In addition, participants associated all types of aggression with high perceived popularity. The strength of endorsement of several subscales differed significantly as a function of raters’ gender and ethnicity. Findings highlight the importance of understanding how aggression-related social schemas may influence adolescents’ reporting of peer behaviors.

Keywords
aggression, social schemas, gender, perceived popularity

Social schemas—cognitive structures that help people organize and interpret information about their social world and provide expectations for others’

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behavior—can increase the endorsement of stereotypes of particular social groups and create biases in the encoding and recall of information about a social event (Hamilton, Stroessner, & Driscoll, 1994; Younger, Schneider, & Daniels, 1991). An individual’s gender-role stereotypes, for instance, can influence the perception and recollection of others’ behavior, including a tendency to recall gender-consistent information more often than gender-inconsistent information (Cantor & Mischel, 1977; Fiske & Taylor, 1991; Giles & Heyman, 2005; Liben & Signorella, 1993). Similarly, if a person possesses a schema for a certain social group which includes the trait “aggressive,” he or she may selectively notice aggressive cues more than nonaggressive cues in ambiguous social situations with members of that group (Sagar & Schofield, 1980).

Social schemas of aggressive peers are likely derived from a range of environmental sources, and can vary depending on the type of aggression; that is, different social schemas may exist for overt aggression (direct physical or verbal acts) versus relational aggression (acts aimed at harming an individual’s social reputation). The purpose of the present study is to investigate young adolescents’ social schemas of aggressive behavior in relation to three salient peer identifiers—gender, ethnicity, and perceived popularity (an indicator of social dominance within the peer group). The age range of early adolescence was chosen for study because researchers frequently utilize peer nominations to assess aggressive behavior in middle school samples. These methods typically ask students to generate names of classmates who most often engage in various aggressive activities, such as physical fights and threats (overt aggression) or social exclusion and rumor spreading (relational aggression). Previous research using peer nominations has found significant effects related to gender, ethnicity, and perceived popularity, and patterns of effects are often dissimilar for overt and relational aggression. One established finding across many studies is that boys are more overtly aggressive than girls (Card, Stucky, Sawalani, & Little, 2008), and several studies have found higher levels of relational aggression in girls, leading researchers to initially dub this as a “feminine” form of aggression (e.g., Crick, 1997), although a recent meta-analysis indicated that actual levels of relational aggression are relatively similar for boys and girls (Card et al., 2008). Many studies also show that students high in perceived popularity are more aggressive, particularly via relational behaviors, than students with lower levels of popularity (e.g., Andreou, 2006; Lease, Musgrove, & Axelrod, 2002; Rose, Swenson, & Waller, 2004). Several studies using peer nomination methods have also suggested that Black students have higher aggression levels than students of other ethnicities (see Putallaz et al., 2007, for a review).

Interestingly, gender and ethnicity differences in child and adolescent aggression tend to be more pronounced when peer nominations, as opposed
to self-report methods, are used. For instance, Card and colleagues’ (2008) meta-analysis found significantly larger gender effects for both overt and relational aggression in studies that used peer nominations; in contrast, across studies using self-report or observational measures to assess aggressive behavior, gender differences were weak to nonsignificant. Similarly, smaller ethnic group differences are found in studies using self-report measures of aggression than in those that use peer report (see Putallaz et al., 2007, for a review). There is less available research comparing associations between perceived popularity and peer- and self-reported aggression; one exception is Zimmer-Gembeck and Pronk (2012), who found that perceived popularity had a substantially stronger correlation with peer-reported relational aggression than with self-reported relational aggression.

Thus, patterns across previously published research seem to indicate that the characteristics of gender, ethnicity, and perceived popularity show stronger associations with peer-reported aggression than with self-reported aggression (or, in some cases, researchers’ observations) and that these patterns differ somewhat as a function of whether overt or relational aggression is being measured. These findings suggest that researchers in this area may want to consider processes such as social schemas that influence how peers perceive and recall the behaviors of their fellow classmates when conducting research that utilizes peer reports.

Social schemas of gender, in particular, are pronounced from an early age. Beginning in preschool, children tend to describe boys as more overtly aggressive than girls and girls as more relationally aggressive than boys (Crick, Bigbee, & Howes, 1996; Giles & Heyman, 2005), and these schemas strengthen as children’s age increases (Crick et al., 1996). In television shows watched by adolescent audiences, physically aggressive characters tend to be male, whereas relationally aggressive characters tend to be female (Coyne & Archer, 2004; Glascock, 2008). Much media attention has been given to stereotypical archetypes of adolescent aggressive behavior, such as physical aggression perpetrated by gang members, who tend to be Black or of other ethnic minority groups (Esbensen & Tusinski, 2007), and relational aggression perpetrated by “mean girls,” or females of high social status (Ringrose, 2006).

Despite concerns about stereotypes of aggression that are depicted in the media, little research has been done with adolescents older than 12 years of age or focused on social schemas based on demographic characteristics other than gender, such as race/ethnicity-based schemas of aggression. In contrast, schemas related to perceived popularity within adolescent peer groups have received more attention. LaFontana and Cillessen (1998) assessed perceptions of hypothetical peers and found that children and young adolescents perceived antisocial behavior to be slightly more unfavorable in an unpopular
peer than in a popular peer, but that perceptions of popular peers became less favorable as age increased. Xie, Li, Boucher, Hutchins, and Cairns (2006) found that seventh graders considered hypothetical popular peers to engage in more deviant behavior, including aggression, than first or fourth graders did. However, it remains unclear whether adolescents actually possess schemas of popular youth as more overtly or relationally aggressive than unpopular youth (or vice versa).

Social schemas also become more prominent when thinking about outgroups, or groups of which one is not a member (e.g., other genders, races, or nationalities; Hamilton et al., 1994), and that these outgroup effects may be particularly pronounced for schemas related to negative behavior (Fishkin et al., 1993; Mullen & Johnson, 1990). Fishkin and colleagues (1993), for instance, found that adolescents’ perceptions of deviant behavior among high-risk youth were stronger for outgroup than for ingroup members. Accordingly, adolescents may attribute more aggressive behavior to demographic groups of which they are not members; however, little research has been done to date investigating ingroup and outgroup effects in social schemas related to aggression.

The goal of the present study was to assess the degree to which young adolescents possessed social schemas of aggressive peers related to gender, ethnicity, and popularity. In part, we sought to extend work on young children’s gender-related social schemas of aggression (e.g., Giles & Heyman, 2005) to the adolescent age range and to new demographic categories. We also investigated potential outgroup differences in these social schemas related to race and gender. As such, our study is primarily descriptive in nature in that we did not directly assess the question of whether social schemas create bias in peer nominations of aggressive adolescents. Rather, our purpose in investigating these schemas was to identify and describe a potential cognitive factor related to peers’ perceptions of their classmates’ aggression. We believed that the investigation of the nature and degree of adolescents’ social schemas of aggressive behavior would be of interest to researchers who use peer reporters to assess aggressive behavior and that this research may help inform future studies of antisocial behavior in the context of peer group dynamics.

We hypothesized that social schemas would conform to patterns of aggressive behavior commonly portrayed in popular media. Specifically, we expected adolescents to associate overt aggression with boys and relational aggression with girls. We also expected adolescents to believe that Black students engage in more overt aggression than White students and that popular students engage in more relational aggression than unpopular students.
In addition, because our social scales referenced common demographic categories of gender and ethnicity, we investigated potential outgroup differences in endorsement of social schemas by these categories. We expected to see greater association of boys with overt aggression by female participants, greater association of girls with relational aggression by male participants, and greater association of Black youth with both types of aggression by non-Black participants. Finally, though they were not tests of outgroup effects, we also investigated gender and ethnicity differences in social schema scales relating to popularity for exploratory purposes. Outgroup effects were investigated in a series of hierarchical linear regressions using dummy codes for gender and ethnicity.

**Method**

**Participants**

Participants were 317 6th, 7th, and 8th grade middle school students ($M_{\text{age}} = 12.83; SD = 0.96; 49\% \text{ female}; 51\% \text{ White}, 23\% \text{ Black}, \text{ and } 26\% \text{ other ethnicities}). The student body of the school was representative of ethnic and socioeconomic distributions of the larger county in which it was located. Ninety-six percent of the student population in the recruitment school participated in the study.

**Procedure**

All procedures were approved by the Internal Review Board of the institution of the second author and the administration of the school. Packets were sent to the home addresses of parents/guardians which contained a letter explaining the purpose of the study, details about anonymity and confidentiality measures, and a prepaid, self-addressed postcard which parents could use to decline consent for their child’s participation. Parents/guardians also received a recorded message from the school’s automated calling system which explained the purpose of the study and procedures for declining consent. A trained research team administered self-report surveys during school periods. Students gave verbal assent to participate prior to completing a survey. No students declined participation; those students who were withdrawn by their parents were given a free period until their class was finished.

**Measures**

The scales assessing social schemas were based on an item format used by Otten and Stapel (2007) and assessed overt aggression (five items; adapted
from the Aggression Scale, Orpinas & Frankowski, 2001) and relational aggression (five items; adapted from the Revised Peer Experiences Scale, Prinstein, Boergers, & Vernberg, 2001). Two filler items about prosocial behavior were also included in each scale. A list of all items is presented in Table 1. For each item, students indicated on a 7-point spectrum whether they thought the behavior was more true of one group, more true of a second group, or equally true of both groups. This approach allowed quantification of the strength of group-specific social schemas and avoided potential bias due to individual differences in the interpretation of Likert-type scale labels like “A lot.” The scale was presented three times for three group comparisons: gender (“girls or boys”), ethnicity (“Black kids or White kids,” which were the two most prevalent racial/ethnic groups in the student population), and popularity (“popular kids or unpopular kids”). The group descriptors represented the way adolescents commonly refer to these groups in their own speech.

Scores on the aggressive behavior items were centered so that 0 represented a neutral view, negative values represented a shift in the direction of the left-hand group (maximum negative score = −3), and positive values represented a shift in the direction of the right-hand group (maximum positive score = 3). Cronbach’s alpha reliability scores for the aggression schema scale means were as follows: overt/gender = .68; overt/ethnicity = .78; overt/

**Table 1. Social Schema Scale Items.**

<table>
<thead>
<tr>
<th>Relational aggression</th>
<th>Overt Aggression</th>
<th>Prosocial Filler Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leave other kids out on purpose.</td>
<td>Tease other kids.</td>
<td>Are nice and friendly to people when they need help.</td>
</tr>
<tr>
<td>Gossip or say mean things about other kids behind their backs.</td>
<td>Call other kids mean names to their face.</td>
<td>Stick up for kids who are being picked on or excluded.</td>
</tr>
<tr>
<td>Spread rumors about other kids.</td>
<td>Push or shove other kids.</td>
<td></td>
</tr>
<tr>
<td>Give other kids the silent treatment.</td>
<td>Get in fights a lot.</td>
<td></td>
</tr>
<tr>
<td>Tell other kids they won’t be their friend anymore in order to get something they want.</td>
<td>Threaten other kids.</td>
<td></td>
</tr>
</tbody>
</table>

*Note: Items were mixed in a single list for survey presentation.*
Table 2. Means and 95% Confidence Intervals for Scales Measuring Social Schemas of Aggressive Peers.

<table>
<thead>
<tr>
<th></th>
<th>Overt aggression</th>
<th>Relational aggression</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Girls—Boys</td>
<td>Black—White</td>
</tr>
<tr>
<td>Total sample</td>
<td>0.97</td>
<td>-0.72</td>
</tr>
<tr>
<td></td>
<td>[0.87,1.08]</td>
<td>[-0.84,-0.60]</td>
</tr>
<tr>
<td>Girls</td>
<td>0.89</td>
<td>-0.81</td>
</tr>
<tr>
<td></td>
<td>[0.74,1.04]</td>
<td>[-0.99,-0.63]</td>
</tr>
<tr>
<td>Boys</td>
<td>1.05</td>
<td>-0.63</td>
</tr>
<tr>
<td></td>
<td>[0.91,1.20]</td>
<td>[-0.78,-0.48]</td>
</tr>
<tr>
<td>Black</td>
<td>0.72c,d</td>
<td>-0.40e,f</td>
</tr>
<tr>
<td></td>
<td>[0.51,0.93]</td>
<td>[-0.63,-0.17]</td>
</tr>
<tr>
<td>White</td>
<td>1.07z</td>
<td>-0.78g</td>
</tr>
<tr>
<td></td>
<td>[0.92,1.21]</td>
<td>[-0.93,-0.62]</td>
</tr>
<tr>
<td>Other ethnicity</td>
<td>1.0l,d</td>
<td>-0.89t</td>
</tr>
<tr>
<td></td>
<td>[0.83,1.20]</td>
<td>[-1.09,-0.69]</td>
</tr>
</tbody>
</table>

Note: 95% confidence intervals are in brackets. All scores had good distribution. Values have been centered so that 0 represents a neutral view, negative scores represent a shift in the direction of the left-hand group (girls, Black, or popular), and positive scores represent a shift in the direction of the right-hand group (boys, White, unpopular). Same-subscript pairs within a single column and demographic category indicate significant mean differences at \( p < .05 \).

Results

Missing Data

Multiple imputation, conducted in SPSS 17.0, was used to account for missing data on social schema scale values (6.6%). Imputation regressions included all available variables in the study. Pooled estimates from five imputations are presented for all results. Confidence intervals for means were calculated from adjusted standard errors which take into account both within-imputation and between-imputation variance (Rubin, 1987).

Mean Shifts for Social Schema Categories

Table 2 presents means and 95% confidence intervals for individual social schema categories. All scores had good distribution. The shift of each scale from the midpoint was significant for all scales at \( p < .05 \) (as indicated by the
lack of overlap of all 95% confidence intervals with the midpoint of the scale), suggesting that students held gender-, ethnicity-, and popularity-specific social schemas of overt and relational aggression. As expected, students associated overt aggression with boys (shift to boys’ side = 0.97) and relational aggression with girls (shift to girls’ side = 0.81). Students also believed that popular kids were more likely than unpopular kids to engage in both forms of aggression, but this was particularly true for relational aggression (shift to popular side = 1.15 for overt and 1.42 for relational). Shifts from the center were smallest for scales assessing social schemas related to ethnicity. Students associated Black kids with overt aggression (shift to Black side = 0.72), and White kids with relational aggression, although this was a very weak effect (shift to White side = 0.17).

Table 3 presents correlations among social schema scales. Overt and relational social schema scores for popularity showed the most agreement ($r = .61$, $p < .01$); students believed that popular kids were more likely than unpopular kids to engage in any aggressive behavior, regardless of type. Students who associated relational aggression with popular kids were also slightly more likely than other students to associate relational aggression with girls ($r = .21$, $p < .01$), lending some support to the idea that adolescents may endorse a “mean girls” stereotype of relational aggression. Although other correlations between social schema scores were significant at $p < .05$, all were quite weak ($r = .20$) and were not considered particularly notable.
Hierarchical linear regressions were used to investigate gender and ethnicity differences in social schemas. Dependent variables included the six social schema scales. Dummy-coded variables for gender (coded as 1 = female, 0 = male) and ethnicity (two variables, coded as 1 = Black, 0 = other and 1 = White, 0 = other) were entered in step 1, and centered gender × race interaction variables were entered in step 2. There were no significant main effects for the White versus other ethnicity variable nor for any interaction variable across all six regressions, so for parsimony these were removed and the models were rerun with just gender and Black versus other main effects. Pooled F-statistics for the overall models were significant at $p < .05$ for all models except the one which predicted popularity-related schemas of overt aggression. A summary of effect sizes for the regression models are presented in Table 4. (Table 2 also includes means by gender and ethnic group along with significance tests of group differences using t-tests of independent samples.)

Within the regression models, a significant main effect of gender emerged for two scales. Controlling for ethnicity, girls were significantly more likely than boys to believe that relational aggression was characteristic of both girls
and youth high in perceived popularity. A significant main effect of ethnicity also emerged for three scales. First, controlling for gender, Black students were significantly less likely than other students to believe that overt aggression was more characteristic of boys than of girls. Black students were also less likely than other students to believe that overt aggression was more characteristic of Black youth than of White youth. Finally, Black students were more likely than other students to believe that relational aggression was more characteristic of White youth than of Black youth. However, it should be noted that, overall, gender and ethnicity group differences explained a relatively minor amount of variance in the social schema scales (average $R^2 \leq .01$ to .04).

**Discussion**

This study provides empirical evidence that middle school students hold social schemas of aggressive peers related to gender, race/ethnicity, and popularity. Hypotheses that these schemas would conform to common social stereotypes of aggressive adolescents emphasized in popular media were supported. Students believed that boys tend to engage in more overt aggression than girls and that girls tend to engage in more relational aggression than boys. Students also believed that Black youth tend to engage in more overt aggression than White youth and that White youth tend to engage in more relational aggression than Black youth. Effects related to ethnicity, however, were weak, and the shift of the ethnicity-related relational aggression scale in particular, though significant, was slight. The most pronounced social schemas of aggressive peers referenced the perceived social status of peers. Students believed that popular youth engaged in more overt and more relational aggression than unpopular youth, and the shift from center was particularly pronounced for popularity-related schemas of relational aggression.

Several theorists have posited that schemas could affect how children and adolescents interpret aggressive cues within their peer group, as well as the accuracy of their recall of peers’ aggressive behavior on nomination measures (Giles & Heyman, 2005; Ostrov & Godleski, 2010). Thus, it may be useful to consider the influence of these schemas when designing studies that use peers as informants of aggressive behavior. The influence of schemas on peer reports of aggressive behavior could be particularly important for relational aggression, given that media stereotypes of high-status female aggressors are exceedingly prevalent and that relationally aggressive behaviors may be more ambiguous or difficult for victims or observers to interpret. Card et al. (2008), for instance, found that gender differences which portray girls as
more relationally aggressive than boys tend to be larger when data are collected from peer nominations than when they are collected from self reports. Similarly, the aggressive behavior of less popular students may go unreported in peer nominations if such behavior is inconsistent with popularity-based schemas.

The present study also explored whether outgroup effects were present for the race and ethnicity social schema scales. Analyses of ingroup/outgroup endorsement showed mixed support for our hypotheses. As expected, views of Black youth as overtly aggressive were more strongly held by White participants, and additionally, views of White youth as relationally aggressive were more strongly held by Black participants, indicating that endorsement of ethnicity-specific social schemas was stronger when the student was not a member of the ethnic group in question. Contrary to expectations, however, gender scales did not show similar outgroup effects. Notably, girls more strongly endorsed the belief that relational aggression was associated with being female than boys did. Girls also skewed more strongly toward popular youth on the relational aggression scale, indicating that the stereotype of relationally aggressive high-status girls (i.e., “mean girls”) may be more salient for girls than it is for boys of this age. It is possible that this effect was present for girls because books, movies, and TV shows which depict high-status females as relationally aggressive are typically marketed more to girls than to boys. These effects may also be due to different interpretations of similar behavior among gender and ethnic groups. For instance, Galen and Underwood (1997) found that girls experience more emotional distress as a result of relational victimization than do boys, suggesting that girls may be particularly attuned to occurrence of relational aggression among their close friends, which, during early adolescence, are overwhelmingly of the same gender (Shrum, Cheek, & Hunter, 1988).

Finally, Black participants held less gender-stereotyped schemas of overt aggression than other participants. In prior studies of aggression in urban minority samples, gender differences in self-reported aggression have been disappearing (e.g., Nichols, Graber, Brooks-Gunn, & Botvin, 2006) or are less pronounced in Black than in White students (Epkins, 1995), suggesting that these youth may see less gender-stereotyped behavior within their own group. Future research is needed to examine how and why social schemas of aggression vary across subgroups of youth.

**Limitations.** One limitation of the present study was that these data came from just one school, and as such, the generalizability of findings should be interpreted with caution. An important avenue of future research will be to...
investigate whether the strength of these schemas across gender and ethnic groups varies as a function of neighborhood or culture.

Cronbach’s alpha for the relational aggression/gender scale in particular was somewhat low at .61, which is an additional limitation of the present research. Alphas below .7 are not uncommon for scales with small numbers of items, and lower alphas for relational aggression may reflect the fact that the items in these scales encompassed a wider variety of behaviors than the items in overt scales. A post hoc investigation of individual items within the relational aggression/gender scale revealed that all item means were significantly shifted to the girls’ side of the scale at \( p < .05 \), suggesting that, despite the alpha level, the overall scale appropriately represented students’ views of relationally aggressive behaviors.

Another potential limitation of the study was that we used an explicit measure of social schemas, meaning that the participants were cognitively aware of their responses. Nosek and colleagues (e.g., Nosek & Smyth, 2007) have suggested that implicit and explicit associations are distinct constructs with unique effects on behavior; implicit and explicit attitudes toward gender, ethnic and social status groups often differ (e.g., Nosek & Smyth, 2007; Lansu, Cillessen, & Karremans, 2012). Though an investigation of implicit stereotypes of aggression related to gender, ethnicity, and race was beyond the scope of this study, it is an important area for future research due to the fact that participants’ concerns about socially appropriate responses could potentially influence results on explicit association measures, particularly for ethnicity-related scales.

Finally, the present study did not address the issue of whether social schemas of aggression among adolescents are more reflective of media-driven, stereotyped views of certain classmates or of accurate perceptions of typical behavior among the peer group. Indeed, the lack of a gold standard measurement method for the assessment of childhood and adolescent aggression makes this a difficult question to answer; however, the endorsement of expected aggression social schemas by participants in the present study indicates the continued prevalence of demographic and social stereotypes within adolescent peer contexts. Our findings highlight the need for further research to investigate how these social schemas and other potential biases may influence reporting of peer behaviors, influence peer relationships, and promote labeling in the peer group not merited by actual behavior.

**Conclusions.** Previous research has documented the early age at which gender-related schemas of aggressive behavior are present in children (Giles & Heyman, 2005) and the increasing strength of these schemas across childhood (Crick et al., 1996). Our findings represent a notable contribution to this
literature in that they support the continued existence and strength of these schemas into adolescence and call attention to ethnicity- and, in particular, popularity-related schemas of aggression which are also salient beliefs within early adolescent peer groups. We hope that this investigation will inform future studies of antisocial behavior in the context of peer group dynamics and will spur further research into cognitive factors related to peer reports of aggressive behavior.

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