Gendered Pathways to Bullying Perpetration via Social Achievement Goals – Mediating Effects of
Sense of Belonging and Non-inclusive Group Norms

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Abstract

This study investigated the gender-specific effects of social achievement goals - i.e., social development goals, social demonstration approach goals, and social demonstration avoid goals - on bullying perpetration in a sample of 788 adolescents (53.3% girls), taking into account the mediating role of sense of belonging and non-inclusive group norms. Two-group structural equation modeling results indicated that social demonstration approach goals positively predicted bullying perpetration for both genders. For girls, higher social development goals and for boys, higher social avoidance goals decreased bullying perpetration. Gender-specific effects of belonging and non-inclusive group norms on bullying perpetration occurred. For boys, non-inclusive group norms mediated the relation between all social achievement goals and bullying perpetration. Implications for future research and (gender-sensitive) bullying interventions are discussed.

Keywords: bullying perpetration, social achievement goal, gender differences, belonging, non-inclusive group norms

Bullying perpetration is a complex social phenomenon in which a victim is intentionally harmed by means of physical, verbal, or written actions (Simon & Nail, 2013). Bullying represents a widespread problem among adolescents, with mean prevalence rates of approximately 35% for both perpetration and victimization reported in a recent meta-analytic review (Modecki, Minchin, Harbaugh, Guerra, & Runions, 2014). In addition, bullying has lasting negative consequences for victims and perpetrators, such as depression or suicidal ideation/behavior (e.g., Holt et al., 2015; Sigurdson, Undheim, Wallander, Lydersen, & Sund, 2015). Given its prevalence and detrimental effects, reducing bullying perpetration is a critical issue facing both educators and researchers.

With an eye towards informing educational practice and guiding antibullying interventions, ample research efforts have been made to identify factors contributing to adolescents' bullying perpetration (e.g., Barboza et al., 2009). While the role of numerous aspects of adolescents' social lives and peer relations has long been acknowledged in research on bullying perpetration, adolescents' social motivation in terms of *social achievement goals* (e.g., Ryan & Shim, 2006, 2008) has not yet been considered. Social achievement goals capture students' strivings in the social domain. Researchers distinguish among three types of social achievement goals. Students adopting social development goals seek to develop social competence. Conversely, a social demonstration approach goal is focused on demonstrating social competence and being judged as socially desirable by others, while a social demonstration avoid goal is focused on demonstrating that one does not lack social competence (Ryan & Shim, 2006, 2008).

In light of the lack of studies on social achievement goals in research on bullying, the present paper aimed to shed light on the association between adolescents' pursuit of the three types of social achievement goals (Ryan & Shim, 2006, 2008) and bullying perpetration. To garner deeper insights, the paper furthermore strove to test whether the relation between social achievement goals and bullying perpetration is mediated by students' perception of *non-inclusive group norms* and *belongingness* in their class, two constructs that are empirically and conceptually relevant for bullying perpetration (e.g., Goldweber, Waasdorp, & Bradshaw, 2012) and social achievement goals (e.g., Mouratidis & Sideridis, 2009). Moreover, examining *gendered pathways to bullying perpetration* might be key to tackling bullying perpetration among both girls and boys. Therefore, this paper explored gender-specific

associations between social achievement goals, bullying perpetration, non-inclusive group norms, and belongingness. In sum, the present research is designed to expand the current bullying research landscape and generate information that might aid in curbing bullying perpetration among girls and boys by testing gender differences in the relation between adolescents' social achievement goals and engagement in bullying perpetration, as mediated by belonging and non-inclusive group norms, in a two-group mediated structural equation model.

Bullying perpetration

Bullying perpetration is defined as intended and repeated aggressive behavior, characterized by a power imbalance (Smith & Ananiadou, 2003). It can involve direct (e.g., physical aggression, verbal threats) and indirect (e.g., social exclusion, relational aggression) forms of aggressive behavior (Scheithauer, Hayer, Petermann, & Jugert, 2006). Moreover, bullying perpetration can take place while communicating face-to-face (traditional bullying) or through the use of electronic communication technologies, such as social media, online gaming, or digital messages (cyber-bullying; Patchin & Hinduja, 2012).

Studies on the effects of bullying perpetration have repeatedly shown its negative repercussions for both perpetrators and victims, e.g., with respect to physical and mental health conditions (Holt et al., 2015; Sigurdson et al., 2015). In order to curtail bullying perpetration, numerous antibullying interventions have been developed and conducted (for a review, see e.g., Menesini & Salmivalli, 2017). Comparing the effects of antibullying programs across age groups, however, indicates that programs in adolescence, i.e., secondary school, appear to be less successful than those carried out in elementary school (Kärnä et al. 2013). Meta-analytic evidence has further revealed that whereas anti-bullying programs seem to be effective in 7th grade and below, in 8th grade and beyond a sharp drop to an average of zero occurs (Yeager, Fong, Lee, & Espelage, 2015). These findings underscore the importance of identifying and testing factors that aid in explaining bullying perpetration, particularly in later adolescence, and that could thus be targeted in future interventions to reduce bullying perpetration within this age group. Nevertheless, to date, there is a dearth of research on how the *social achievement goals* late adolescents aim to achieve in their peer relations affect bullying perpetration.

Social Achievement Goals – Conceptualization and Types

Social achievement goals represent differences in orientations towards social competence (Ryan & Shim, 2006, 2008). Adolescents can adopt *social development goals*, and thus primarily aim to develop social competence with peers. Success is defined in terms of improving one's social skills and enhancing the quality of friendships. Adolescents with *social demonstration approach goals*, on the other hand, are keen to demonstrate social competence. Here, being successful implies attaining social prestige, receiving positive feedback from peers, and having a higher standing compared to others. Lastly, *social demonstration avoid goals* are undergirded by the concern to avoid demonstrating social incompetence. For the social demonstration avoid goal, success is judged by e.g., lacking a reputation as socially awkward and avoiding negative judgments from peers to a greater extent than others (Ryan & Shim, 2006, 2008).

Outcomes of Social Achievement Goals

Social development goals have been shown to be highly beneficial overall. As such, research indicates that they are positively associated with positive social relations, self-acceptance, personal growth, autonomy, academic engagement and social satisfaction, prosocial behavior, cooperative learning, and best friends quality (Liem, 2016; Ryan & Shim, 2006, 2008; Shim, Cho, & Wang, 2013). Social demonstration avoid goals, by contrast, have consistently been proven to be dysfunctional, e.g., in terms of positive associations with social worry, fear of negative evaluations, anxious solitary behavior, and internalizing behavior (Horst, Finnley, & Barron, 2007; Ryan & Shim, 2008; Shim & Ryan, 2012; Shim et al., 2013). The picture is less consistent for social demonstration approach goals, with an erratic pattern of associations to adaptive as well as maladaptive outcomes. As such, they have been found to be negatively related to peer acceptance (Mouratidis & Sideridis, 2009), but also positively related to perceived popularity (Ryan & Shim, 2008); and positively related to social worry (Ryan & Shim, 2006), but also positively related to social confidence (Ryan & Shim, 2008; Shim & Ryan, 2012).

Although the potential role of social achievement goals in bullying perpetration has not yet been addressed, these goals have been found to be related to teacher-rated aggressive behavior in several studies. For instance, in early work on social achievement goals, Ryan and Shim (2008) claimed

that the goal of demonstrating social superiority, i.e., the social demonstration approach goal, is likely to lead to aggression, whereas the goal of fostering positive peer relations, i.e., the social development goal, should diminish aggressive behavior. These claims have been empirically supported in Ryan and Shim's own research (Ryan & Shim, 2008) as well as in later work (e.g., Rodkin, Ryan, Jamison & Wilson., 2012, here solely for the social demonstration approach goal). Evidence regarding the social demonstration avoid goal is mixed, as it has been demonstrated that this goal is unrelated (Rodkin et al., 2012) as well as negatively related to aggression (Ryan & Shim, 2008).

Sense of Belonging and Non-inclusive Group Norms as Potential Mediators of the Relation Between Social Achievement Goals and Bullying Perpetration

To further advance our understanding of the interplay between social motivation and bullying perpetration, our study considers two potential mediators through which the effects of social achievement goals on bullying perpetration might be transmitted. Feeling of *belonging*, the first mediator, has been described as students' sense of being accepted, valued, included, and encouraged by others in the academic classroom setting (Goodenow, 1993). Meta-analytic evidence indicates that students' sense of belonging is negatively related to bullying perpetration (Cook, Williams, Guerra, Kim, & Sadek, 2010). In addition, it has been stated that social achievement goals, as reasons for engaging in interpersonal relationships with others, stem from universal needs such as the need for belongingness (Makara & Madjar, 2015). Social achievement goals have in fact been linked to belonging and its counterpart loneliness in empirical work: Positive relations between a social development goal and belonging, negative relations between a social development goal and loneliness (Liem, 2016; Mouratidis & Sideridis, 2009), and positive relations between a social demonstration avoid goal and loneliness (Mouratidis & Sideridis, 2009) have been reported.

The second mediator is rooted in the concept of conformity, which refers to individuals changing and adapting their behaviors and attitudes to match the responses of others (Asch, 1951). Here, we focus specifically on *non-inclusive group norms* in class as an atmosphere characterized by perceived pressure to conform to class norms, in that it is of utmost priority not to stand out and be different from "the others" in class. With respect to bullying, a qualitative interview study revealed that the need to conform was one reason students provided for initiating and persisting in bullying

perpetration (Burns, Maycock, Cross, & Brown, 2008). There is currently a lack of research on non-inclusive group norms within the social achievement goal domain. Nevertheless, from a conceptual standpoint, non-inclusive group norms in class are likely to reinforce the social demonstration avoid goal, as this type of goal centers on avoiding negative judgments from peers and thus on “fitting in” (e.g., Ryan & Shim, 2006, 2008). Empirically, social demonstration avoid goals have been found to be related to social worry and fear of negative evaluation (Horst et al., 2007). Moreover, it seems reasonable to expect that such a climate is negatively related to the adaptive growth-focused social development goal.

Gendered Pathways to Bullying Perpetration?

Both girls and boys engage in bullying perpetration (Underwood & Rosen, 2011). However, boys typically report higher levels of both perpetration and victimization than girls, and there is substantial evidence suggesting that boys score higher on physical and direct aggression (e.g., hitting, kicking, and verbal insults) than girls (for a meta-analytic review, see e.g., Card, Stucky, Sawalani, & Little, 2008; for a review, see e.g., Menesini & Salmivalli, 2017). By contrast, it is often argued that girls are more likely to be involved in social/relational forms of aggression (e.g., spreading rumors, excluding or ignoring others); even though meta-analytic evidence indicates only small-to-trivial gender differences in social aggression (Card et al., 2008). Findings for online bullying are inconclusive. Whereas some studies have found greater involvement of girls in online perpetration as well as victimization, other research has shown the opposite or no gender differences (for a review, see e.g., Kowalski, Giumetti, Schroeder, & Lattaner, 2014).

Answering the call to move beyond mean differences, the more pressing question becomes whether the social processes involved in bullying perpetration differ for girls and boys (Underwood & Rosen, 2011). For instance, it has been shown that bullying role behaviors, e.g., bullying others, assisting the bully, predicted similar behaviors two years later among boys, whereas among girls, the behavioral tendencies of peers in their close network within the classroom, but not their own previous behavior, strongly influenced bullying perpetration behavior (Salmivalli, Lappalainen & Lagerspetz, 1998). A further study revealed that the classroom context had greater effects on girls’ than on boys’ bullying perpetration (Salmivalli & Voeten, 2004). On the other hand, in interpreting the findings of

another study indicating a stronger association between perceived popularity and bullying perpetration among boys than among girls, the authors discuss that bullying perpetration might be more consistent with masculine than with feminine stereotypes and could therefore be rewarded with status among boys to a greater extent than among girls (Caravita & Cillessen, 2012).

Current Research

Drawing on prior research on the relations between *social development goals* and aggression (Rodkin et al., 2012; Ryan & Shim, 2006), we hypothesize that social development goals will negatively predict bullying perpetration for both girls and boys (*Hypothesis 1*). Furthermore, we assume that social development goals, which focus on improving social relations, will be positively associated with belonging (e.g., Mouratidis & Sideridis, 2009) and negatively associated with non-inclusive group norms (*Hypothesis 2* and *Hypothesis 3*, respectively). With respect to mediating effects, we assume that the negative relation between social development goals and bullying perpetration is partially mediated by one's personal feeling of belonging for both girls and boys (*Hypothesis 4*). This means that the feeling of belonging to one's class and the perception of having positive peer relations with classmates should partially explain why adolescents who adopt social development goals are less likely to bully others. On the other hand, we do not presume that non-inclusive group norms mediate the relation between social development goals and bullying perpetration (*Hypothesis 5*). Finally, as there is some indication that the social classroom context – and thus also potentially the feeling of belonging to one's class – is more important for bullying perpetration among girls than among boys (e.g., Salmivalli & Voeten, 2004), we propose that the mediating effects of belonging (see *Hypothesis 4*) will be larger for girls. However, we do not expect gender differences in the relation between social development goals and bullying perpetration, as we assume that social development goals are equally adaptive for both girls and boys (see *Hypothesis 1*).

In line with existing research on the link between *social demonstration approach goals* and aggression (e.g., Ryan & Shim, 2008; Rodkin et al., 2012), we hypothesize that this type of social achievement goal will be positively associated with bullying perpetration (*Hypothesis 6*). Moreover, we suggest that social demonstration approach goals will be positively related to a sense of belonging (*Hypothesis 7*). Although Mouratidis and Sideridis (2009) did not find a significant relation between

social demonstration approach goals and belonging, we argue that this might have been due to the conceptualization of belonging employed in their study. Given that students who adopt social demonstration approach goals strive to attain social prestige (e.g., Ryan & Shim, 2006, 2008), they might feel that they belong in social contexts that allow for such social comparison processes – such as in their class. We also hypothesize that social demonstration approach goals will be positively related to non-inclusive group norms (*Hypothesis 8*), as students who report higher levels of social demonstration approach goals are more likely to experience social worry (Ryan & Shim, 2006), and social worry, in turn, might be exacerbated by the perceived pressure to conform to group norms. Furthermore, we presumed that non-inclusive group norms and a sense of belonging will (partially) mediate the effect of social demonstration approach goals on bullying perpetration (*Hypothesis 9* and *10*, respectively). Again, due to existing evidence that the social classroom context is of greater importance for girls than for boys (e.g., Salmivalli & Voeten, 2004), we suggest that the mediating effects of non-inclusive group norms and belonging (see *Hypothesis 9* and *10*) will be more pronounced for girls. Because a stronger association between perceived popularity and bullying perpetration has been found in boys than in girls (e.g., Caravita & Cillessen, 2012), we further assume that social demonstration approach goals, which concern striving for popularity, might be more strongly related to bullying perpetration among boys than girls (see *Hypothesis 6*).

Conversely, we hypothesize a non-significant relation between the *social demonstration avoid goal* and bullying perpetration (Rodkin et al., 2012) (*Hypothesis 11*), a negative relation to sense of belonging (e.g., Mouratidis & Sideridis, 2009), and a positive relation to non-inclusive group norms due to the associations between social demonstration avoid goals and social worry and fear of negative evaluation (Horst et al., 2007) (*Hypothesis 12* and *Hypothesis 13*, respectively). Additionally, we cautiously propose that in the absence of a statistically significant direct effect of social demonstration avoid goals on bullying perpetration, the relation will be completely mediated by non-inclusive group norms (*Hypothesis 14*). In a climate that emphasizes the importance of fitting in, students pursuing social demonstration avoid goals might act aggressively towards peers who do not fit in in order to avoid negative evaluations that might lead them to become excluded themselves (e.g., Horst et al., 2007; Volk, Dane, & Marini, 2014). By contrast, we do not assume that sense of belonging will mediate

the relation between social demonstration avoid goals and bullying perpetration (*Hypothesis 15*).

Regarding gender differences, we further propose that the mediating effects of non-inclusive group norms (see *Hypothesis 14*) will be stronger for girls than for boys (e.g., Salmivalli & Voeten, 2004). On the other hand, we do not expect gender differences in the association between social demonstration avoid goals and bullying perpetration (see *Hypothesis 11*), as we believe that the avoidance tendencies involved in this goal type will play out equally for boys and girls.

Lastly, building on existing literature (e.g., e.g., Cook, et al., 2010; Burns et al., 2008), we propose that sense of belonging and non-inclusive group norms are directly related to bullying perpetration. Specifically, we hypothesize that a sense of belonging will be negatively associated and non-inclusive group norms will be positively associated with bullying perpetration and that the effects for girls will exceed those for boys (Salmivalli & Voeten, 2004) (*Hypothesis 16* and *17*, respectively).

Method

Participants and Procedure

This study was part of a larger research project on Austrian secondary school students' (social) motivation (Bardach & Lüftenegger, 2018) in Gymnasium schools, which represent the highest secondary school track. The students stemmed from Gymnasium schools in one Austrian federal state ("Niederösterreich", Lower Austria). This study's sample comprised 788 students (55.3% girls) from 42 classes. The students attended grade 9 (45.7%), grade 10 (28.3%), and grade 11 (26.0%), and were 15.67 years old on average ($SD = 0.98$). Trained research assistants gathered the data in regular class hours in May and June 2018. We chose to focus on upper secondary education and thus sampled upper secondary grades because research indicates that antibullying programs tend to be less effective at this educational level (e.g. Jaeger et al., 2015), indicating a need to accumulate more evidence on factors potentially related to bullying perpetration that can be addressed in future interventions. A more detailed description of the sample and the data collection procedure can be found in the Online Supplement S1.

Measures

Bullying perpetration, social achievement goals, non-inclusive group norms, and belonging were assessed via a questionnaire. Reliability coefficients, the number of items, the item wording, and

the sources of all scales are reported in Table 1. Students were also asked to indicate their gender in the questionnaire.

[Insert Table 1 here]

Statistical Analyses and Missing Data

Statistical analyses were conducted using confirmatory factor analyses (CFAs) and structural equation models (SEMs) with the complex design option in Mplus 8.2 (Muthén & Muthén, 2017) to control for the hierarchical nature of the data (i.e., with students nested within classes). To deal with the very small number of missing values (ranging from 0.3% to 1% on the item level), the full information maximum likelihood approach implemented in Mplus was employed.

First, CFAs were set up to investigate the dimensionality of the scales. Moreover, we tested for measurement invariance (configural invariance, metric invariance, scalar invariance) across gender by calculating a set of increasingly constrained CFAs¹. We followed Chen's (2007) recommendations when evaluating the measurement invariance assumptions. Based on Chen (2007), when sample size is adequate ($N > 300$), drops in CFI $>.01$ and increases in RMSEA $>.015$ are indicative of meaningful changes in model fit that would make the assumptions of measurement invariance not tenable. Additionally, we compared the BIC values of the models, with smaller values indicating a better trade-off between model fit and model complexity (see van de Schoot et al., 2012). The CFA models for bullying perpetration were set up using a weighted least squares means and variance adjusted estimator (WLSMV), a standard estimator for ordinal variables. For all other variables, which were measured on 6-point Likert-type scales, the MLR estimator was used for the CFAs.

Second, we estimated a SEM using the MLR estimator to examine the relations between social achievement goals and bullying perpetration, as well as the mediating effects of belonging and non-inclusive group norms². This SEM was specified as a two-group model, which allowed us to investigate

¹ While configural invariance tests whether the same CFA is valid for each group, metric invariance implies that girls and boys attribute the same meaning to the latent constructs. If the assumption of scalar invariance holds, the meaning of the levels of the underlying items is equal in both groups (van de Schoot, Lugtig, & Hox, 2012).

² Prior to estimating the SEM that included the three social achievement goals as predictors, we checked whether the data met the assumption of no collinearity. The tests indicated that multicollinearity was not a concern (Social development goals, Tolerance = .985, VIF = 1.015; Social demonstration approach goals, Tolerance = .742, VIF = 1.348; Social demonstration avoid goals, Tolerance = .734, VIF = 1.362).

all effects separately for girls and boys. In this two-group SEM, we modeled the predictive (direct) paths between all three types of social achievement goals and bullying perpetration as well as predictive (direct) paths between belonging and non-inclusive group norms and bullying perpetration.

Furthermore, we tested whether the relation between the three types of social achievement goals and bullying perpetration was (partially) mediated by belonging and non-inclusive group norms (indirect effects). It should be mentioned that statistical significance tests for indirect effects in mediation models are best estimated through bootstrap confidence intervals or Bayesian statistics. Unfortunately, neither approach is available with the complex design option in Mplus, so we report significance tests calculated using the Mplus MODEL CONSTRAINT command. We also used the Mplus MODEL CONSTRAINT command to test the difference in regression slopes for the direct and indirect effects for girls vs. boys for statistical significance.

All models' goodness-of-fit was evaluated using the comparative fit index (CFI) and the root mean square error of approximation (RMSEA). We considered typical cut-off scores reflecting excellent and adequate fit to the data, respectively: (a) CFI > 0.95 and 0.90; (b) RMSEA < .06 and .08 (Hu & Bentler, 1999). All statistical significance testing was performed at the .05 level.

Results

Preliminary analyses

Table S1 in the Online Supplement provides bivariate correlations among all variables as well as descriptive statistics for the entire sample. Table S2 reports this information separately for girls and boys; in the note to this table, we indicate whether there were significant mean differences between girls and boys on each assessed variable. Moreover, Table S3 in the Online Supplement displays the relative frequency distribution of all bullying perpetration items as well as items of other scales. Table S4 displays information on the convergent and discriminant validity of our scales (average variance extracted, composite reliability, and highest shared variance, Fornell & Larcker, 1981) and the standardized factor loadings of all items separately for girls and boys.

Confirmatory Factor Analyses and Measurement Invariance Testing

The results of the CFA models revealed good to excellent fit indices for all scales (see Table 2). Tests for measurement invariance showed that, most importantly, scalar invariance could be established

for bullying perpetration, our dependent variable. The scalar invariance assumption was also confirmed for the social achievement goals model, both with regard to Chen's (2007) recommendations as well as due to the lowest BIC value for the scalar invariance model (van de Schoot et al., 2012). For belonging, two of the three indicators for testing measurement invariance supported scalar invariance (CFI and BIC). Only the drop in RMSEA of the metric invariance model as compared to the configural invariance model was above the acceptable range, i.e., 0.026 as compared to 0.015. The scale assessing non-inclusive group norms consisted of three items. In such cases, the configural invariance model is always saturated, with fit indices revealing a "perfect fit". Hence, with such a baseline model, evaluating a change in fit indices is not a useful strategy to determine measurement invariance. Instead, we focused here on the BIC values, and comparing the BIC values of the three models indicated the best fit for the scalar invariance model. All results of the measurement invariance testing are reported in Table 2.

[Insert Table 2 here]

Direct Effects of Social Achievement Goals on Bullying Perpetration

The two-group SEM exhibited a good level of fit to the data ($\chi^2(338) = 577.53$, CFI = 0.959, RMSEA = 0.043). For girls, social development goals negatively predicted bullying perpetration (unstandardized $\beta = -0.080$, SE = 0.031, $p < .01$) and social demonstration approach goals positively predicted bullying perpetration ($\hat{\beta} = 0.171$, SE = .080, $p < .05$). No statistically significant effect was found for girls' social demonstration avoid goals, and bullying perpetration. For boys, social development goals were not statistically significantly related to bullying perpetration, but social demonstration approach goals positively predicted bullying perpetration ($\hat{\beta} = 0.258$, SE = .103, $p < .01$). Moreover, for boys, social demonstration avoid goals negatively predicted bullying perpetration ($\hat{\beta} = -0.170$, SE = .078, $p < .05$). However, testing the differences in effects between the two groups for statistical significance revealed no statistically significant gender-specific effects.

Direct Effects of Social Achievement Goals on Belonging and Non-inclusive Group Norms

For girls, statistically significant positive relations between social development goals social demonstration approach goals and belonging arose ($\hat{\beta} = 0.285$, SE = .059, $p < .01$, and $\hat{\beta} = 0.231$, SE =

.087, $p < .01$, respectively). Furthermore, there was a statistically significant negative relation between girls' social demonstration avoid goals and belonging ($\hat{\beta} = -0.377$, $SE = .056$, $p < .01$). For boys, social development goals were positively related to belonging ($\hat{\beta} = 0.261$, $SE = .056$, $p < .01$), social demonstration approach goals were not related to belonging, and social demonstration avoid goals were negatively related to belonging ($\hat{\beta} = -0.142$, $SE = .059$, $p < .01$). The difference in regression slopes was statistically significant for social demonstration avoid goals predicting belonging ($\hat{\beta} = -0.234$, $SE = .075$, $p < .01$), with a statistically significantly stronger negative relation found for girls. All other tests for differences were not statistically significant.

In addition, the results for girls revealed a negative relation between social development goals and non-inclusive group norms ($\hat{\beta} = -0.189$, $SE = .081$, $p < .05$), no relation between social demonstration approach goals and non-inclusive group norms, and a positive relation between social demonstration avoid goals and non-inclusive group norms ($\hat{\beta} = 0.231$, $SE = .052$, $p < .01$). Among boys, social development goals were negatively related to non-inclusive group norms ($\hat{\beta} = -0.255$, $SE = .067$, $p < .01$), and both social demonstration approach goals and social demonstration avoid goals were positively related to non-inclusive group norms ($\hat{\beta} = 0.261$, $SE = .100$, $p < .01$, and $\hat{\beta} = 0.168$, $SE = .066$, $p < .01$, respectively). None of the differences in regression slopes was statistically significant.

Direct Effects of Non-inclusive Group Norms and Belonging on Bullying Perpetration

For girls, a positive effect of non-inclusive group norms on bullying perpetration was found ($\hat{\beta} = 0.117$, $SE = .059$, $p < .05$), but no relation between belonging and bullying perpetration. For boys, both belonging and non-inclusive group norms positively predicted bullying perpetration ($\hat{\beta} = 0.251$, $SE = 0.113$, $p < .05$, and $\hat{\beta} = 0.524$, $SE = .105$, $p < .01$). The differences in regression slopes were statistically significant for belonging predicting bullying perpetration ($\hat{\beta} = -0.327$, $SE = .129$, $p < .01$) and for non-inclusive group norms predicting bullying perpetration ($\hat{\beta} = -0.407$, $SE = .118$, $p < .01$), with stronger effects found for boys.

Mediating Effects of Non-inclusive Group Norms and Belonging

Finally, for girls, solely the indirect effects of social demonstration avoid goals on bullying perpetration as mediated by non-inclusive group norms reached statistical significance ($\hat{\beta} = 0.027$, $SE = .015$, $p < .05$), indicating a complete mediation. For boys, the indirect effect of social demonstration avoid goals on bullying perpetration as mediated by non-inclusive group norms was statistically significant ($\hat{\beta} = 0.088$, $SE = .038$, $p < .05$), and the indirect effect of social demonstration approach goals on bullying perpetration as mediated by non-inclusive group norms was statistically significant ($\hat{\beta} = 0.137$, $SE = .053$, $p < .01$). In addition to these partial mediations for boys, the results revealed statistically significant indirect effects of social development goals on bullying perpetration as mediated by belonging ($\hat{\beta} = 0.065$, $SE = .033$, $p < .05$) and non-inclusive group norms ($\hat{\beta} = -0.134$, $SE = .051$, $p < .01$), hence indicating complete mediations. The indirect effects of belonging on the relations between social demonstration avoid goals and bullying perpetration as well as between social demonstration approach goals and bullying perpetration were not statistically significant.

The differences in indirect effects were statistically significant for social demonstration avoid goals predicting bullying perpetration via sense of belonging as mediator ($\hat{\beta} = 0.065$, $SE = .031$, $p < .05$), although neither the indirect effect for males nor that for females attained statistical significance here. Moreover, statistically significant differences regarding the indirect effects were found for social demonstration approach goals predicting bullying perpetration via non-inclusive group norms as mediator ($\hat{\beta} = -0.127$, $SE = .057$, $p < .05$), for social development goals predicting bullying perpetration via belonging as mediator ($\hat{\beta} = -0.087$, $SE = .038$, $p < .05$), and for social development goals predicting bullying perpetration via non-inclusive group norms as mediator ($\hat{\beta} = 0.111$, $SE = .054$, $p < .05$) – all in favor of boys. Figure 1 displays the main effects from the SEM (standardized effects and standard errors, as well as the correlations between the three predictors and between the two mediators) separately for girls and boys. We report the unstandardized effects for all significant and non-significant findings in Table S5 in the Online Supplement.

[Insert Figure 1 here]

Discussion

Effects of Social Achievement Goals on Bullying Perpetration

The results of our study support the proposition that social achievement goals are related to adolescents' engagement in bullying perpetration. Fully in accord with our hypothesis and with prior research linking social achievement goals to aggressive behavior (Rodkin et al., 2012), it was shown that social demonstration approach goals positively predicted bullying perpetration among both genders (*Hypothesis 6*). Nonetheless, contradicting our assumptions that social status and thus also social demonstration approach goals, which refer to attaining social status, would be more strongly related to boys' reports of acting aggressively towards others (e.g., Caravita & Cillessen, 2012), the results did not indicate statistically significant gender differences in the strength of the effects. Hence, the message derived from our findings is that for girls and boys alike, striving to be popular, to be friends with the "cool kids" and construing social success as garnering positive evaluations from others (e.g., Ryan & Shim, 2006, 2008) comes with a price in terms of higher levels of bullying perpetration.

While we had expected that the adaptive nature of social development goals would decrease bullying perpetration for both genders (*Hypothesis 1*), a statistically significant negative relation was only obtained among girls. On the other hand, no relation between social demonstration avoid goals and bullying perpetration was hypothesized a priori (*Hypothesis 11*); nevertheless, the results of our study demonstrated that for boys but not girls, social demonstration avoid goals were statistically significantly negatively related to bullying perpetration. However, we could not substantiate the gender differences suggested by the pattern of significant vs. not significant findings when testing the differences in regression slopes for statistical significance. In sum, our findings show that when it comes to bullying perpetration, the effects of social achievement goals and the psychological processes underlying these different orientations towards social competence (Ryan & Shim, 2006, 2008) seem to generalize across gender.

Effects of Belonging and Non-inclusive Group Norms on Bullying Perpetration

In light of existing work revealing negative associations between sense of belonging and bullying perpetration, we had hypothesized that the feeling of belonging to one's class might aid in circumventing bullying others (e.g., Cook et al., 2010) (*Hypothesis 16*). This was not supported for

either girls, for whom belonging and bullying perpetration were not statistically significantly related - although the effect was in the hypothesized direction - or boys, where the effect even pointed in the opposite direction. Among boys, belongingness was found to be statistically significantly positively related to bullying perpetration and the differences in effects for boys vs. girls reached statistical significance. The finding that a feeling of belonging makes boys more prone to bullying perpetration thus sharply contrasts with prior work and the recommendations derived therefrom (see e.g., Goldweber et al., 2012). One possible explanation for this finding could be that being a male bully and dominating one's classmates might fortify one's positive feeling about the classroom environment and sense of belonging to this environment as a "leader" (see e.g., Roland, & Idsøe, 2001, for research on affiliation motives and bullying perpetration).

In alignment with prior work (e.g., Burns et al., 2008) and our hypothesis of a positive relation between non-inclusive group norms and bullying perpetration (*Hypothesis 17*), we could confirm that adolescents exposed to a higher level of non-inclusive group norms in class were more likely to report bullying others. The impact of non-inclusive group norms on bullying perpetration was more pronounced among boys than girls, thus contradicting our assumption of a stronger effect for girls (e.g., Salmivalli & Voeten, 2004). We argue that gender stereotypes might play a role here. In general, men and boys are characterized as active, whereas women and girls are perceived as more passive (e.g., Kollmayer, Schober, & Spiel, 2018). Hence, in accordance with male stereotypes, boys' active involvement in bullying perpetration might serve as an externalizing strategy in reaction to perceived pressure to conform to class norms.

Effects of Social Achievement Goals on Belonging and Non-inclusive Group Norms

As hypothesized, social development goals positively predicted belonging for both genders (*Hypothesis 2*), social demonstration avoid goals negatively predicted belonging for both genders (*Hypothesis 12*) (e.g., Mouratidis & Sideridis, 2009), and social demonstration approach goals were positively related to belonging among girls (*Hypothesis 7*). With the exception of the effect of social demonstration avoid goals, which was clearly more pronounced among girls, no statistically significant differences in the regression slopes emerged. We propose that the "avoidance" (passive) nature of social demonstration avoid goals and the female stereotype of being passive (e.g., Kollmayer et al., 2018)

might mutually reinforce each other, making girls with high levels of social demonstration avoid goals less likely to actively engage in social interactions and seek friends and thus less likely to feel that they belong in their class.

Concerning non-inclusive group norms, we found that for both boys and girls, being oriented towards improving one's social competencies (social development goals) was associated with reporting lower levels of non-inclusive group norms in class (*Hypothesis 3*), whereas individuals oriented toward avoiding appearing socially incompetent (social demonstration avoid goals) perceived their classroom climate as more focused on non-inclusive group norms (*Hypothesis 13*). For girls, pursuing the goal of attaining prestige (social demonstration approach goals) was also positively related to reporting non-inclusive group norms in class (*Hypothesis 8*), although no gender differences attained statistical significance for this effect – as well as for all other effects of social achievement goals on non-inclusive group norms. Similar to the results for bullying perpetration as an outcome, the effects of social achievement goals on non-inclusive group norms seem to equally hold for both genders.

Mediating Effects of Non-inclusive Group Norms and Belonging

A final major question guiding our research centered around understanding the effects of two variables potentially mediating the direct effect between social achievement goals and bullying perpetration reviewed above (see *Hypotheses 4, 5, 9, 10, 14, and 15* for all assumptions regarding mediation effects). For girls, only one statistically significant mediation occurred (complete mediation of the relation between social demonstration avoid goals and bullying by non-inclusive group norms, *Hypothesis 14*). For boys, the relations between social demonstration approach goals and social demonstration avoid goals and bullying perpetration were (partially) mediated by non-inclusive group norms (*Hypotheses 9 and 14*, respectively). However, significant gender differences only occurred for the former mediation. In addition, the relation between boys' pursuit of social development goals and bullying perpetration proved to be fully mediated by sense of belonging (positive indirect effect) and non-inclusive group norms (negative indirect effect), and the strength of the indirect effects differed significantly between boys and girls (*Hypotheses 4 and 5*). Hence, in conjunction with the positive association between male adolescents' perception of belonging and bullying perpetration, the evidence accrued in this study further substantiates the negative function of belonging for boys. Another

noteworthy finding concerns the negative indirect effect of non-inclusive group norms completely mediating the relation between a social development goal and bullying perpetration, which we had not hypothesized (see *Hypothesis 5* assuming a non-significant mediation). It might be that for boys who score high on social development goals and are at the same time exposed to a classroom climate emphasizing the need to conform, the preferred individual social motivational pattern becomes even more important – perhaps as an individual protective factor to help them survive in such a negative climate that does not at all match their personal social goals with respect to their classmates. This could explain why the consequences of a social development goal in terms of decreasing bullying tendencies among males, which were not statistically significant when solely considering the direct effect of males' social development goals predicting bullying perpetration, unfold in a classroom atmosphere characterized by non-inclusive group norms.

Limitations and Future Lines of Research

Although clearly informative and generative, the present research is also limited in several respects. Firstly, we assessed students' gender using self-reported gender categories only. Thus, we highly recommend that future studies additionally pay attention to the role of gender stereotypical traits and how they relate to adolescents' social achievement goals and bullying perpetration (e.g., Kollmayer et al., 2018). Moreover, due to our interest in comparing boys and girls, we did not consider gender minority youth, e.g., students who are non-binary. This can be seen as a limitation of our study, as non-binary groups typically experience higher rates of bullying victimization and as social achievement goals might function differentially in these groups. Secondly, our study was based on adolescents' self-reports. Therefore, incorporating further informants (e.g., peers, teachers, or parents) and methods (e.g., classroom observations, qualitative interviews, e.g., Burns et al., 2008) could conceivably aid in obtaining a more comprehensive picture. A final limitation relates to the fact that our sample contained students from academic secondary schools in one Austrian federal state only (Lower Austria). While the ethnic composition of our sample was representative for this federal state as well as other Austrian federal states, the findings can probably not be generalized to Viennese academic secondary school students due to the higher proportion of students with first languages other than German in Vienna, the

capital of Austria (Bundesministerium für Bildung, 2017). We thus recommend replications of our work with more ethnically diverse samples.

Practical Implications

We suggest that educators would do well in attempting to counteract adolescents' adoption of social demonstration approach goals, given that pursuing this type of social achievement goal seems to make both male and female adolescents more likely to bully others. In this regard, it might be particularly promising to focus on instructional practices, such as goal structures, as a means to reduce social demonstration approach goals, and thus also bullying perpetration. Specifically, it has already been shown that students who perceived an increase in performance avoidance classroom goal structures (i.e., instructional practices emphasizing that the main goal in class is to not do worse than others or appear to be incompetent) maintained higher social demonstration approach goals over time (Makara and Madjar, 2015, for research on goal structures, see also e.g., Bardach, Lüftenegger, Yanagida, Spiel, & Schober, 2019). Therefore, teachers may wish to refrain from employing instructional strategies associated with a performance avoidance goal structure in order to lower social demonstration approach goals and therefore potentially decrease bullying perpetration.

Furthermore, the strong detrimental effect of non-inclusive group norms on bullying perpetration – particularly for males – emphasizes the need to counteract the establishment of such a classroom climate. The teacher can function as a role model for students. Accordingly, we envision that teachers could explicitly value (individual) differences among students and attempt to make students aware of the negative consequences of excluding students who are different from the majority of pupils in a class, e.g., in terms of their ethnicity, family background, or certain characteristics.

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