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ORIGINAL ARTICLE

The participant roles of bullying in different grades: Prevalence and social status profiles

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Abstract

This study examined grade differences in the social status profiles and prevalence of bullying participant roles. Participants were 598 primary school students (grades 4–6), 545 students in the lower-grades of secondary school (grades 7–8), and 1491 students in the upper-grades of secondary school (grades 9–11). Students' participant roles, popularity, and social preference were measured with peer nominations. Bullies, assistants, and reinforcers (i.e., bullies/followers) were as popular as defenders in primary school, but more popular than defenders in secondary school. These differences depended on the gender of the reference group. Bullies/followers were more popular than defenders among other-gender peers in the lower-grades of secondary school but not among same-gender peers. In the upper-grades of secondary school, bullies/followers were more popular than defenders among all peers. Grade differences in social preference were small. The grade differences in popularity profiles of the roles were in line with grade differences in prevalence rates. Bully/follower roles were more common in secondary school than primary school among girls and the defender role was less common in secondary school among boys. This suggests that bully/follower roles are more rewarded with social status in secondary school than in primary school.

KEYWORDS

adolescence, bullying, gender, popularity, victimization

1 | INTRODUCTION

Bullying can be seen as a group process in which students have different participant roles. It is a subtype of aggression in which one or more individuals (bullies) repeatedly and intentionally attack, humiliate, or exclude other persons (victims) who have difficulties defending themselves (Salmivalli, 2010). In addition to bullies and victims, others participate in different roles in the bullying process: *assistants*, who join ringleader bullies in attacking a victim; *reinforcers*, who are

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not actively involved in the bullying, but reinforce bullies by, for example, providing an audience or laughing at the victim; *defenders*, who actively intervene and try to stop the bullying, tell the teacher about it, or try to comfort the victim; and *outsiders*, who do not take sides with either the bully or the victim (Salmivalli, Lagerspetz, Björkqvist, Österman, & Kaukiainen, 1996).

In the last decades, multiple anti-bullying programs have been developed to target the group process of bullying. Some of them have reduced bullying and victimization effectively in primary schools, but their effectiveness is considerably lower in secondary schools (Kärnä et al., 2013; Yeager, Fong, Lee, & Espelage, 2015). One reason for the low effectiveness of anti-bullying programs in secondary schools may be that the social status profiles of the participant roles differ between childhood and adolescence. The increased importance of social status in adolescence (LaFontana & Cillessen, 2010) may affect the group process of bullying in important ways. In this study, we tested the idea that bullying is associated more strongly, and defending less strongly, with popularity in secondary school than in primary school. Because of these changing reward values of bullying and defending, secondary school students may not want to give up bullying behavior and may refrain from defending. This could explain why anti-bullying programs are less successful in secondary school than in primary school in reducing bullying and promoting defending. In order to examine these developmental trends, in this study we compared the social status profiles and prevalence rates of the participant roles of bullying in Dutch schools between the upper-grades of primary school (grades 4–6, ages 8–12), the lower-grades of secondary school (grades 7–8, ages 12–14), and the upper-grades of secondary school (grades 9–12, ages 14–18).

1.1 | Theoretical framework

When examining peer status profiles, two types of peer status typically are distinguished: social preference and popularity (Parkhurst & Hopmeyer, 1998). Social preference indicates how well-liked students are by their peers whereas popularity is a measure of visibility, dominance, and attention in the peer group (LaFontana & Cillessen, 2010). In primary school, the social status profiles of the participant roles have been examined in multiple studies (Goossens, Olthof, & Dekker, 2006; Olthof, Goossens, Vermande, van der Meulen, & Aleva, 2011; Salmivalli et al., 1996). In general, across these studies, bullies, assistants, and reinforcers (i.e., bullies/followers) were popular and disliked, defenders popular and liked, victims unpopular and disliked, and outsiders unpopular and average in social preference. However, this pattern may be different in secondary school, when popularity takes on a different meaning.

As youths move from primary to secondary school, popularity becomes increasingly important and its association with social preference weakens (Cillessen & Mayeux, 2004). In his theory of interpersonal relationships, Sullivan (1953) described a developmental shift from prioritizing same-gender friendships in childhood, to being popular in the peer group at large in adolescence, to intimate social relationships in emerging adulthood. Consistently, LaFontana and Cillessen (2010) found that the importance attached to being popular indeed increased from primary to secondary school.

As not everyone can be popular, youths behave strategically to become more popular than others. An effective way to become popular is to use bistrategic control strategies that combine prosocial with coercive or aggressive behaviors (Hawley, 2003; LaFontana & Cillessen, 2010; Reijntjes et al., 2018). According to Moffitt (1993), aggressive behaviors are valued in secondary school because of the maturity gap that youths experience in adolescence: although they are mature biologically, they remain dependent on adults socially (Moffitt, 1993). Youths experience this gap around the time they transfer from primary to secondary school and enter a new peer group with older youths in which antisocial behavior is more common (Moffitt, 1993). They may imitate these more 'adult-like' behaviors of their older peers to obtain a sense of increased autonomy and adult status (Moffitt, 1993). For the same reason—antisocial behavior signaling maturity and autonomy—youths become more attracted to aggressive peers (Bukowski, Sippola, & Newcomb, 2000), including peers who bully and follow bullies, as bullying is a subtype of aggression. Prosocial behavior does not signal 'adult like allure' and thus defending, as a form of prosocial behavior, loses its association with popularity. Consistent with these ideas, Caravita, Di Blasio, and Salmivalli (2009) found that bullying was related more strongly and defending less strongly to popularity in the lower-grades of secondary school than in primary school.

Theory and empirical evidence thus suggest larger status differences between the bully/follower and defender roles in the first grades of secondary school than in primary school. However, the levels of social preference and popularity of all participant roles have not yet been examined across a large grade range. It is therefore unclear whether differences between roles further vary between the upper-grades and lower-grades of secondary school. The distinction between the lower- and upper-grades is theoretically important. Directly after the transition from primary to secondary school, new peer groups are formed. Adolescents' participant role involvement may be less fixed in this period, and their display of aggression and bullying may not have resulted in popularity yet. In the upper-grades of secondary school, the structure of the peer group has been established and is more hierarchical (Schäfer, Korn, Brodbeck, Wolke, & Schulz, 2005). Here, bullies/followers may have obtained popular status. Bullies may continue to bully to maintain a more powerful position than followers. This suggests that differences between the participant roles may be larger in a more hierarchical setting. Therefore, in this study we examined whether the differences in social status between the roles were larger in the upper-grades of secondary school than in the lower-grades of secondary school.

In addition to grade differences in the popularity profiles of bullies/followers and defenders, there may also be grade differences in the status profiles of victims. As victims are often disliked, peers may dissociate themselves from them as they will lose status when they affiliate with a low-status peer (Juvonen & Galván, 2008). Peers may especially distance themselves from victim peers in the first grades of secondary school—when status is important and new peer groups are formed (LaFontana & Cillessen, 2010). Therefore, the social preference and popularity of victims may be even lower in the lower-grades of secondary school than in primary school and the upper-grades of secondary school.

With development, youths increasingly interact with other-gender peers (Rubin, Bukowski, & Parker, 2006). Adolescents become especially interested in other-gender peers who display antisocial behaviors (Bukowski et al., 2000). Antisocial peers are attractive romantically because their behavior is seen as mature (Moffitt, 1993). Bullies/followers may therefore be even more popular among other-gender peers than among same-gender peers whereas defenders may be even less popular among other-gender peers than among same-gender peers. This question has not yet been examined empirically as previous studies did not assess grade differences in other-gender social preference profiles of bullies and victims (e.g., Dijkstra, Lindenberg, & Veenstra, 2007; Olthof & Goossens, 2008) and did not link other-gender popularity to grade differences in bullying involvement or aggression (e.g., Troop-Gordon & Ranney, 2014).

1.2 | Grade differences in prevalence of the participant roles

Grade differences in the status profiles of the participant roles also may be reflected in their prevalence, as roles that are more rewarded with status may be pursued more and may therefore be more common. Studies have shown that youths increase their aggression, bullying, or following behavior over time in order to become popular (Duffy, Penn, Nesdale, & Zimmer-Gembeck, 2017; Juvonen & Galván, 2008; Ojanen & Findley-Van Nostrand, 2014). Because popularity is prioritized more in secondary school than in primary school and because aggression (but not purely prosocial behavior) is an effective way to attain popularity (Cillessen & Mayeux, 2004; Reijntjes et al., 2018), we expected the prevalence of the bully/follower role to be higher in secondary school than in primary school. In addition, in line with the idea that prosocial strategies are less effective than coercive and bistrategic strategies to obtain popularity in adolescence (Reijntjes et al., 2018), adolescents who prioritize popularity over being prosocial are not likely to defend victims of bullying (Duffy et al., 2017). Defending may therefore be less common in secondary school than in primary school. Although there are these theoretical reasons why the prevalence of the participant roles may differ between grade levels, the prevalence rates of previous studies cannot be compared directly as the study samples differed in location, measurement of the roles, and criteria for the roles.

Although the prevalence of the bullying role may be higher in secondary school than in primary school, the prevalence of the victim role may be lower. Given the more advanced development of social skills (Pellegrini & Long, 2002), adolescents may respond increasingly adequately to potential bullying situations (Smith, Madsen, & Moody, 1999). This may result in a smaller number of victims who are harassed by multiple bullies in secondary school than in primary

school. Accordingly, previous studies have found that the prevalence of peer victimization declines as children grow older (see, e.g., Haltigan & Vaillancourt, 2014; Ladd, Ettekal, & Kochenderfer-Ladd, 2017).

1.3 | The present study

The overall purpose of this study was to examine the participant roles of bullying in different grades. The first aim was to examine differences in the popularity and social preference profiles of the participant roles between primary school (grades 4–6, ages 8–12), the lower-grades of secondary school (grades 7–8, ages 12–14), and the upper-grades of secondary school (grades 9–12, ages 14–18). Because aggression is increasingly valued in the peer group (Bukowski et al., 2000), the popularity profiles of the participant roles may change with age. In primary school, we expected that bullies/followers would be more popular than defenders, who would be more popular than outsiders, and that victims would be less popular than all other roles. We also expected that defenders would be the most preferred, followed by outsiders, followed by bullies/followers, and that victims would be the least preferred of all roles. In secondary school, we expected that bullies/followers would be more popular than in primary school, and defenders and victims less popular. We expected that the differences in popularity between bullies/followers and defenders would be even larger in the upper-grades of secondary school than in the lower-grades. For social preference, we expected that victims would be more disliked in the lower-grades of secondary school than in primary school or the upper-grades of secondary school.

We further examined whether the grade-related differences in the status profiles of the participant roles depended on the gender of the reference group. This was done because cross-gender interactions in peer relations are more common in higher-grades (Rubin et al., 2006), and status among same-gender vs. other-gender peers may contribute uniquely to the group process of bullying in secondary school. We expected that the status differences between the participant roles would be larger for popularity and social preference among other-gender peers than among same-gender peers, especially in the upper-grades of secondary school. We also explored the role of gender of the participant, but did not have specific hypotheses about how grade differences in the status profiles of the roles would vary between boys and girls.

The changes in the associations between participant role involvement and social status may also be reflected in the prevalence of the participant roles. Being popular is increasingly important with age (LaFontana & Cillessen, 2010), and youths who pursue popularity behave in strategic ways to obtain popularity (Duffy et al., 2017). Our second aim was therefore to examine grade differences in the prevalence of the participant roles among the same three grade levels. Our hypothesis was that the prevalence of the bully/follower role would be higher and the prevalence of the defender and victim role would be lower in higher-grades. No grade differences were expected in the prevalence of the outsider role.

We also examined whether these grade differences in prevalence were similar for boys and girls, because both in primary and secondary school, the bully and follower roles are more common among boys than girls, and the defender and outsider roles are more common among girls than boys (Pouwels, Lansu, & Cillessen, 2016; Salmivalli et al., 1996). These studies did not reveal gender differences in the prevalence of the victim role. Although this pattern seems to be similar in different grades, this has not been examined directly. We therefore did not have a specific hypothesis regarding gender differences in grade level effects.

2 | METHOD

2.1 | Participants and procedure

Participants were part of several projects on bullying and peer relations using the same methods from the same lab in 2013 and 2014. All studies were approved by the Institutional Review Board of the university. Data from the primary and lower-grade secondary school samples have not been published before. These samples were recruited by sending a letter to schools in the Eastern part of The Netherlands explaining the study and asking

teachers to participate. The data of the upper-grades secondary school sample stem from Wave 9 of the Nijmegen Longitudinal Study, an ongoing study on child development in The Netherlands (for more details, see Pouwels et al., 2016). Examination of data of the upper-secondary school sample has been published before in Pouwels et al. (2016). In this study, we conducted secondary analyses on these data to make direct comparisons between upper-grades secondary school students, lower-grades secondary school students, and primary school students.

In each sample, parents were sent a letter explaining the study details. They were asked to return the letter if they did not want their child to participate in the study. Informed assent was obtained from the children. Table 1 presents an overview of the inclusion of schools, classrooms, and participants and their demographic characteristics by grade level. The participation rate was 95% in primary school, 98% in lower-grades secondary school, and 82% in upper-grades secondary school. The final sample consisted of 598 primary school, 545 lower-grades secondary school, and 1491 upper-grades secondary school students.

Data were collected during a 1-hr classroom session. Primary school students completed the measures on paper. Secondary school students participated in a computerized sociometric assessment. Each student was provided with a mini-laptop computer on which they filled in the questionnaire in their own classroom. See for more information van den Berg and Cillessen (2012). For each sociometric question, the classroom was the reference group and students could nominate both same-gender and other-gender peers. They were allowed to nominate an unlimited number of peers. All measures were addressed in the same order for each grade level.

2.2 | Measures

2.2.1 | Participant roles of bullying

Students' participant roles of bullying were assessed with the Dutch translation (Pouwels et al., 2016) of the shortened Participant Role Questionnaire (PRQ) (Kärnä et al., 2013; Salmivalli & Voeten, 2004). Students were provided with statements describing different behaviors in bullying situations and were asked to nominate classmates who showed these behaviors. The PRQ has one scale with three questions for each participant role: bully (e.g., 'Who starts bullying?'), assistant (e.g., 'Who joins in the bullying, when someone else has started it'), reinforcer (e.g., 'Who comes around to watch the situation when someone is being bullied?'), defender (e.g., 'Who tells the others to stop bullying'), and outsider (e.g., 'Who does not take sides with anyone'). Victimization was examined by asking students to nominate classmates for four items (e.g., 'Who is victimized by being neglected or excluded?,' see Pouwels et al., 2016). For all participant role items, students could nominate an unlimited number of peers, but could also nominate no one.

For each student, the number of nominations received was counted and standardized to z-scores within classrooms. We then computed a mean score for each original participant role subscale, which we again standardized within classrooms for the ease of interpretation. Cronbach's alphas are presented in Table 2.

Students were assigned to the participant roles based on the criteria of Salmivalli et al. (1996). They were assigned to a role if they scored above the classroom average on the scale for that role ($z > 0$). If students scored above average on more than one scale, they were assigned to the role for which they had the highest scale score. The difference between their highest and second highest scale score had to be at least .10. We did not assign a role to 11% of the students ($N = 280$), because the difference between their highest and second highest scale was smaller than .10 or because they did not score above the classroom average on any scale.

In line with Pouwels et al. (2017), bullies, assistants, and reinforcers were assigned to one combined bully/follower role. This was done because separating bullies from assistants and reinforcers would result in groups within each grade and gender that were too small to analyze the data reliably. For example, only six girls could be assigned to the bully role in primary school whereas 39 girls could be assigned to the combined bully/follower role. Previous research supports the combination of bully, assistant, and reinforcer roles, as their status profiles are relatively similar in adolescence (Pouwels et al., 2016).

TABLE 1 Inclusion of participants and demographics by grade level

	Grade level			Lower-grades secondary school			Upper-grades secondary school				
	Primary school	N	%	M (SD)	Level	N	%	M (SD)	Level	N	%
Schools		11				2				24	
Classrooms		24				23				63	
Excluded: >75% boys/girls ^a		0				0				7	
Included:		24				23				56	
Classroom size	25.00(4.73)				23.87(3.97)			26.56(3.49)			
Grade level		1			Grade 7	6			Grade 9	3	
		1			Grade 8	17			Grade 10	28	
		10							Grade 11	25	
		2									
		10									
Students		607				545				1,650	
Excluded:		8				0				12	
No parental consent		7				0				8	
No consent participant		1				0				4	
Included:		598				545				1,491	
Present		577				533				1,345	
Absent ^b		21				12				145	
Did not speak Dutch		1				0				0	
Given nominations excluded ^c		0				0				1	
Demographics											
Gender (N Girls)		300	50			287	53			747	50
Age	11.23(.79)				13.39(.67)			16.40 (.76)			
Educational level ^d									VMBO	192	13
									HAVO	629	42
									VWO	670	45
									MIXED	50	
Ethnicity (N Caucasian)		472	82			480	90			1,094	81

^aClassrooms with >75% boys/girls were included.

^bThe received number of nominations by students who were absent/did not speak Dutch were included.

^cThe given nominations were excluded as the questionnaire was not completed in a serious way (received nominations were taken into account).

^dSecondary school students were segregated in the following educational tracks: VMBO = pre-vocational track; HAVO = intermediate secondary education; VWO = college preparatory.

TABLE 2 Cronbach's alpha for each role by grade level

	Grade level		
	Primary school	Lower-grades of secondary school	Upper-grades of secondary school
Bully	.98	.96	.91
Assistant	.85	.70	.70 ^a
Reinforcer	.71	.72	.72
Bully/follower	.93	.91	.86
Defender	.93	.92	.85
Outsider	.78	.80	.79
Victim	.91	.83	.86

^aIn line with Pouwels et al. (2016), in the upper-grades secondary school sample, one item ('Who goes and gets the victims for the bully') of the assistant scale was excluded as this led to an improvement of Cronbach's alpha of the scale in the upper-grades secondary school sample (.63 vs. .70).

2.2.2 | Social status among same-gender and other-gender peers

We examined social status by asking students to nominate classmates who were popular ('Who are most popular?') and unpopular ('Who are least popular?'), and who they liked ('Who do you like the most?') and disliked ('Who do you like the least?'). For each question, students had to nominate at least one classmate. For each student we calculated the number of nominations received from same-gender peers and other-gender peers for each item, and standardized them into z-scores within classrooms. This was done separately for boys and girls, to control for differences in gender distribution between classrooms, in addition to differences in classroom size. Popularity among same-gender peers was determined by taking the difference between the standardized numbers of most popular and least popular nominations received from same-gender peers. Social preference among same-gender peers was determined by taking the difference between the standardized numbers of liked most and liked least nominations received from same-gender peers. We again standardized the difference scores within classrooms and gender. Scores for popularity and social preference among other-gender peers were calculated in the same way using the nominations received from other-gender classmates.

3 | RESULTS

3.1 | Grade differences in same-gender and other-gender status of the bullying participant roles

Our first aim was to examine grade differences in the social status profiles of the participant roles, and whether these differences depended on gender of the participant and reference group (same-gender vs. other-gender). We analyzed popularity and social preference in separate models. For each, we conducted a 4 (Participant Role: Bully/Follower, Defender, Outsider, Victim) \times 3 (Grade Level: Primary School, Lower-Grades Secondary School, Upper-Grades Secondary School) \times 2 (Participant Gender: Boy, Girl) \times 2 (Reference Group: Same-Gender, Other-Gender) ANOVA, with reference group as a repeated measures factor.

3.1.1 | Grade differences in same-gender and other-gender popularity of the bullying participant roles

The ANOVA for popularity yielded a main effect of participant role, $F(3, 2331) = 332.45$, $p < .001$, $\eta_p^2 = .30$. Bonferroni post hoc comparisons showed that bullies/followers were significantly more popular than defenders, who were significantly more popular than outsiders. Victims were significantly less popular than all other roles.

Our main question was whether the differences between the participant roles on popularity depended on grade, and whether this grade effect varied between same-gender and other-gender popularity. The analysis yielded a significant participant role \times grade level \times reference group interaction, $F(6, 2331) = 2.63, p = .015, \eta_p^2 = .007$. To examine this effect further, we tested the univariate effects of participant role for each grade level separately for same- and other-gender popularity. Within each grade level, a main effect of participant role on same- and other-gender popularity was found (see Table 3). This main effect increased in strength by grade for both same-gender and other-gender popularity. Thus, the differences in popularity between the participant roles were larger in adolescence than in childhood.

In order to examine which roles differed from each other in each grade level, Bonferroni post hoc comparisons were conducted. In primary school, among both same- and other-gender peers, bullies/followers and defenders were significantly more popular than outsiders who, in turn, were significantly more popular than victims. This pattern replicated for same-gender popularity in the lower-grades of secondary school. However, for other-gender popularity, there was a difference in popularity between bullies/followers and defenders, with bullies/followers being more popular than defenders. In upper-grades secondary school the latter pattern was found for both same-gender and other-gender popularity. These results suggest that the difference in popularity between bullies/followers and defenders was larger in secondary school than in primary school. This difference was already visible in the lower-grades of secondary school for popularity among other-gender peers but not (yet) among same-gender peers.

In order to understand the data further, we conducted another set of univariate effects analyses to identify whether the increased difference in popularity between bullies/followers and defenders by grade was due to grade-related differences in popularity among bullies/followers, defenders, or both. Therefore, we tested the univariate effects of grade level by participant role separately for same- and other-gender popularity. No significant grade effects on same-gender popularity were found for each role. However, there was a significant effect of grade on other-gender popularity for bullies/followers, $F(2, 2331) = 3.80, p = .02, \eta_p^2 = .003$, and a marginally significant effect for defenders, $F(2, 2331) = 2.99, p = .05, \eta_p^2 = .003$. No grade effects for other-gender popularity were found for outsiders and victims. Bonferroni post hoc comparisons showed that bullies/followers were more popular among other-gender peers in lower-grades secondary school than in primary school. In contrast, defenders were more popular among other-gender peers in primary school than in the upper-grades of secondary school. Thus, the larger difference in popularity between bullies/followers and defenders in the higher-grades than in the lower-grades was due to higher levels of popularity according to other-gender peers among bullies/followers in the higher-grades than in the lower-grades and lower levels of popularity among defenders.

TABLE 3 Means and standard deviations of same- and other-gender popularity by participant role and grade level

Grade level	Participant role								$F(3, 2331)$	η_p^2
	Bully/follower (N = 894)		Defender (N = 539)		Outsider (N = 634)		Victim (N = 288)			
	M	SD	M	SD	M	SD	M	SD		
Same-gender popularity										
Primary school	.39 _a	.85	.40 _a	.87	-.39 _b	.82	-.99 _c	.79	66.90*	.08
Lower-secondary school	.55 _a	.78	.27 _a	.69	-.42 _b	.75	-1.28 _c	.72	99.34*	.11
Upper-secondary school	.54 _a	.81	.24 _b	.76	-.50 _c	.73	-1.13 _d	.92	235.52*	.23
Other-gender popularity										
Primary school	.35 _a	.85	.45 _a	.96	-.39 _b	.77	-.88 _c	.81	56.50*	.07
Lower-secondary school	.60 _a	.75	.22 _b	.76	-.58 _c	.73	-1.09 _d	.73	95.35*	.11
Upper-secondary school	.52 _a	.84	.28 _b	.79	-.50 _c	.74	-1.11 _d	.85	216.07*	.22

Note. * $p < .001$. Means within rows that do not share an identical subscript were statistically significantly different between roles in a Bonferroni post hoc comparison test.

Finally, we examined whether there were any main effects or interactions of gender of the participant on same-gender or other-gender popularity. No main effects or interactions including gender of the participant were found. Thus, the increased difference between bullies/followers and defenders by grade for same- and other-gender popularity was found for both boys and girls.

In summary, differences between the participant roles in popularity were larger in secondary school than in primary school. In primary school, bullies/followers were as popular as defenders whereas in secondary school, they were more popular than defenders. These grade differences depended on the gender of the reference group but not on gender of the participant.

3.1.2 | Grade differences in same-gender and other-gender social preference of the bullying participant roles

The ANOVA for social preference also yielded a main effect of participant role, $F(6, 2331) = 142.64, p < .001, \eta_p^2 = .16$. Bonferroni post hoc comparisons showed that defenders were significantly more preferred than outsiders, who were significantly more preferred than bullies/followers. Victims were significantly less preferred than all other roles.

Our main question was whether the differences between the participant roles in social preference depended on grade, and further varied between same- and other-gender preference. The ANOVA yielded a significant participant role \times grade level \times reference group interaction, $F(3, 2331) = 2.34, p < .030, \eta_p^2 = .01$. Univariate follow-up analyses yielded main effects of participant role on same- and other-gender social preference for each grade level. The most consistent finding was that across all grades, victims were significantly less preferred than all other roles by both same- and other-gender peers. There were only minor variations in the participant role comparison by grade. These variations are shown in detail in Table 4, but because the effect sizes were small, they are not discussed further.

In addition, we examined grade differences in social preference among same- and other-gender peers for each role. We tested the univariate effect of grade level for each participant role separately for same- and other-gender preference. No significant grade effects on social preference were found for bullies/followers, defenders, and outsiders. However, a significant effect of grade on same-gender social preference was found for victims, $F(2, 2331) = 5.03, p = .007, \eta_p^2 = .004$. Bonferroni post hoc comparisons showed that in lower-grades secondary school, victims had lower social preference among same-gender peers than in upper-grades secondary school. For victims' other-gender social preference, there was no grade effect.

Finally, we examined whether there were any main effects or interactions of participant gender on same-gender and other-gender social preference. No main effects of gender or interactions including gender of the participant were found. Thus, the grade differences in the same-gender and other-gender preferences for the roles did not vary for boys and girls.

In summary, overall, grade differences in social preference profiles of the participant roles were relatively small. Compared with all roles, victims were least preferred in all grades. Victims' social preference among same-gender peers was lower in the lower-grades of secondary school than in the upper-grades of secondary school.

3.2 | Prevalence of the participant roles by age and gender

Our second aim was to examine grade differences in the prevalence of the participant roles. Table 5 shows the distribution of the roles (Bullies/Followers, Defenders, Outsiders, Victims) by grade level (Primary School, Lower-Grades Secondary School, Upper-Grades Secondary School) for boys and girls. A χ^2 test indicated no association between roles and grade level, $\chi^2(8, N = 2,784) = 10.86, p = .21$, in the total sample.

We repeated this test for boys and girls separately. For boys, there was a significant association between roles and grade levels, $\chi^2(8, N = 2,784) = 25.65, p = .001$. Adjusted standardized residuals showed that the bully/follower role was not under- or overrepresented in a certain grade. In primary school, *defenders* and *victims* were overrepresented whereas *outsiders* were underrepresented. In the upper-grades of secondary school, the *victim* role was underrepresented.

TABLE 4 Means and standard deviations of same- and other-gender social preference by participant role and grade level

Grade level	Participant role Bully/follower (N = 894)		Defender (N = 539)		Outsider (N = 634)		Victim (N = 288)		F(3, 2331)	η_p^2
	M	SD	M	SD	M	SD	M	SD		
Same-gender preference										
Primary school	-.13 _b	.92	.41 _a	.81	.14 _a	.95	-.81 _c	.97	33.59*	.04
Lower-secondary school	-.06 _b	.91	.56 _a	.69	.10 _b	.83	-1.12 _c	.96	40.20*	.05
Upper-secondary school	-.17 _b	1.01	.32 _a	.86	.20 _a	.78	-.69 _c	1.04	51.54*	.06
Other-gender preference										
Primary school	-.18 _b	.95	.48 _a	.84	.07 _b	.84	-.65 _c	1.04	27.64*	.03
Lower-secondary school	-.05 _a	1.03	.28 _a	.87	.03 _a	.75	-.74 _b	.95	14.59*	.02
Upper-secondary school	-.11 _b	1.00	.40 _a	.86	.05 _b	.85	-.65 _c	.99	45.40*	.06

Note. * $p < .001$. Means within rows that do not share an identical subscript were statistically significantly different between roles in a Bonferroni post hoc comparison test.

For girls, there was also a significant association between roles and grade levels, $\chi^2(8, N = 2,784) = 27.5, p = .001$. Adjusted standardized residuals showed a different pattern for girls. For girls, the *bully/follower* role was underrepresented in primary school. The *defender* role was overrepresented in the lower-grades of secondary school. The *outsider* role was overrepresented in primary school and underrepresented in the lower-grades of secondary school. The *victim* role was not under- or overrepresented in any grade.

TABLE 5 Observed and expected frequencies of the participant roles of bullying by gender

	Grade level									Total N
	Primary school			Lower-grades secondary school			Upper-grades secondary school			
	N	% within grade level	N expected	N	% within grade level	N expected	N	% within grade level	N expected	
Total										
Bully/Follower	181 _b	30	203	184	34	185	529	35	506	894
Defender	127	21	123	124	23	111	288	19	305	539
Outsider	146	24	144	122	22	131	366	25	359	634
Victim	77	13	65	62	11	60	149	10	163	288
No role	68	11	64	53	10	58	159	11	158	280
Total	599			545			1,491			2,635
Boys										
Bully/Follower	142	48	144	118	46	124	366	49	358	626
Defender	38 _a	13	27	18	7	23	60	8	66	116
Outsider	36 _b	12	60	62	24	52	164	22	150	262
Victim	46 _a	15	35	32	12	31	76 _b	10	88	154
No role	37	12	33	28	11	28	78	11	82	143
Total	299			258			744			1,301
Girls										
Bully/Follower	39 _b	13	60	66	23	58	163	20	150	268
Defender	89	30	95	106 _a	37	91	228	31	237	423
Outsider	110 _a	37	84	60 _b	21	80	202	28	208	372
Victim	31	10	30	30	10	28	73	10	75	134
No role	31	10	31	25	9	30	81	11	77	137
Total	300			287			747			1,334

Note. Frequencies with subscript 'a' had adjusted standardized residuals larger than 2 and refer to overrepresentations. Frequencies with subscript 'b' had adjusted standardized residuals smaller than -2 and refer to underrepresentations.

Finally, we also examined whether there were gender differences in the participant roles at each grade level. χ^2 tests indicated significant associations between roles and gender at each grade level, as $\chi^2(4)$ ranged from 76.09 to 179.96 (all p 's < .001). Adjusted standardized residuals showed that across grades, boys were overrepresented in bully/follower roles and girls in defender roles (see Table 5). Girls were also overrepresented in outsider roles, but only in primary school and in the upper-grades of secondary school.

In summary, there were no grade differences in the prevalence of the participant roles in the total sample. However, when broken down by gender, there were grade differences in the prevalence of the defender, outsider, and victim roles for boys, and in the bully/follower, defender, and outsider roles for girls.

4 | DISCUSSION

This study sheds light on grade differences in the group process of bullying. We compared status profiles and prevalence of the bullying participant roles between primary school (grades 4–6, ages 8–12), the lower-grades of secondary school (grades 7–8, ages 12–14), and the upper-grades of secondary school (grades 9–12, ages 14–18).

4.1 | Grade differences in the social status profiles of the participant roles

Our first main aim was to examine grade differences in status profiles of the participant roles. The importance of social status increases from primary to secondary school (LaFontana & Cillessen, 2010). In secondary school, students become more attracted to antisocial peers and less attracted to prosocial peers (Bukowski et al., 2000). Our hypothesis was therefore that the association between bullying and popularity would be stronger in secondary school than in primary school whereas the association between defending and popularity would be weaker. In line with our hypotheses and the findings of Caravita et al. (2009), the differences in popularity between the participant roles indeed increased from primary, to lower-grades secondary, to upper-grades secondary education. This could be explained by bullies/followers being as popular as defenders in primary school, but more popular than defenders in the upper-grades of secondary school, because bullies/followers were more popular, and defenders less popular in adolescence than in childhood.

The grade differences in the popularity profiles of bullies/followers and defenders depended on the gender of the reference group. When children transition into secondary school, they become interested in other-gender peers who behave antisocially; they seem to have bridged the maturity gap and are therefore attractive romantically (Bukowski et al., 2000; Mayeux, 2011). Accordingly, in the lower-grades of secondary school bullies/followers were more popular than defenders among other-gender peers but not yet among same-gender peers. As bullies/followers are popular among other-gender peers in the lower-grades of secondary school, they may then also become increasingly visible and popular among same-gender peers (Troop-Gordon & Ranney, 2014). Same-gender peers may believe that affiliating with adolescents who are popular with the other gender will help them increase their own status with same-gender peers. In line with this process, in the upper-grades of secondary school, bullies/followers were more popular than defenders among both same- and other-gender peers.

We did not find large grade differences in the associations of the participant roles with social preference. Across all grades, defenders were liked most, followed by outsiders, bullies, and victims. Although there were significant role differences in certain grades, the effect sizes for these role differences were small.

Victims were consistently rejected throughout primary and secondary school. In the lower-grades of secondary school, they were more rejected by their same-gender peers than in primary school and in the upper-grades of secondary school. When new peer hierarchies are established after the school transition (Pellegrini & Long, 2002), youths may be especially likely to dissociate themselves from low-status peers to avoid losing status (Juvonen & Galván, 2008). Rejected youths may therefore be less likely to be defended and run a great risk of being bullied. Moreover, bullies strategically pick on victims with a low status among their own gender (Veenstra, Lindenberg, Munniksma, & Dijkstra, 2010; Veenstra et al., 2007) as this may minimize bullies' loss of status among same-gender peers.

4.2 | Grade differences in the prevalence of the participant roles

The next aim of our study was to examine whether the grade differences in social status of the participant roles were reflected in grade differences in the prevalence of the roles. Because popularity is pursued by many adolescents, we expected them to engage in participant role behavior that led to popularity. Specifically, the increased association between bullying/following and popularity may be reflected in more bullying/following in secondary school than in primary school. Similarly, the decreased association of defending with popularity may be reflected in less defending in secondary school than in primary school.

Our findings partly confirmed these expectations. Among boys, the defender role was less common in higher than in lower-grades whereas the outsider role was more common in higher than lower-grades. Among girls, the bully/follower role was more common in higher than in lower-grades whereas the defender role was particularly common in the lower-grades of secondary school. These findings could be explained by developmental changes in boys' and girls' social goals. As youths grow older, the priority of popularity over prosocial behavior increases more strongly for boys than girls (LaFontana & Cillessen, 2010), suggesting that boys' motivation to be popular comes at the expense of prosocial behavior. As defending is a form of prosocial behavior and less associated with popularity than bullying, boys may become less willing to defend in secondary school. As this suggests that boys are less willing to get involved in solving their peers' problems in early adolescence, this may explain the higher prevalence of the outsider role in secondary school than in primary school.

Girls show an increase in both agentic and communal goals with age (Caravita & Cillessen, 2012), which may explain why the prevalence of both the bully/follower and defender roles were higher in the first grades of secondary school than in primary school. On the one hand, girls increasingly pursue status and power in the peer group as they grow older. Girls may therefore be especially likely to display (relational) bullying during the first grades of secondary school when a new hierarchy is being established, as relational aggression can lead to high popularity (Cillessen & Mayeux, 2004; Ojanen & Findley-Van Nostrand, 2014). Indeed, although overt aggression decreases from childhood to adolescence for both genders, relational aggression was more likely to increase for girls than for boys (Vaillancourt, Miller, Fagbemi, Côté, & Tremblay, 2007).

On the other hand, girls also increasingly value positive social relationships and wish to be liked by others. They may therefore be increasingly willing to stand up for other girls who are victimized only occasionally. This may explain the higher rates of defending in the first grades of secondary school than in primary school. In the upper-grades of secondary school, the peer hierarchy may be more stable (Schäfer et al., 2005), and aggression may be more systematically directed at a smaller group of rejected girls (Pellegrini & Long, 2002). The motivation to defend this weak group may be low, as peers tend to dissociate themselves from low-status peers to prevent losing their own status (Juvonen & Galván, 2008). This may result in a lower prevalence of defending for girls in the upper-grades of secondary school.

For victimization, we expected the prevalence to be lower among older than younger students. Because of their more advanced social skills, older students may be better able to respond to bullying situations than younger students, which decreases their chance of being chronically victimized (Pellegrini & Long, 2002). For boys, this hypothesis was confirmed. For girls, however, there were no grade differences in the prevalence of the victim role. For girls, the effects of two qualitative changes on the prevalence of peer victimization may cancel each other out. On the one hand, (relational) bullying increases with grade, which may result in an increased risk for victimization among girls (e.g., Vaillancourt et al., 2007). On the other hand, girls' social skills also increase with development, which decreases the likelihood that they are being victimized (Pellegrini & Long, 2002).

4.3 | Strengths, considerations, and suggestions for further research

Strengths of this study were the direct comparison of grades, large sample size, and the examination of grade differences in same- and other-gender social status. Despite these strengths, our design and measures also imposed some limitations on the conclusions. The lower-grades secondary school sample consisted of two schools and our grade comparisons were cross-sectional. Therefore, we do not know how stable participant role involvement was over time

and which role transitions occurred. Moreover, we could not test the direction of effects between status and bullying involvement over time. For that, longitudinal research is needed. The use of peer nominations of participant role involvement also influences the generalizability of our findings. For example, the number of girls with a bully/follower reputation was higher in secondary school than primary school, but this does not mean that the number of bullying incidents was also higher.

We were not able to assess some factors that we assume to impact the status profiles and prevalence of the participant roles. We assumed that developmental trends in status profiles of the roles are related to youths' increased motivation to be popular (LaFontana & Cillessen, 2010). Further research should directly test this by including measures of social motivation. We also assumed that changes in the prevalence of the bully/follower role are related to shifts from the use of overt aggression to relational aggression. These shifts have been revealed by previous studies (e.g., Vaillancourt et al., 2007) and should be related to popularity and participant role involvement in future research.

4.4 | Practical implications

The findings of this study may help to improve anti-bullying programs in secondary schools. A meta-analysis has shown that anti-bullying programs are less effective in secondary schools than in primary schools (Yeager et al., 2015). Our findings suggest that one reason may be that popularity plays a different role in the group process of bullying in secondary schools than in primary schools. As bullying is more rewarding in terms of popularity, bullying may be relatively difficult to change in secondary schools where being popular is highly valued. Indeed, Garandeau, Lee, and Salmivalli (2014) demonstrated that the KiVa anti-bullying program, in which the participant roles are the central focus, does not decrease bullying by popular adolescents.

Another reason for the lower efficacy of anti-bullying programs in secondary school may be that the aim of many programs to reduce bullying by promoting defending in bystanders is not effective for adolescents. Defending is socially less rewarding in adolescence than in childhood as defenders are less popular in secondary school than in primary school. In addition, defending a peer in secondary school against a popular bully is risky for one's own status (Meter & Card, 2015). These processes may explain why anti-bullying programs that promote defending are less effective in secondary school than in primary school (Kärnä et al., 2013; Yeager et al., 2015).

To summarize, anti-bullying programs for primary school students are often adapted for use with secondary school students (Yeager et al., 2015), but the underlying rationale remains the same. However, in secondary school bullying is rewarded more and defending is rewarded less in terms of popularity (a resource very important to this age group). We therefore recommend that new anti-bullying programs should be developed for secondary school students that take this knowledge into account. These programs should specifically focus more on the important role of social status and particularly popularity in bullying. Recently, the meaningful roles intervention has been developed that tries to weaken the association between bullying and high popularity (Ellis, Volk, Gonzalez, & Embry, 2016). For example, it tries to alter the association between popularity and bullying by providing adolescents prosocial alternatives to popularity, such as by giving them the role to welcome students at the beginning of the class. By means of differential reinforcement of these prosocial behaviors that cannot be easily displayed while being aggressive, bullies learn that they can also obtain popularity by means of non-aggressive behavior.

5 | CONCLUSION

This study showed that the group process of bullying and the role of social status in this process varies by grade. Popularity plays a more prominent role than social preference in explaining grade differences in the group process of bullying. Research and practitioners should take the role of popularity into account when studying the bullying participant roles in adolescence and when designing effective anti-bullying programs for secondary schools.

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