Social goals and gains of adolescent bullying and aggression: A meta-analysis☆

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ABSTRACT

There is a long-standing debate on the goals that underlie adolescent socially coercive behaviors, such as bullying, relational aggression, and instrumental aggression. Knowledge about these goals is critical for the development of effective interventions. Bridging evolutionary and social-cognitive perspectives, we propose and substantiate a Social Goals and Gains Model of Adolescent Bullying and Aggression. The model holds that adolescents who hold agentic goals (i.e., getting ahead of others), rather than communal goals (i.e., getting along with others), engage in more bullying and aggression. Engaging in bullying and aggression, in turn, may lead adolescents to gain popularity but lose likeability. To substantiate this model, we *meta*-analyzed data of 164,143 adolescents (age range: 8–20 years), from 148 independent samples, with Meta-Analytic Structural Equation Modeling (MASEM). Our results both support and refine our model. As hypothesized, adolescents' agentic goals were associated with higher levels of bullying and aggression. Bullying and aggression, in turn, were associated with higher popularity but lower likeability. However, there was no significant association between adolescents' communal goals and bullying or aggression. These findings suggest that socially coercive behaviors, such as bullying and aggression, can be fueled by agentic goals and potentially lead to gains in popularity but losses in likeability. This suggests that intervention programs could reduce bullying and aggression by changing the means through which adolescents pursue agentic goals.

Seneca has argued that "all cruelty springs from weakness" (c. 4 BCE-CE 65; Seneca & Grimal, 1969). Following Seneca's perspective, traditional views characterize socially coercive behaviors as maladaptive behaviors that are carried out by children who lack social skills (e.g., Garner & Hinton, 2010; Grisgsby and Stevens, 2000; Zelazo et al., 1997). However, from the perspective of

evolutionary and social-cognitive theories, socially coercive behaviors can be seen as strategic, goal-directed behaviors carried out by children who possess refined social skills (e.g., Volk et al., 2015; Volk, Dane et al., 2022). Challenging traditional views and extending evolutionary and social-cognitive perspectives, we argue that socially coercive behaviors do not always spring from weakness but can also be strategic behaviors that serve the goal of getting ahead of others. Here, we propose and substantiate a Social Goals and Gains Model of Adolescent Bullying and Aggression. Doing so, we extend existing perspectives that underline the adaptiveness of these behaviors (e.g., Hawley, 1999; Ojanen et al., 2005; Volk, Dane et al., 2022; Volk et al., 2015). Specifically, we propose that adolescents are more likely to engage in bullying and aggression to the extent that they hold agentic goals (i.e., getting ahead of others) rather than communal goals (i.e., getting along with others). Such bullying and aggression, in turn, may lead adolescents to gain popularity but lose likeability. In this article, we report a *meta*-analysis to test and refine our model.

Socially coercive behaviors in adolescence

We focus broadly on adolescents' socially coercive behaviors, which are often aggressive (Hawley, 2014). Aggression is defined as any behavior characterized by an intention to inflict harm on others (Archer & Coyne, 2005). We focus on forms of aggression that can serve specific social goals, more than just to harm another person. These forms of aggression are often premeditated, instrumental, and "cold-blooded," as opposed to impulsive, reactive, and "hot-headed" (Archer & Coyne, 2005). We identify three such forms of aggression: bullying, instrumental aggression, and relational aggression. *Bullying* refers to aggressive behavior that is intentional, occurs repeatedly, and is directed toward individuals that cannot easily defend themselves (Olweus, 1992). *Instrumental aggression* refers to goal-directed, pro-active aggression aimed at obtaining certain objects, territories, or privileges (Hartup, 1974). *Relational aggression* refers to aggression that involves using others, spreading rumors, gossiping, and excluding others from the group or ignoring them (Archer & Coyne, 2005). By studying these related but distinct forms of aggression, our *meta*-analysis has a broad scope and will be able to demonstrate the broad applicability of the Social Goals and Gains Model. If this model explains bullying, instrumental aggression, and relational aggression (rather than just one of these behaviors), it has broad theoretical and applied implications.

It is critical to gain more insight into the underlying mechanisms of adolescent bullying and aggression (Berger, 2007). Being a victim of bullying can lead to long-term negative outcomes in health, financial, behavioral, and social domains (Wolke et al., 2013). Additionally, bullying and aggression do not only harm victims but also put perpetrators at risk for psychosomatic problems (Gini & Pozzoli, 2009), delinquency (Card & Little, 2006), alcohol use, weapon carrying (Nansel et al., 2004), as well as suicidal ideation and suicide attempts (Holt et al., 2015; Van Geel et al., 2014). The effects of engaging in bullying and aggression are measurable well into adulthood (e.g., Bender & Lösel, 2011; Copeland et al., 2014; Sigurdson et al., 2015). Despite the harmful consequences of bullying and aggression, interventions to reduce these behaviors are often of limited effectiveness, especially in adolescence (Yeager et al., 2015), partly because there is little attention for the goals that drive adolescent bullying and aggression.

Why do adolescents bully or aggress against others?

Traditionally, bullying and aggression have been viewed as maladaptive behaviors that stem from functional deficits or inabilities within an individual. According to the problem-solving framework (Zelazo et al., 1997), aggressive behaviors arise from deficits in executive functioning such as planning, execution, and evaluation. Likewise, it has been argued that bullying arises from deficits in frontal lobe functioning (Grigsby and Stevens, 2000), which hinders following directions and inhibiting aggressive behaviors. These frameworks have been supported by empirical studies. For example, previous studies indicate that adolescents who engage in bullying or aggression lack the skills to cope with situations in a prosocial way due to inaccurate or limited social information processing (Randall, 1997; Ziv et al., 2013), have a hostile attribution style (Steinberg & Dodge, 1983), or poor emotion regulation skills (Garner & Hinton, 2010; Olweus, 1993; Pakaslahti, 2000) such as inhibition problems (Verlinden et al., 2014).

Although this deficit perspective is supported by empirical evidence and has provided important insights into the causes of bullying and aggression, it fails to account for the fact that bullying and aggression can also be goal-directed. Resource control theory (Hawley, 1999) proposes that people are routinely exposed to challenging environments, in which they adapt their behavior to attain their evolutionarily relevant goals. Human's overarching evolution goals are survival and reproduction, which might be more easily obtained when one has certain resources such as status and power. Notably, resource control theory holds that bullying and aggression are often driven by the goal to obtain social resources (e.g., popularity). Such resources are limited and inspire competition (Darwin, 1859). One way to attain these resources is being cooperative, yet another powerful way to attain resources is being socially dominant, which includes social coercion, such as aggression (Hawley, 1999). Using both strategies (and shifting flexibly between them) might be a particularly effective manner to acquire resources (Farrell & Dane, 2020; Hawley, 1999). It was long believed that bullying does not bring social benefits because it is often targeted at lower-ranked individuals. Yet, recent research shows that bullying can give access to social resources, such as popularity, even if the bullying is targeted at lower-ranked individuals (Reijntjes et al., 2018; Volk, Andrews et al., 2022). Volk et al. (2012) and Volk, Dane et al. (2022) complemented resource control theory by arguing that bullying has an evolutionary basis: it serves evolutionarily relevant somatic, sexual, and dominance goals and is heritable. Although being liked and having friendships also contribute to reproductive success and health, under some circumstances, adolescents will pursue popularity and dominance, even if this means losing likeability, because this will give them access to resources such as food, influence over others, or dating opportunities (Volk et al., 2012; Volk, Dane et al., 2022). Indeed, adolescents who bully may value popularity over likeability, or believe that they are disliked anyway (Garandeau & Lansu, 2019). Thus, the gains of bullying and aggression may outweigh their costs (Volk et al., 2014).

Empirical studies underscore the adaptiveness of bullying and aggression. Children who are coercive seem to gain social skills,

material success, and social attractiveness, indicating that other children would like to be affiliated with them (Hawley, 2014). These resources are especially important during adolescence, when testosterone increases may lead to a higher need for social admiration and status (Blakemore et al., 2010; Cardoos et al., 2017) and social cognition develops rapidly (Blakemore & Choudhury, 2006; Caravita & Cillessen, 2012). Other studies show that adolescents who engage in bullying or aggression often have more resources, such as social dominance (Reijntjes et al., 2013) and more sexual opportunities (Volk et al., 2015). Dominance and prestige are two distinct pathways to achieve social status (Cheng et al., 2013; Henrich & Gil-White, 2001; Maner & Case, 2016), and it is possible that adolescents who engage in bullying and aggression display more dominance (e.g., using force, threats, compulsion) than prestige (e.g., excelling, being skilled, using persuasion). Although resource control theory explains why and how bullying and aggression can yield social rewards, it does not fully capture why some adolescents are more likely to engage in these behaviors than others.

Social information processing models (Crick & Dodge, 1994; Dodge & Crick, 1990) propose that aggression can be explained by individual differences in the processing of social information. Although this model suggests that impairments in individual functioning may contribute to antisocial behavior, it also emphasizes the role of individual response decisions based on differences in social goals (Crick & Dodge, 1994; Dodge & Crick, 1990). More specifically, social information processing models suggest that adolescents who are aggressive may value instrumental goals over relational goals (Crick & Dodge, 1996). Adolescents who prioritize obtaining status and popularity (i.e., agency) may be more likely to be aggressive, whereas adolescents who prioritize obtaining affiliation and being liked (i.e., communion) may not partake in these behaviors. Prior research suggests that adolescents who refrain from aggression tend to prioritize communion and might feel less need to pursue popularity, possibly because they receive fewer cues that motivate them to pursue agency now at the cost of communion later (Volk et al., 2012). Adolescents with stronger agentic goals tend to be more aggressive (e.g., Ojanen et al., 2005; Sijtsema et al., 2009), and some adolescents who are aggressive might be capable to identify the social dynamics of the group rather well (e.g., Salmivalli et al., 2000). This is reflected in classrooms with strong inequalities in social status, in which adolescents with higher social dominance goals are more likely to use aggression to gain their position on the social ladder (Pan et al., 2020). From this perspective, adolescents who use aggression need to use various self-regulatory processes (such as inhibition of other goals or long-term planning) to attain their goals (Baumeister & Vonasch, 2015; Kopetz & Orehek, 2015). Some
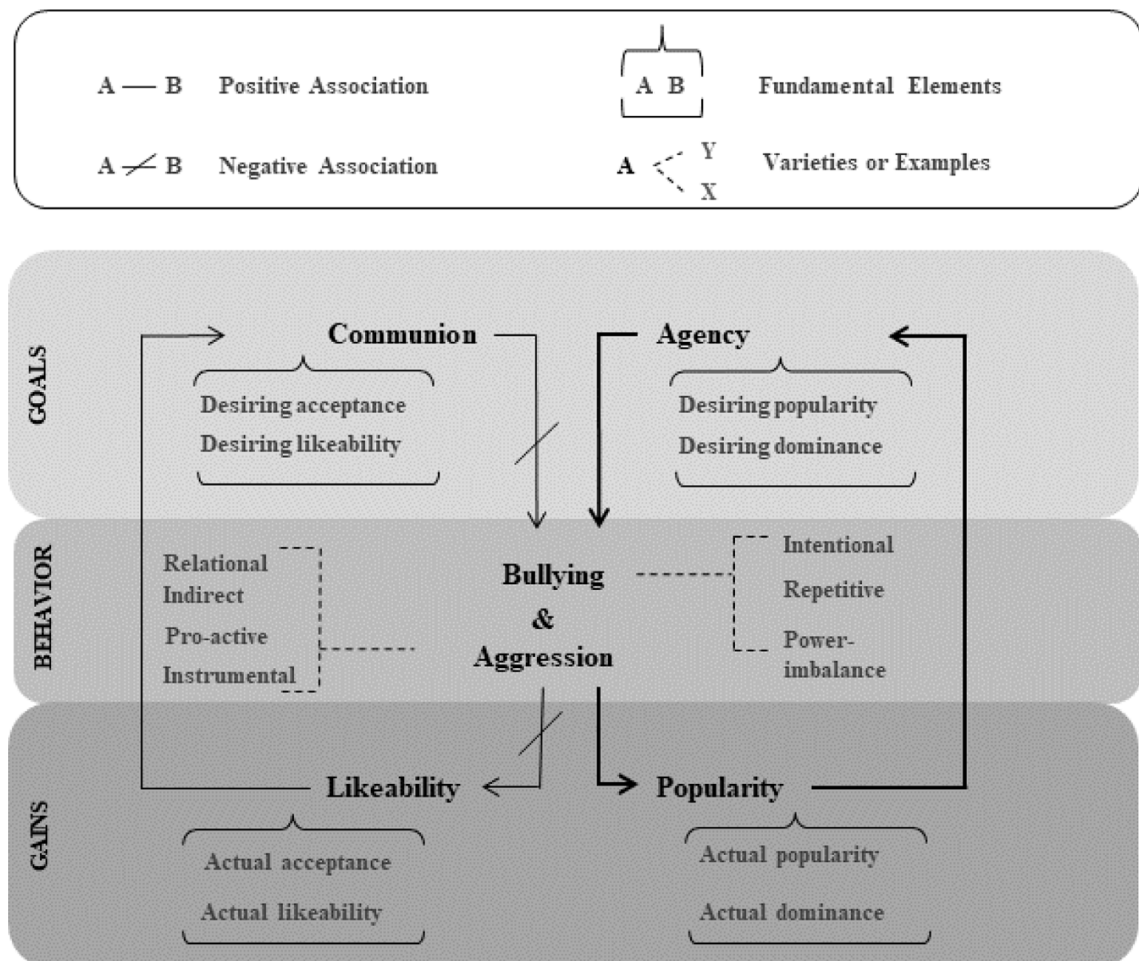

Fig. 1. The social goals and gains model of adolescent bullying and aggression.

bullying and aggression might thus best be defined as goal-directed behaviors, reflecting skillful social and emotional functioning (Sutton et al., 1999).

Bullying and aggression have been linked with the endorsement of various goals, including dominance, status, resources or rewards, revenge, justice, belonging, romance or dating benefits, identity, well-being, and entertainment or recreation (Farrell & Vaillancourt, 2019; Runions et al., 2018; Sanders et al., 2021). It has also been proposed that bullying can be evoked by a desire for material resources (e.g., food; Volk et al., 2012), which might be particularly important for adolescents who are financially deprived. Of these goals, goals that relate to social standing are most often represented in the empirical literature on adolescence (i.e., dominance, status, and belonging; Sanders et al., 2021). These goals gain importance in adolescence. Even though there might be other (non-social) goals that play an important role in bullying and aggression, social goals seem to gain the most attention in adolescence and are the focus of current empirical research. This allows us to only *meta*-analyze the social goals of bullying and aggression—while we do acknowledge the potential role that somatic and reproductive goals can play in adolescent bullying and aggression.

An integrative model: Social goals and gains of adolescent bullying and aggression

We propose a new model of adolescent bullying and aggression by bridging resource control and social information process theories while zooming in on the social goals and gains of adolescent bullying and aggression. Our Social Goals and Gains Model of Adolescent Bullying and Aggression (Fig. 1) combines theories on how bullying and aggression relate to the two fundamental dimensions of agency and communion (social goals) with the dual components of social competence (social gains). We argue that adolescents make a conscious or unconscious cost-benefit analysis (Volk et al., 2012; Volk, Dane et al., 2022; Volk et al., 2014). For some adolescents, the potential gains of bullying and aggression outweigh their potential costs (Garandeau & Lansu, 2019; Volk et al., 2012; Volk, Dane et al., 2022). We predict that some adolescents prioritize agentic goals, which makes them more inclined to show bullying and aggression, which, in turn, makes them more popular among their peers. Other adolescents prioritize communal goals, which makes them less inclined to show bullying and aggression, which, in turn, makes them better liked by their peers.

First, our model identifies social goals that underlie bullying and aggression. We separate goals to get ahead of others (i.e., agentic goals) from goals to get along with others (i.e., communal goals; Abele & Wojciszke, 2014; Hogan & Hogan, 1991). These two dimensions are related to two core challenges that adolescents face: the challenge to acquire status and to feel competent (i.e., agency) and the challenge to form intimate, social connections with others (i.e., communion; Ybarra et al., 2008). Adolescents with agentic goals pursue influence and uniqueness, which is related to being popular among their peers (Abele & Wojciszke, 2014). Adolescents with communal goals pursue intimacy, bonding, socializing, and love, which is related to being liked by their peers (Abele & Wojciszke, 2014). Our model holds that (a) agentic goals encourage adolescents to engage in bullying and aggression, because these behaviors help secure popularity, even though coming at a cost of likeability; and (b) communal goals discourage adolescents from engaging in bullying and aggression because these behaviors come at a cost of likeability.

Second, our model identifies the social consequences of bullying and aggression. Communal and agentic goals are differentially linked to social outcomes; people showing agency are generally more popular, whereas people showing communion are generally better liked (Wojciszke et al., 2009). Popularity and likeability are defined as separate constructs (Cillessen & Marks, 2011; van den Berg et al., 2020) and are grounded in the dual-component model of social competence (Cillessen, 2008). Popularity is often defined as perceived popularity (i.e., a reputation of being popular or of high rank), and likeability is often defined as sociometric popularity (i.e., being accepted and liked). Although popularity and likeability are positively related in early adolescence, this relation weakens with age, which shows that they are distinct forms of status (Van den Berg et al., 2020). Adolescents who are argumentative, coercive, forceful, and manipulative are usually more popular (Cillessen, 2008). Adolescents who are generally more prosocial and cooperative are usually better liked (Cillessen, 2008). Accordingly, our model holds that engaging in bullying and aggression leads to gains in terms of popularity but losses in terms of likeability.

The Social Goals and Gains Model is consistent with the nature of adolescent development. The instrumental value of bullying and aggression might be amplified in high school contexts in comparison to primary- or college students because the peer context and social admiration are extremely important in adolescence (Rodman et al., 2017; Steinberg & Morris, 2001; van den Bos, 2013; Yeager et al., 2018) and bullying and aggression, therefore, happen more often and on a larger scale (Volk et al., 2016). Adolescents experience a period of rapid growth and heightened susceptibility to social evaluation, which might be linked to hormone-specific developments such as increases in the secretion of adrenal androgens, gonadal steroids, and growth hormone (Crone and Dahl, 2012; Dahl et al., 2018). In their daily lives, adolescents care deeply about how they are evaluated by others (Steinberg & Morris, 2001; van den Bos, 2013; Yeager et al., 2018), and peer evaluations are of great importance in adolescence (Rodman et al., 2017). However, our model might be especially relevant in early adolescence (12–14 years). First, at this age, agentic goals become increasingly salient. For example, early adolescents prioritize agency more than younger children and older adolescents (LaFontana & Cillessen, 2010). Second, at this age, agentic goals become more strongly linked to popularity, whereas communal goals become more strongly linked to likeability (Caravita & Cillessen, 2012). Third, especially in early adolescence, bullying and aggression might be considered adaptive ways to achieve agentic goals. For example, in early adolescence, bullying is more strongly related to popularity than in other age groups (Caravita & Cillessen, 2012).

The current meta-analysis

The aim of this *meta*-analysis was to substantiate and refine our Social Goals and Gains Model of Adolescent Bullying and Aggression. We synthesized both correlational and longitudinal empirical studies that focus on the association between social goals (i.

e., agency and communion), socially coercive behavior (i.e., bullying, instrumental aggression, and relational aggression), and social outcomes (i.e., popularity and likeability). First, we hypothesized that agentic goals are positively associated with adolescent bullying and aggression, and that communal goals are negatively associated with bullying and aggression. Second, we hypothesized that adolescent bullying and aggression are positively associated with popularity and negatively associated with likeability. Third, and importantly, we hypothesized that bullying and aggression mediate the association between agentic goals and increased popularity, providing direct evidence for the view that bullying and aggression are goal-directed behaviors that are linked with social gains. Fourth, we hypothesized that reduced bullying and aggression mediates the association between communal goals and increased likeability, providing evidence for the view that prioritizing being liked and the prospect of being liked, buffers adolescents from aggressing towards others. We also hypothesized that associations are stronger in early adolescence than in middle and late adolescence.

Our *meta*-analysis substantially extends existing research. Existing *meta*-analyses have examined associations of social goals with bullying (Samson et al., 2022) and aggression (Samson et al., 2012) or associations of bullying with social status (Wiertsema et al., 2022). However, these *meta*-analyses are unable to substantiate our Social Goals and Gains Model of Adolescent Bullying and Aggression, because they examined bullying and aggression in isolation and did not examine the mediating role of bullying and aggression in a full conceptual model linking social goals to social gains. Thus, we extended existing *meta*-analyses in two important ways. First, we developed and tested a full conceptual model—from social goals to social status through bullying and aggression. We did so using Meta-Analytic Structural Equation Modeling (MASEM), a novel technique that enables researchers to test a mediation
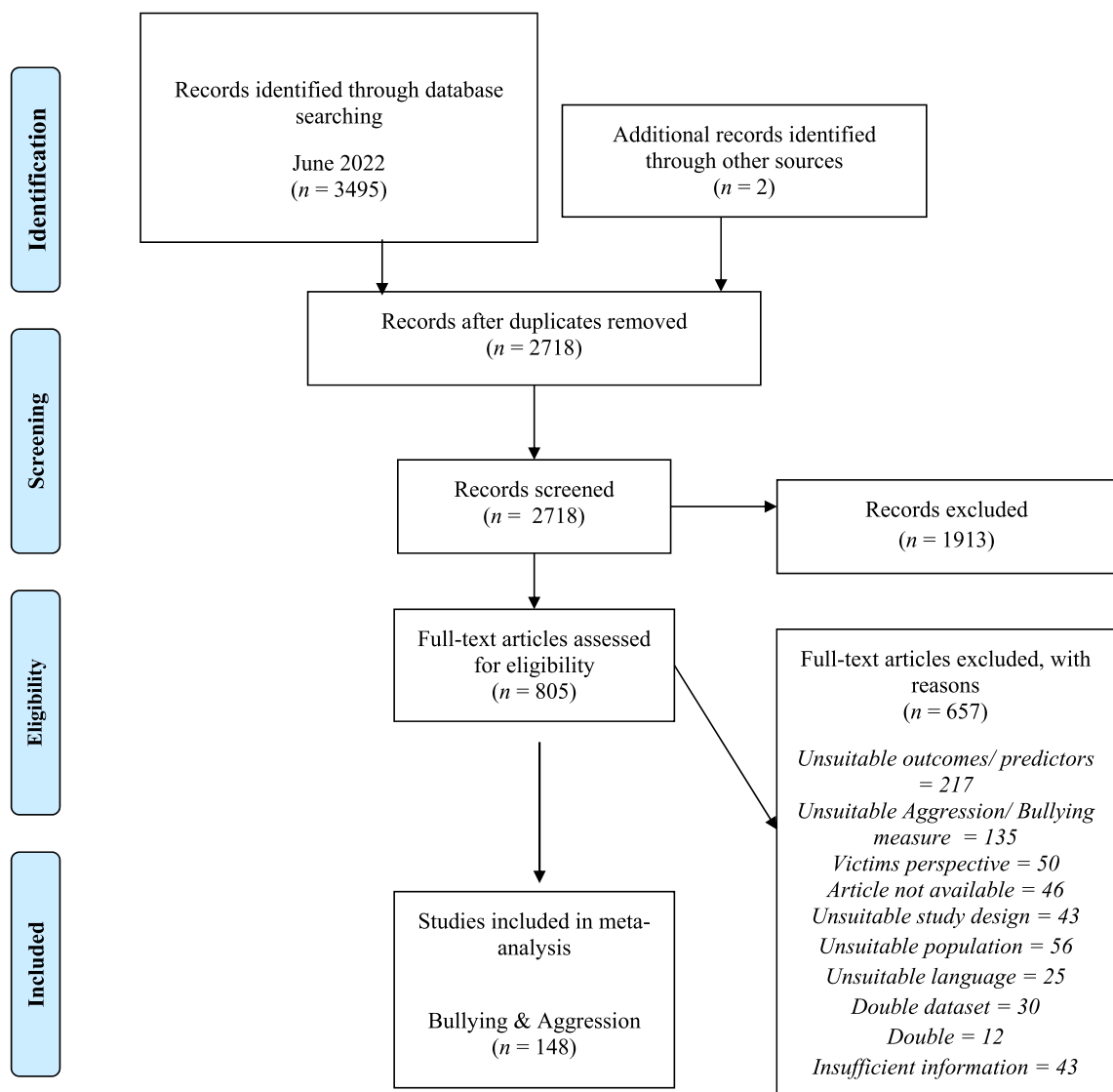

Fig. 2. Flow chart of search strategy, screening, and coding process.

Table 1
Included articles and supporting information.

	Lead Author (year)	Bull/Aggr	Country	Age
1	Arnocky (2012)	Bullying	Canada	$M = 12.5$
2	Berger (2016)	Bullying	Chile	Range: 10–13
3	Bouman (2012)	Bullying	The Netherlands	Grade 4–6
4	Calvete (2010)	Bullying	Spain	Range: 12–17
5	Caravita (2012)	Bullying	Italy	Mrange $= 10.4$–13.5
6	Cerezo (2005)	Bullying	Spain/ England	Range: 10–12
7	Chang (2004)	Bullying	China	Range: 13–16
8	*Cillessen (2014[a])	Bullying	The Netherlands	$M = 11.07$
9	Ciucci (2014)	Bullying	Italy	Range: 10–15
10	De Bruyn (2006)	Bullying	The Netherlands	$M = 13.05$
11	De Bruyn (2010)	Bullying	The Netherlands	$M = 13.6$
12	Dijkstra (2008)	Bullying	The Netherlands	$M = 14.02$
13	Dollar (2017)	Bullying	United States	Range: 11–15
14	Duffy (2017)	Bullying	Australia	Range: 10.85–13.63
15	Espelage (2001)	Bullying	United States	Grade 6–8
16	Festl (2016)	Bullying	Germany	Range: 11–18
17	Foshee (2016)	Bullying	United States	Range: 13–16
18	Garandeau (2014)	Bullying	Finland	$M = 14.57$
19	Garandeau (2019[a])	Bullying	The Netherlands	Range: 11.43–17.8
20	Hafen (2013)	Bullying	Finland	Range: 14–17
21	Isaacs (2013)	Bullying	Finland	Range: 10–13
22	Kochel (2015)	Bullying	United States	$M = 12.28$
23	*Lansu (2013)	Bullying	The Netherlands	$M = 11.1$
24	Lenzi (2014)	Bullying	Italy	Range: 11–13
25	Longobardi (2018)	Bullying	Italy	Range: 11–14
26	Lucas-Molina (2014)	Bullying	Spain	Range: 8–13
27	McVean (2018)	Bullying	United States	Grades: 6–8
28	Nocentini (2013)	Bullying	Italy	Grades: 9–11
29	Olthof (2011)	Bullying	The Netherlands	$M = 11.3$
30	Palacios (2016)	Bullying	Chile	Grade 4–6
31	*Peeters (2010)	Bullying	The Netherlands	$M = 13.37$
32	Postigo (2012)	Bullying	Spain	Range: 12–17
33	Pouwels (2016)	Bullying	The Netherlands	$M = 16.38$
34	Pronk (2017)	Bullying	The Netherlands/India	$M = 13.8$
35	Pronk (2018)	Bullying	The Netherlands	$M = 12.5$
36	Romera (2017)	Bullying	Colombia	Range: 10–19
37	Runions (2018)	Bullying	Australia	$M = 13.2$
38	Sentse (2007)	Bullying	The Netherlands	$M = 13.4$
39	Sentse (2015)	Bullying	Finland	Mrange $= 11.2$–14.4
40	*Sijtsema (2009)	Bullying	Finland	Range: 10–15
41	Strohmeier (2012)	Bullying	Norway	Grade: 8–10
42	Thunfors (2008)	Bullying	United States	Grade:6–8
43	Vaillancourt (2003)	Bullying	Canada	Range 11–17
44	Vanden Abeele (2013)	Bullying	Belgium	$M = 16.1$
45	Wegge (2016)	Bullying	Belgium	$M = 13.24$
46	Wei (2012)	Bullying	Taiwan	$M = 12.8$
47	Bardach (2020)	Bullying	Austria	$M = 15.67$
48	Garandeau (2019[b])	Bullying	The Netherlands	$M = 11.06$
49	Garandeau (2019[c])	Bullying	Austria	$M = 12.31$
50	Garandeau (2021)	Bullying	Finland	$M = 13.37$
51	Guy (2019)	Bullying	England	Range: 11–16
52	Kisfalusi (2022)	Bullying	The Netherlands	$M = 10$
53	Košir (2022)	Bullying	Slovenia	$M = 15.48$
54	Kretschmer (2021)	Bullying	The Netherlands	$M = 14$
55	*Lansu (2021)	Bullying	The Netherlands	Range: 9.12–13.13
56	Lee (2021)	Bullying	South Korea	$M = 13$
57	*Malamut (2020[a])	Bullying	The Netherlands	Range: 11.29–17.80
58	Pan (2020)	Bullying	China	$M = 10.9$
59	Pozzoli (2021)	Bullying	Italy	Range: 10–14
60	Romera (2019)	Bullying	Spain	Range: 11–15
61	Romera (2021)	Bullying	Spain	Range: 11–16
62	*Van den Bos (2018)	Bullying	The Netherlands	Range: 12–18
63	*Van den Broek (2016)	Bullying	The Netherlands	Range: 14–19
64	Wang (2021)	Bullying	China	$M = 13.66$
65	Andreou (2006)	Aggression	Greece	$M = 11.2$
66	Badaly (2013)	Aggression	United States	Grade 9–10
67	Bowker (2014[a])	Aggression	United States	$M = 12.04$
68	Bowker (2012[a])	Aggression	India	$M = 13.35$

Table 1 (*continued*)

	Lead Author (year)	Bull/Aggr	Country	Age
69	Bowker (2012[b])	Aggression	United States	$M = 12.74$
70	Bowker (2014[b])	Aggression	United States	$M = 13.20$
71	Casper (2017)	Aggression	United States	$M = 12.03$
72	Chen (2018)	Aggression	China	$M = 15.98$
73	Chen (2019)	Aggression	China	Range: 12–16
74	*Cillessen (2014[a])	Aggression	The Netherlands	$M = 11.07$
75	Cillessen (2014[b])	Aggression	The Netherlands	$M = 14$
76	Closson (2009)	Aggression	Canada	Grades 6–8
77	Cristina (2001)	Aggression	Canada	$M = 12.8$
78	Dijkstra (2011)	Aggression	The Netherlands	Range:11–12
79	Dijkstra (2010)	Aggression	Chile	Range: 12–14
80	Dumas (2019)	Aggression	Canada	$M = 14.98$
81	Ellis (2007)	Aggression	Canada	$M = 12.05$
82	Ettekal (2020)	Aggression	United States	Grades 8–11
83	Ettekal (2015)	Aggression	United States	Grades 7–8
84	Ferguson (2016)	Aggression	Australia	Range 9–13
85	Findley (2013)	Aggression	Finland	Range 12–14
86	Flack (2017)	Aggression	Norway	$M = 14$
87	Hartl (2020)	Aggression	Canada	$M = 12.50$
88	Hawley (2007)	Aggression	Germany	$M = 14.65$
89	Hill (2006)	Aggression	United States	Grades 3–12
90	Hoff (2009)	Aggression	United States	Grades 6–8
91	Houser (2015)	Aggression	United States	Grade 9
92	Juvonen (2013)	Aggression	United States	Grades 7–8
93	Kiefer (2016)	Aggression	United States	Grade 6
94	Kim (2018)	Aggression	South Korea	Range 14–16
95	Kokkinos (2020)	Aggression	Greece	Range 12–15
96	Kornbluh (2016)	Aggression	United States	Grades 3–8
97	Kraft (2018)	Aggression	United States	Grades 6–8
98	Lansford (2009)	Aggression	United States	Range 11–14
99	*Lansu (2013)	Aggression	The Netherlands	$M = 11.1$
100	*Lansu (2021)	Aggression	The Netherlands	Range: 9.12–13.13
101	Lee (2020)	Aggression	United States	$M = 14.2$
102	Li (2018)	Aggression	China	Grades 5–6
103	Li (2014)	Aggression	United States	Range 11–15
104	Lu (2018)	Aggression	China	Grades 7–12
105	Malamut (2022)	Aggression	United States	$M = 15.10$
106	Malamut (2020[b])	Aggression	United States	$M-14.4$
107	*Malamut (2020[a])	Aggression	The Netherlands	Range: 11.29–17.80
108	Malamut (2021)	Aggression	The Netherlands	$M = 13.66$
109	Mayeux (2008)	Aggression	Canada	Grades 8–12
110	Mayeux (2014)	Aggression	United States	Grades 9–12
111	Mayeux (2018)	Aggression	United States	Grades 6–8
112	McQuade (2014)	Aggression	United States	Range 9–14
113	Niu (2016)	Aggression	China	$M = 14.27$
114	Ojanen (2012)	Aggression	Finland	Range 12–14
115	Ojanen (2014)	Aggression	Finland	Range 12–14
116	Ojanen (2019)	Aggression	United States	Range 11–15
117	Orue (2011)	Aggression	Spain	Grades 4–6
118	Pattiselanno (2015)	Aggression	The Netherlands	$M = 14.02$
119	*Peeters (2010)	Aggression	The Netherlands	$M = 13.37$
120	Peets (2014)	Aggression	Finland	Range: 12–13
121	Prinstein (2003)	Aggression	United States	Range: 15–17
122	Puckett (2008)	Aggression	United States	Grades 7–8
123	Rose (2004[a])	Aggression	United States	Grades 3–9
124	Rose (2004[b])	Aggression	United States	Grades 7–9
125	Rose (2009)	Aggression	United States	Grades 7–9
126	Rosie (2020)	Aggression	United States	$M = 12.01$
127	Salmivalli (2000)	Aggression	Finland	Range 15–16
128	Salmivalli (2005)	Aggression	Finland	Range 11–13
129	Sandstrom (2010)	Aggression	United States	Grades 9–12
130	Schwartz (2017)	Aggression	United States	Grades 6–7
131	Schwartz (2019)	Aggression	United States	Grades 9–10
132	Seo (2021)	Aggression	United States	Grades 7–8
133	Shin (2020)	Aggression	South Korea	$M = 12.46$
134	Shin (2021)	Aggression	South Korea	$M = 12.46$
135	*Sijtsema (2009)	Aggression	Finland	Range 14–15
136	Smith (2010)	Aggression	United States	Grades 7–9
137	Stevens (2013)	Aggression	Samoa	Range 13–19

(*continued on next page*)

Table 1 (*continued*)

	Lead Author (year)	Bull/Aggr	Country	Age
138	Stoltz (2016)	Aggression	The Netherlands	Grades 7–8
139	Vaillancourt (2006)	Aggression	Canada	Range 11–17
140	Van den Berg (2019)	Aggression	The Netherlands	Grades 7–9
141	Van den Berg (2015)	Aggression	The Netherlands	Range 9.5–13.8
142	*Van den Bos (2018)	Aggression	The Netherlands	Range: 12–18
143	*Van den Broek (2016)	Aggression	The Netherlands	Range: 14–19
144	Van Hazebroek (2017)	Aggression	The Netherlands	Range 11–14
145	Voulgaridou (2022)	Aggression	Eastern Macedonia and Thrace	Range: 13–16
146	Wang (2020)	Aggression	United States	Grade 7
147	Wang (2017)	Aggression	China	$M = 13.58$
148	Wang (2015)	Aggression	China	Range 11–16
149	Washington (2018)	Aggression	China	Grades 3–6
150	Wright (2014)	Aggression	China	$M = 13.42$
151	Wright (2013)	Aggression	United States	$M = 13.05$
152	Yavuzer (2021)	Aggression	Turkey	Range 13–14
153	Zhou (2021)	Aggression	China	Range 12–15
154	Zimmer-Gembeck (2007)	Aggression	Australia	Range 9–13
155	Zimmer-Gembeck (2013)	Aggression	Australia	Range 10–15
156	Zwaan (2013)	Aggression	The Netherlands	$M = 13.60$

Note. In case it was available, we reported the age range of the study in this table, if this wasn't (fully) available, we reported the mean age, if that was not available, we reported the grades. [a]first cited publication by the same author in the same year, [b]second cited publication by the same author in the same year, [c]third cited publication by the same author in the same year, *article reported correlations both for bullying and aggression.

model based on data from previous studies that did not necessarily test the same mediation model (Jak, 2015; for an example of application of MASEM see van Dijk et al., 2020). Second, we tested whether and how the conceptual model differed between bullying and aggression. Doing so, we bridge two literatures that often remain separate. If bullying and aggression have similar antecedents and consequences, this could help finetune existing interventions to target both socially coercive behaviors simultaneously. By taking these steps, we provide a comprehensive empirical test of our Social Goals and Gains Model of Adolescent Bullying and Aggression.

Method

Literature search

We searched three databases (PsycInfo, ERIC, Web of Science) until June 2022 for articles that focused on the relationship between bullying and aggression and social goals (e.g., communal, agentic, popularity goals) or between bullying and aggression and social outcomes (e.g., acceptance, likeability, popularity, dominance) in adolescence. An overview of all search strings is included in supplemental materials (Supmat. A). We then included other eligible articles that we found by scanning reference lists and via personal contact with scholars in the field of adolescent bullying research. Fig. 2 presents the number of articles that were retrieved from the different search methods.

Selection of studies

After removing duplicate articles, we screened all study titles and abstracts for eligibility. We included empirical studies, published in English, that included participants that fell in the 12–18-year age range. If the age range minimum or maximum was slightly below or above our preferred age range but the study also included adolescents within our age range and other inclusion criteria were met, articles were included which led to a final age range of approximately 8 to 20 years old (see Table 1). To be included, studies had to assess bullying (traditional, cyber, or both) or social, relational, indirect, instrumental, or proactive aggression and a goal (e.g., agentic, communal) and/or an outcome (e.g., popularity, likeability). We excluded qualitative studies or studies that measured bully- or aggression-related variables (e.g., defending, attitudes) but not bullying or aggression itself. After this screening, 805 articles were eligible for full-text screening. Out of all articles we intended to screen, some were not accessible online ($k = 57$). We contacted authors and received some articles ($k = 11$), of which only a few were eligible to include ($k = 2$). Next, we assessed all available full texts and identified: (a) 64 studies as eligible for inclusion for bullying and (b) another 92 studies that were eligible for aggression. The first author and three research assistants triple-screened and coded 20% of the articles. For inclusion screening, agreement ranged between 75% and 85%. For the coding of included articles, there was 84% agreement between the four coders. Coder's disagreement was resolved through discussion until a consensus was reached. Included studies are presented in Table 1 and the supplementary materials (Supmat. B).

Data extraction

Effect sizes

We extracted correlations between (a) social goals and bullying and aggression, (b) bullying, aggression, and social gains, (c)

different types of social goals (communal vs. agency goals), (d) different indicators of social gains (likeability vs. popularity), (e) social goals and social gains. If a relevant correlation was not reported in the article, we emailed the authors to ask them to provide their correlation matrix. Of the 66 authors emailed, 29 provided their full correlation matrix, and 1 provided some correlations. Reasons not to provide correlation matrices were: no access to the dataset anymore ($n = 13$), no time/access to the dataset due to the COVID-19 regulations ($n = 2$), or being on a holiday/sabbatical ($n = 1$). Other authors did not respond to our request ($n = 20$). In case we did not receive a correlation matrix, we calculated the correlations from other test statistics available when possible. When authors reported correlations for boys and girls separately (rather than for the full sample), we calculated the mean of those correlations. When authors reported correlations for multiple waves, we averaged these correlations. If betas were reported, we used the formula: $r = \beta + 0.5\lambda$, where λ is 1 if β is nonnegative and 0 if β is negative (Peterson & Brown, 2005), to calculate correlations. Nonnegative and negative variables were treated differently to account for differences in how nonnegative and negative β's relate to their corresponding r values (for an explanation see; Peterson & Brown, 2005).

Study variables

To create uniformity in our definitions, we categorized social goals and social gains based on the agentic and communal sub-dimensions (Abele & Wojciszke, 2014) and sociometric and perceived popularity (Cillessen, 2008). We assessed and interpreted the measures that authors used (rather than following the terminology they used) to see to which category their measure belonged, as we will describe here further.

Social goals
We categorized social goals as communal or agentic. Communal goals reflected a desire to be accepted or to be liked (acceptance and liking). Agentic goals reflected a desire to be popular or to be dominant (popularity and dominance). We operationalized acceptance goals as a desire for peer acceptance, a tendency to conform to group norms, and submissive goals. We operationalized liking goals as a desire for friends and a desire to be liked. We operationalized popularity goals as a desire to be popular, status goals, popularity goals, popularity prioritization, and hierarchy goals. We operationalized dominance goals as a desire for power or influence and a desire for (social) dominance. Here, we included only self-reports because we sought to capture adolescents' own, subjectively endorsed goals, rather than goals that were inferred by others.

Social gains
We categorized social gains as gains reflecting likeability or popularity. Likeability reflected acceptance or likeability. Popularity reflected dominance or popularity. We operationalized acceptance as a peer-reported form of acceptance (being accepted within a group). We operationalized likeability as being nominated by peers as liked or likable, sociometric popularity, and as being a friend (or a tie). We operationalized popularity as peer-nominated status, hierarchy, and (perceived) popularity. We operationalized dominance as peer measures of power, influence, and (social) dominance. We included only peer reports since we aimed to capture the social consequences of bullying, rather than perpetrators' subjective perceptions of those consequences. In case one study had multiple indicators of likeability and popularity (e.g., both popularity and dominance were measured in association with bullying), we chose the strongest indicator for getting along for likeability (for example: being friends), and we choose the strongest indicator for getting ahead for popularity (for example: being dominant). For likeability, this was the case for 2 studies; for popularity, this was the case for 4 studies.

Socially coercive behaviors
Bullying. Bullying refers to aggressive behavior that occurs repeatedly, intentionally, and with a power imbalance (Olweus, 1992). Studies were identified as eligible when they used one of the 26 questionnaires that were previously identified as adequate ways of measuring bullying (Berne et al., 2013; Vivolo-Kantor et al., 2014) or when they used one of the 52 questionnaires we identified that explicitly referred to bullying. For a complete list of approved questionnaires, see Supplemental Materials (Supmat D). We included both self-reported and peer-reported measures of bullying. If both were provided, we used the peer-reported measure of bullying because peer reports are more strongly linked with peer-reported status than self-reports of bullying (Bouman et al., 2012). In some cases, one study assessed multiple forms of bullying (i.e., traditional and cyber or physical and verbal bullying). Because preliminary analyses showed that the associations we found were similar for the different forms of bullying, we took the mean of all observed correlations for different bullying forms (see supplementary materials for these preliminary analyses, Supmat. C. table a—d).

Aggression. We focused on relational aggression and instrumental aggression as specific forms of aggression that are goal-directed and pertain to acquiring social goals. Relational aggression was defined as relational aggression and indirect aggression (Archer & Coyne, 2005). We also included instrumental and proactive aggression, because these forms of aggression are often premeditated, instrumental, and "cold-blooded," as opposed to impulsive, reactive, and "hot-headed" (Archer & Coyne, 2005). We included both self-report and peer-report measures of aggression. In case both were reported, we choose the peer-report measure over the self-report measure because peer aggression reports might be more strongly linked with peer status reports, consistent with our bullying indicator (Bouman et al., 2012).

Quality assessment

We performed a quality assessment of included studies to assess the risk of bias. We used criteria for quantitative descriptive

studies, developed for the Mixed Methods Appraisal Tool (MMAT; Pluye et al., 2011). First, we assessed whether the sampling strategy was relevant to address the quantitative research questions by assessing whether the source of the sample was relevant, whether there was a standard procedure for sampling, and whether the sample size was justified. Second, we assessed whether the sample was representative of the population under study by assessing whether inclusion and exclusion criteria were explained, and reasons why eligible individuals chose not to participate were explained. Third, we assessed whether measurements were appropriate by considering whether variables were clearly defined and accurately measured, whether measurements were justified and appropriate for answering the research question, and whether measurements reflect what they were supposed to measure. Fourth, in case a study was longitudinal, we assessed whether there was an acceptable response rate (60% or higher). We then calculated a final score between the range of 0–8 or 0–9 for longitudinal studies. Studies with a score of 0–2 were ranked as low quality, studies with a score of 3–5 were ranked as medium quality, and studies with a score of 6–8 or 6–9 were ranked as high quality. All studies were coded by two researchers, which led to an absolute agreement of 71%. This level of agreement was initially not sufficient (Hartmann, 1977). Therefore, disagreements were discussed until a consensus was reached. Eventually, zero studies were coded as low quality, 74 as medium quality, and 74 as high quality.

Data analysis strategy

To test our hypothesized models, we conducted a multilevel one-stage MASEM with moderation analysis, with bullying and aggression as the mediator. This technique enabled us to test a mediation model based on data from previous studies that did not necessarily test the same mediation model (Jak, 2015). We used a random effects model to control for the multilevel structure of the data (i.e., multiple correlations of interest tested within one study). To be able to include continuous moderators, we conducted a one-stage MASEM with an online tool (https://sjak.shinyapps.io/webMASEM/; developed by Jak et al., 2021). We first tested mediation. We then tested moderation: we conducted a multi-group comparison by age to provide an overall test of whether one of the paths was moderated by age. If the multigroup effect was significant, we tested, for each hypothesized path, whether it was moderated by age (Jak & Cheung, 2020). We also performed two sensitivity analyses: We examined whether the results were different when we included (vs. excluded) longitudinal studies, and we examined whether the results were different from our main model (which includes both bullying and aggression) when we tested the model separately for bullying and aggression.

We used several fit indices: χ^2, RMSEA, and CFI values (RMSEA values of lower than 0.05 and CFI values above 0.95 indicate satisfactory model fit, see Hu & Bentler, 1999). We evaluated standardized coefficients for their effect size based upon previous guidelines for correlational estimates (Cohen, 1969), with values of 0.10 indicating small effects, 0.30 indicating moderate effects, and 0.50 indicating large effects.

Results

Descriptive statistics

Demographics

We pooled correlational *meta*-analytical data from 164,143 participants in 148 independent samples (see Table 2). The pooled dataset includes participants from 23 different countries (Italy, the USA, the Netherlands, Norway, Colombia, Spain, Australia, Finland, Germany, India, Belgium, England, Canada, China, Chile, Turkey, Slovenia, South Korea, Samoa, Greece, Eastern Macedonia and Thrace, Austria, and Taiwan), with most of the studies coming from the United States ($n = 44$), The Netherlands ($n = 33$), Finland ($n = 13$), and China ($n = 13$). The mean age (used for moderation analyses) ranged from 9.80 to 16.8 years ($M_{meanage} = 13.23$, $SD = 1.54$), and the overall age ranged from approximately 8 to 20 years old.

Correlations

First, we obtained the unrestricted average correlation matrix by fitting a multivariate *meta*-analysis. We assessed the pooled correlations between agency, communion, bullying and aggression, popularity, and likeability (Table 2). Agentic goals were positively correlated with bullying and aggression, whereas communal goals were not significantly correlated with bullying and aggression. Bullying and aggression were positively correlated with popularity and negatively correlated with likeability.

Table 2

Sample size (and number of independent samples) per correlation above diagonal. Pooled correlation matrix based on the random effects model below diagonal.

Variable	1.	2.	3.	4.	5.
1. Communion	–	15,308 (20)	16,605 (23)	1912 (4)	2577 (6)
2. Agency	0.134*	–	32,081 (43)	6325 (12)	8000 (15)
3. Bull&Agg	0.008	0.181***	–	101,203 (1 1 0)	96,757 (106)
4. Likeability	0.095***	0.000	−0.145***	–	53,803 (69)
5. Popularity	0.092***	0.172***	0.279***	0.359***	–

*<0.05, ** <0.01, *** <0.001.

One-Stage MASEM analysis

Model specification

We estimated a matrix with between-study variances and covariances. We then estimated random effects at the study-level variance. Next, we fitted our proposed model to the data. Exact model fit was rejected, $\chi2_{(2)} = 8.424$, $p = .015$. However, other fit indices (RMSEA $= 0.004$, CFI $= 0.982$) indicated a good fit to the data.

Mediation model

We first estimated the mediation model (see Fig. 3). We then estimated indirect effects of agentic goals via bullying and aggression on popularity, $\beta = 0.047$, 95% CI [0.035; 0.069], and of the communal goals via bullying and aggression on likeability, $\beta = -0.001$, 95% CI [-0.011; 0.012]. As confidence intervals indicated, the indirect effect of agentic goals on popularity via bullying and aggression was significant, indicating that adolescents with higher agentic goals achieved higher popularity via bullying and aggression. Mediation was partial, given that the direct effect of agentic goals on popularity was still significant, $\beta = 0.131$, $p < .001$. Bullying and aggression, in turn, were associated with higher popularity and lower likeability. By contrast, the indirect effect of communal goals on likeability via bullying and aggression was not significant. Although there was a positive association between communal goals and likeability, this was not mediated by bullying and aggression, as there was no significant association between communal goals and bullying and aggression.

We conducted exploratory analyses to examine whether communal goals were associated with popularity and agentic goals were associated with likeability. Communal goals and popularity were positively correlated, albeit weakly (Table 2). There was no significant indirect effect of communal goals on popularity via bullying and aggression, $\beta = 0.001$, 95% CI [−0.020; 0.023]. There was, however, an indirect significant effect of agentic goals on likeability via bullying and aggression, $\beta = -0.028$, 95% CI [−0.037; −0.019], with adolescents who hold agentic goals being less liked by others as they show more bullying and aggression. There was no significant direct effect of agency on likeability, $\beta = 0.013$, $p = .066$, indicating full mediation.

Additional analyses

Moderation of age

We examined whether the effects were moderated by age. There was no overall moderation effect by age in the main model $\chi2_{(4)} = 4.497$, $p = .343$, or in the models with indirect effects $\chi2_{(6)} = 1.401$, $p = .966$. This indicated that none of the individual paths (i.e., from social goals to bullying and aggression, and from bullying and aggression to social gains) and none of the mediation paths (i.e., from social goals to social gains via bullying and aggression) were significantly different depending on age.

Sensitivity analyses

We investigated whether the study design (i.e., cross-sectional vs. longitudinal) moderated the paths in our model. Of all included samples, 21 included both cross-sectional and longitudinal correlations. We compared our original one-stage MASEM results including only cross-sectional correlations to one-stage MASEM results including both cross-sectional and longitudinal associations (see supplementary materials, Supmat. C. table f). Including the longitudinal studies did not affect our findings (i.e., no significant path became
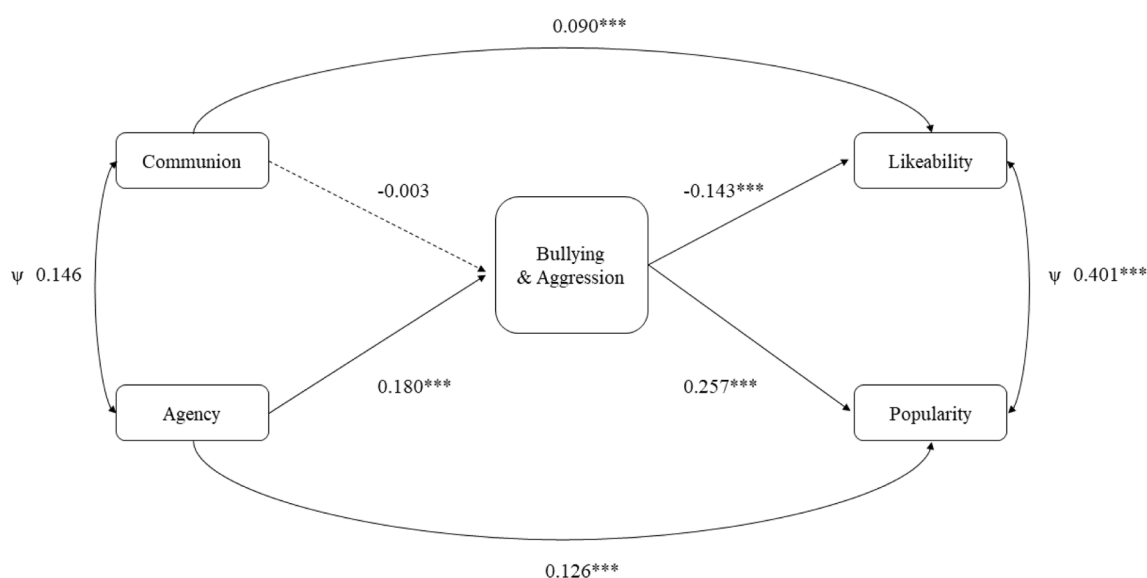

Fig. 3. Mediation model with model parameters.

non-significant, and no non-significant path became significant).

Because our main model included both bullying and aggression, we ran models separately for bullying and aggression. We compared a one-stage MASEM for bullying ($n = 64$) to a one-stage MASEM for aggression ($n = 92$), and we compared both to the main model (see Supmat. C. table g and h). The direct model paths did not differ significantly between the bullying and aggression model, and the paths in these models did not differ significantly from the paths in the main model (i.e., no significant path became non-significant, and no non-significant path became significant).

Discussion

The aim of this *meta*-analysis was to develop and test a new conceptual Social Goals and Gains model of adolescent bullying and aggression. The *meta*-analysis included 148 independent samples including 164,143 adolescents. Supporting the model, results showed that agentic goals (i.e., getting ahead of others) had a small-to-moderate positive association with bullying and aggression which, in turn, had a small-to-moderate positive association with popularity and a small-to-moderate negative association with likeability. By contrast, communal goals (i.e., getting along with others) were not significantly related to bullying and aggression. These associations did not differ in strength between different phases within adolescence. Together, these results provide converging evidence for our model, which suggests that bullying and aggression can be seen as self-regulatory and socially skilled behaviors that are driven, in part, by agentic goals and relate to gains in popularity—at the loss of likeability.

A social goals and gains model of adolescent bullying and aggression

Over the past decades, several scholars suggested that adolescent socially coercive behaviors, such as bullying and aggression, can be goal-directed (e.g., Ojanen et al., 2005; Salmivalli, 1999; Sanders et al., 2021; Sijtsema et al., 2009) and socially adaptive, enabling perpetrators to obtain social resources that have evolutionary significance, such as popularity (e.g., Hawley, 1999; Volk et al., 2012; Volk, Dane et al., 2022). We combined these theories in our Social Goals and Gains Model of adolescent bullying and aggression. Supporting the model, our findings show that adolescent bullying and aggression can be both goal-directed (elicited by agentic goals) and adaptive (linked with popularity). Thus, adolescents who bully and who use aggression might just gain what they desire (i.e., popularity), although it comes at the cost of lower likeability. Adolescents who bully and use aggression may strive for popularity, even when this means sacrificing likeability, because they tend to value popularity over likeability (Garandeau & Lansu, 2019).

Traditional views of adolescent bullying and aggression have described these behaviors as self-regulatory failures. Challenging these traditional views, our results demonstrate that bullying and aggression instead can be defined as socially skilled behaviors of adolescents with agentic goal orientations. Thus, in line with a core definition of self-regulation (Moilanen, 2007), adolescent bullying and aggression are behaviors that can be strategically activated and monitored in response to environmental stimuli (e.g., peer norms that allow adolescents who aggress against others to earn popularity) and that can be adapted to feedback from others (e.g., receiving respect after bullying and aggression) in an attempt to attain personally relevant agency goals. This fits theories on how harmful behaviors can also reflect adequate self-regulatory skills (Baumeister & Vonasch, 2015; Kopetz & Orehek, 2015).

Based on previous theories of interpersonal goals (Abele & Wojciszke, 2014), we expected that adolescents who prioritize communion would refrain from bullying and aggression because these behaviors might reduce their likeability. However, contrary to our predictions, adolescents' communal goals were not significantly related to bullying and aggression. A possible explanation is that it might be the interplay between communal and agentic goals that predicts whether adolescents are likely to engage in or refrain from bullying and aggression. Perhaps communal goals might only act as a buffer against bullying once agentic goals are weak, because when both goals are important for adolescents, they tend to prioritize gaining popularity over losing likeability (Garandeau & Lansu, 2019). Or perhaps agentic goals have a weaker connection with aggression when communal goals are strong, which has been established previously in middle adolescence (Sijtsema et al., 2020). This seems to indicate that the effect of communal goals may take the form of modulating the effect of other, agentic goal orientations instead of it having an effect on bullying and aggression on its own. It would be insightful to test this 'profile hypothesis' in future research to disentangle the buffer effect of communal goal orientation on bullying and aggression in adolescence.

Adolescents who hold agentic goals are more likely to engage in bullying and aggression. These behaviors, in turn, are linked with higher popularity but lower likeability. This phenomenon cuts across the different adolescent stages, contrary to what we expected. Even though older adolescents might be less inclined to endorse agentic goals (LaFontana & Cillessen, 2010), our results now demonstrate that the social goals and gains of bullying and aggression remain stable across adolescence. This finding extends previous work and fits an evolutionary perspective (Hawley, 1999; Volk et al., 2012; Volk, Dane et al., 2022), suggesting that acquiring social status is a relevant motive across different developmental stages.

Implications for interventions

Prevention and intervention programs to reduce bullying in schools are not yet optimally effective for adolescents (Hensums et al., 2022). It remains important to ask how these programs can be improved (Salmivalli et al., 2021). Our findings suggest that programs should target adolescents' goals, helping them fulfill their agentic goals in prosocial (rather than antisocial) ways. Because agentic goals are important in adolescence (Abele & Wojciszke, 2014) and adolescents want to feel respected and autonomous (Yeager et al., 2018), we suggest that interventions should not reduce agentic goals but instead change the means through which adolescents pursue their agentic goals (Reijntjes et al., 2013; Sanders et al., 2021). Adolescents who hold agentic goals have high need for status and want

to feel competent, influential, and unique (Abele & Wojciszke, 2014). To accomplish those feelings, schools and institutions can help channel adolescents' agentic goals in meaningful and prosocial ways. For example, in the Meaningful Roles intervention (Ellis et al., 2016), students are assigned to different jobs (e.g., cheerleaders, ecologist, human resource manager, newscaster) that can make them influential and visible within the school or class context and provide them with popularity status in a prosocial manner. This might enable adolescents to achieve social rank through prestige rather than dominance (Cheng et al., 2013; Henrich & Gil-White, 2001; Maner & Case, 2016). To achieve this, schools can launch initiatives (online or offline) that give platforms to students (e.g., sports, music, theatre), where they can thrive in everyday settings and fulfill their agentic goals by showing their unique talents and feeling competent, without harming others.

To make these approaches optimally effective, it will be critical to address group norms that reward adolescent bullying and aggression with popularity (Reijntjes et al., 2013). Aggressive popularity norms (providing popularity to aggressive students) increase aggressive behaviors in individuals exposed to these norms (Laninga-Wijnen et al., 2017), whereas prosocial popularity norms (providing popularity to pro-social students) encourage prosocial behaviors in individuals exposed to these norms (Laninga-Wijnen et al., 2018). Changing norms seems to be an important avenue for interventions and has been done successfully in the past (Paluck et al., 2016; Perkins et al., 2011), although there are some limitations to overcome in this field (e.g., including other measures than self-reports; Miller & Prentice, 2016).

In addition, interventions can help reduce bullying by activating other goals or changing adolescents' belief systems (e.g., their implicit theories about the nature of social status). For example, adolescents with an *entity theory of personality* believe that social-status designations (e.g., whether they are winners or losers, bullies or victims, popular or unpopular) are fixed rather than malleable (Yeager et al., 2011). They may believe that acquiring or losing status will reflect on the adequacy or inadequacy of their whole self (e.g., "I am a winner"). Consequently, they may pursue social demonstration goals (i.e., demonstrating their social competence) rather than social development goals (i.e., developing their competence through learning; Ryan & Shim, 2008), and they may use bullying and aggression as means to gain social status or protect against the loss of social status (Lee & Yeager, 2020). Consistent with this theoretical framework, interventions teaching an *incremental theory of personality*—a belief in the potential for personal change—reduce aggressive desires (Yeager, Miu et al., 2013) and aggression in response to victimization (Yeager, Trzesniewski et al., 2013). Bridging this work with our *meta*-analytic findings, future interventions can examine whether an incremental theory of personality intervention would induce social development goals and weaken the association of agentic goals with bullying and aggression.

One challenge in designing interventions is that bullying can occur in both online and offline settings. Adolescents who engage in traditional bullying are more likely to also engage in cyberbullying (Estévez et al., 2020), interventionists might consider addressing online and offline contexts simultaneously. For example, the Meaningful Roles intervention could expand into the online world (Ellis et al., 2016), so as to give adolescents meaningful roles in online environments (e.g., making them the administrator of the class's WhatsApp group, with the goal of monitoring the group's behavior and encouraging a safe climate). Future research should examine whether targeting online environments makes anti-bullying and aggression interventions more effective.

Strengths, Limitations, and future directions

Through our *meta*-analysis, which included 164,143 adolescents participating in 148 studies, we developed a Social Goals and Gains Model of Adolescent Bullying and Aggression. To do so, we used an innovative MASEM technique. MASEM allowed us to pool individual studies into one overarching model. Our study also has limitations, which provide interesting avenues for future studies. First, most included studies were cross-sectional, which limits the conclusions that we can draw about the direction of influences and the long-term consequences of social goals on bullying and aggression. When we included the 21 longitudinal correlations that we had, the results did not change, and there are studies that show the hypothesized longitudinal effects (e.g., agentic goals predicting increased aggression over time; Ojanen & Findley-Van Nostrand, 2014). To make even stronger claims in the future, we call for more longitudinal and intervention studies to establish temporally informative and causal long-term effects. Second, all studies assessed social goals via questionnaires. However, goals might also influence adolescents' behavioral strategies unconsciously (Custers & Aarts, 2010; Volk, Dane et al., 2022), so future research should measure goals using implicit measures—for example, using approach-avoidance tasks—to investigate whether explicit and implicit orientations might have different associations with behavior (Lansu et al., 2012).

Third, our *meta*-analysis did not examine how the peer group can reinforce bullying and aggression. Studies have established that social learning is critical in the maintenance of antisocial behavior (Cohen & Prinstein, 2006; Dishion et al., 1996; Juvonen & Ho, 2008). Future research should examine whether our model holds better in contexts with pro-bullying and -aggression norms (versus anti-bullying and -aggression norms). It is possible, for example, that adolescents who hold agentic goals shift their behavior flexibly, in a self-regulated manner, in contexts that award popularity for prosocial rather than antisocial behavior. Fourth, our literature search revealed that little is known about how social goals might lead to ostracism or social rejection. We call for longitudinal and experimental research that examines these associations, so as to establish whether our model also holds for other forms of socially coercive behaviors in the peer context. Fifth, we were not able to distinguish between cyberbullying and other forms of bullying, as there were too few studies that assessed the social goals and gains of cyberbullying to estimate a full cyberbullying model. It will be important to investigate similarities and differences in the future. Adolescents who engage in traditional bullying are more likely to engage in cyberbullying (Estévez et al., 2020), but little is known about the consequences of social goals in online environments. On the one hand, cyberbullying can be anonymous. If anonymous, adolescents might not gain social status, but they might also not be deterred by the threat of losing likeability. On the other hand, cyberbullying can reach a large audience instantaneously; if so, it might grant perpetrators even more status than traditional forms of bullying would. Therefore, it is important that future research zooms in on the

role of social goals and gains of cyberbullying.

More broadly, our *meta*-analysis focused on perpetrators (rather than targets) of bullying and aggression. We encourage future research to examine reciprocal processes between perpetrators and targets, so as to develop a complete understanding of their mutual influence. How do targets respond to being bullied or aggressed against? How do these responses, in turn, influence the perpetrator's social goals? For example, does the target's withdrawal (rather than retaliation) satisfy the perpetrator's agentic goals? And if so, does this reduce the perpetrator's bullying or aggression in the moment while reinforcing it in the long run? Addressing these questions using experience sampling methods, which track perpetrators and targets intensively over time, will shed light on the dynamic nature of bullying and aggression. Before doing so, validated measures should be developed that can reliably measure adolescents' bullying perpetration and aggression using experience sampling methods (see Borah et al., 2021 for an example in young adults).

Future research can further substantiate our model. One challenge is to examine our model longitudinally and experimentally. Do agentic goals predict increased bullying and aggression over time? And do these behaviors, in turn, predict higher popularity but lower likeability over time? Or are there self-reinforcing spirals, where higher popularity feeds agentic goals, leading to even higher levels of bullying and aggression? And what is the impact of evaluative feedback on social media platforms on adolescent popularity status and behavior in real-life settings (e.g., Lee & Yeager, 2020)? In some cases, experimental methods can be suitable (Brummelman & Walton, 2015): Experimental research can target social goals to examine its causal effects on subsequent bullying and aggression (e.g., reducing agentic goals to examine its causal effects on bullying and aggression, or changing social norms that reward bullying and aggression with popularity). In other cases, however, experimental methods do not seem feasible. For example, randomly assigning adolescents to conditions in which they would bully or engage in aggression cannot reveal the antecedents (e.g., social goals) of these behaviors, as the experimental manipulation would eliminate the motivational aspect that would normally make some adolescents more likely to bully or use aggression than others. Another challenge is to better understand potential interactions between communal and agentic goals (Sijtsema et al., 2020). For example, can communal goals buffer the impact of agentic goals on bullying and aggression? And which goal profiles (e.g., moderate agentic goals, high communal goals) predispose adolescents to bully through reinforcer or assistant roles (e.g., see Salmivalli, 1999)? Finally, there might also be other, non-social goals and gains that relate to bullying and aggression, such as somatic and sexual goals and gains (e.g., desiring sexual activity and being sexually active). There is little research examining these proposed links; we call for future research to examine them, so that our Social Goals and Gains Model can be expanded to include them (Volk et al., 2014). Once we know more about which social and non-social goals inspire bullying and aggression, we can find better ways to redirect the efforts of adolescents to achieve those goals.

A key challenge will be to investigate for whom, and under which circumstances our model holds best. Firstly, certain personality traits might create a heightened susceptibility to partake in coercive strategies to gain desired resources (e.g., agency), such as fewer prosocial personality traits (Book et al., 2012), low hostility-humility traits (de Vries et al., 2020), and higher levels of narcissism which is characterized by a strong desire for social status (Grapsas et al., 2020). Second, gaining social resources, such as popularity, might be particularly important in certain environments, such as environments characterized by hostility or poverty (Belsky et al., 1991; Dodge & Albert, 2012; Ellis et al., 2012) or environments with strong status hierarchies (Pan et al., 2020). Therefore, agentic goals might be more strongly linked to coercive behaviors in these contexts. Lastly, personality traits can also interact with environments to predict whether adolescents are likely to use coercive strategies to gain desired agentic goals. For example, individuals who possess higher selfish, impulsive, or antisocial personality traits and who grow up in violent environments, are more likely to use coercion instead of cooperation to gain dominance (Volk et al., 2021).

Consistent with evolutionary perspectives on adolescent bullying and aggression (Dodge & Albert, 2012), our findings raise two important questions for future work. One question is whether there is a tipping point from which bullying and aggression lose their adaptiveness and, consequently, fail to generate social benefits. For example, if adolescents show bullying and aggression in extreme ways, without adjusting these behaviors to contextual demands, they may not gain popularity among their peers. Another question is why some adolescents pursue agentic goals through bullying and aggression whereas others do not. For example, as resource control theory (Hawley, 1999) suggests, some adolescents might control resources through coercion, whereas other adolescents control them through cooperation. It is therefore important to recognize, and further explore, individual variability in the general applicability of the social goals and gains model of adolescents' varying levels of bullying and aggression.

Conclusion

The Social Goals and Gains model holds that bullying and aggression have social goals and social gains: adolescents who bully or aggress against others hold agentic (rather than communal) goals and are more popular (but liked less). Our *meta*-analysis supported and refined this model, providing insight into the goals and gains that motivate adolescent bullying and aggression, identifying these behaviors as self-regulated and goal-directed. Reflecting back on Seneca (c. 4 BCE-CE 65; Seneca & Grimal, 1969), perhaps not all cruelty springs from weakness. Some cruelty springs from a desire for agency and the prospect of gaining popularity through cruelty.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The data and syntax are available online: https://osf.io/c5bmz/?view_only=3ef33639c78e4f2bbde3677b952476ca.

Acknowledgments

Appendix A. Supplementary material

Supplementary data to this article can be found online at https://doi.org/10.1016/j.dr.2023.101073.

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