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EMPIRICAL RESEARCH

The Perils of Not Being Attractive or Athletic: Pathways to Adolescent Adjustment Difficulties Through Escalating Unpopularity

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Abstract

Adolescents who lack traits valued by peers are at risk for adjustment difficulties but the mechanisms responsible for deteriorating well-being have yet to be identified. The present study examines processes whereby low athleticism and low attractiveness give rise to adolescent adjustment difficulties. Participants were public middle school students (ages 10 to 13 years, $M_{age} = 11.54$, $SD_{age} = 1.00$) in the USA and Lithuania (300 girls, 280 boys; 52.7% girls). Self-reports of alcohol misuse and loneliness were collected three times during an academic year ($M = 12.3$ week intervals). Athleticism, attractiveness, unpopularity, and peer rejection were assessed through peer nominations. Full longitudinal mediation analyses examined direct and indirect pathways from stigmatized traits (i.e., low athleticism, low attractiveness) to adjustment difficulties (i.e., alcohol misuse, loneliness) through two indices of low peer status: unpopularity and rejection. The results indicated that the possession of stigmatized traits predicted escalating unpopularity, which, in turn, predicted increasing adjustment difficulties. Similar indirect associations did not emerge with rejection as a mediator, underscoring the unique role of power and prominence (and the lack thereof) in socioemotional development. The findings underscore the adjustment risks and interpersonal challenges that confront children and adolescents who lack traits valued by peers.

Keywords Adolescence · Athleticism · Attractiveness · Alcohol misuse · Unpopularity

Introduction

More than 60 years ago, a groundbreaking longitudinal study of high school youth noted the social advantages afforded to attractive students and to athletic students: Across all schools, more boys wanted to be remembered as a star athlete than as a good student; in six of nine schools, students ranked "good looks" as first, second, or third in the necessary attributes for being a member of the leading crowd for girls (Coleman, 1961, pp. 70–71). Although it is an open question as to whether the gender-specific portion of the observation still applies (Rose et al., 2011), the passage of time has not diminished the salience of the social assets identified. Attractive youth and athletic youth still dominate the adolescent peer group; students low in attractiveness and students low in athleticism are still their subordinates (Dijkstra et al., 2010). The untoward correlates attached to those who lack social assets extend well beyond the social world. Students who are not attractive and students who are not athletic present elevated social anxiety (Blöte et al., 2014), aggression and interpersonal problems (Farmer et al., 2008), and diminished educational and occupational achievement (Gordon et al., 2013). Several hypothesized mechanisms have been advanced to explain why low attractiveness and low athleticism beget adjustment difficulties. The focus here is on loss of peer status. The present study involves a diverse sample of USA and Lithuanian students, employing a full longitudinal mediation design to test the hypothesis that youth who lack assets valued by peers lose social status across the school year which, in turn, promotes adjustment difficulties that are manifest in loneliness and alcohol misuse.

Two converging mechanisms help explain how low attractiveness and low athleticism shape social standing. Both start from the assumption that youth are cognizant of the value of social assets, particularly those that provide attractive youth and athletic youth with an entrée into the "elite crowd" (Coleman, 1961). First, the absence of valued-asset status markers elicits expectations about competencies that shape behavior (Berger & Fisek, 2006). Applied to the present case,

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youth who are not attractive and youth who are not athletic believe that social asset deficits make them unpopular, so they act in ways that are characteristic of unpopular students. A self-fulfilling prophecy unfolds: Low attractive youth and low athletic youth adopt a submissive demeanor, question their self-worth, and gravitate to others who similarly lack social assets. Second, individuals with stigmatized traits are subject to hostility and discrimination (Bos et al., 2013). Physical characteristics regarded as deficits, such as low attractiveness and awkwardness/low athleticism, elicit negative feedback from peers, fostering anxiety and rumination, which give rise to unpopular behaviors (Knack et al., 2012). Moreover, ridicule and denigration reduce social standing, causing more popular, nonstigmatized classmates to pull back for fear of being tainted by affiliation (Henricks et al., 2023). The latter is consistent with the observation that popular girls refrain from interacting with less popular girls for fear that doing so may adversely impact their social standing (Eder, 1985).

The present study was designed to clarify mechanisms whereby stigmatized traits give rise to adjustment difficulties. Diminished peer group status is expected to feature prominently in the process. Low social status comes in two forms: Unpopularity and rejection. Either or both may serve as intervening variables that tie the absence of peer valued traits to loneliness and alcohol misuse. Contemporary assessments of unpopularity focus on behaviors that signal low standing in the group hierarchy, such as a lack of prestige and visibility, submissiveness, and difficulty securing resources (Lease et al., 2002). Assessments of rejection focus on the extent to which the individual is disliked by members of the peer group (Vitaro et al., 2018, p. 285). Unpopularity is distinct from (if somewhat overlapping with) rejection ($r \approx 0.45$; Zimmer-Gembeck et al., 2013). Unpopular youth have minimal influence but are tolerated on the margins of the peer group (Gorman et al., 2011); rejected youth are actively disliked and often excluded from the peer group (Bellmore, 2011). Traits that typically elicit rejection—aggression, conduct problems, anxiety, shyness/withdrawal—characterize neither the low athletic (Knack et al., 2012) nor the low attractive (Borch et al., 2011). In contrast, unpopularity is inversely concurrently correlated with both athleticism and with attractiveness during childhood and adolescence (LaFontana & Cillessen, 2002; Xie et al., 2006).

Longitudinal data tying peer valued assets to social status are scarce. There are no longitudinal studies that examine attractiveness or athleticism as antecedents of peer rejection. The picture for unpopularity is muddy because until recently scholars combined scores for unpopularity and popularity (creating a difference score by subtracting unpopular nominations from popular nominations) in the mistaken belief that the two constructs represent end points on a continuum; they are now understood to represent two distinct constructs best treated as separate variables (Marks et al., 2022). One of the few longitudinal studies on the topic adopted the older strategy, reporting inverse concurrent (but not longitudinal) associations from attractiveness to popularity/unpopularity difference scores and from athleticism to popularity/unpopularity difference scores in a sample of USA adolescents (Markovic & Bowker, 2015). No longitudinal studies have examined peer-valued assets as antecedents to changes in unpopularity.

Gender looms large over the topic. In the longitudinal study cited at the outset (Coleman, 1961), athleticism was more important to the social stature of boys and attractiveness was more important for girls. There is disagreement as to whether these peer-valued traits are still gender-specific. Claims that social assets remain gendered rest, in part, on the assumption that popularity reflects competition for romantic partners. Gender typical behaviors purportedly attract the attention of other-gender agemates, a key to establishing visibility and securing prestige (Mayeux & Kleiser, 2020). Conversely, gender atypical behaviors presumably drive down peer status because they do not conform to early adolescent romantic ideals, implying that girls who are not attractive and boys who are not athletic are at risk for unpopularity (Jewell & Spears Brown, 2014). Neither claim has been addressed longitudinally. Indeed, one review of concurrent research suggests that a subtle cohort shift may be underway, such that attractiveness is a now characteristic of popular boys and girls, even as athleticism remains more central to the popularity of boys than girls (Rose et al., 2011). One aim of the present study was to determine whether the risks arising from low attractiveness are still greatest for girls and whether those arising from low athleticism are still specific to boys.

The loss of peer status has important consequences for adolescents. Increased loneliness is perhaps the most obvious correlate. Adolescent unpopularity was concurrently and longitudinally correlated with loneliness in a large representative sample of Belgian youth (Engels et al., 2019) and in a diverse sample of USA youth (Gorman et al., 2011). The story for alcohol misuse is complicated. One the one hand, social isolation is strongly tied to the incidence of adolescent alcohol consumption (e.g., Christiansen et al., 2021). On the other hand, popularity has been positively associated with higher rates of drinking, concurrently and longitudinally, but the precise meaning of these associations is difficult to parse because here too popularity is typically gauged with the difference score (i.e., popular nominations minus unpopular nominations) described above (e.g., Choukas-Bradley et al., 2015). As a consequence, it cannot be readily determined how much alcohol unpopular youth consume relative to their popular counterparts and whether their drinking increases in response to growing unpopularity in an attempt to fit in or self-medicate. What is clear is that children with few friends and those who are not well-liked by others are particularly susceptible to peer influence (Laursen & Faur, 2022), suggesting that low peer status makes increases vulnerability to substance use pressure.

Current Study

Adolescents who lack traits valued by peers are known to be at risk for adjustment difficulties but the mechanisms responsible for their deteriorating well-being have yet to be identified. The present study was designed to examine direct and indirect longitudinal associations from low attractiveness and from low athleticism to changes in peer status and to individual adjustment over the course of a school year. Two intervening variables are considered: Unpopularity and rejection. A downward spiral of events was hypothesized, such that low attractive youth and low athletic youth become increasingly unpopular, and which leads to subsequent increases in loneliness and alcohol misuse. Rejection was also examined as a potential intervening variable, to explore the possibility that stigmatized youth are increasingly disliked by peers, giving rise to adjustment difficulties. To clarify the role played by declining peer status, unpopularity and rejection served as mediators in separate models, using one as a concurrent covariate for the other. Attractiveness and athleticism were hypothesized to be more strongly linked to unpopularity than rejection, particularly after removing overlapping construct variance, suggesting that the former is more likely to mediate associations from peer valued assets to adjustment outcomes than the latter. Replication is a strength of the study. Follow-up contrasts compare patterns of association across samples of youth from the USA and Lithuania.

Method

Participants

USA

Participants included 238 (133 girls, 105 boys) students in a South Florida public school representative of the school-age population of Florida in terms of ethnicity and family income. The sample included 86 5th grade ($M_{age} = 10.26$, $SD_{age} = 0.44$) primary school students, and 76 6th grade ($M_{age} = 11.41$, $SD_{age} = 0.51$) and 76 7th grade ($M_{age} = 12.46$, $SD_{age} = 0.52$) middle school students. School records indicated that 42.4% were European-American, 28.2% were Hispanic-American, 18.1% were African-American, 3.4% were Asian-American, and 8.0% were mixed race and other backgrounds.

Lithuania

Participants included 342 (167 girls, 175 boys) students enrolled in all seven public middle schools in a small Lithuanian city. The sample included 167 5th graders ($M_{age} = 10.84$, $SD_{age} = 0.43$), 57 6th graders ($M_{age} = 11.90$, $SD_{age} = 0.41$), and 118 7th graders ($M_{age} = 12.75$, $SD_{age} = 0.45$). Nearly all were ethnic Lithuanian.

Procedure

Written parent consent and written child assent were required for participation. Trained research assistants administered surveys to students on computer tablets in a quiet school setting. The same surveys were completed at 3 time points during a single academic year. The study was approved by school officials and the university IRB (USA #135501-16) or ethics committee (Lithuania #6/-2020). To avoid bias in nominations arising from low participation, analyses were restricted to classrooms in which at least two-thirds of the students completed surveys. The same pattern of statistically significant results emerged with the inclusion of classrooms with 60–66% participation rates (USA $n = 7$ classrooms and 87 students; Lithuania $n = 6$ classrooms and 86 students).

USA

Students in all 23 5th–7th grade classrooms were invited to participate; 14 had participation rates above 66% ($M = 78.4\%$, $SD = 10.3$). Data were collected in November 2021, January 2022, and March 2022.

Lithuania

Students in all 33 5th–7th grade classrooms were invited to participate; 16 had participation rates above 66% ($M = 76.8\%$, $SD = 6.3$). Data were collected in September/October 2021, February 2022, and May 2022. Instruments were translated from English to Lithuanian by a bilingual team of research assistants, then back-translated by a separate team. Differences were resolved by discussion.

Measures

Peer Nominations

Students completed a standard peer nomination inventory consisting of rosters with the names of all homeroom (USA 6th–7th grades) or classroom (Lithuania 5th–7th grades and USA 5th grade) participants. Unlimited same- and other-gender nominations were permitted. Students were asked to identify classmates who best fit the following descriptors: *athletic* ("good at sports"), *attractive* ("really good looking"), *unpopular* ("unpopular"), and *rejected* ("don't like to spend time with"). The number of nominations a participant received was summed, then adjusted using a regression-based procedure that accounts for class size (Velásquez et al., 2013).

Alcohol Misuse

All students in Lithuania and 6th and 7th grade students in USA completed a 4-item instrument (Richmond et al., 2015) describing frequency of alcohol intoxication during the past month (e.g., "How often have you drank so much beer, liquor, or wine that you got drunk?"). Items were rated on a scale ranging from 1 (*Never*) to 5 (*More than once a week*). Internal reliability was acceptable ($\alpha = 0.98$–0.99).

Loneliness

Students completed a 5-item instrument (Parker & Asher, 1993) describing loneliness (e.g., "I feel alone at school"). Items were rated on a scale ranging from 1 (*Never like me*) to 5 (*Always like me*). Internal reliability was acceptable ($\alpha = 0.93$–0.94).

Plan of Analysis

Two sets of analyses were conducted in Mplus v8.6 (Muthén & Muthén, 1998–2017), using a Bayesian structural equation modeling framework with two-chain Markov Monte Carlo algorithms. Hypothesized direct effects were examined in the first model, with indirect effects added in the second model. A full longitudinal mediation design was employed (Fritz & MacKinnon, 2012). Two indirect effects models were tested: one with unpopularity as a mediator and the other with rejection as a mediator.

The direct effects model was fully saturated across consecutive time lags. Hypothesized direct effects described longitudinal associations across consecutive time points (Time 1 to Time 2 and Time 2 to Time 3) from the predictor variables (i.e., athleticism and attractiveness) to the social status mediator variable (i.e., unpopularity or rejection) and from the social status mediator variable to the outcome variables (i.e., alcohol misuse and loneliness). The indirect effects models included mediated paths added to the direct effects models. Hypothesized indirect effects described longitudinal associations from predictor variables at Time 1 to outcome variables at Time 3, mediated by social status at Time 2. Each model included two mediated paths for each predictor variable (for a total of 4 indirect effects): (1) Time 1 athleticism to Time 3 alcohol misuse and to Time 3 loneliness via the Time 2 social status mediator variable (unpopularity or rejection); (2) Time 1 attractiveness to Time 3 alcohol misuse and to Time 3 loneliness via the Time 2 social status mediator variable (unpopularity or rejection). Figure 1 depicts the analytic model.

To improve power, temporal constraints (Widaman & Thompson, 2003) were added to analogous paths at consecutive time points (e.g., Time 1 attractiveness to Time 2 loneliness, and Time 2 attractiveness to Time 3 loneliness). Autocorrelations were not constrained to be equal; doing so significantly worsened ($p < 0.05$) model fit. A posterior predictive *p*-value (PPP) above 0.05 and a posterior predictive

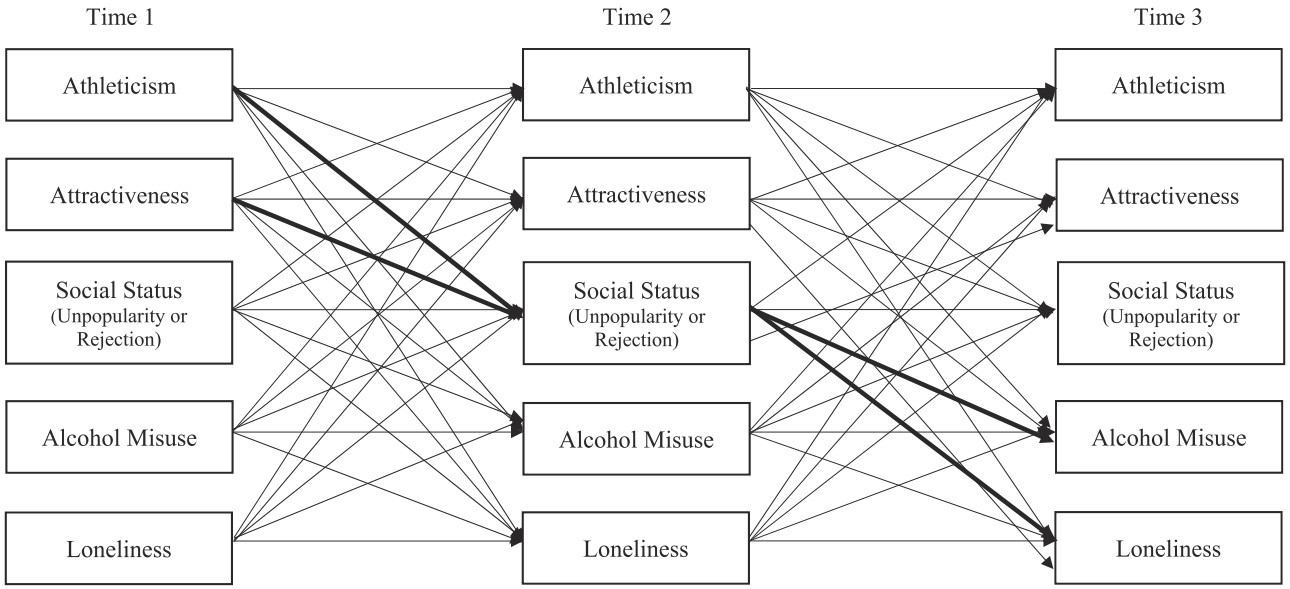

Fig. 1 Longitudinal Associations Between Athleticism and Attractiveness, Social Status (Unpopularity or Rejection), and Alcohol Misuse and Loneliness. *Notes*. Bold paths represent tests of hypothesized direct effects. Two different models were conducted, one for each social status variable: Unpopularity and rejection. Concurrent correlations and second-order autoregressive paths from Time 1 to Time 3 (e.g., Time 1 athleticism to Time 3 athleticism) were included in the model but are not depicted. Indirect effects models included four additional mediated paths: (1) Time 1 athleticism to Time 3 alcohol misuse via Time 2 social status; (2) Time 1 athleticism to Time 3 loneliness via Time 2 social status; (3) Time 1 attractiveness to Time 3 alcohol misuse via Time 2 social status; and (4) Time 1 attractiveness to Time 3 loneliness via Time 2 social status

checking confidence interval (CI) that includes a negative lower limit and a positive upper limit indicates acceptable model fit (Muthén & Asparouhov, 2012). Visual inspection of trace plots and statistical tests of the potential scale reduction factor (PSR < 1.05) were utilized to assess model convergence.

In separate supplemental analyses, multiple group contrasts examined whether direct and indirect paths differed between boys and girls, and between USA and Lithuania students. Next, direct and indirect effects models were conducted with grade, rejection (in the unpopularity models), and unpopularity (in the rejection models) as a concurrent covariate at each time. Additionally, to address concerns about the planned missing design, separate analyses were conducted for each outcome variable. USA 5th graders did not complete the alcohol misuse scale and so were excluded from this model. Finally, an athleticism × attractiveness interaction term examined the possibility of additive effects in the initial predictor variable.

Item-level missingness accounted for an average of 6.8% of data across study variables (range = 1.4–16.9%). Wave level missingness accounted for an average of 2.2% of data across study variables (range = 0.0–7.8%). Little's MCAR test indicated that data were missing completely at random, $\chi^2(1841) = 1922.37$, $p = 0.09$. Missing item-level data were handled with multiple imputation using an EM algorithm with 25 iterations. Missing wave-level data and planned missing data (i.e., USA 5th grade students who were not administered alcohol misuse items) were handled with FIML.

Power analyses were conducted in Monte Carlo simulations with 1000 replications (Muthén & Muthén, 2002). There was adequate (80%) power to detect large ($\beta = 0.50$) and medium ($\beta = 0.30$) but not small ($\beta = 0.10$) direct and indirect effects and multiple group contrast differences (see Table 1).

Results

Preliminary Analyses

Concurrent interclass correlations are presented in Table 2. Unless otherwise indicated, the same pattern of statistically significant ($p < 0.05$) results emerged at each time. Alcohol misuse and loneliness were positively correlated (Time 2 only). Athleticism was negatively correlated with loneliness and unpopularity. Inverse associations emerged between attractiveness and (a) loneliness (Time 3 only), (b) unpopularity, and (c) rejection. There were positive correlations between unpopularity and rejection. All autocorrelations were statistically significant.

Separate 2 (gender) by 2 (location) by 3 (grade) ANOVAs were conducted with alcohol misuse, athleticism, attractiveness, loneliness, unpopularity, and rejection as dependent variables. Time was the repeated measure. Supplementary Table 1 describes the results.

Direct Longitudinal Associations from Attractiveness and Athleticism to Social Status (Unpopularity or Rejection), and from Social Status to Alcohol Misuse and Loneliness

Table 3 presents the results of the unpopularity direct effects model. Table 4 presents the results of the rejection direct

Table 1 Monte Carlo Power Analyses for f Direct Effects, Indirect Effects, and Multiple Group Contrasts

Effect Size	Models		
	Standard Model ($N = 580$)	Multiple Group Contrast: Gender ($n = 300$ girls, 280 boys)	Multiple Group Contrast: Location ($n = 238$ USA, 342 Lithuania)
Direct Effects			
Small ($\beta = 0.10$)	0.680 [0.645, 0.722]	0.437 [0.357, 0.694]	0.436 [0.306, 0.701]
Medium ($\beta = 0.30$)	>0.999 [>0.999, >0.999]	0.999 [0.994, >0.999]	0.998 [0.987, >0.999]
Large ($\beta = 0.50$)	>0.999 [>0.999, >0.999]	>0.999 [>0.999, >0.999]	>0.999 [>0.999, >0.999]
Indirect Effects			
Small ($\beta = 0.10$)	0.266 [0.263, 0.269]	0.260 [0.246, 0.268]	0.260 [0.250, 0.267]
Medium ($\beta = 0.30$)	>0.999 [>0.999, >0.999]	>0.999 [>0.999, >0.999]	>0.999 [>0.999, >0.999]
Large ($\beta = 0.50$)	>0.999 [>0.999, >0.999]	>0.999 [>0.999, >0.999]	>0.999 [>0.999, >0.999]

Mean scores are presented, with ranges in brackets

Table 2 Interclass Correlations, Means, and Standard Deviations

	Variables	1	2	3	4	5	6
1.	Alcohol Misuse	0.495[b] [0.400[b], 0.517[b]]					
2.	Athleticism	−0.031 [−0.052, −0.018]	0.881[b] [0.878[b], 0.883[b]]				
3.	Attractiveness	−0.040 [−0.086, −0.037]	0.027 [−0.017, 0.088]	0.740[b] [0.722[b], 0.752[b]]			
4.	Loneliness	0.078 [0.001, 0.102[a]]	−0.145[b] [−0.172[a], −0.143[b]]	−0.069 [−0.122[b], −0.026]	0.654[b] [0.591[b], 0.674[b]]		
5.	Unpopularity	0.056 [−0.024, 0.071]	−0.250[b] [−0.254[b], −0.246[b]]	−0.268[b] [−0.296[b], −0.231[b]]	0.187[b] [0.153[b], 0.219[b]]	0.695[b] [0.685[b], 0.754[b]]	
6.	Rejection	0.035 [−0.022, 0.051]	−0.003 [−0.043, 0.019]	−0.165[b] [−0.217[b], −0.098[a]]	0.065 [0.060, 0.067]	0.374[b] [0.325[b], 0.512[b]]	0.610[b] [0.601[b], 0.621[b]]
	Mean	1.08 [1.08, 1.15]	3.06 [3.04, 3.23]	1.48 [1.39, 1.49]	1.94 [1.89, 1.99]	2.23 [1.72, 2.25]	2.23 [1.96, 2.26]
	SD	0.50 [0.48, 0.67]	3.99 [3.74, 4.03]	1.81 [1.64, 1.88]	1.01 [0.99, 1.05]	2.21 [2.13. 2.38]	2.04 [1.91, 2.26]

$N = 580$ for all variables except alcohol misuse ($n = 494$). Medians scores across the three times are presented, with ranges in brackets. Autocorrelations are presented on the diagonal. Alcohol misuse was rated on a scale ranging from 1 (*Never*) to 5 (*More than once a week*). Loneliness was rated on a scale ranging from 1 (*Never like me*) to 5 (*Always like me*). Nomination scores were standardized using a regression-based procedure that adjusts for class size

[a] $p < 0.05$

[b] $p < 0.01$

effects model. The same pattern of statistically significant ($p < 0.05$) results emerged at each interval.

Unpopularity

Lower initial perceived attractiveness predicted greater subsequent increases in unpopularity. Lower initial perceived athleticism also predicted greater subsequent increases in unpopularity. Greater initial unpopularity predicted greater subsequent increases in alcohol misuse and in loneliness.

Rejection

Lower initial perceived attractiveness (but not perceived athleticism) predicted greater subsequent increases in rejection. Greater initial rejection predicted greater subsequent increases in alcohol misuse (but not in loneliness).

Additional direct effects emerged in each model. Unpopularity and rejection were inversely associated with perceived attractiveness, such that greater initial unpopularity and greater initial rejection were associated with decreases in perceived attractiveness. In the rejection (but not the unpopularity) model, (a) lower initial perceived athleticism predicted increases in subsequent loneliness and (b) higher initial loneliness predicted decreases in subsequent perceived attractiveness.

Indirect Longitudinal Associations from Attractiveness and Athleticism to Alcohol Misuse and Loneliness via Unpopularity

Table 3 presents the results from the unpopularity indirect effects model. Table 4 presents the results of the rejection indirect effects model.

Unpopularity

All four indirect effect paths were statistically significant. Lower initial perceived athleticism predicted increases in unpopularity, which, in turn, predicted increases in alcohol misuse and loneliness. Lower initial perceived attractiveness predicted increases in unpopularity, which, in turn, predicted increases in alcohol misuse and loneliness.

Rejection

Lower initial perceived attractiveness predicted increases in rejection, which, in turn, anticipated increases in subsequent alcohol misuse. No other indirect effects were statistically significant.

Supplemental Results

Five sets of supplemental analyses were conducted for each model. First, multiple group contrasts examined whether direct

Table 3 Longitudinal Associations Between Athleticism and Attractiveness, Unpopularity, and Alcohol Misuse and Loneliness: Results from Direct Effects and Indirect Effects Models

	Time 2/Time 3 Outcome Variables				
Time 1/Time 2 Predictor Variables	Athleticism	Attractiveness	Unpopularity	Alcohol Misuse	Loneliness
Direct Effects					
Athleticism	0.879[b] [0.859, 0.898] 0.485[b] [0.410, 0.558]	−0.015 [−0.054, 0.022]	−0.066[a] [−0.111, −0.022]	0.047 [−0.021, 0.116]	−0.030 [−0.079, 0.019]
Attractiveness	−0.005 [−0.032, 0.022]	0.726[b] [0.687, 0.762] 0.418[b] [0.343, 0.494]	−0.66[a] [−0.109, −0.025]	0.043 [−0.019, 0.104]	0.004 [−0.041, 0.050]
Unpopularity	−0.009 [−0.027, 0.020]	−0.100[b] [−0.138, −0.063]	0.667[b] [0.619, 0.710] 0.508[b] [0.437, 0.575]	0.123[b] [0.055, 0.194]	0.065[a] [0.018, 0.113]
Alcohol Misuse	0.007 [−0.023, 0.038]	−0.010 [−0.050, 0.030]	−0.040 [−0.087, 0.005]	0.512[b] [0.436, 0.579] 0.409[b] [0.319, 0.493]	0.001 [−0.052, 0.052]
Loneliness	−0.014 [−0.042, 0.014]	−0.030 [−0.066, 0.006]	−0.014 [−0.056, 0.029]	<0.001 [−0.065, 0.067]	0.652[b] [0.600, 0.697] 0.454[b] [0.373, 0.534]
Indirect Effects					
Athleticism via Unpopularity	-	-	-	−0.006[a] [−0.012, −0.002]	−0.004[a] [−0.009, −0.001]
Attractiveness via Unpopularity	-	-	-	−0.006[a] [−0.012, −0.002]	−0.004[a] [−0.009, −0.001]

$N = 580$. Direct effects model fit: $PPP = 0.06$, 95% CI [−6.77, 78.88], $PSR < 1.05$. Indirect effects model fit: $PPP = 0.05$, 95% CI [−6.61, 78.63], $PSR < 1.05$. Standardized beta weights presented with 95% confidence intervals in brackets. Single scores indicate constrained paths, with the same results for Time 1 Predictor→Time 2 Outcome and Time 2 Predictor→Time 3 Outcome. When paths were not constrained to be equal, the top score represents Time 1 Predictor→Time 2 Outcome paths and the bottom score represents Time 2 Predictor→Time 3 Outcome paths

[a] $p < 0.01$

[b] $p < 0.001$

and indirect paths differed as a function of gender or location. In the unpopularity models, there were no statistically significant differences between boys and girls, $Wald(1) = 0.002$–1.964, $p = 0.080$–0.921, or between the USA and Lithuania samples, $Wald(1) = 0.001$–2.888, $p = 0.085$–0.966. In the rejection models, there was one statistically significant difference between boys and girls, $Wald(1) = 12.\ 32$, $p < 0.001$ and between the USA and Lithuania samples, $Wald(1) = 19.45$, $p < 0.001$.The longitudinal association from Time 1 and Time 2 rejection→Time 2 and Time 3 perceived attractiveness was stronger for boys ($\beta = -0.126$, $p < 0.001$) than for girls ($\beta = -0.069$, $p = 0.002$) and stronger in Lithuania ($\beta = -0.099$, $p < 0.001$) than in the USA ($\beta = -0.030$, $p = 0.211$).

Second, the same pattern of statistically significant results emerged when grade was added as a concurrent covariate to the unpopularity model (see Supplementary Table 2) and to the rejection model (see Supplementary Table 3).

Third, the same pattern of statistically significant results emerged in separate loneliness and alcohol misuse models; the latter omitting USA 5th grade students.

Fourth, rejection was added to the unpopularity model and unpopularity was added to the rejection model as concurrent covariates. The same pattern of statistically significant results emerged in the unpopularity model (see Supplementary Table 4). The same pattern of statistically significant results emerged in the rejection model with the exception of four paths that became nonsignificant (see Supplementary Table 5): (a) direct effects from Time 1 and Time 2 loneliness→Time 2 and Time 3 perceived attractiveness; (b) direct effects from Time 1 and Time 2 perceived attractiveness→Time 2 and Time 3 rejection; (c) direct effects from Time 1 and Time 2 perceived athleticism→Time 2 and Time 3 loneliness; and (d) the indirect effect from Time 1 perceived attractiveness to Time 3 alcohol misuse via Time 2 rejection.

Fifth, an athleticism × attractiveness interaction term was added to the model as a Time 1 predictor. There were no

Table 4 Longitudinal Associations Between Athleticism and Attractiveness, Rejection, and Alcohol Misuse and Loneliness: Results from Direct Effects and Indirect Effects Models

	Time 2/Time 3 Outcome Variables				
Time 1/Time 2 Predictor Variables	Athleticism	Attractiveness	Rejection	Alcohol Misuse	Loneliness
Direct Effects					
Athleticism	0.881[c] [0.862, 0.899] 0.471[c] [0.397, 0.543]	0.013 [−0.025, 0.048]	−0.022 [−0.071, 0.026]	0.015 [−0.051, 0.081]	−0.048[a] [−0.095, −0.001]
Attractiveness	−0.007 [−0.033, 0.020]	0.741[c] [0.703, 0.775] 0.424[c] [0.351, 0.499]	−0.087[c] [−0.132, −0.042]	0.020 [−0.039, 0.080]	−0.011 [−0.054, 0.034]
Rejection	−0.023 [−0.051, 0.006]	−0.090[c] [−0.129, −0.052]	0.599[c] [0.545, 0.648] 0.389[c] [0.315, 0.462]	0.096[b] [0.026, 0.167]	0.011 [−0.0358 0.061]
Alcohol Misuse	0.007 [−0.023, 0.038]	−0.009 [−0.049, 0.031]	−0.005 [−0.053, 0.042]	0.510[c] [0.434, 0.577] 0.417[c] [0.326, 0.501]	0.001 [−0.052, 0.053]
Loneliness	−0.015 [−0.042, 0.013]	−0.038[a] [−0.075, −0.003]	0.009 [−0.033, 0.052]	0.013 [−0.051, 0.078]	0.659[c] [0.607, 0.704] 0.462[c] [0.381, 0.541]
Indirect Effects					
Athleticism via Rejection	-	-	-	−0.001 [−0.005, 0.002]	<0.001 [−0.002, 0.001]
Attractiveness via Rejection	-	-	-	−0.005[b] [−0.010, −0.001]	−0.001 [−0.004, 0.003]

$N = 580$. Direct effects model fit: $PPP = 0.47$, 95% CI [−41.72, 48.49], $PSR < 1.05$. Indirect effects model fit: $PPP = 0.49$, 95% CI [−42.29, 44.55], $PSR < 1.05$. Standardized beta weights presented with 95% confidence intervals in brackets. Single scores indicate constrained paths, with the same results for Time 1 Predictor→Time 2 Outcome and Time 2 Predictor→Time 3 Outcome. When paths were not constrained to be equal, the top score represents Time 1 Predictor→Time 2 Outcome paths and the bottom score represents Time 2 Predictor→Time 3 Outcome paths

[a] $p < 0.05$

[b] $p < 0.01$

[c] $p < 0.001$

statistically significant direct or indirect effects from the athleticism × attractiveness interaction term.

Discussion

Youth who lack traits valued by peers are at risk for adjustment difficulties that stem from deteriorating stature in the group. Students who are not attractive and students who are not athletic become increasingly unpopular across the school year. Growing marginalization, in turn, precipitates loneliness and alcohol misuse. The present study is unique in its focus on the role of unpopularity in socio-emotional development. By identifying the causes and debilitating consequences that flow from the loss of prestige and power, unpopularity is distinguished from peer rejection as a social mechanism that threatens the well-being of youth with stigmatized characteristics. No gender differences emerged, lending weight to assertions (e.g., Rose et al., 2011) that traits valued by peers are no longer sex stereotyped.

The findings are consistent with longstanding claims that stature within adolescent peer groups is a reflection of the degree to which a student is perceived to be attractive or athletic (Coleman, 1961). The mechanisms are not clear, but it seems likely that students who are not attractive and students who are not athletic (a) face discrimination from classmates and (b) act in ways that diminish their own stature in response to feedback about stigmatized traits. Both stigmatized traits were comparably perilous for boys and girls. The findings suggest a sea-change in adolescent social culture such that the social penalties attached to being low in attractiveness or low in athleticism are no longer gender specific.

The perils of not being attractive should not be underestimated. Neither should those attached to not being athletic. In previous studies, both physical attractiveness (Feingold, 1992) and athletic competence (Dunn et al., 2007) were concurrently, inversely correlated with loneliness. The present study is the first longitudinal investigation to indirectly tie the absence of these peer valued traits to increased loneliness. The stakes are high for adolescents, who are at elevated risk for loneliness and its attendant complications (Laursen & Hartl, 2013). Persistent loneliness is associated with increasing depressive symptoms (Ladd & Ettekal, 2013) and suicide ideation (Schinka et al., 2013).

The present study is also the first longitudinal investigation to indirectly tie low athleticism and low attractiveness to increased adolescent alcohol misuse. Drinking to intoxication is not uncommon among adolescents and the costs are steep. Adolescent alcohol abuse prospectively predicts health-risk behaviors, violence, depression, and suicide (e.g., Ellickson et al., 2003).

Two intervening variables were tested in an effort to trace longitudinal pathways from low attractiveness and from low athleticism to adolescent adjustment difficulties. Both posit deteriorating relations with peers as the explanatory mechanism. Unpopularity mediated longitudinal associations, even after removing variance shared with rejection. Peer rejection did not mediate longitudinal associations after removing variance shared with unpopularity. The findings underscore an important (if often overlooked) distinction. The defining characteristic of unpopular youth is their lack of prestige; the defining characteristic of rejected youth is the antipathy they elicit (LaFontana & Cillessen, 2002). Unpopular children are relegated to the margins of the peer group; rejected children are excluded from it altogether. The findings indicate that students who are not attractive and students who are not athletic must endure the indignities of powerlessness to remain marginally attached to the group, a position that eventually takes a toll on individual well-being.

The findings have several implications for practitioners. A relative absence of peer-valued assets predicted direct changes in unpopularity but not in adjustment outcomes, suggesting an opening for intervention. One strategy is to alter classroom norms. It may be difficult to devalue physical appearance or athletic prowess given their primacy in popular culture, but it may be possible to boost tolerance for those who are different or to emphasize the merits of other traits. A positive classroom climate can also buffer against loneliness for at-risk youth (Katulis et al., 2023). Another strategy is to encourage family members to work with children to strategically bolster faculties perceived by peers as deficient, some of which may have been precipitated by the onset of puberty. Minimizing discrepancies between actual and ideal self-perceptions may help to mitigate adjustment challenges (Ferguson et al., 2010). Of course, practitioners should not hesitate to recommend therapy for youth who indicate loneliness or alcohol misuse. Finally, parents should provide opportunities for children to establish and maintain close friendships with well-adjusted agemates because friends can mitigate against loneliness (Wood et al., 2009).

The current study is not without limitations. First, the alcohol misuse scale, commonly used in longitudinal studies in Northern Europe (e.g., Dickson et al., 2015), is neither age-standardized nor sensitive to the multiple manifestations of substance abuse. Mean levels of alcohol misuse in the present study were low, but this does not minimize their importance. In 2019, 15% of USA youth reported their first significant alcohol consumption (more than a few sips) before the age of 13 (Center for Disease Control, 2020). Findings from the present study matter because age at first alcohol use is a strong predictor of subsequent alcohol disorders (e.g., Dawson et al., 2008). Unpopularity was found to be a strong indicator of alcohol misuse. Of those drinking to intoxication at the outset of the study, 83.3% were above average in unpopularity. Of those who began drinking to intoxication during the course of the school year, 65.3% were above average in unpopularity. Second, relatedly, the alcohol misuse survey was not administered to 5th graders in the USA, so mean level grade contrast were biased toward the Lithuanian sample. Third, although there was adequate power to detect large and medium effects, power to detect small effects was limited, particularly in multiple group contrasts and indirect effects. Null findings for gender and location differences should not be the final word on the topic; the former is particularly important given the prospect of small, undetected differences that run contrary to the narrative of cohort shifts in gender-specific peer-valued assets. Fourth, peer nominations assessed attractiveness and athleticism. It is reasonable to assume that those who are low in attractiveness are unattractive and that those who are low in athleticism are unathletic but given the failure to directly assess unattractiveness and unathleticism, caution is warranted in assuming equivalence. Finally, in the absence of a random intercept model, conclusions about within-individual effects should be made with caution because longitudinal changes may instead reflect between-person effects (Hamaker et al., 2015).

Conclusion

Despite the many changes in school culture since the 1960s, some forces remain constant. Youth who are not attractive and youth who are not athletic remain on the fringes of the peer group, becoming more unpopular as the school year progresses. As their unpopularity grows, so do their problems. Escalating loneliness and alcohol misuse follow. Replication bolsters confidence in these conclusions. The same pattern of associations emerged in a heterogeneous sample of youth from a large metropolitan area in the United States and in a homogeneous sample of youth from small community in Lithuania, which suggests that the processes identified herein generalize to a wide range of contemporary Western contexts.

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Authors' Contributions MPL-J participated in the study design and coordination, performed the measurement and statistical analyses, participated in the interpretation of the data, and drafted and revised the manuscript; SF participated in the study design and coordination, performed the measurement and statistical analyses, participated in the interpretation of the data, and drafted and revised the manuscript; GK participated in study design, and drafted and revised the manuscript; RZ participated in study design, and drafted and revised the manuscript; BL conceived the study, participated in its design and coordination, and drafted and revised the manuscript. All authors read and approved the final manuscript.

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Data sharing declaration The datasets are not publicly available but are available from the corresponding author upon reasonable request.

Compliance with Ethical Standards

Conflict of Interest The authors declare no competing interests.

Ethical Approval The study was approved by school officials and the Florida Atlantic University IRB (USA #135501-16) or ethics committee (Lithuania #6/-2020).

Informed Consent Written parent consent and written child assent were required for participation.

References

Bellmore, A. (2011). Peer rejection and unpopularity: Associations with GPAs across the transition to middle school. *Journal of Educational Psychology*, *103*(2), 282–295. https://doi.org/10.1037/a0023312.

Berger, J., & Fisek, M. H. (2006). Diffuse status characteristics and the spread of status value: A formal theory. *American Journal of Sociology*, *111*(4), 1038–1079. https://doi.org/10.1086/498633.

Blöte, A. W., Miers, A. C., & Westenberg, P. M. (2014). The role of social performance and physical attractiveness in peer rejection of socially anxious adolescents. *Journal of Research on Adolescence*, *25*(1), 189–200. https://doi.org/10.1111/jora.12107.

Borch, C., Hyde, A., & Cillessen, A. H. N. (2011). The role of attractiveness and aggression in high school popularity. *Social Psychology of Education*, *14*, 23–39. https://doi.org/10.1007/s11218-010-9131-1.

Bos, A. E. R., Pryor, J. B., Reeder, G. D., & Stutterheim, S. E. (2013). Stigma: Advances in theory and research. *Basic and Applied Social Psychology*, *35*(1), 1–9. https://doi.org/10.1080/01973533.2012.746147.

Center for Disease Control. (2020, August). *Trends in the prevalence of alcohol use national YRBS: 1991–2019*. U.S. Department of Health and Human Services. https://www.cdc.gov/healthyyouth/data/yrbs/factsheets/2019_alcohol_trend_yrbs.htm.

Choukas-Bradley, S., Giletta, M., Neblett, E. W., & Prinstein, M. J. (2015). Ethnic differences in associations among popularity, likability, and trajectories of adolescents' alcohol use and frequency. *Child Development*, *86*(2), 519–535. https://doi.org/10.1111/cdev.12333.

Christiansen, J., Qualter, P., Friis, K., Pedersen, S. S., Lund, R., Andersen, C. M., Bekker-Jeppesen, M., & Lasgaard, M. (2021). Associations of loneliness and social isolation with physical and mental health among adolescents and young adults. *Perspectives in Public Health*, *141*(4), 226–236. https://doi.org/10.1177/17579139211016077.

Coleman, J. S. (1961). *The Adolescent Society*. Westport, Connecticut: Free Press.

Dawson, D. A., Goldstein, R. B., Chou, S. P., Ruan, W. J. & & Grant, B. F. (2008). Age at first drink and first incidence of adult-onset DSM-IV alcohol use disorders. *Alcoholism: Clinical and Experimental Research*, *32*(12), 2149–2160. https://doi.org/10.1111/j.1530-0277.2008.00806.x.

Dickson, D. J., Laursen, B., Stattin, H., & Kerr, M. (2015). Parental supervision and alcohol abuse among adolescent girls. *Pediatrics*, *136*(4), 617–624. https://doi.org/10.1542/peds.2015-1258.

Dijkstra, J. K., Cillessen, A. H. N., Lindenberg, S. & & Veenstra, R. (2010). Same-gender and cross-gender likeability: Associations with popularity and status enhancement: The TRIALS study. *The Journal of Early Adolescence*, *30*(6), 773–802. https://doi.org/10.1177/0272431609350926.

Dunn, J. C., Dunn, J. G. H., & Bayduza, A. (2007). Perceived athletic competence, sociometric status, and loneliness in elementary school children. *Journal of Sport Behavior*, *30*(3), 249–269. ISSN: 0162-7341.

Eder, D. (1985). The cycle of popularity: Interpersonal relations among female adolescents. *Sociology of Education*, *58*(3), 154–165. https://doi.org/10.2307/2112416.

Engels, M. C., Colpin, H., Wouters, S., Van Leeuwen, K., Bijttebier, P., Van Den Noortgate, W., Goossens, L., & Cerschueren, K. (2019). Adolescents' peer status profiles and differences in school engagement and loneliness trajectories: A person-centered approach. *Learning and Individual Differences*, *75*, 101759. https://doi.org/10.1016/j.lindif.2019.101759.

Ellickson, P. L., Tucker, J. S., & Klein, D. J. (2003). Ten-year prospective study of public health problems associated with early drinking. *Pediatrics*, *111*(5), 949–955. https://doi.org/10.1542/peds.111.5.949.

Farmer, T. W., Estell, D. B., Hall, C. M., Pearl, R., Van Acker, R., & Rodkin, P. C. (2008). Interpersonal competence configurations, behavior problems, and social adjustment in preadolescence. *Journal of Emotional and Behavioral Disorders*, *16*(4), 195–212. https://doi.org/10.1177/1063426608320355.

Feingold, A. (1992). Good-looking people are not what we think. *Psychological Bulletin*, *111*(2), 304–341. https://doi.org/10.1037/0033-2909.111.2.304.

Ferguson, G. M., Hafen, C. A., & Laursen, B. (2010). Adolescent psychological and academic adjustment as a function of discrepancies between actual and ideal self-perceptions. *Journal of Youth and Adolescence*, *39*(12), 1485–1497. https://doi.org/10.1007/s10964-009-9461-5.

Fritz, M. S., & MacKinnon, D. P. (2012). Mediation models for developmental data. In B. Laursen, T. D. Little, & N. A. Card (Eds.), *Handbook of developmental research methods* (pp. 291–310). New York, NY: Guilford.

Gordon, R. A., Crosnoe, R., & Wang, X. (2013). Physical attractiveness and the accumulation of social and human capital in adolescence and young adulthood: Assets and distractions. *Monographs of the Society for Research in Child Development*, *78*(6), 1–137. https://doi.org/10.1002/mono.12060.

Gorman, A. H., Schwartz, D., Nakamoto, J., & Mayeux, L. (2011). Unpopularity and disliking among peers: Partially distinct dimensions of adolescents' social experiences. *Journal of Applied Developmental Psychology*, *32*, 208–217. https://doi.org/10.1016/j.appdev.2011.05.001.

Hamaker, E. L., Kuiper, R. M., & Grasman, R. P. P. P. (2015). A critique of the cross-lagged panel model. *Psychological Methods*, *20*(1), 102–116. https://doi.org/10.1037/a0038889.

Henricks, L. A., Lange, W.-G., Luijten, M., van den Berg, Y. H. M., Stoltz, S. E. M. J., Cillessen, A. H. N., & Becker, E. S. (2023). The longitudinal link between popularity, likeability, fear of negative evaluation and social avoidance across adolescence. *Journal of Research on Adolescence*, *2*, 28–32. https://doi.org/10.1111/jora.12833.

Jewell, J. A., & Spears Brown, C. (2014). Relations among gender typicality, peer relations, and mental health during early adolescence. *Social Development*, *23*(1), 137–156. https://doi.org/10.1111/sode.12042.

Katulis, G., Kaniušonytė, G., & Laursen, B. (2023). Positive classroom climate buffers against increases in loneliness arising from shyness, rejection sensitivity and emotional reactivity. *Frontiers in Psychiatry*, *14*, 1081989. https://doi.org/10.3389/fpsyt.2023.1081989.

Knack, J. M., Tsar, V., Vaillancourt, T., Hymel, S., & McDougall, P. (2012). What protects rejected adolescents from also being bullied by their peers? The moderating role of peer-valued characteristics. *Journal of Research on Adolescence*, *22*(3), 467–479. https://doi.org/10.1111/j.1532-7795.2012.00792.x.

Ladd, G. W., & Ettekal, I. (2013). Pee-related loneliness across early to late adolescence: Normative trends, intra-individual trajectories, and links with depressive symptoms. *Journal of Adolescence*, *36*, 1269–1282. https://doi.org/10.1016/j.adolescence.2013.05.004.

LaFontana, K. M., & Cillessen, A. H. N. (2002). Children's perceptions of popular and unpopular peers: A multimethod assessment. *Developmental Psychology*, *38*(5), 635–647. https://doi.org/10.1037//0012-1649.38.5.635.

Laursen, B., & Faur, S. (2022). What does it mean to be susceptible to influence? A brief primer on peer conformity and developmental changes that affect it. *International Journal of Behavioral Development*, *46*(3), 222–237. https://doi.org/10.1177/01650254221084103.

Laursen, B., & Hartl, A. C. (2013). Understanding loneliness during adolescence: Developmental changes that increase the risk of perceived social isolation. *Journal of Adolescence*, *36*(6), 1261–1268. https://doi.org/10.1016/j.adolescence.2013.06.003.

Lease, A. M., Musgrove, K. T., & Axelrod, J. L. (2002). Dimensions of social status in preadolescent peer groups: Likability, perceived popularity, and social dominance. *Social Development*, *11*(4), 508–533. https://doi.org/10.1111/1467-9507.00213.

Markovic, A., & Bowker, J. C. (2015). Shy, but funny? Examining peer-valued characteristics as moderators of the associations between anxious-withdrawal and peer outcomes during early adolescence. *Journal of Youth and Adolescence*, *44*, 833–846. https://doi.org/10.1007/s10964-014-0113-z.

Marks, P. E. L., Babcock, B., van den Berg, Y. H. M., Gommans, R. & & Cillessen, A. H. N. (2022). Adolescent popularity as a non-linear, two-dimensional construct: Convergent results from three large samples. *The Journal of Early Adolescence*, *42*(1), 115–142. https://doi.org/10.1177/02724316211016066.

Mayeux, L., & Kleiser, M. (2020). A gender prototypicality theory of adolescent peer popularity. *Adolescent Research Review*, *5*, 295–306. https://doi.org/10.1007/s40894-019-00123-z.

Muthén, B., & Asparouhov, T. (2012). Bayesian structural equation modeling: A more flexible representation of substantive theory. *Psychological Methods*, *17*(3), 313–335. https://doi.org/10.1037/a0026802.

Muthén, L. K., & Muthén, B. O. (1998–2017). *Mplus User's Guide* (8th ed.). Los Angeles, California: Muthén & Muthén.

Muthén, L. K., & Muthén, B. O. (2002). How to use a monte carlo study to decide on sample size and determine power. *Structural Equation Modeling*, *9*(4), 599–620. https://doi.org/10.1207/S15328007SEM0904_8.

Parker, J. G., & Asher, S. R. (1993). Friendship and friendship quality in middle childhood: Links with peer group acceptance and feelings of loneliness and social dissatisfaction. *Developmental Psychology*, *29*(4), 611–621. https://doi.org/10.1037/0012-1649.29.4.611.

Richmond, A. D., Laursen, B., Kerr, M., & Stattin, H. (2015). Depressive symptoms anticipate changes in the frequency of alcohol intoxication among low-accepted adolescents. *Journal of Studies on Alcohol and Drugs*, *76*(4), 585–593. https://doi.org/10.15288/jsad.2015.76.585.

Rose, A. J., Glick, G. C., & Smith, R. L. (2011). Popularity and gender: The two cultures of boys and girls. In A. H. N. Cillessen, D. Schwartz, & L. Mayeux (Eds.), *Popularity in the peer system* (pp. 103–122). New York, NY: Guilford.

Schinka, K. C., van Dulmen, M. H. M., Mata, A. D., Bossarte, R., & Swahn, M. (2013). Psychosocial predictors and outcomes of loneliness trajectories from childhood to early adolescence. *Journal of Adolescence*, *36*, 1251–1260. https://doi.org/10.1016/j.adolescence.2013.08.002.

Velásquez, A. M., Bukowski, W. M., & Saldarriaga, L. M. (2013). Adjusting for group size effects in peer nomination data. *Social Development*, *22*(4), 845–863. https://doi.org/10.1111/sode.12029.

Vitaro, F., Boivin, M., & Poulin, F. (2018). The interface of aggression and peer relations in childhood and adolescence. In W. M. Bukowski, B. Laursen, & K. H. Rubin (Eds.), *Handbook of peer interactions, relationships, and groups* (pp. 284–301). New York, NY: Guilford.

Widaman, K. F., & Thompson, J. S. (2003). On specifying the null model for incremental fit indices in structural equation modeling. *Psychological Methods*, *8*(1), 16–37. https://doi.org/10.1037/1082-989X.8.1.16.

Wood, S., Done, J., & Kalsi, H. (2009). Peer victimisation and internalising difficulties: The moderating role of friendship quality. *Journal of Adolescence*, *32*(2), 293–308. https://doi.org/10.1016/j.adolescence.2008.03.005.

Xie, H., Li, Y., Boucher, S. M., Hutchins, B. C., & Cairns, B. D. (2006). What makes a girl (or a boy) popular (or unpopular)? African American children's perceptions and developmental differences. *Developmental Psychology*, *42*(4), 599–612. https://doi.org/10.1037/0012-1649.42.4.599.

Zimmer-Gembeck, M. J., Pronk, R. E., Goodwin, B., Mastro, S., & Crick, N. R. (2013). Connected and isolated victims of relational aggression: Associations with peer group status and differences between girls and boys. *Sex Roles*, *68*, 363–377. https://doi.org/10.1007/s11199-012-0239-y.

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