Journal of Youth and Adolescence (2019) 48:1567–1579
https://doi.org/10.1007/s10964-019-01040-z

EMPIRICAL RESEARCH

Derisive Parenting Fosters Dysregulated Anger in Adolescent Children and Subsequent Difficulties with Peers

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Received: 16 February 2019 / Accepted: 13 May 2019 / Published online: 24 May 2019
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Abstract
Bullying and victimization are manifest in the peer social world, but have origins in the home. Uncertainty surrounds the mechanisms that convey problems between these settings. The present study describes the indirect transmission of hostility and coercion from parents to adolescent children through emotional dysregulation. In this model, derisive parenting—behaviors that demean or belittle children—fosters dysregulated anger, which precipitates peer difficulties. A total of 1409 participants (48% female; $M_{age} = 13.4$ years at the outset) were followed across secondary school (Grades 7–9) for three consecutive years. The results indicated that derisive parenting in Grade 7 was associated with increases in adolescent dysregulated anger from Grade 7 to 8, which, in turn, was associated with increases in bullying and victimization from Grade 8 to 9. The findings suggest that parents who are derisive, have children who struggle with emotional regulation and, ultimately, with constructive peer relationships.

Keywords Parenting · Emotion dysregulation · Bullying · Victimization

Introduction

Parents are frequently implicated in the development of bullying. Strong evidence suggests that many bullies have parents who are hostile, punitive, and rejecting (Rodkin and Hodges 2003). The mechanisms whereby negative parenting fosters bullying, however, are far from clear. Most explanations involve direct mechanisms whereby parents teach coercive behaviors to children (e.g., Patterson 1982; Trifan and Stattin 2015), but such explanations are less than complete. In the present article, an indirect mechanism is proposed that works in conjunction with conventional direct transmission mechanisms. In this framework, parents who are derisive and demeaning thwart the development of emotional regulation in children, which gives rise to angry, coercive interactions with peers. Longitudinal mediation analyses explore direct and indirect effects from parenting to troubled peer outcomes. Three waves of data from a community sample of middle school youth are used to test a mediated model whereby derisive parenting gives rise to bullying and victimization via adolescent emotional dysregulation.

Bullying is a distinct form of aggressive behavior in which an individual repeatedly attacks, humiliates, or excludes another. Rates of bullying peak during the adolescent years, when up to 30% of youth report being victimized (Salmivalli and Peets 2018). Children who are bullied suffer, sometimes dramatically. Victims report increased levels of anxiety and depressive symptoms, and diminished self-worth; adolescents may skip school, avoid social activities, or even resort to self-harm or suicide to escape bullying (Wolke and Lereya 2015). Many bullies are also victims. Of those who engage in bullying, 62% are also the victim of bullying (Haynie et al. 2001). So-called *bully-victims* have an even worse prognosis than either bullies or victims, suffering from peer rejection (Schwartz 2000) and a wide range of mental health problems (Arseneault et al. 2010).

Parent behaviors are tied to adolescent bullying behaviors. Rates of bullying are nearly 50% higher among adolescents whose parents exhibit low levels of warmth or

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support than among those whose parents do not (Wang et al. 2009). Other studies implicate harsh and negative parenting. Authoritarian and punitive parenting is correlated with bullying (Baldry and Farrington 2000), and adolescents with overtly hostile parents direct similar hostilities toward their peers (Trifan and Stattin 2015). Meta-analytic results indicate that negative and unresponsive forms of parenting are prevalent among both victims and bully-victims (Lereya et al. 2013).

In its original form, the "cycle of violence" (Curtis 1963) posited an intergenerational transmission of violence from parents to children. The formula has been extended to the acquisition of bullying. Direct effects learning models describe how children come to duplicate with their peers the bullying they receive from their parents. Implicit is the notion that children learn coercive behaviors from their parents. Postulated learning mechanisms usually involve some combination of modeling, whereby the child learns hostile, controlling strategies from watching the parent, and direct tuition, whereby the child is rewarded for applying coercive behavior control techniques to agemates (Baldry and Farrington 2000). A related "cycle of dominance" has been proposed: Status differentials between parents and children are prominently displayed through power assertion and coercive conflict resolution strategies, which children internalize as techniques to acquire and maintain dominance in relationships with others (Brubacher et al. 2009). Indirect mechanisms have been proposed to supplement direct pathways from negative parenting to adolescent peer difficulties. Most models flow from the assumption that parent coercive behavior both legitimizes the use of negativity in other contexts and desensitizes the child to its consequences (Widom and Wilson 2015). In one model, inept parents negatively reinforce angry, coercive behaviors on the part of the child (Patterson 1982). The coercive strategies that the child acquires from interactions with parents prove unpopular when applied in the peer context, leading to rejection and ultimately affiliation with other coercive agemates. Parent rejection may also lead to the development of hostile attribution biases and interpersonal styles characterized by coercion and hypervigilance, which can be precursors of bullying and victimization (Dodge 1991).

Other indirect mechanisms have been proposed. The present study emphasizes the development of anger dysregulation on the part of the child as an intervening variable. In this model, parent rejection promotes emotional dysregulation. Parents who rely on emotional and physical coercion to obtain compliance, socialize negative emotionality in children (Kerr et al. 2003). Difficulties with emotional regulation follow, as children engage in tit-for-tat escalation of negative affect with parents. Emotional dysregulation may take the form of unpredictable negative affect, verbal and physical aggression, and hostile expression of frustration. None are well-received by agemates. The model does not preclude the conscious use of aggression to attain status (e.g., Hawley and Vaughn 2003); bullies may learn from parents the strategic benefits of proactive displays of aggression. The present investigation, however, emphasizes the emotional underpinnings of peer difficulties.

Parent behaviors are also tied to victimization. Suboptimal parenting practices (e.g., low warmth, high control, high conflict) have been linked to greater peer victimization (Stevens et al. 2002). Many of these practices might be viewed as consistent with an authoritarian parenting style. One proposed mechanism suggests that children internalize unhealthy perspectives of social relationships through negative interactions with parents, which interfere with the establishment of healthy relationships with peers (Bretherton and Munholland 1999). Children may develop a victim's schema after being exposed to harsh parenting, which may encourage behaviors that invite bullying from peers (Perry et al. 2001). Difficult family interactions provide few opportunities to develop conflict resolution skills that can be applied to peer interactions, which may result in poor decisions about who to quarrel with and when to de-escalate a disagreement (Beran and Violato 2004). Dysregulated affect may also play a role in the development of victimization. Feelings of rejection, fostered by parent hostility, may lead to anxiety and emotional dysregulation, which can make one a target for bullies (Finnegan et al. 1998).

Concurrent data are consistent with indirect transmission models. In one study, abused and maltreated children were more likely than nonabused children to be labeled by camp counselors as bullies or victims (Shields and Cicchetti 2001); concurrent assessments of emotional dysregulation mediated the association between a child's maltreatment status and his or her emergence as a bully or victim. Although no studies have explicitly examined the longitudinal mediational model identified herein, there is support for its constituent components. Parent sarcasm has been linked to subsequent child emotional regulation difficulties (Quetsch et al. 2018), and emotional dysregulation has been tied to bullying (Shields and Cicchetti 2001), victimization (Rosen et al. 2012), and bully-victim status (Schwartz et al. 2001). Interpretations are limited, however, by concerns about the direction of effects (e.g., dysregulated child behaviors may be a cause of negative parenting and/or a consequence of peer difficulties).

The model adopted herein starts from an understudied form of parenting – derision. Derisive parenting is operationalized as demeaning or belittling expressions that humiliate and frustrate the child, without any obvious provocation from the child. Derisive parents respond to child engagement with criticism, sarcasm, put-downs, and

hostility (Kahen et al. 1994). Parent derision can be provoked by conflict (Adams and Laursen 2001), but it is apt to be particularly detrimental in the context of communicative overtures, discouraging constructive forms of interpersonal engagement. Derision is not a parenting style in the conventional sense of the word in that it does not describe a broad constellation of attitudes about children or child-rearing (Darling and Steinberg 1993), but it is consistent with depictions of unresponsive (Kawabata et al. 2011) and rejecting (Skinner et al. 2005) parenting practices. The consequences of derisive parenting should extend far beyond lack of respect and violations of trust. Parents who respond to communication and disclosure with derision socialize the expression of negative affect when confronted with interpersonal challenge. For some children, especially those rejected by peers, poor emotional regulation may be an invitation to victimization (Hanish and Guerra 2000). Among those who are better accepted, emotional regulation difficulties may give rise to bullying (Shields and Cicchetti 2001). Of course, bullies are a heterogeneous lot. Some may bully in a calculated manner, in an effort to gain and retain status (Hawley and Vaughn 2003). However, many children bully because coercion and emotional lability are default responses to interpersonal challenges, particularly when problem solving skills are deficient (Cook et al. 2010). Such children may attempt to bully everyone, not just the vulnerable. In so doing, they may find that others push back in a similarly coercive manner. Indiscriminate bullies may soon find themselves bully-victims. Alternatively, bully-victims may victimize children who acquire “reactive” bullying strategies, in response to the experience of being bullied (van der Wal 2005).

Hypotheses

The present study examines the spread of intemperate, insensitive behaviors from parents to adolescent children, and the resulting peer problems that follow. In line with the expectation that derisive parenting robs adolescents of opportunities to learn adaptive responses to interpersonal challenges, a chain of events is hypothesized wherein higher initial levels of derisive parenting foster increases in adolescent anger dysregulation, which, in turn, promote increases in bullying and victimization. A similar pattern of indirect effects should emerge for bully-victim outcomes. Indirect effects (from derisive parenting to peer difficulties through anger dysregulation) will be tested with 3 waves of data using a full longitudinal mediation design (Fritz and MacKinnon 2012). The focus is on the middle school years (Grades 7 through 9), a time when the social world changes rapidly and the risk of peer problems peaks (Low and Espelage 2013). Unlike previous studies, bullying and victimization will be examined in school and out of school, to determine if effects are limited to one context or another. Associations should not differ across contexts; unlike primary schools, most middle schools lack the adult supervision necessary to suppress or mitigate bullying and victimization (Cantone et al. 2015). To isolate the unique effect of derisive parenting, and to better distinguish its contributions from the effects of other negative parenting behaviors that might better align with an authoritarian parenting style, controls are included for parenting constructs known to contribute to child outcomes, including warmth, physical punishment (Lereya et al. 2013) and behavioral control and parent solicitation of information (Stavrinides et al. 2014). Also included are controls for adolescent attributes, such as peer acceptance, that correlate with parenting and contribute to peer difficulties (Ladd and Troop-Gordon 2003), and adolescent traits that may elicit parent derision, such as defiance and impulsivity (Glatz et al. 2011). Finally, bullying, victimization, and emotional dysregulation are more common among boys than girls (Craig et al. 2009), and associations between negative parenting and victimization tend to differ for boys and girls (Sun et al. 2017), suggesting that it may be prudent examine whether associations differ by gender.

Method

Participants

The final sample of 1409 participants (47.8% female) was drawn from a community sample of all students attending school in a mid-size city in Sweden. Seventh graders were, on average, 13.42 years old ($SD = 0.53$), 8th graders were, on average, 14.41 years old ($SD = 0.53$), and 9th graders were, on average, 15.39 years old ($SD = 0.53$). More than 84% of the sample were ethnic Swedes ($n = 1192$). Most adolescents (66.9%) lived with a biological mother and a biological father. The majority of mothers (73.3%) and fathers (86.0%) worked full-time.

Procedure

For 3 consecutive years, data were collected from all students in 7 secondary schools (7–9th Grade). Participation was restricted to those who completed questionnaires during at least two consecutive waves of data collection. Attrition was low. Of the 546 students who were in the 7th Grade in 2007 (Cohort 1), 96.5% participated in 8th Grade and 90.5% participated in 9th Grade. Of the 429 students who were in the 8th Grade in 2008 (Cohort 2), 100% participated in 9th Grade. Of the 434 students who were in the 7th Grade in 2009 (Cohort 3), 99.5% participated in 8th Grade. There

were no statistically significant differences on any study variable between those who completed two waves of data collection and those who completed three. Neither were there any differences between those included in the analyses (i.e., those with at least two consecutive waves of data) and those excluded.

This study was part of a larger project entitled "utsatta ungdomar I utsatta omraden" (English translation: "vulnerable young people in vulnerable areas") and was approved by the regional ethics board in Uppsala (protocol # EPN 2007/094). Parents were informed of the study and given the option to withdraw consent (approximately 1% did so). Adolescents were informed that they could withdraw from the study at any time (~3% did so). Trained research assistants administered questionnaires during class at annual intervals. Students were instructed to describe events from the current semester. Teachers were not present.

Instruments

Derisive parenting

Adolescents completed a 6-item questionnaire (Persson et al. 2004) assessing perceptions of the receipt of parent expressions of contempt, sarcasm, belittlement, and criticism (e.g., Have your parents ever used what you told them against you? Have your parents ever made fun of things you told them about yourself and your life? Have you ever told your parents things and later regretted that you did? Do your parents bring up things that you told them in confidence again and again? Have you been punished for something that you spontaneously told your parents? How often have you regretted that you told your parents too much about yourself, your friends, and your free time?). Items were rated on a scale ranging from 1 (*never*) to 4 (*pretty often*). Internal reliability was adequate ($\alpha = 0.88$). Item scores were averaged.

Adolescent anger dysregulation

Adolescents completed a 5-item questionnaire (Roth et al. 2009) assessing regulation of negative emotions (e.g., When I get really angry with someone I do things that I regret afterwards). Items were rated on a scale ranging from 1 (*don't agree at all*) to 4 (*agree completely*). Internal reliability was adequate ($\alpha = 0.75$). Item scores were averaged.

In-school bullying

Adolescents completed a 3-item questionnaire (Alsaker and Brunner 1999) assessing the frequency with which they bullied other students during school hours (e.g., Have you beaten, kicked or assaulted someone?). Items were scored on a scale from 1 (*never*) to 4 (*several times a week*). Internal reliability was adequate ($\alpha = 0.74$). Item scores were averaged.

In-school victimization

Adolescents completed a 3-item questionnaire (Alsaker and Brunner 1999) assessing the frequency with which they were victimized during school hours (e.g., Have you been beaten, kicked or assaulted?). Items were scored on a scale from 1 (*never*) to 4 (*several times a week*). Internal reliability was adequate ($\alpha = 0.67$). Item scores were averaged.

Out-of-school violence

Adolescents completed a 3-item questionnaire (Andershed et al. 2001) assessing the frequency with which they engaged in hostile and aggressive behaviors outside of school hours (e.g., Have you attacked others without them threatening or attacking you or your friends first?). Items were scored on a scale from 1 (*never*) to 4 (*several times a week*). Internal reliability was adequate ($\alpha = 0.74$). Item scores were averaged.

Out-of-school victimization

Adolescents completed a 3-item questionnaire (Andershed et al. 2001) assessing the frequency with which they were victimized outside of school hours (e.g., Have you been threatened or forced to give money, cell phone, cigarettes or anything else to others?). Items were scored on a scale from 1 (*never*) to 4 (*several times a week*). Internal reliability was adequate ($\alpha = 0.78$). Item scores were averaged.

Bully-victims

Some youth present high levels of bullying and victimization (i.e., bully-victims: Espelage and Swearer 2003). Two interaction terms were created to capture the confluence of these behaviors: *in-school bullying X in-school victimization* and *out-of-school violence X out-of-school victimization*.

Potential confounding variables

Supplemental analyses were conducted to isolate the contributions of variables included in the study from other potentially confounding variables. In so doing, precision can be ascribed to the unique features of derisive parenting and its subsequent association with adolescent peer difficulties. Three types of confounding variables were investigated. The first includes seven variables that conceptually

overlap with derisive parenting. The second includes three variables that conceptually resemble adolescent anger dysregulation. Finally, the final group included two controls: (a) a peer acceptance variable which was included as a covariate because low status children are known to be vulnerable to peer difficulties, and (b) substance use, which was included as a covariate in order to better segregate bullying and victimization from general adolescent delinquency. All measures were assessed in grades 7–9.

Parent warmth Adolescents completed a 12-item questionnaire (Tilton-Weaver et al. 2010) assessing the frequency with which mothers and fathers express affection and praise (e.g., Always shows how proud he/she is of me). Items were scored on a scale from 1 (*never*) to 3 (*most often*). Internal reliability was adequate ($\alpha = 0.87$–0.91). Item scores were averaged.

Physically punitive parenting Adolescents completed a 12-item questionnaire (Tilton-Weaver et al. 2010) assessing the frequency with which parents physically abused them (e.g., How often has your mother/father hit or slapped you?). Items were scored on a scale from 1 (*never*) to 3 (*many times*). Internal reliability was adequate ($\alpha = 0.91$–0.94). Item scores were averaged.

Parent solicitation of information Adolescents completed a 6-item questionnaire (Stattin and Kerr 2000) assessing the frequency with which parents ask about free time activities and whereabouts (e.g., How often do your parents ask you about where you have been after school and what you have done?). Items were scored on a scale from 1 (*almost never*) to 5 (*very often*). Internal reliability was adequate ($\alpha = 0.77$–0.78). Item scores were averaged.

Parent behavioral control Adolescents completed a 5-item questionnaire (Stattin and Kerr 2000) assessing parent attempts to regulate free-time activities (e.g., Do you need to have your parents' permission to stay out late on a weekday evening?). Items were scored on a scale from 1 (*no, never*) to 5 (*yes, always*). Internal reliability was adequate ($\alpha = 0.79$–0.82). Item scores were averaged.

Parent knowledge Adolescents completed a 6-item questionnaire (Stattin and Kerr 2000) assessing the amount and accuracy of parent knowledge about free-time activities (e.g., Do your parents know what you do during your free time?). Items were scored on a scale from 1 (*never*) to 5 (*almost always*). Internal reliability was adequate ($\alpha = 0.79$–0.82). Item scores were averaged.

Excessive parent control Adolescents completed a 5-item questionnaire (Stattin and Kerr 2000) assessing perceived parent overcontrol (e.g., Does it feel like your parents control everything in your life?). Items were scored on a scale from 1 (*no, never*) to 5 (*yes, always*). Internal reliability was adequate ($\alpha = 0.76$–0.78). Item scores were averaged.

Disclosure to parents Adolescents completed a 5-item questionnaire (Stattin and Kerr 2000) assessing sharing and disclosure of information to parents about free time activities (e.g., Do you hide a lot from your parents about what you do at night and on weekends?). Items were scored on a scale from 1 (*nothing at all*) to 4 (*very much*). Internal reliability was adequate ($\alpha = 0.76$–0.82). Item scores were averaged.

Defiance Adolescents completed a 6-item questionnaire (Persson et al. 2004) assessing disobedience or defiance of parent restrictions (e.g., What happens if your parents say that you can't go out when you already made plans with your friends?). Items were scored on a scale from 1 (*do as they want and stay home*) to 4 (*don't care about what they are saying and go out anyway*). Internal reliability was adequate ($\alpha = 0.76$–0.79). Item scores were averaged.

Callous unemotional traits Adolescents completed a 3-item questionnaire (Andershed et al. 2001) assessing callousness and a lack of empathy (e.g., I don't let my feelings affect me as much as other people's feelings seem to affect them). Items were scored on a scale from 1 (*don't agree at all*) to 4 (*agree completely*). Internal reliability was adequate ($\alpha = 0.81$–0.88). Item scores were averaged.

Impulsivity and irresponsibility Adolescents completed an 8-item questionnaire (Andershed et al. 2001) assessing impulsive behavior (e.g., I often do things without thinking ahead). Items were scored on a scale from 1 (*don't agree at all*) to 4 (*agree completely*). Internal reliability was adequate ($\alpha = 0.74$–0.77). Item scores were averaged.

Peer acceptance Participants nominated up to three very important peers, defined as an important person in the participant's life, or someone that talks with, spends time with, and does things with the participant. Very important peers could be friends, siblings, girlfriends, or boyfriends, but they could not be one's parents, or an adult who serves a similar role as a parent. Very important peers were not limited to those in the same grades or genders as the participant. Peer acceptance represents the sum of all incoming important peer nominations ($M = 2.49$, $SD = 1.55$; range = 0–8).

Substance use Adolescents completed a 3-item questionnaire (Kerr et al. 2012) assessing use of alcohol,

marijuana, and other illicit drugs over the past year (e.g., Have you drunk so much beer, liquor, or wine that you got drunk?; Have you smoked pot (marijuana, cannabis)?; Have you used any drugs other than pot (marijuana, cannabis)?). Items were scored on a scale from 1 (*no, it has not happened*) to 5 (*more than 10 times*). Internal reliability was adequate ($\alpha = 0.73$–0.75). Item scores were averaged.

Plan of Analysis

Full longitudinal meditation analyses were conducted in Mplus v.8.0 (Muthén and Muthén 1998–2017) to test the hypothesis that derisive parenting in Grade 7 predicted increases in peer difficulties (i.e., adolescent victimization, violence, and bullying) in Grade 9 as mediated by adolescent anger dysregulation in Grade 8. Figure 1 depicts the measurement model. Each model includes the following cross-construct longitudinal associations: (a) Grade 7 derisive parenting predicting to Grade 8 adolescent anger dysregulation, (b) Grade 8 adolescent anger dysregulation predicting to Grade 9 peer difficulties, and (c) Grade 7 derisive parenting predicting to Grade 9 peer difficulties. The identification of direct associations, in isolation, from Grade 7 derisive parenting to Grade 9 peer difficulties need not be a precondition to test for indirect effects (Hayes 2009), hence the proposed mediation analyses were conducted based on their own merit.

Consistent with the current study's hypotheses that adolescent anger dysregulation would mediate the longitudinal influence of derisive parenting on peer difficulties both in and out of school settings, we investigated two sets of longitudinal mediational models. The first set of models was focused on the prediction of peer difficulties in the school domain. The first model predicted to Grade 9 in-school bullying, the second model predicted to Grade 9 in-school victimization, and the third model predicted to the Grade 9 interaction between in-school bullying and in-school victimization (i.e., in-school bully-victim status). The second set of models was focused on the prediction of peer difficulties in the out-of-school domain. The fourth model predicted to Grade 9 out-of-school violence, the fifth model predicted to Grade 9 out-of-school victimization, and the sixth model predicted to the Grade 9 interaction between out-of-school violence and out-of-school victimization (i.e., out-of-school bully-victim status).

Standard fit indices assessed model fit. The root mean square error of approximation (*RMSEA*) should be equal or less than .06; and the comparative fit index (*CFI*) should exceed .95 (Kline 2005). The significance of indirect pathways was calculated using percentile bootstrap confidence intervals (MacKinnon et al. 2004) to minimize Type 1 error rate. Standardized estimates are reported.

Supplemental models included the addition of control variables known to correlate with derisive parenting (i.e., warmth, behavioral control, solicitation of information, knowledge, excessive control, physically punitive parenting, and disclosure), adolescent anger dysregulation (i.e., defiance, callous-unemotional traits, and impulsivity and irresponsibility), and peer difficulties (i.e., peer acceptance, substance use). Each control variable was separately added to the model as a grade 7 predictor to determine if the same pattern of statistically significant indirect effects were maintained. Sex differences were tested with multiple group models.

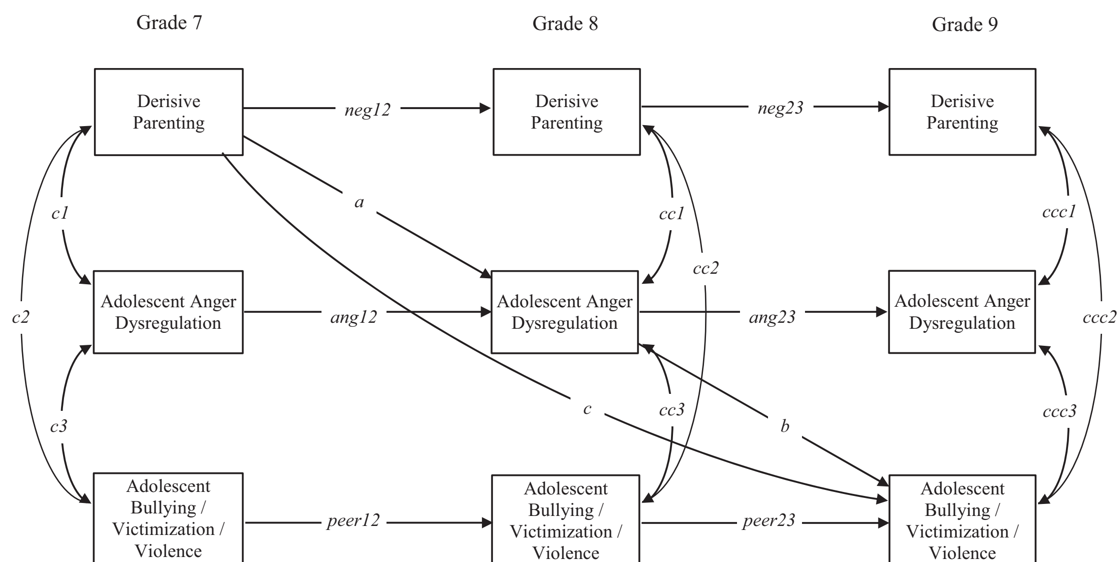

Fig. 1 Indirect effect of Grade 7 derisive parenting on Grade 9 peer difficulties through Grade 8 adolescent anger dysregulation: Full longitudinal mediation measurement model. *Note*. Stability paths from Grade 7 to Grade 9 were included in the model but are not depicted

Finally, alternative mediation models were considered, to confirm the direction of effects tested (Little 2013). The hypothesized longitudinal mediation model (e.g., Grade 7 derisive parenting would predict to Grade 8 adolescent emotional dysregulation which would predict to Grade 9 peer difficulties) was tested against alternative models in which Grade 8 derisive parenting or peer difficulties served as mediating variables. In the first alternative model, Grade 7 adolescent emotional dysregulation would be expected to positively predict Grade 8 derisive parenting, which in turn would positively predict Grade 9 peer difficulties. In doing so, the original parent-driven model of effects was contrasted with an alternative child-driven model of effects. A second alternative model was also tested. In this model, Grade 7 derisive parenting would be expected to positively predict Grade 8 peer difficulties, which in turn would positively predict Grade 9 adolescent anger dysregulation. In doing so the original model of dysregulation as an intervening mediator was contrasted against an alternative model in which dysregulation is a response to peer difficulties.

Across variables, 23.81% of the data were missing due to the planned missing design (i.e., cohort 3 did not have Grade 9 data and cohort 2 did not have Grade 7 data). By definition, wave-level missing data were missing at random. On average, 2.34% of the data was missing due to attrition or skipped items (*Range:* 0.14–4.47%). Little's MCAR test indicated that the latter were missing completely at random, $\chi^2(361) = 380.00$, $p = 0.24$. Missing data in ANOVAs were imputed using an expectation maximization (EM) algorithm. Missing data in path analyses were handled with full information maximum-likelihood estimation (FIML).

Results

Preliminary Analyses

Table 1 presents correlations between variables. Autocorrelations for all study variables were statistically significant ($p < 0.05$). In-school bullying, in-school victimization, out-of-school violence and out-of-school victimization were concurrently correlated. There were statistically significant concurrent and over time correlations between derisive parenting and adolescent anger dysregulation. Derisive parenting was also correlated with bullying, violence, and victimization, concurrently and from one time to the next. Derisive parenting in Grade 7 was correlated with in-school violence in Grade 9, but not with victimization or bullying. Adolescent anger dysregulation was correlated with bullying, violence, and victimization, concurrently, and from one time to the next. Finally (not presented in Table 1), there were statistically

Table 1 Means, standard deviations, and correlations between variables

Variable (Grade)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	*M*	*SD*
1. Derisive parenting (7)	–																	1.75	0.60
2. Derisive parenting (8)	0.43**	–																1.68	0.68
3. Derisive Parenting (9)	0.37**	0.44**	–															1.68	0.64
4. Anger Dysregulation (7)	0.35**	0.25**	0.13**	–														2.20	0.59
5. Anger Dysregulation (8)	0.27**	0.30**	0.16**	0.42**	–													2.11	0.68
6. Anger Dysregulation (9)	0.14**	0.22**	0.31**	0.28**	0.45**	–												2.07	0.65
7. In School Bullying (7)	0.25**	0.19**	0.15**	0.20**	0.23**	0.13*	–											1.23	0.31
8. In School Bullying (8)	0.23**	0.32**	0.23**	0.17**	0.22**	0.20**	0.37**	–										1.18	0.36
9. In School Bullying (9)	0.08	0.19**	0.23**	0.06	0.17**	0.25**	0.27**	0.40**	–									1.18	0.34
10. Out of School Violence (7)	0.30**	0.21**	0.20**	0.19**	0.15**	0.17**	0.39**	0.20**	0.09	–								1.10	0.24
11. Out of School Violence (8)	0.14**	0.27**	0.18**	0.12**	0.11**	0.10**	0.13**	0.32**	0.23**	0.29**	–							1.07	0.28
12. Out of School Violence (9)	0.02	0.16**	0.25**	0.01	0.11**	0.20**	0.11*	0.19**	0.45**	0.18**	0.34**	–						1.13	0.33
13. In School Victimization (7)	0.25**	0.13**	0.15**	0.21**	0.13**	0.11*	0.35**	0.18**	0.13*	0.24**	0.01	0.03	–					1.20	0.29
14. In School Victimization (8)	0.23**	0.24**	0.15**	0.16**	0.14**	0.08*	0.21**	0.44**	0.22**	0.06	0.15**	0.06	0.37**	–				1.14	0.32
15. In School Victimization (9)	0.15**	0.15**	0.18**	0.06	0.14**	0.17**	0.28**	0.26**	0.58**	0.03	0.16**	0.30**	0.23**	0.30**	–			1.15	0.30
16. Out of School Victim. (7)	0.26**	0.16**	0.19**	0.21**	0.10**	0.09	0.32**	0.18**	0.02	0.33**	0.12**	0.11*	0.56**	0.20**	.09	–		1.12	0.26
17. Out of School Victim. (8)	0.23**	0.27**	0.15**	0.13**	0.12**	0.11**	0.12**	0.28**	0.22**	0.16**	0.27**	0.17**	0.15**	0.47**	0.27**	0.30**	–	1.10	0.32
18. Out of School Victim. (9)	0.08	0.19**	0.15**	0.04	0.13**	0.17**	0.05	0.17**	0.37**	0.06	0.19**	0.32**	0.06	0.18**	0.52**	0.09	0.29**	1.16	0.34

$N = 1409$

†$p < 0.10$, *$p < 0.05$, **$p < 0.01$

significant concurrent correlations between the in-school bullying X in-school victimization interaction term and each of its constituent components ($r = 0.42$ to 0.70), and between the out-of-school violence X out-of-school victimization interaction terms each of its constituent components ($r = 0.65$ to 0.78).

There were statistically significant correlations between derisive parenting and the following Time 1 (Grade 7) control variables: parental warmth ($r = -0.21$), knowledge ($r = 0.31$); excessive control ($r = 0.23$); physically punitive parenting ($r = 0.36$); and disclosure ($r = 0.07$). There were also statistically significant correlations between adolescent dysregulated anger and all Time 2 (Grade 8) control variables: defiance ($r = 0.10$); callous-unemotional traits ($r = 0.32$); impulsivity ($r = 0.36$). Finally, at Time 3 (Grade 9), substance use was correlated with in-school victimization ($r = .31$), in-school bullying ($r = 0.46$), out-of-school violence ($r = 0.48$), and out-of-school victimization ($r = 0.36$).

Repeated measures ANOVAs were conducted to identify mean changes in study variables over time. Time (Grade 7, 8, and 9) was the repeated measure and sex was a between-subject variable. There were statistically significant main effects for time on all study variables. Most variables declined from Grade 7 to 9: derisive parenting ($d = 0.11$); adolescent dysregulated anger ($d = 0.22$); in-school bullying ($d = 0.15$); and in-school victimization ($d = 0.19$). Two variables increased from Grade 7 to 9: out-of-school violence ($d = -0.09$) and out-of-school victimization ($d = -0.11$). A statistically significant main effect for sex emerged for all variables (except in-school victimization: $d = 0.06$). Compared to girls, boys reported more derisive parenting ($d = 0.09$); dysregulated anger ($d = 0.10$); in-school bullying ($d = 0.21$); out-of-school bullying ($d = 0.26$); and out-of-school victimization ($d = 0.24$). Finally, a statistically significant sex by grade interaction reveled that in-school bullying decreased over time for girls ($d = 0.31$), but not boys ($d = -0.02$).

Derisive Parenting → Adolescent Dysregulated Anger → In-school Peer Difficulties

Table 2 summarizes results from the full longitudinal mediation analyses predicting in-school peer difficulties.

In-school bullying

Grade 7 derisive parenting was positively associated with Grade 8 adolescent anger dysregulation ($\beta = 0.12$, $p < 0.01$), which, in turn, was positively associated with Grade 9 in-school bullying ($\beta = 0.09$, $p < 0.01$). The indirect effect through Grade 8 adolescent anger dysregulation was statistically significant ($\beta = 0.01$, $p = 0.05$). Higher derisive parenting predicted increases in in-school bullying via escalating adolescent anger dysregulation.

In-school victimization

Grade 7 derisive parenting was positively associated with Grade 8 adolescent anger dysregulation ($\beta = 0.13$, $p < 0.01$) which, in turn, was positively associated with Grade 9 in-school victimization ($\beta = 0.08$, $p = 0.03$). The indirect effect did not reach conventional levels of statistical significance ($\beta = 0.01$, $p = 0.07$).

In-school bullying X in-school victimization

Grade 7 derisive parenting was positively associated with Grade 8 adolescent anger dysregulation ($\beta = 0.12$, $p = 0.02$), which, in turn, was positively associated with the interaction between Grade 9 in-school bullying and in-

Table 2 Results of the longitudinal indirect effects models: Grade 7 derisive parenting to grade 8 adolescent anger dysregulation (path a) and grade 8 adolescent anger dysregulation to grade 9 bullying/victimization (path b)

	Model Fit			Standardized Path Estimates		
Grade 9 Outcome	S-B χ^2	RMSEA	CFI	*a* [95% CI]	*b* [95% CI]	*a*b* [95% CI]
In-school bullying	73.03**	0.05	0.96	0.12** [0.04, 0.19]	0.09* [0.04, 0.19]	0.01* [0.00, 0.02]
Out-of-school violence	41.11**	0.04	0.98	0.13** [0.05, 0.20]	0.09* [0.02, 0.16]	0.01* [0.00, 0.02]
In-school victimization	39.19**	0.03	0.98	0.13** [0.06, 0.20]	0.08* [0.01, 0.14]	0.01† [0.00, 0.02]
Out-of-school victimization	59.56**	0.05	0.96	0.13** [0.05, 0.20]	0.10* [0.02, 0.17]	0.01* [0.00, 0.03]
In-school bullying X in-school victimization	67.91**	0.05	0.96	0.12* [0.04, 0.19]	0.09* [0.03, 0.15]	0.01* [0.00, 0.02]
Out-of-school violence X out-of-school victimization	54.50**	0.05	0.97	0.13** [0.05, 0.20]	0.11** [0.03, 0.18]	0.01* [0.00, 0.03]

$N = 1409$. Confidence intervals for indirect effects (a*b) were calculated using percentile bootstrapping

Path a = direct effect from Grade 7 derisive parenting to Grade 8 adolescent anger dysregulation. Path b = direct effect from Grade 8 adolescent anger dysregulation to Grade 9 peer difficulties. ab = Indirect effect

S-B χ^2 Satorra-Bentler scaled chi-square, *RMSEA* root mean error of approximation, *CFI* comparative fit index

†$p < 0.10$, *$p < 0.05$, **$p < 0.01$

school victimization ($\beta = 0.09$, $p = 0.01$). The indirect effect through Grade 8 adolescent anger dysregulation was statistically significant ($\beta = 0.01$, $p = 0.05$). Higher derisive parenting predicted increases in in-school bullying/victimization via escalating adolescent anger dysregulation. Note that the effect remains statistically significant ($\beta = 0.01$, $p = 0.05$) when concurrent in-school bullying and in-school victimization were added to the model as correlated outcomes, suggesting that the effect of parenting on bully-victims is unique from that on those who are exclusively bullies or exclusively victims.

Derisive Parenting → Adolescent Dysregulated Anger → Out-of-school Peer Difficulties

Table 2 summarizes results from the full longitudinal mediation analyses predicting out-of-school peer difficulties.

Out-of-school violence

Grade 7 derisive parenting was positively associated with Grade 8 adolescent anger dysregulation ($\beta = 0.13$, $p < 0.01$), which, in turn, was positively associated with Grade 9 out-of-school violence ($\beta = 0.09$, $p = 0.02$). The indirect effect through Grade 8 adolescent anger dysregulation was statistically significant ($\beta = 0.01$, $p = 0.05$). Higher derisive parenting predicted increases in out-of-school violence via escalating adolescent anger dysregulation.

Out-of-school victimization

Grade 7 derisive parenting was positively associated with Grade 8 adolescent anger dysregulation ($\beta = 0.13$, $p < 0.01$), which, in turn, was positively associated with Grade 9 out-of-school victimization ($\beta = 0.10$, $p = 0.01$). The indirect effect through Grade 8 adolescent anger dysregulation was statistically significant ($\beta = 0.01$, $p = 0.04$). Higher derisive parenting predicted increases in out-of-school victimization via escalating adolescent anger dysregulation.

Out-of-school violence X out-of-school victimization

Grade 7 derisive parenting was positively associated with Grade 8 adolescent anger dysregulation ($\beta = 0.13$, $p < 0.01$), which, in turn, was positively associated with the interaction between Grade 9 out-of-school violence and Grade 9 out-of-school victimization ($\beta = 0.11$, $p < 0.01$). The indirect effect through Grade 8 adolescent anger dysregulation was statistically significant ($\beta = 0.01$, $p = 0.03$). Higher initial levels of derisive parenting predicted increases in out-of-school bullying/victimization via escalating adolescent anger dysregulation. Note that the effect remains statistically significant ($\beta = 0.01$, $p = 0.04$) when concurrent in-school bullying and in-school victimization were added to the model as correlated outcomes, suggesting that the effect of parenting on bully-victims is unique from that on those who are exclusively bullies or exclusively victims.

Supplemental Analyses

Separate analyses were conducted in which control variables were added to each model. The same pattern of statistically significant associations emerged. A supplemental multiple group model revealed no sex differences in patterns of associations. Finally, supplemental analyses controlling for in-school victimization on reports of out-of-school victimization (and vice versa) yielded the same pattern of statistically significant associations, as did similar analyses involving in-school bullying and out-of-school violence.

Follow-up analyses explored alternative patterns of indirect effects (Little 2013). Two models were tested: (a) the mediated path from Grade 7 adolescent anger dysregulation to Grade 9 peer difficulties through Grade 8 derisive parenting, and (b) the mediated path from Grade 7 derisive parenting to Grade 9 adolescent anger dysregulation through Grade 8 peer difficulties. Neither set of indirect effects reached conventional levels of statistical significance

Discussion

Past research has largely focused on the (usually concurrent) direct links from broad aspects of negative parenting to adolescent peer difficulties, leaving unanswered how individual harmful practices can also socialize negative emotionality in adolescents, and ultimately harm adolescents' interrelations with peers. While it has been proposed that adolescent emotional dysregulation is an avenue by which negative parenting practices influence adolescent bullying and victimization, there has also been little investigation regarding the intervening role of anger dysregulation specifically. To address these research gaps, the present study identifies indirect longitudinal associations from derisive parenting to adolescent peer difficulties in a sample of Swedish youth followed across the middle school years. Applying a full longitudinal design to three waves of longitudinal data, results from the current study support the hypothesis that demeaning and belittling parenting increase adolescent anger dysregulation, which in turn gives rise to elevated bullying and victimization. Inappropriate interpersonal responses appear to spread from parents to children, where they spawn peer difficulties.

This is not the first study to posit parents as agents who socialize bullying. Postulated mechanisms range from

modeling (Baldry and Farrington 2000), to explicit and implicit tuition (Patterson 1982; Kerr et al. 2003). Results from the present study suggest a third possibility: Interactions with parents adversely impact the traits and dispositions of children, which eventually interfere with peer relationships (Kerr et al. 2003). Adolescent children exposed to demeaning parents have difficulty mastering their emotions, a failure that ultimately begets bullying and victimization. Importantly, such findings held after controlling for parenting behaviors implicated in child adjustment, such as warmth, control, and physical punitiveness, suggesting that derisive behavior is a unique form of interaction that places adolescent children at risk for bullying and victimization.

Nor is this the first study to posit parents as agents who socialize victimization. The development of a victim schema, in response to harsh parenting, is surely one avenue to victimization (Perry et al. 2001). When children regularly experience what they perceive to be threatening or coercive parenting, their sense of self may be undermined, and they may feel powerless and ineffectual as a result. Ultimately, when faced with threatening behaviors from peers (whether real or imagined), these children will likely similarly default to a subordinate, or passive, role which is unlikely to be an effective interpersonal strategy given that it does little to prevent further victimization. Adoption of a victim mentality could put children in a constant state of vigilance, where they may react to even minor or imagined provocations with suspicion, anger, and frustration. These children have few opportunities to break free of continual victimization, probably because they lack positive interactions with peers, and are therefore less able to acquire the social skills escape such predicaments.

The findings speak directly to bully-victims. Children with elevated scores on the bullying by victimization interaction term are analogous to those classified as bully-victims in previous categorical research (Haynie et al. 2001). Unlike previous studies that rely on cut-offs to identify bully-victims, bullying-victimization were treated as a continuous variable. That bullying and victimization co-occur is indisputable. That bully-victims represent a natural category rather than the end point of a continuum is not. Scholars often use bullying and victimization, separately, as continuous variables, which suggests that there are no apparent obstacles to their use as an interaction term. Regardless of how they are identified, bully-victims have a unique profile that makes them a particular source of concern: Bully-victims are then targets of more direct and indirect aggression than "pure" victims, and they inflict more verbal and physical aggression on others than "pure" bullies (Yang and Salmivalli 2013). The present study is also unique in that instead of identifying characteristics that set bully-victims apart, it examined predictors of change in bullying, victimization, and bullying-victimization. There is no contradiction between reports that parenting fails to differentiate bully-victims from other peers (Veenstra et al. 2005) and the current finding that parent derision indirectly predicts increases in bullying and victimization. The former is a matter of classification, whereas the latter concerns the processes and mechanisms that underlie changes in behaviors that characterize bully-victims.

The current study is not without limitations. Shared reporter variance is a concern because adolescent victim schemas (Perry et al. 2001) may underlie both self-reports of parenting and perceptions of peer difficulties. It is worth noting, however, that parents are unreliable sources about adolescent peer difficulties (Holt et al. 2007) and about the climate of family interactions (Laursen and Collins 2009); models that include parent reports of these variables may underestimate effects. General, rather than specific, aspects of derisive parenting were not assessed. As such, it remains to be seen whether more situational factors (i.e. parent-child conflict due to disclosure) might also play a particularly important role in the development of adolescent bullying and victimization. Due to the reactive emotional nature of some victims, it is challenging to perfectly distinguish aggressive victims who are not bullies from those who are bullies; the manner in which bully-victims are identified in the current study may not have overcome such difficulties.

Several potential confounding variables were not available. Derisive parenting shares characteristics with parent psychological control. It is unclear whether derisive parenting is subordinate to it. Parent derision is cut from the same cloth as capricious conflict resolution (Brubacher et al. 2009; Stuart et al. 2008); psychological control may foster an inability to manage conflict in children. Worth noting is the fact that the mediation pathways demonstrated here have not been reported for psychological control either. No measure of marital climate was available. Derisive parenting may be subordinate to troubled and contemptuous interactions between spouses, which is known to influence child emotional regulation (Cummings and Davies 2010). Data on family socioeconomic status (SES) were not available. Some studies (e.g., Wolke et al. 2001) find SES to be inversely related to bullying and victimization, although others (e.g., Veenstra et al. 2005) suggest it is a proxy for parent behaviors. The current findings were maintained when controlling for substance use, however substance use may not be the best proxy for disruptiveness or delinquency. Finally, adolescents were drawn from a small community in central Sweden. The advantages of the community sample may be offset by its relatively small size, and by participants' relative homogeneity and lack of mobility.

Replication is a strength of the current study. Similar patterns of results emerged for assessments of in-school and

out-of-school peer difficulties (each controlling for the other), bolstering confidence in claims that derisive parenting adversely effects adolescent children across a variety of settings. The full-longitudinal mediation design is another strength. The ability to capture change in predictors, mediators, and outcomes at each time lag strengthens assertions about putative intervening developmental mechanisms.

Conclusion

Given expansive research over the past decades on the subject, few studies have focused on links between specific negative parenting practices and the development of adolescent bullying and victimization. Most studies have been limited to investigating the (often concurrent) contributions of broader aspects of poor parenting, such as authoritarian parenting, or psychological control, and many have not incorporated multiple aspects of parenting in the same design. Unique to this study is a focus on the longitudinal contributions of parental derision. Findings indicated that derisive parenting promoted greater anger dysregulation in adolescents, which ultimately placed them at greater risk for bullying and victimization, and for becoming bully-victims. Importantly, these effects remained after controlling for a variety of well-studied measures of positive and negative parenting. In almost all cases, the same pattern of results were identified in both in- and out-of-school domains, thus illustrating the wide-ranging costs of derisive parenting to children's social lives. The current findings are important as they advance a more complete understanding of how parents' belittling and critical interactions with adolescents thwart adolescents' ability to maintain positive relationships with peers. Specifically, derisive parenting likely precipitates a cycle of negative affect and anger between parents and adolescents, which ultimately leads to greater adolescent bullying and victimization. The implications are far-reaching: Practitioners and parents should be informed of the potential long-term costs of sometimes seemingly harmless parenting behaviors such as belittlement and sarcasm. Parents must make efforts to remain cognizant of their influence on adolescents' emotions and should take steps to ensure that adolescents do not feel ridiculed in the home.

Authors' Contributions D.D. participated in the design of the study, performed the statistical analysis, and prepared the manuscript. B.L. assisted in the conception of the study, participated in its design and coordination, and assisted in the preparation of the manuscript; O.V. participated in the design, and helped perform the statistical analysis and interpretation of the data, and helped draft the manuscript; H.S. conceived of the study, participated in the design and coordination of the study, and helped to draft the manuscript. All authors read and approved the final manuscript.

Funding This study was funded by The Research Council for Working Life and Social Science of Sweden (grant number 2004-1981). Support for the preparation of this manuscript was provided to Brett Laursen by the US National Science Foundation (grant numbers 0909733 and 162094), and by the US National Institute of Child Health and Human Development (grant HD096457).

Data Sharing and Declaration The datasets generated and/or analyzed during the current study are not publicly available but are available from the corresponding author on reasonable request.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Ethical Approval This study was part of a larger project entitled "utsatta ungdomar i utsatta omraden" (translation: vulnerable young people in vulnerable areas). The original project was approved by the regional ethics board in Uppsala (protocol # EPN 2007/094). All procedures performed in studies involving human participants of this original project were in accordance with the ethical standards of the University of Uppsala, Sweden, and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in the study.

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