



Research paper

## Adolescent bullying victimization and psychosomatic symptoms: Can relationship quality with fathers buffer this association?

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## ABSTRACT

The present study explored racial/ethnic and sex differences in fathers' awareness and perceived ease of communication with fathers and how they are related to adolescent bullying victimization and psychosomatic symptoms. Data were drawn from the 2009 to 2010 Health Behavior in School-Aged Children study in the United States. The sample consists of 5,121 White, 1,497 African American, and 1,850 Hispanic adolescents in grades 5 to 10. For all three racial and ethnic groups, bullying victimization was positively associated with psychosomatic symptoms. A higher level of the child's perception of their father's awareness was found to be positively associated with lower levels of bullying victimization for White and Hispanic adolescents. African American, White, and Hispanic adolescents who perceived their fathers as easy to communicate with had a lower risk of bullying victimization. The child's perception of their father's awareness buffered the positive association between bullying victimization and psychosomatic symptoms for Hispanic adolescents. A higher child's perception of their father's awareness was related to lower bullying victimization for adolescents of both sexes. The child's perception of their father's awareness and their perceived ease of communication with their father were found to be associated with a decreased risk of psychosomatic symptoms for both sexes. Overall, the results support the importance of relationship quality with fathers as a protective factor against bullying victimization.

Bullying continues to be a serious concern for adolescents in school, with studies suggesting that White, African American, and Hispanic adolescents may have different experiences with bullying victimization (e.g., Hong et al., 2020). Numerous studies have indicated that White adolescents were significantly more likely to report bullying victimization than African American and Hispanic adolescents (Fisher et al., 2015; Hertz et al., 2015; Lovegrove et al., 2012; Low & Espelage, 2013; Luk et al., 2012; Peguero et al., 2013; Pontes et al., 2018; Vitoroulis & Vailancourt, 2015; Wang et al., 2009; Wang et al., 2020). Other research findings have shown that African American (Berkowitz et al., 2015; Fitzpatrick et al., 2007) Goldweber et al., 2013; Schuster et al., 2012) and Hispanic (Fisher et al., 2000; Nishina et al., 2005) youth reported more race/ethnicity-based bullying victimization compared to White youth.

Yet other studies have found no significant differences between White and African American adolescents in the prevalence of bullying victimization (Connell et al., 2015) and online bullying victimization (Kowalski et al., 2020).

Although empirical findings have been inconsistent regarding racial and ethnic differences in youth bullying victimization, studies have consistently documented that victims of bullying are at a heightened risk of experiencing symptoms of depression and anxiety, as well as psychosomatic symptoms (Averdijk et al., 2011; Eastman et al., 2018; Garcia-Moya et al., 2014; Gini and Pozzoli, 2013; Hellfeldt et al., 2018; Reijntjes et al., 2010; Schuster et al., 2012; Zhang et al., 2019). A large-scale study of 2,799 adolescents in the 2011–2012 California Health Interview revealed that African American adolescents reported

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the highest frequency of bullying victimization, but psychological distress was more likely to be reported among White victims of bullying (Rhee et al., 2017).

Given the well-established association between bullying victimization and psychosomatic symptoms, several protective factors have been identified, including social support from family, friends, teachers, and classmates (Aoyama et al., 2011; Claes et al., 2015; Woods et al., 2009; Yin et al., 2017); friendship quality (Bollmer et al., 2005); school climate (Holfeld and Baitz (2020); and trait resilience (Wu et al., 2018). Little is known about whether adolescents' relationship quality with their fathers may be a protective factor when examining the association between bullying victimization and adolescent psychosomatic symptoms.

## 1. The significance of father-child relationship quality

Parent-child relationship quality is conceptualized as the emotional climate in the relationship between the parent and child (Dekovic et al., 2004). Father-adolescent relationship quality has been assessed using a variety of measures, including the level of communication, trust, and perceived alienation (see Liu et al., 2020). Over the years, research on father-child relationship quality has increased substantially, and studies have pointed to the importance of fathers' roles in positively influencing the lives of their adolescent children (Brotherson et al., 2003). The quality of the father-child relationship has its roots in attachment theory, which purports that parents who are responsive to their children's needs (e.g., providing food and safety) and have high-quality interactions characterized by warmth and affection are more likely to develop a protective bond (Bowlby, 1982). Furthermore, father-child relationship quality is contingent upon father involvement, such as the frequency and the number of interactions between the father and child, the perceived accessibility of the father, and the durability of the relationship (Cicirelli, 1976; Lamb and Sutton-Smith, 1982). As such, a high-quality father-child relationship is thought to facilitate the development of social and emotional skills that are beneficial during adolescence (Buist et al., 2017). Studies have suggested that father-child relationship quality is related to better emotion regulation skills of children (Davidov and Grusec, 2006; Knafo and Plomin, 2006).

Father-child relationship quality includes fathers being informed and aware of their children's peer relationships. Fathers who are aware of their children's peer relationship socialization can help minimize adolescents' risk of involvement in bullying (Strom and Strom (2005). Parent-child communication includes conversations, written communications, touch, and being available to listen to children (Dollahite et al., 1997), which is associated with more positive child mental health outcomes (Brotherson et al., 2003; Cava et al., 2014). As research suggests, parental awareness and communications with parents are important components of addressing bullying in school (Holt et al., 2009; Larranaga et al., 2018), although parents tend to be unaware of the deleterious outcomes of bullying victimization (Stives et al., 2019). Also, adolescents tend to hesitate disclosing anything to their parents about being bullied (Bjereld et al., 2017; Mishna, 2004).

The current study examines two aspects of adolescents' relationship quality with fathers: the child's perception of their father's awareness of their bullying victimization experiences, and the child's perceived ease of communication with their father or father figure about a problem. Stattin and Kerr (2000) have underscored the transactional nature of parent-child communication. For example, particularly for adolescents, children play a more active role in communication through their willingness to share or disclose information. Thus, one of the strengths of the current study is the focus on the child's perception of their fathers' awareness and child's perceived ease of communication with their fathers, as opposed to parental self-reports. Father's awareness of the child's experience could be seen as a direct or indirect measure of involvement, that is, the father being present enough to be aware of a bullying victimization experience. Child's perceived ease of communication with their father could be interpreted as a component of the

quality of the father-child relationship, to the extent that the child's willingness to make information available to the father may indicate a higher quality father-child relationship. Research shows that communication is an important aspect of the parent-child relationship (Brotherson et al., 2003; Branje et al., 2012); and better parent-child communications are associated with positive outcomes such as the reduced risk of substance use (Ennett et al., 2001; Luk et al., 2010) and risky sexual behaviors (Harris et al., 2013), with limited research (usually focusing on mothers) suggesting that parent-child communications may also be protective against bullying victimization (Buelga et al., 2017; Offrey & Rinaldi, 2017).

### 1.1. Relationship quality with fathers, adolescent bullying victimization, and psychosomatic symptoms

Much of the research literature on parenting and children's bullying has focused on the role of mothers (e.g., Curtner-Smith et al., 2006; Georgiou, 2008a, b; Stavrinides et al., 2015) or parents in general (e.g., Georgiou & Stavrinides, 2013; Ok and Aslan, 2010; Papanikolaou et al., 2011). The limited studies to date suggest that fathers potentially play an important role in youth bullying victimization and perpetration. For instance, father-child relationship quality, which was measured by time spent with the child, affection toward the child, showing interest in the child's schoolwork, and talking with the child, protected children from severe forms of bullying victimization (Flouri and Buchanan (2002). In contrast, a low-quality parent-child relationship contributed to bullying among adolescents (Flouri and Buchanan (2003). Another study suggested an indirect role; that is, paternal acceptance buffered the association between maternal-rejection-depressive symptoms and children's bullying victimization (Papadaki and Giovazolias, 2015).

### 1.2. Relationship quality with fathers and bullying: differences by sex of child

There is some evidence that fathers may play a more prominent role in outcomes related to their male children as compared to female children; although here again, the research is not consistent in showing such effects. Earlier research suggested that fathers tend to be more involved with and are likely to have greater influences on sons than daughters (e.g., Lamb, 2000; Pleck, 1997). Indeed, relationship quality with fathers may be more closely linked to the behavior problems of male children in comparison to their female children (Jackson et al., 2019; Karre and Mounts, 2012). The present study examines whether father-child relationship quality differs for male versus female adolescents by exploring sex differences in (a) whether child's perception of their father's awareness and child's perceived ease of communication with their father are independently associated with a decreased risk of bullying victimization and psychosomatic symptoms, and (b) whether child's perception of their father's awareness and child's perceived ease of communication with their father buffer the association between bullying victimization and psychosomatic symptoms.

### 1.3. Relationship with fathers and race and ethnicity: an additional factor to consider

Most studies of father-child relationship quality and children's bullying and victimization do not explicitly examine racial and ethnic differences, which is an important factor to consider, as scholars have begun to recognize racial and ethnic variations in fathers' roles and relationships with their children. For example, there is evidence that race and ethnicity play a role in fathers' involvement, to the extent that African American fathers are more likely than White and Hispanic fathers to be nonresidential (i.e., the father does not reside in the home) (Carlson et al., 2004; Carlson and McLanahan, 2002; McLanahan & Carlson, 2004), and there are significant racial and ethnic differences in father-child relationship quality in caregiving of their children (Jones

and Mosher, 2013). However, even with differences in residential status, African American fathers have a similar or greater level of involvement in parenting relative to fathers of other racial/ethnic groups (Cabrerera et al., 2008; King et al., 2004). Furthermore, nonresidential relationship quality with fathers is protective concerning adolescents' functioning (Carlson 2006). In one study, which compared family-level factors associated with bullying and victimization across White and African American youth, greater fathers' parental monitoring was found to be associated with less bullying and victimization among White youth (Hong et al., 2020). Taken together, race and ethnicity are important to consider given the variations in fathers' involvement and caregiving behaviors; and there is little known about how race and ethnicity may relate to father-child relationship quality and children's relation with their peers during adolescence.

## 2. The present study

Building on this literature, the present study examines racial, ethnic, and sex differences in fathers' relationship quality as a buffer in the association between bullying victimization and psychosomatic symptoms, controlling for age, sex, and child's perception of family economic wellbeing. We considered two aspects of father-child relationship quality from the adolescent's perspective. As a limited number of studies suggest, fathers' awareness and father-child communications are potential protective factors that are associated with outcomes of bullying victimization (e.g., Ledwell and King, 2015).

We hypothesize that (a) child's perception of their father's awareness and the child's perceived ease of communication with their father are associated with decreased risk of bullying victimization and psychosomatic symptoms among White, African American, and Hispanic adolescents; (b) child's perception of their father's awareness, and the child's perceived ease of communication with their father will moderate the association between bullying victimization and psychosomatic symptoms among adolescents of these three racial and ethnic groups; (c) child's perceived father's awareness, and the child's perceived ease of communication with their father are associated with decreased bullying victimization and psychosomatic symptoms for both males and females; (d) child's perceived father's awareness, and the child's perceived ease of communication with their father will moderate the association between bullying victimization and psychosocial symptoms of adolescents of both sexes. To examine the degree to which father's relationship quality impacts the associations between bullying victimization and psychosomatic symptoms, the present study only included youth who reported having a relationship with their father or father figure (i.e., in this study the sample consists of youth with fathers who are present in the home).

## 3. Method

### 3.1. Sample and data

Data were drawn from the 2009 to 2010 Health Behavior in School-Aged Children (HBSC) study in the United States. HBSC is a standardized, international World Health Organization study, which includes repeated cross-sectional surveys in the 43 participating countries and regions through school-based surveys using random sampling to select a proportion of adolescents, aged 10 to 17 years (Currie et al., 2012).

### 3.2. Participants

The sample for the current study ( $N = 8,468$ ) consists of White ( $n = 5,121$ ), African American ( $n = 1,497$ ), and Hispanic ( $n = 1,850$ ) adolescents in grades 5 to 10. Youth who indicated not having a father present were excluded from the analysis, therefore the sample consisted of only youth who had a relationship with their fathers. Participants who identified as biracial were excluded from the analysis as it was difficult

to identify fathers' race and ethnicity in the HBSC dataset. The school-based survey includes a self-reported questionnaire, which was completed by students in the classroom in public school districts and comprises a range of health indicators and health-related behaviors, in addition to the life circumstances of the adolescents (Roberts et al., 2010). Questions from the survey consist of socio-demographic characteristics (e.g., age, sex), social background (e.g., child's perception of family economic wellbeing), social context (e.g., relationships with classmates and peers), health outcomes (e.g., self-rated health and mental health), health behaviors (e.g., eating), and risk behaviors (e.g., bullying) (Roberts et al., 2010). Analyses in the current study are cross-sectional.

### 3.3. Measures

*Bullying victimization* was measured with the following question, "How often have you been bullied at school in the past couple of months in the ways listed below? Please mark one circle for each line with three combined subcategories including, "I was called mean names, was made fun of, or teased in a hurtful way;" "Other students left me out of things on purpose, excluded me from their group of friends, or completely ignored me;" and "I was hit, kicked, pushed, shoved around, or locked indoors." Response options are 1 = I have not been bullied in this way in the past couple of months, 2 = only once or twice, 3 = 2 or 3 times a month, 4 = about once a month, and 5 = several times a week. Cronbach's alpha coefficient was .74.

*Child's perception of their father's awareness* was measured with the following question, "How much does your father (or male guardian) really know about...?" with five combined subcategories including "who your friends are," "how you spend money," "where you are after school," "where you go at night," and "what you do with free time." Response options are 1 = He doesn't know anything, 2 = He knows a little, and 3 = He knows a lot. Cronbach's alpha coefficient was .88.

*Child's perceived ease of communication with their father (or father figure about a problem)* was measured with the question, "How easy is it for you to talk to the following persons about things that really bother you? (Please mark one circle for each line)" with a response for "Father". Response options are 1 = very difficult, 2 = difficult, 3 = easy, 4 = very easy.

*Psychosomatic symptoms* were measured with the following question, "In the last 6 months: how often have you had the following...? (Please mark one circle for each line) with the following three combined items: (a) feeling low, (b) irritability, and (c) feeling nervous." Response options are 1 = rarely or never, 2 = about every month, 3 = about every week, 4 = more than once a week, and 5 = about every day. Cronbach's alpha coefficient was .69.

Covariates also included *age* (in years) (1 = 10 or younger to 8 = 17 or older), *sex* (0 = female, 1 = male), and *child's perception of family economic wellbeing* (computed affluence scale; 0 = low affluence, 9 = high affluence). The *child's perception of family economic wellbeing* variable was a computed scale made with items that objectively (e.g., "Does your family own a vehicle?") and subjectively ("How well off do you think your family is?") measured child's perception of family economic wellbeing.

### 3.4. Analytic techniques

A series of cross-sectional, multilevel models were conducted to examine the associations of the child's perception of their father's awareness and the child's perceived ease of communication with their father on the outcomes of bullying victimization and psychosomatic symptoms. All models included a random intercept which controlled for school level dependencies in the data. Survey sampling weights were added to the multilevel models by re-scaling the school-level weights according to the methodology proposed by Asparaouhov (2006). Before adding weights to the multilevel models, sampling weights were adjusted by a factor that represents the proportion of group size divided

by the sum of sampling weights within each group Asparaouhov (2006). As a sensitivity analysis, models were run with and without sampling weights. Both methods resulted in very similar parameter estimates; therefore, we chose to retain the sampling weights in all analyses. Additionally, we tested a series of random slope models that included a random slope for key variables of interest; however, random slope models failed to converge for several groups or resulted in a poorer model fit when compared with the random intercept models across all models. For parsimony, only the multilevel models with a random intercept component at the school level are presented in this article. Separate models were run for each group of race/ethnicity and biological sex. All multilevel models were conducted using the R package nlme (Linear and Nonlinear Mixed Effects Models; Pinheiro et al., 2017). To address missing data, a total of 100 imputed datasets were generated using the multiple imputation R package MICE (Multiple Imputation by Chained Equations; Van Buuren and Groothuis-Oudshoorn, 2011). All analysis and descriptive statistics were computed using the imputed data. Scales were computed by averaging all imputed items before entering them into the model.

To address our first research hypothesis, the child’s perceived ease of communication with their father and the child’s perception of their father’s awareness were regressed on bullying victimization for each race/ethnic group (African American, Hispanic, White) while controlling for age, sex, and child’s perception of family economic wellbeing. Additionally, separate models were conducted for males and females, while controlling for age, race/ethnicity (African American, Hispanic, White), and child’s perception of family economic wellbeing. For the second set of models, the child’s perception of their father’s awareness and the child’s perceived ease of communication with their father were regressed on psychosomatic symptoms while controlling for bullying victimization, age, sex, or race/ethnicity, and child’s perception of family economic wellbeing. Lastly, interaction terms were entered into the models to test whether the child’s perception of their father’s awareness and the child’s perceived ease of communication with their father moderated the relationship between bullying victimization and psychosomatic symptoms. Interaction terms were added by first centering relevant indicators before entering them into the model.

Additionally, to determine the appropriateness of comparing descriptive statistics across groups of race/ethnicity and biological sex, we tested the measurement invariance of each outcome and calculated effect sizes for the mean difference of each outcome across groups. Supplementary Table 1 presents Hedges’ g effect size contrasts for groups of race/ethnicity and sex weighted by the relative sample size of each group. Supplementary Table 2 presents bivariate correlations between study variables. Results of the measurement invariance models are presented in Supplementary Tables 3 and 4.

4. Results

Table 1 presents descriptive statistics for all variables included in the study for each racial/ethnic group (African American, White, or Hispanic) and biological sex (male or female). The child’s perceived ease of communication with their father was slightly lower for African

Americans (M = 2.24) when compared with White (M = 2.45) youth. The child’s perceived ease of communication with their father was also slightly lower for Hispanic adolescents (M = 2.60) when compared to White (M = 2.77) adolescents. White families had a higher level of affluence (M = 6.43) when compared to African American (M = 5.85) and Hispanic (M = 5.28) families. Additionally, females had higher levels of psychosomatic symptoms (M = 2.31) when compared to males (M = 1.96). Lastly, males had higher levels of perception of their father’s awareness (M = 2.46) and ease of communication with their father (M = 2.95) when compared to females (M = 2.29 and M = 2.48, respectively).

Table 2 presents results for the outcomes of bullying victimization for each race/ethnic group. The child’s perception of their father’s awareness was significantly associated with lower bullying victimization for Whites (Est. = -.12, p < .001) and Hispanics (Est. = -.08, p < .001), but not African Americans. However, the child’s perceived ease of communication with their father was significantly associated with lower bullying victimization for all racial/ethnic groups (African American: Est. = -.08, p < .001; White: Est. = -.05, p < .001; Hispanic: Est. = -.04, p < .05). Additionally, being male was associated with higher bullying victimization among Whites (Est. = .07, p < .01) and Hispanics (Est. = .09, p < .05) but not among African Americans. Lastly, age was negatively associated with bullying victimization across all groups (African American: Est. = -.05, p < .001; White: Est. = -.06, p < .001; Hispanic: Est. = -.04, p < .01).

Table 2 also presents results for the outcomes of bullying victimization for the groups of males and females. The child’s perception of their father’s awareness was associated with lower bullying victimization for both sexes (Males: Est. = -.08, p < .001; Females: Est. = -.10, p < .001). The child’s perceived ease of communication with their father was also associated with lower bullying victimization for both sexes (Males: Est. = -.06, p < .001; Females: Est. = -.06, p < .001). Similarly, youths’ age was associated with lower bullying victimization for both sexes (Males: Est. = -.05, p < .001; Females: Est. = -.05, p < .001). Lastly, being Hispanic (compared to being White) was associated with lower bullying victimization among females (Est. = -.10, p < .001) but not males.

Table 3 presents results for the outcome of psychosomatic symptoms without moderation terms while controlling for bullying victimization and covariates for each racial and ethnic group. Higher scores of the child’s perceptions of their father’s awareness were significantly associated with lower psychosomatic symptoms for Whites (Est. = -.26, p < .001) and Hispanics (Est. = -.25, p < .001), but not for African Americans. However, the child’s perceived ease of communication with their father was associated with lower psychosomatic symptoms for all groups examined (African American: Est. = -.17, p < .001; White: Est. = -.14, p < .001; Hispanic: Est. = -.18, p < .001). As hypothesized, bullying victimization was significantly associated with higher psychosomatic symptoms for all groups (African American: Est. = .40, p < .001; White: Est. = .33, p < .001; Hispanic: Est. = .31, p < .001). Males in all racial/ethnic groups were associated with lower psychosomatic symptoms when compared to females (African American: Est. = -.26, p < .001; White: Est. = -.21, p < .001; Hispanic: Est. = -.34, p < .001). Child’s perception of family economic wellbeing was associated with lower

Table 1  
Descriptive Statistics by Group.

	Total (N = 8,468)		African American (n = 1,497)		White (n = 5,121)		Hispanic (n = 1,850)		Females (n = 4,097)		Males (n = 5,411)		Range
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
Age	12.96	1.72	13.06	1.77	12.91	1.71	12.99	1.70	12.90	1.72	13.01	1.72	10–17
Child’s perception of family economic wellbeing	6.07	1.90	5.85	2.06	6.43	1.75	5.28	1.87	6.12	1.89	6.03	1.90	0–9
Psychosomatic symptoms	2.13	1.02	2.16	1.11	2.14	.98	2.07	1.05	2.31	1.08	1.96	0.93	1–5
Child’s perception of their father’s awareness	2.38	0.61	2.24	.68	2.45	0.57	2.27	0.63	2.29	0.63	2.46	0.58	1–3
Child’s perceived ease of communication with their father	2.72	1.06	2.70	1.13	2.77	1.02	2.60	1.09	2.48	1.06	2.95	1.01	1–4
Bullying victimization	1.41	0.75	1.42	0.78	1.41	0.75	1.38	0.73	1.40	0.69	1.41	0.80	1–5

**Table 2**  
Summary of MLM Model Results for Bullying Victimization by Race/ Ethnicity and Biological Sex.

Random-Intercept Models – Est. (SE)	African American	White	Hispanic	Males	Females
<b>Random Effects</b>					
$\hat{\sigma}$ - Within-School SD	.75	.75	.66	.77	.67
$\hat{\tau}$ – Between-School SD	.14	.11	.13	.16	.11
<b>Fixed Effects - Est. (SE)</b>					
Intercept	2.37*** (.20)	2.65*** (.11)	2.02*** (.18)	2.49*** (.13)	2.51*** (.11)
Child’s perception of their father’s awareness	-.03 (.03)	-.12*** (.02)	-.08* (.03)	-.08*** (.02)	-.10*** (.02)
Child’s perceived ease of communication with their father	-.08*** (.02)	-.05*** (.01)	-.04* (.02)	-.06*** (.01)	-.06*** (.01)
Age (Years)	-.05*** (.01)	-.06*** (.01)	-.04** (.01)	-.05*** (.01)	-.05*** (.01)
Child’s perception of family economic wellbeing	-.00 (.01)	-.01 (.01)	.01 (.01)	.00 (.01)	-.01 (.01)
Male (vs. Female) <sup>a</sup>	.01 (.04)	.07** (.02)	.09* (.03)	n/a	n/a
African American (vs. White) <sup>b</sup>	n/a	n/a	n/a	-.03 (.04)	.00 (.03)
Hispanic (vs. White) <sup>b</sup>	n/a	n/a	n/a	-.05 (.03)	-.10*** (.03)
<b>Model Parameters:</b>					
AIC	3726.99	11576.04	4224.10	10623.28	8811.18
BIC	3769.45	11628.36	4268.25	10680.71	8868.03
Log Likelihood	-1855.49	-5780.02	-2104.05	-5302.64	-4396.59
Number of Observations:	1497	5121	1850	4371	4097
Number of Groups (Schools):	226	286	228	311	310

Note. \*\*\**p* < .001, \*\**p* < .01, \**p* < .05; SD = standard deviation, SE = standard error.

<sup>a</sup> Male (reference category Female) was only included in the models for race/ethnicity.

<sup>b</sup> African American and Hispanic (reference category White) were only included in the models for biological sex.

**Table 3**  
Summary of MLM Model Results for Psychosomatic Symptoms by Race and Ethnicity.

Psychosomatic Symptoms	African American		White		Hispanic	
	Without Interaction	With Interaction	Without Interaction	With Interaction	Without Interaction	With Interaction
<b>Random Effects</b>						
$\hat{\sigma}$ - Within-School SD	.96	.96	.91	.91	.87	.87
$\hat{\tau}_0$ – Between-School SD	.23	.23	.14	.14	.13	.13
<b>Fixed Effects - Est. (SE)</b>						
Intercept	2.19*** (.28)	2.15*** (.24)	2.05*** (.14)	1.52*** (.12)	2.31*** (.23)	1.67*** (.20)
Child’s perception of their father’s awareness	-.07 (.04)	-.04 (.03)	-.26*** (.02)	-.16*** (.02)	-.25*** (.04)	-.15*** (.02)
Child’s perceived ease of communication with their father	-.17*** (.03)	-.18*** (.03)	-.14*** (.01)	-.15*** (.01)	-.18*** (.02)	-.19*** (.02)
Male (vs. Female)	-.26*** (.05)	-.26*** (.05)	-.21*** (.03)	-.21*** (.03)	-.34*** (.05)	-.34*** (.05)
Age (Years)	.02 (.02)	.02 (.02)	.07*** (.01)	.07*** (.01)	.04** (.01)	.04** (.01)
Child’s perception of family economic wellbeing	-.02 (.01)	-.02 (.01)	-.02** (.01)	-.02** (.01)	.00 (.01)	.01 (.01)
Bullying victimization	.40*** (.03)	.30*** (.03)	.33*** (.02)	.25*** (.01)	.31*** (.03)	.22*** (.02)
<b>Interactions</b>						
Bullying victimization X Child’s perception of their father’s awareness	n/a	-.04 (.02)	n/a	.01 (.01)	n/a	-.05* (.02)
Bullying victimization X Child’s perceived ease of communication with their father	n/a	.04 (.02)	n/a	.01 (.01)	n/a	-.00 (.02)
<b>Model Parameters:</b>						
AIC	4517.05	4530.35	13586.52	13602.12	5227.96	5238.08
BIC	4564.81	4588.71	13645.37	13674.05	5277.63	5298.78
Log Likelihood	-2249.53	-2254.18	-6784.26	-6790.06	-2604.98	-2608.04
Number of Observations:	1497	1497	5121	5121	1850	1850
Number of Groups (Schools):	226	226	286	286	228	228

Note. \*\*\**p* < .001, \*\**p* < .01, \**p* < .05; SD = standard deviation, SE = standard error.

psychosomatic symptoms but only among Whites ( $Est. = -.02, p < .01$ ). Lastly, age was associated with higher psychosomatic symptoms among Whites ( $Est. = .07, p < .001$ ) and Hispanics ( $Est. = .04, p < .01$ ) but not African Americans.

Table 3 also presents results after adding child’s perception of their father’s awareness and the child’s perceived ease of communication with their father as moderators of the association between bullying victimization and psychosomatic symptoms for each racial and ethnic group. The moderation between bullying victimization and child’s perception of their father’s awareness was significantly associated with psychosomatic symptoms but only among Hispanic adolescents. Additionally, all significant associations in the models without the moderators remained significant after adding the moderators.

Table 4 presents results for the outcome of psychosomatic symptoms without the moderators while controlling for bullying victimization and covariates for males and females. Higher child’s perception of their father’s awareness (Males:  $Est. = -.10, p < .001$ ; Females:  $Est. = -.31, p < .001$ ) and the child’s perceived ease of communication with their father (Males:  $Est. = -.14, p < .001$ ; Females:  $Est. = -.17, p < .001$ ) were associated with lower psychosomatic symptoms among both sexes. As

**Table 4**  
Summary of MLM Model Results for Psychosomatic Symptoms by Biological Sex.

Psychosomatic Symptoms	Males		Females	
	Without Interaction	With Interaction	Without Interaction	With Interaction
<b>Random Effects</b>				
$\hat{\sigma}^2$ - Within-School SD	.86	.86	.95	.95
$\hat{\tau}_0$ - Between-School SD	.16	.16	.20	.20
<b>Fixed Effects - Est. (SE)</b>				
Intercept	1.98*** (.15)	1.77*** (.13)	2.01*** (.17)	1.38*** (.15)
Child’s perception of their father’s awareness	-.10*** (.03)	-.06*** (.02)	-.31*** (.03)	-.19*** (.02)
Child’s perceived ease of communication with their father	-.14*** (.01)	-.15*** (.02)	-.17*** (.02)	-.18*** (.02)
Age (Years)	.03** (.01)	.03** (.01)	.08*** (.01)	.08*** (.01)
Child’s perception of family economic wellbeing	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)
Bullying victimization	.30*** (.02)	.23*** (.01)	.38*** (.02)	.30*** (.02)
African American (vs. White)	-.07 (.04)	-.06 (.04)	-.08 (.04)	-.08 (.04)
Hispanic (vs. White)	-.20*** (.04)	-.20*** (.04)	-.07 (.05)	-.07 (.05)
<b>Interactions</b>				
Bullying victimization X Child’s perception of their father’s awareness	n/a	-.04** (.01)	n/a	.03 (.02)
Bullying victimization X Child’s perceived ease of communication with their father	n/a	.03* (.01)	n/a	.00 (.01)
<b>Model Parameters:</b>				
AIC	11548.29	11558.42	11666.94	11681.23
BIC	11612.10	11634.99	11730.1	11757.02
Log Likelihood	-5764.14	-5767.21	-5823.47	-5828.62
Number of Observations:	4371	4371	4097	4097
Number of Groups (Schools):	311	311	310	310

Note. \*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

hypothesized, higher bullying victimization was associated with higher psychosomatic symptoms among both sexes (Males:  $Est. = .30, p < .001$ ; Females:  $Est. = .38, p < .001$ ). Additionally, age was significantly associated with higher psychosomatic symptoms among both sexes (Males:  $Est. = .03, p < .01$ ; Females:  $Est. = .08, p < .001$ ). Lastly, among males, being Hispanic was associated with lower psychosomatic symptoms when compared to being White ( $Est. = -.20, p < .001$ ).

Table 4 also presents results after adding child’s perception of their father’s awareness and the child’s perceived ease of communication with their father as moderators of the association between bullying victimization and psychosomatic symptoms for males and females. A significant moderation was found between father’s awareness and bullying victimization for males but not females. Additionally, a significant moderation was found for males between bullying victimization and the child’s perceived ease of communication with their father.

Fig. 1 presents the plotted interaction between child’s perception of their father’s awareness and bullying victimization for the outcome of psychosomatic symptoms among Hispanic youth. The plot suggests that at both high (+1SD) and low (-1SD) levels of bullying victimization, Hispanic youth with higher perception of their father’s awareness (+1SD) are associated with lower psychosomatic symptoms when compared to those with lower perception of their father’s awareness (-1SD).

Fig. 2 presents the plotted interaction between child’s perception of their father’s awareness and bullying victimization for the outcome of psychosomatic symptoms among males. The figure suggests that at high levels of bullying victimization (+1SD), males with higher perception of their father’s awareness (+1SD) are associated with slightly lower psychosomatic symptoms when compared to those with lower father’s awareness (-1SD). However, no differences in psychosomatic symptoms were detected at low levels of bullying victimization (-1SD) between males with low vs. high perceived father’s awareness.

Fig. 3 presents the plotted interaction between bullying victimization and the child’s perceived ease of communication with their father for the outcome of psychosomatic symptoms among males. The plot suggests that at both high (+1SD) and low (-1SD) levels of bullying victimization, males with higher perceived ease of communication with their father (+1SD) show lower psychosomatic symptoms when compared to those with lower perceived ease of communication with their father (-1SD).

### 5. Discussion

The present study aimed to examine the associations of the child’s perception of their father’s awareness and the child’s perceived ease of communication with their father on the outcomes of bullying victimization and psychosomatic symptoms. The study also aimed to examine the racial/ethnic and sex differences in those associations. The study further examined whether the child’s perception of their father’s awareness and the child’s perceived ease of communication with their father independently moderated the association between bullying victimization and psychosomatic symptoms, controlling for age and child’s perception of family economic wellbeing.

For all three racial and ethnic groups, bullying victimization showed a significant and positive association with psychosomatic symptoms. These results are consistent with prior studies and suggest clear linkages of bullying victimization to detrimental outcomes for youth (Averdijk et al., 2011; Eastman et al., 2018; Garcia-Moya et al., 2014; Gini and Pozzoli, 2013; Hellfeldt et al., 2018; Reijntjes et al., 2010; Schuster et al., 2012; Zhang et al., 2019).

This study also found notable racial and ethnic differences in the role of the child’s perception of their father’s awareness. We found that a higher level of the child’s perception of their father’s awareness was related to lower levels of bullying victimization for White and Hispanic adolescents, but not African American adolescents. This appears to support the hypothesis that the child’s perceived ease of communication with their father would be associated with a decreased risk of bullying victimization among White, African American, and Hispanic adolescents.

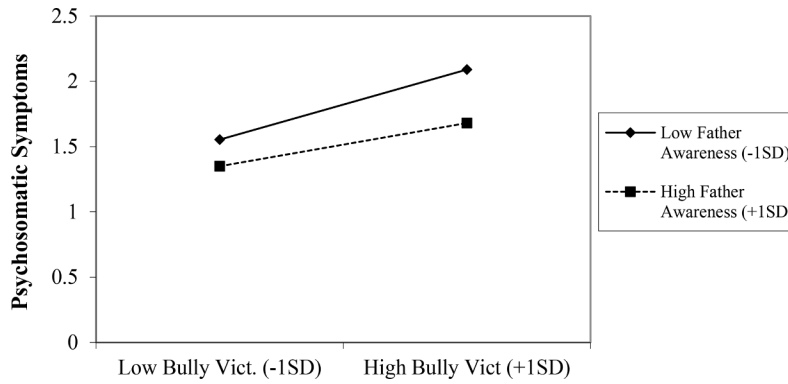


Fig. 1. Child's Perception of their Father's Awareness as a Moderator in the Association between Bullying Victimization and Psychosomatic Symptoms among Hispanic Youth

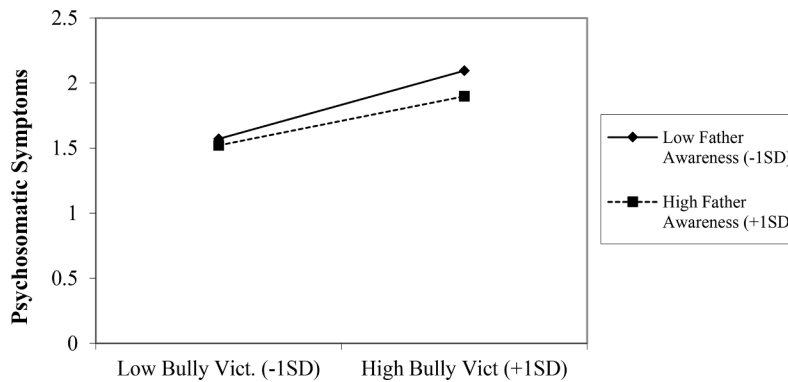


Fig. 2. Child's Perception of Their Father's Awareness as a Moderator in the Association between Bullying Victimization and Psychosomatic Symptoms among Males

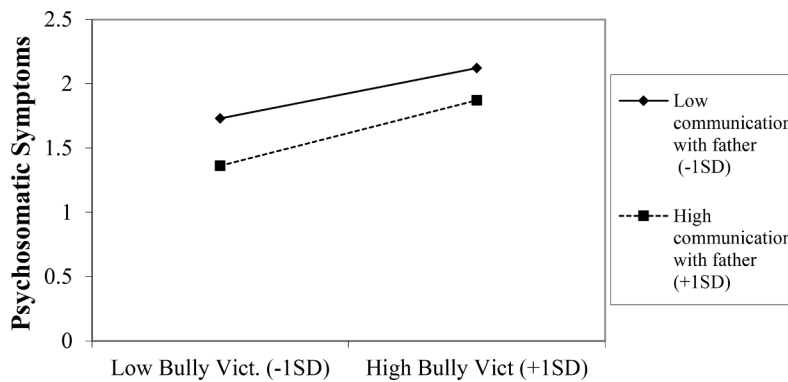


Fig. 3. Child's Perceived Ease of Communication With Their Father as a Moderator in the Association between Bullying Victimization and Psychosomatic Symptoms among Males

Relationship quality with fathers via positive socialization of their child may reduce the risk for bullying victimization. The significance of child's perception of their father's awareness and lower bullying victimization risk for Hispanic adolescents can be viewed as consistent with earlier findings which point to the importance of Hispanic fathers' involvement in their children's adjustment (Julian et al., 1994). With African Americans, however, it has been reported that fathers have a similar or higher level of involvement in their children's socialization compared to other groups (Cabrera et al., 2008; King et al., 2004). Interestingly, in our study, African American adolescents' perception of their fathers having greater awareness was not found to be associated with a lower risk of bullying victimization. This suggests different mechanisms linking father-child relationship quality and bullying victimization for African American adolescents. For many African American adolescents, their

perceptions of fathers' awareness of their activities and socialization might not sufficiently act as a protective factor for bullying victimization. This finding suggests the importance of examining racial and ethnic differences in the mechanisms linking father-child relationship quality to child outcomes.

In terms of the child's perceived ease of communication with their father, African American, White, and Hispanic adolescents who perceive their fathers as easy to communicate with have a lower risk of bullying victimization. Father-child relationship quality plays an important role in the lives of adolescents, and perceived ease of communication is a form of father involvement that could potentially serve as a protective factor against negative peer interactions and bullying in school settings, for White, Hispanic, and African American youth, as suggested in prior study findings (Holt et al., 2009; Larranaga et al., 2018). Adolescents who

perceive their fathers as easy to talk to may be more likely to turn to them when they are bullied by their peers, and fathers who are accessible might better assist their children in resolving peer conflicts and bullying.

It is important to note that this study relied on children's self-reports, which can be just as accurate and reliable as parental reports (Becker et al., 2004). As our study shows, adolescents' perceptions that they can talk to their father and their father may be more accessible to them can serve as important protective factors. For adolescents, this is developmentally appropriate considering that they have greater control over their information about their socialization process and peer relationships than their parents.

In terms of the proposed moderators, our findings revealed that the child's perception of their father's awareness moderated the positive association between bullying victimization and psychosomatic symptoms for Hispanic adolescents only. This finding was partially consistent with our hypothesis that the child's perception of their father's awareness will moderate the association between bullying victimization and psychosocial symptoms among adolescents of the three racial/ethnic groups. Hispanic adolescents who perceive their fathers as having more awareness may be more likely to turn to them when bullied, and the results of this study suggest that this may alleviate psychosomatic problems that are commonly linked to bullying victimization. Hispanic fathers might play an important role in helping their adolescent children in navigating through the school setting and avoiding psychological and health problems when they experience bullying victimization.

Concerning sex differences, our findings suggest that a higher level of child's perception of their father's awareness was related to lower bullying victimization for both male and female adolescents, which was consistent with our hypotheses. From this finding, it is evident that a father's awareness can reduce the likelihood of adolescent bullying victimization. Irrespective of the child's biological sex, fathers who are aware of what their children are doing or who they spend time with might be inclined to get involved when their child is bullied in school. Additionally, our findings showed that males and females who perceive their father as easy to talk to were less likely to be bullied. This finding seems to suggest that communications with fathers are similar for male and female adolescents and may be interpreted to contradict prior studies suggesting that fathers play a more important role in the socialization of male versus female adolescents (Lamb, 2000; Pleck, 1997). Both female and male adolescents who are bullied might be more inclined to rely on their fathers or others for social support.

The child's perception of their father's awareness and the child's perceived ease of communication with their father were found to be associated with a decreased risk of psychosomatic symptoms for both males and females, which supported our proposed hypotheses. These findings seem to suggest that regardless of sex, child's perceived ease of communication with their father and child's perception of their father awareness can give adolescents a sense of security, which can alleviate psychosomatic symptoms (Brotherson et al., 2003; Cava et al., 2014) that are associated with bullying victimization (Flouri and Buchanan, 2002). Although mothers are commonly seen as primary nurturers, both male and female adolescents might perceive their fathers as a source of protection and feel more at ease when they feel their fathers are emotionally available and easy to turn to.

Overall, our results support the importance of considering relationship quality with fathers as a protective factor against adolescent bullying. Although fathers' buffering role was not consistent across every analyses, overall, both child's perception of their father's awareness and the child's perceived ease of communication with their father were important protective factors. Moderation results showed that child's perceived ease of communication with their father and child's perception of their father awareness buffered the linkage between bullying victimization and psychosomatic symptoms for males but not females, which was partially congruent with our hypotheses. This finding also demonstrates the significance of fathers in adolescent peer relationships and health and mental health outcomes among males. Although adolescence

is commonly recognized as a developmental period in which youth gain autonomy from their parents and increasingly seek the support of their friends and peers when bullied, fathers who are emotionally available could help male adolescents to better cope with bullying victimization. Adolescents, in particular, might be more receptive to their same-sex parents, and fathers tend to be more involved in communicating with their sons than their daughters Pleck (1997).

### 5.1. Limitations and implications for research

Several shortcomings of the present study findings should be noted, which have implications for future research. The research design for this study was cross-sectional, and we were unable to make any causal inferences. Future studies need to consider a longitudinal study design to explore whether the child's perception of their father's awareness and child's perceived ease of communication with the father are causally linked to bullying victimization and psychosomatic symptoms over time and whether these father-related variables moderate the link between the two at different timepoints. Another limitation is the response options for bullying victimization. The study did not include "once a week," which would be applicable for adolescents who participate in weekly class activities where bullying is likely to occur. The psychosomatic symptom was measured with three items, such as feeling low, irritability, and feeling nervous. Future researchers are advised to consider "once a week" in the response options. Researchers should also consider more robust measures for psychosomatic symptoms including physical ailments, such as headaches, difficulty breathing, chest pain, etc. The variables utilized in the measure are derived from youth self-reports, and future studies should consider reports from parents, peers, and teachers, which could enhance the validity of the study. And finally, a major limitation worth mentioning is the HBSC dataset of which data were collected from U.S. adolescents in 2009 and 2010. However, our study provides evidence that fathers can play a critical role in their adolescent children's behavior and socialization, which supports further research on the father's role in adolescent development.

### 5.2. Implications for clinical practice

Clinical implications from the study suggest that fathers should be informed that bullying victimization can contribute to multiple poor health and mental health problems. Fathers need to know that awareness and communication might protect children from further victimization and from engaging in violent acting-out behaviors or a victim-bully cycle. The finding that perceived ease of talking with fathers was associated with lower psychosomatic symptoms is a valuable information for intervention for clinicians. Clinicians can increase social-emotional competency for fathers and children by concentrating on building mindfulness of emotional responses to troubling events. Social-emotional skills enable productive dialogue. Clinicians are advised to facilitate positive parent-child communications for African American and Hispanic fathers by helping them understand the potential difference they can make in lowering bullying victimization. Increasing empathy and improving parenting practices have proved effective in diminishing the impact of victimization. Brief Strategic Family Therapy demonstrates efficacy in increasing parent-child communication for Hispanic families (Szapocznik and Williams, 2000). The work of Nancy Boyd Franklin (2003) on therapy with African American families shows similar results. While all parents require assistance to interrupt bullying victimization, findings indicate that African American fathers can benefit from support around vigilance of their children's activities.

Clinical implications must be culturally relevant; father-son communication is particularly important for African American adolescents (Johnson, Jr. et al., 2020). One particularly promising program for African American youth is the Fathers and Sons program (Caldwell et al., 2019b), which seeks to promote African American fathers' racial socialization of their adolescent sons. While this program has not examined



bullying outcomes per se, it has shown positive outcomes for communication and health (Caldwell et al., 2019a). This program is unique in that it is designed for African American adolescent sons and their fathers (Thomas et al., 2020). Programs such as these, that promote father's awareness of their child's wellbeing and offer opportunities for supportive father-son interactions, may potentially offset some effects of bullying victimization for individual children.

Fathers are often an afterthought in clinical interventions as mothers assume most of the childrearing responsibilities. However, this study highlights the critical role of fathers in protecting the health and mental health of their adolescent children. Therefore, clinicians are strongly advised to encourage fathers' involvement as an underutilized but vital resource.

#### Author statements

Dr. Jun Sung Hong conceived the study; wrote the Literature Review, Discussion, and Limitations section; edited the entire manuscript.

Mr. Alberto Valido conceived the analyses for the study, wrote the Analyses and Results sections, and created the Tables.

Dr. Dorothy L. Espelage contributed to the Abstract and Introduction and edited the manuscript.

Dr. Shawna J. Lee contributed to the Introduction and Discussion and edited the manuscript.

Dr. Ellen W. deLara contributed to the clinical implications section.

Dr. Jeoung Min Lee contributed to the Introduction.

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#### Declaration of Competing Interest

This study utilized a publicly available dataset with no identifiers and was exempted from IRB oversights. There were no ethical issues concerning human participants/animals in the study. The authors are responsible for the integrity of the data and the accuracy of the data analysis. The authors declare that there is no conflict of interest.

#### Supplementary materials

Supplementary material associated with this article can be found in the online version at doi:10.1016/j.jad.2021.09.013.

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