

"They Think that I Should Defend": Effects of Peer and Teacher Injunctive Norms on Defending  
Victimized Classmates in Early Adolescents

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### **Abstract**

Norms have been suggested as important characteristics of the social-ecological context for defending victimized peers, but little is known about the contribution of student perceived injunctive norms (regarding the appropriateness of defending) imposed by peers and teachers. To investigate their role in defending, a sample of 751 early adolescents (51% female;  $M_{\text{age}}$  at Time 1: 13 years) was assessed at two time points. Defending, as measured by peer- and self-ratings, slightly decreased over a six-month timespan. Three-level models (with time, students, and classrooms as the levels) indicated that both individual- and classroom-level perceived peer injunctive norms (but not teacher injunctive norms) had positive effects on defending over time regardless of the source of the information on defending (peers or self). These findings support programs that encourage defending through peer norms.

*Keywords:* Defending; Peer victimization; Peer injunctive norms; Peer relations; Teacher injunctive norms

## **Introduction**

Students are typically victimized in the presence of other bystanding peers, who often fail to help victims; thus, many prevention and intervention programs encourage being supportive of victims (Polanin et al. 2012). This support refers to defending a victimized peer by challenging the aggressor and comforting the victim (Salmivalli 2010). Naturalistic observations of peer interventions showed that, indeed, defenders often effectively stop aggressive acts (Hawkins et al. 2001). Classrooms with higher rates of defending are characterized by lower rates of bullying (Salmivalli et al. 2011) and a lower risk of victimization for vulnerable students (Kärnä et al. 2010). Furthermore, a comparison of adjustment between defended and undefended victims suggested that defending improves the victims' self-esteem and status among peers (Sainio et al. 2010). A large-scale evaluation demonstrated that an intervention that included encouraging defending not only promoted the self-esteem of victimized students but also reduced their depression (Juvonen et al. 2016). Encouraging defending has been found to be a promising component across various bullying prevention programs (Polanin et al. 2012). To better inform these programs, it is important to elucidate the longitudinal links between various individual and contextual factors in the prediction of defending (Peets et al. 2015).

### **Prerequisites of Defending**

Even though students themselves appreciate various positive features of defending (Kollerová et al. 2014), the decision to defend someone is far from straightforward because it involves a social risk (Pöyhönen et al. 2010). By taking the side of a victimized peer, students may risk their status in the peer group and even put themselves at risk of becoming a target of aggression (Huitsing et al. 2014). Willingness to defend has thus been assumed to be associated with multiple factors, including individual characteristics and ecological characteristics of the peer group (Espelage et al. 2011).

At the individual level, the consistent correlates of defending include female gender (Salmivalli 2010), empathy (for a review, see van Noorden et al. 2014), social self-efficacy (e.g., Peets et al. 2015), and being liked by peers (e.g., Reijntjes et al. 2016). The previous literature indicated that early adolescents who defend their peers are prone to showing high levels of empathic concern, which may lead them to understand the victim's suffering and enhance helping behavior (Caravita et al. 2009). However, given that adolescents who stand by when bullying incidents occur (i.e., passive bystanders) were also found to show empathic concern, researchers have questioned whether empathy is the only important factor that prompts defending behavior (Gini et al. 2008). Hence, additional individual predictors of defending have been called into question. Research indicates that self-efficacy, i.e., the individual perception of being competent in social situations (Di Giunta et al. 2010), and status among peers are likely contributing factors to defending behavior. To stand up for their victimized peers, students need to be confident in their ability to effectively manage interpersonal situations (Peets et al. 2015) and be sufficiently liked among their peers (Pöyhönen et al. 2010).

At the classroom level, group norms, which are shared standards of attitudes of behaviors, were investigated to explain why defending is more prevalent in some classrooms than in others (Salmivalli 2010). The attention devoted to norms is underscored by the finding that similarities among classmates explain an even higher portion of the variance in defending than in bullying (Kollerová et al. 2018), reinforcing bullying (Kärnä et al. 2010), and passive bystanding (Pozzoli et al. 2012). Important insights about group norms can be derived from the social-ecological perspective (Espelage and Swearer 2010).

### **Social-Ecological Perspective**

Understanding the role of group norms in defending victimized classmates can build on the social-ecological framework on bullying (Espelage and Swearer 2010), a subtype of aggression that is characterized by repetitiveness and a power imbalance between the aggressor

and the target (Solberg et al. 2007). The framework conceptualizes behaviors in bullying incidents as the result of exchanges among individuals, peer groups, and the broader social environment (Espelage and Swearer 2010). This perspective has proved appropriate for understanding defending as a prosocial behavior that is affected by multiple individual and contextual factors, with the classroom representing the most immediate context (Pozzoli et al. 2012).

According to the established conceptualization of norms introduced to the area of research on peer relations by Henry and colleagues (2000), norms comprise descriptive norms, which refer to what members of a group commonly do (e.g., the classroom prevalence of particular behaviors), and injunctive norms, which prescribe what individuals ought to do by specifying what behaviors are commonly approved or disapproved of in a group (Cialdini et al. 1991). The prevalence of defending within a classroom reflects descriptive norms (i.e., what students do), while the shared expectations regarding appropriate behaviors with respect to defending (i.e., what students ought to do) reflect injunctive norms (Pozzoli et al. 2012). The latter type of norms correspond to the expected standards of appropriate behaviors in bullying incidents that have been assumed to be the primary source of normative influence to which students tend to conform (Salmivalli and Voeten 2004). In line with the social-ecological framework, Pozzoli and colleagues (2012) conceptualize the classroom as the most proximal and important context for bullying and as a context that reflects primarily peers' but also teachers' behaviors and attitudes. The notion that peers constitute the main source of normative influence on early adolescents but that adults also play an important role conforms to developmental knowledge related to early adolescence.

### **Developmental Perspective**

Early adolescence is the developmental phase during which bullying increases and antibullying attitudes become less prevalent (Salmivalli and Voeten 2004). According to official

statistics, 13% of early adolescents aged 11 years (6% of girls and 7% of boys) and 12% of early adolescents aged 13 years (5% of girls and 7% of boys) are victims of bullying at school in the Czech Republic, where the present study was conducted (Inchley et al. 2016). Importantly, peers are present during bullying episodes, although they only sometimes try to support the victims (Craig et al. 2000). As students who witness bullying may potentially change the dynamics of the episode, it is of great importance to understand which factors may contribute to defending behavior. When investigating injunctive norms, it is important to include a developmental perspective, which suggests that norms can be assumed to be particularly influential during early adolescence.

As children enter and grow through adolescence, they become more embedded in groups, and group norms increasingly influence their behavior (Killen and Smetana 2015). The increased social experiences and time spent socializing with friends contribute to early adolescents' sociocognitive development (Brown 2004). Importantly, given their sociocognitive development, early adolescents become increasingly aware of the perspectives of their classmates and teachers (Choudhury et al. 2006). In parallel, they become concerned with other people's views about their own actions and thoughts (Alberts et al. 2007). Moreover, due their increasing abstract thinking skills, early adolescents are able to predict their peers' behavioral responses to bullying and are willing to conform to their peers' expectations to be accepted in the peer group (Sandstrom et al. 2013). Indeed, previous research found that antibullying classroom injunctive norms were associated with defending behavior among sixth graders but not among children in lower grades (Salmivalli and Voeten 2004). Given the importance of the peer group during early adolescence (Killen and Smetana 2015), it is reasonable to further examine the role of peer group norms in affecting defending during this developmental period. Norms imposed by teachers should not be omitted, however, because significant adults, including teachers, continue to be salient sources of influence during adolescence (Rubin et al. 2015).

### **The Role of Injunctive Norms**

Students tend to conform to social pressure; thus, injunctive norms contribute to promoting or hindering defending behavior depending on whether the norms favor aggressive behaviors or defending (Salmivalli and Voeten 2004). Several approaches to the valid measurement of injunctive norms have been developed (for a review, see Salmivalli, 2010). According to Cialdini (1991), students' perception of norms influences their own behavior. Indeed, students' perception of norms is crucial because previous findings have shown that students manifest low levels of defending behavior when they overestimate their peers' approval of bullying (Sandstrom et al. 2013). In other words, the passive responses that students often manifest in front of bullying may be due to their distorted perception that their peers are in favor of bullying. In this respect, it was proposed that students might notice their classmates' passivity and infer incorrect conclusions about their peers' approval of certain social behaviors (Sandstrom et al. 2013). Thus, perceptions of injunctive norms present a salient focus for research attention. Previous studies confirmed that students' perceptions of normative attitudes, either from the side of peers or teachers, can be used as an individual characteristic and as a classroom characteristic when aggregated at the classroom level (Pozzoli et al. 2012; Saarento et al. 2013).

Because norms as individual-level perceptions and classroom-level aggregates may have unique effects on behaviors in aggression incidents, these two levels should be assessed simultaneously (Pozzoli et al. 2012). While individual students' perceptions that peers approve of bullying were found to hinder defending (Sandstrom et al. 2013), perceived peer (but not teacher) pressure to defend was found to promote defending (Pozzoli et al. 2012). A marginally significant effect of the classroom aggregate of perceived peer pressure (but not perceived teacher pressure) on defending tentatively indicated that students defended more in classrooms with higher levels of shared pressure for intervention. Classroom antibullying peer norms that were operationalized as general standards of appropriate or inappropriate behaviors in bullying

incidents were found to be positively associated with defending (Salmivalli and Voeten 2004). In agreement with these results, defending was found to be more prevalent in classrooms where bullying was related to social costs and yielded a lower status among peers (Peets et al. 2015). Likewise, victimization was found to be more prevalent in classrooms where defending was related to social costs (Saarento et al. 2013). Researchers suggest that injunctive norms are primarily set by peers, but teachers may be another important source of these norms (Pozzoli et al. 2012).

Teachers may directly influence students' behaviors, promote a positive classroom climate (Troop-Gordon 2015), and reduce bullying rates (Veenstra et al. 2014). Teachers can also provide social support to victimized students and thus encourage help-seeking in victimized students (Boulton et al. 2013). Students' behaviors in bullying incidents are associated with students' perceptions of teachers' efficacy in decreasing bullying (Barchia and Bussey 2010), sanctions against bullying (Henry et al. 2000), and attitudes toward bullying (Saarento et al. 2015). Importantly, more students are victimized in classrooms where students perceive that teachers disapprove of bullying less (Saarento et al. 2013), which corresponds to teacher-imposed injunctive norms. Teacher support is a salient component of social capital that enables students to defend (Jenkins and Fredrick 2017). However, perceived teacher injunctive norms have shown no effects on defending beyond perceived peer injunctive norms (Pozzoli et al. 2012).

Overall, the findings in the literature are inconclusive, and further research is needed to elucidate the role of student perceived peer and teacher injunctive norms in defending behavior. To the best of our knowledge, only one cross-sectional study has addressed this complex issue, devoting attention to individual-level perceptions of norms and their classroom aggregates (Pozzoli et al. 2012). Surprisingly, while longitudinal links between aggression and injunctive

norms were confirmed almost two decades ago (Henry et al. 2000), the longitudinal links between defending and injunctive norms remain unclear.

### **Changes in Defending**

The development of defending over time was investigated among children and adolescents. Adolescent defending was consistently found to be moderately to highly stable over time across various age groups (Mazzone et al. 2016; Sijtsema et al. 2014). Stability was higher when defending was measured by peer-report compared to self-report assessments (Doramajin and Bukowski 2015). Furthermore, previous studies found that influential friendship processes are likely to take place among early adolescents who defend their peers (Sijtsema et al. 2014). Early adolescents became more similar to their friends in terms of defending over a one-year timespan (Sijtsema et al. 2014). Although defending behavior increased as a result of intervention programs (Polanin et al. 2012), to the best of our knowledge, the previous literature has not investigated whether an association exists between defending behavior and student perceptions of injunctive norms.

### **Peer-Reported Versus Self-Reported Defending**

Even though both peer- and self-reports reflect valid sources of information regarding peer relations, previous studies on defending have mainly focused on peer reports (Juvonen et al. 2001). It is important to include both peer and self-reports in studies on defending because these two sources of information cover unique aspects of defending and complement each other. While peer-reports are able to uncover forms of defending behavior that are visible to the larger peer group, self-reports include more subtle forms of defending that are less visible to the larger peer group but might still be an important source of support (Archer and Coyne 2005). Using both peer- and self-reports also minimizes the possible inflation of associations by shared method variance (Saarento et al. 2013) and allows researchers to identify the factors associated with defending regardless of the source of information. Hence, including both perspectives results in a

more accurate picture of different forms of defending behavior and extends previous research that relied on only one of the two perspectives (Saarento et al. 2013).

### **Current Study**

The aim of the present study was to elucidate whether student perceived peer and teacher injunctive norms, at the individual and classroom levels, have unique effects on defending behavior over a period of six months among early adolescents. Peer- and self-reported defending was analyzed to capture both visible and more subtle forms of this behavior.

The study follows the call for longitudinal analyses of associations between defending and norms (Peets et al. 2015) and the notion that not only peers but also teachers shape the classroom context (Pozzoli et al. 2012). Because injunctive norms that refer to expected standards of appropriate behaviors have been assumed to be the primary source of normative influence on students (Salmivalli and Voeten 2004), the current study focused on this type of norm, with the goal of providing a detailed picture of its effects. The study followed the line of research arguing that if norms are to be assessed in the form in which they are most likely to influence students, they should be measured as they are perceived by individuals (Sandstrom et al. 2013). Classroom-level aggregates of individual perceptions can be used as indicators of shared group perceptions of other people's expectations (Pozzoli et al. 2012). This study therefore assessed students' individual perceptions of norms imposed by peers and teachers and used these individual-level scores (*perceived peer/teacher injunctive norms*) and their classroom-level aggregates (*classroom perceived peer/teacher injunctive norms*) as the variables of interest. Using individual and collective scores of perceived peer and teacher injunctive norms allows researchers to better understand the ecology of the classroom that is salient for decision making about whether to defend a victimized peer.

Based on the social-ecological perspective (Espelage and Swearer 2010) and developmental literature documenting the powerful role of peers during early adolescence

(Killen and Smetana 2015), it was hypothesized that perceived peer injunctive norms (individual students' perceptions of norms imposed by peers) and classroom perceived peer injunctive norms (the classroom aggregate of these individual perceptions) are positively associated with defending over a half-year interval. The study also explored whether perceived teacher injunctive norms and classroom perceived teacher injunctive norms have unique effects on defending over a half-year interval. The effects were examined because perceived teacher attitudes are another relevant source of influence on early adolescents, but the role of teachers in comparison to peers might be more distal during this developmental period (Rubin et al. 2015).

With respect to the social-ecological framework, several individual and classroom correlates of defending were controlled. The variables at the individual level included positive correlates of defending demonstrated in the previous studies reviewed above: gender, empathy, social self-efficacy, and social preference. Age was also controlled with no specific hypothesis because the findings on associations between defending and age have been inconclusive (Doramajin and Bukowski 2015; Reijntjes et al. 2016). At the classroom level, classroom descriptive norms of victimization (classroom average victimization) were controlled because, conceptually, defending presents a reaction to victimization (Salmivalli 2010), and classroom victimization was found to be a positive correlate of defending in previous research (Pozzoli et al. 2012).

The longitudinal examination aimed to expand insights about the associations between defending and perceived injunctive norms imposed from different sources (peers versus teachers) at the individual and classroom levels and thus to contribute to answering a practically relevant question about what kind of injunctive norms could potentially be targeted to encourage defending.

## **Methods**

### **Participants**

The sample comprised 751 early adolescents in 39 seventh-grade classrooms in 20 elementary schools in Prague, the capital of the Czech Republic. Gender was distributed equally (50.6% girls), and the age of the students ranged from 11 to 15 years at Time 1 ( $M_{age}$  at Time 1 = 12.93 years,  $SD = 0.41$ ). The vast majority of students were 12-13 years old (1 student was 11 years old, four students were 14 years old, and one student was 15 years old). The classrooms were assessed at two time points: in November/December and in May/June within the same school year (interval: 6 months  $\pm$  2 weeks). Among the participants, native Czech ethnicity (Caucasian) prevailed (88.1%). The other ethnicities were unspecified (8.4%), Vietnamese (1.5%), and Roma (0.5%). A small portion (1.5%) of participants did not state their ethnicity. Socioeconomic status was not assessed, but elementary schools in the Czech Republic are attended by students from the whole range of socioeconomic backgrounds.

### **Procedure**

Twenty-eight randomly selected Prague elementary schools were invited to participate, and 20 of them agreed to participate in the project. The eight schools that did not agree to participate did not differ in school size from the 20 schools that agreed to participate. In each of the 20 participating schools, all seventh-grade classrooms (1 to 4 per school) were visited at two time points during a single school year. Informed consent was obtained from all individual participants included in the study. The study included students who had written parental informed consent, were present at school on the day of administration, and agreed to participate in the study. No incentives or compensation were provided to participants. The participation rate computed from all students attending the selected classrooms was 77% at the first time point and 73% at the second time point. Across schools, the lowest participation rate was 66%, and the highest participation rate was 93%. The school response rate was not related to school size.

Participants completed paper-and-pencil instruments in their classrooms over two successive lessons. The assessments followed a standard procedure and were conducted by

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trained research team members (with school personnel absent). The procedure ensured participant safety and privacy during administration. The participants were assigned number codes that enabled the data to be stored in an anonymized form. After the end of the project, the administrators provided each participant with a leaflet on effectively coping with bullying and contact information for hotlines. The project was approved by the ethics committee of the first author's institution.

### **Missing Data**

In total, 11.01% of the self-report data and 15.18% of the peer-rating/nomination data were missing. Of the 751 students, 699 (93%) and 662 (88%) students participated at Times 1 and 2, respectively. Data for both time points were available for 610 (81%) participants. The mean percentage of missing values ranged between 0.00% and 15.85% across the 29 variables for the self-report data and between 12.30% and 18.11% across the 20 variables for the peer-rating/nomination data. Full information maximum likelihood (FIML) and pairwise deletion for robust weighted least squares estimator (WLSMV) were used to deal with missing data (Enders 2010).

### **Individual-Level Variables**

**Defending.** Defending victimized classmates was measured using a peer-rating adaptation of the 3-item scale by Pozzoli and Gini (2010). The items were slightly adapted for language and cultural specifics. The participants were asked to rate each student, including themselves, according to how often he or she had behaved in a particular way during the previous 2-3 months. Possible answers were as follows: *Never (1)*, *Sometimes (2)*, and *Often (3)*. The items were *Defends classmates who are hit or pushed by others*, *Attempts to stop a classmate who teases or threatens somebody in the classroom*, and *Attempts to help or comfort classmates who are at the margin of the group or excluded from it*. Peer-rated defending scores

and self-rated defending scores were computed as factor scores resulting from confirmatory factor analyses, with ratings nested within each student (see Appendix).

**Perceived peer and teacher injunctive norms.** To assess perceived peer and teacher injunctive norms, a 6-item instrument was developed comprising two analogous scales: one scale for perceptions of norms imposed by peers and one scale for perceptions of norms imposed by teachers. Students in the Czech school system have a stable group of peers and teachers with whom they spend time, i.e., they spend almost their whole teaching time within their classroom peer group, and the teachers assigned to the classroom (for seventh-graders, typically 6-8 teachers) switch for various subjects. Following the conceptualization of injunctive norms as standards prescribing what students ought to do (Cialdini 1991), each scale was introduced by a statement about the perceived appropriateness of a behavior from the perspective of peers/teachers (*Classmates who are important to me think that I should ...* and *Teachers who are important to me think that I should ...*). The statement referred to peers/teachers perceived as important because they could be considered particularly influential (Veenstra et al. 2010), and this specification helps students process the task to report about what other people think of what they should do. Each introductory statement was followed by the 3 items on defending classmates that were used in the instrument for measuring defending (i.e., items on defending classmates victimized by physical, verbal, and relational aggression). Participants expressed agreement with the items on a 5-point scale of *No (1)*, *Rather no (2)*, *Half and half (3)*, *Rather yes (4)*, and *Yes (5)*. Student perceived peer and teacher injunctive scores were computed as factor scores resulting from confirmatory factor analyses (see Appendix). The Cronbach's  $\alpha$  coefficients were .82/.85 (Time 1/Time 2) for perceived peer injunctive norms and .88/.90 (Time 1/Time 2) for perceived teacher injunctive norms.

**Empathy.** Empathy was assessed using a 4-item self-report instrument by Di Giunta et al. (2010), in which respondents are asked to mark how often they experience empathic emotions

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or concern for other people (e.g., *I am empathic with those who are in need*). Answers were marked on a scale ranging from *Never (1)* to *Almost always (5)*. This instrument showed good psychometric properties in previous studies (Di Giunta et al. 2010). The factor scores extracted from the confirmatory factor analysis were used as empathy scores (see Appendix). The Cronbach's  $\alpha$  coefficients in this study were .77 for Time 1 and .81 for Time 2.

**Social self-efficacy.** Participants reported their social self-efficacy beliefs using the Perceived Social Self-Efficacy Scale that was developed and validated across several countries by Di Giunta and colleagues (2010). The scale consists of five items that assess perceived capacity to manage interpersonal relations well (e.g., *How well can you actively participate in group activities?*), with answers ranging from *Not well at all (1)* to *Very well (5)*. The social self-efficacy scores resulting from the confirmatory factor analysis were used in the subsequent analyses (see Appendix). The Cronbach's  $\alpha$  coefficients were .74 for Time 1 and .74 for Time 2.

**Social preference.** Consistent with conceptualizing and measuring indicators of peer status (Cillessen and Marks 2011), the social preference score was computed as a composite score of acceptance ("liked most") minus rejection ("liked least") peer nomination scores. Both acceptance and rejection items comprised two questions: a question on classmates liked most/least and a question on behavioral manifestations of liking/disliking. The questions on acceptance were *Who do you like best?* and *With whom do you most like talking during recess?* The items on rejection were *Who do you like least?* and *With whom do you least like talking during recess?* The students were asked to name an unlimited number of classmates who fit these characteristics well. The social preference peer nomination scores were computed as factor scores resulting from confirmatory factor analysis (see Appendix).

### **Classroom-Level Variables**

**Classroom perceived peer and teacher injunctive norms.** Classroom perceived peer and teacher injunctive norms referred to the average level of individual perceived peer and

teacher injunctive norms in a classroom. The composite reliability at the classroom level was .95/.99 (Time 1/Time 2) for classroom perceived peer injunctive norms and .84/.83 (Time 1/Time 2) for classroom perceived teacher injunctive norms. Agreement among classroom members based on the interrater agreement index for multiple items,  $rwg^*_{(j)}$  (Lindell and Brandt 1997; Lindell et al. 1999), was 0.42 (Time 1) and 0.42 (Time 2) on average for perceived peer injunctive norms and 0.43 (Time 1) and 0.45 (Time 2) on average for perceived teacher injunctive norms. According to LeBreton and Senter (2008), these results indicate a weak to moderate agreement among classroom members.

**Classroom victimization.** Classroom victimization referred to the average level of victimization in a classroom. Victimization was measured using a peer-rating adaptation of the 3-item scale by Pozzoli and Gini (2010), comprising items on victimization by physical, verbal, and relational aggression (corresponding to those used in the defending scale introduced above). A confirmatory factor analysis was conducted using the ratings by peers on the three items, and the factor scores were subsequently used as indicators of victimization (see Appendix). The composite reliability at the class level was .93 for Time 1 and .91 for Time 2.

### **Analytic Strategies**

Multilevel modeling (Hox et al. 2018; Snijders and Bosker 2012) with three analytic levels (level 1: time, level 2: student, and level 3: class) using Mplus Version 8 (Muthén and Muthén 1998-2017) was conducted to test the hypotheses of the present study. A series of models was specified to sequentially test the hypotheses. First, a null model was specified to examine the proportion of the variance of the dependent variables at the student and classroom levels (Model 0). Next, the predictor *time* was included to investigate changes in peer- and self-rated defending across time (Model 1). In the third step, predictors were included at the measurement, student, and classroom levels (Model 2). In the fourth step, random slope effects of *time* were tested at the student and classroom levels (Model 3) using the deviance test

(Snijders and Bosker 2012). The deviance test is a commonly used method to test the random part of the model comparing the deviance of nested models without random slope effect  $D_0$  with  $m_0$  model parameters and with random slope effect  $D_1$  with  $m_1$  model parameters. Lastly, interactions of *empathy*, *social self-efficacy*, *social preference*, *perceived peer injunctive norms*, and *perceived teacher injunctive norms* with *time* were specified at the measurement level. In addition, cross-level interactions were specified for *sex* with *time* at the student level and *classroom victimization*, *classroom perceived peer injunctive norms*, and *classroom perceived teacher injunctive norms* with *time* at the classroom level (Model 4).

Models were estimated using a robust maximum likelihood estimator while adjusting standard errors using a sandwich estimator taking into account the non-independence of observations at the school level. All analyses were conducted based on a statistical significance level of  $\alpha = .05$ .

## Results

### Descriptive Statistics

In the first step, correlation coefficients were inspected at the student and classroom levels for Time 1 and Time 2 separately (see Table 1). At the student level, peer-rated defending had the highest correlations with social preference, social self-efficacy, sex, empathy, and perceived peer injunctive norms. Self-rated defending, on the other hand, had the highest correlations with empathy, perceived peer injunctive norms, social self-efficacy, sex, and perceived teacher injunctive norms. At the classroom level, peer-rated defending had the highest correlation with classroom perceived peer injunctive norms and classroom perceived teacher injunctive norms. Self-rated defending, on the other hand, had the highest correlations with classroom victimization and classroom perceived peer injunctive norms, although these correlations failed to reach statistical significance.

### Measurement Model and Longitudinal Measurement Invariance

**Peer-rating and peer-nomination data.** Multilevel confirmatory factor analysis (Hox et al. 2018) was conducted in Mplus Version 8 (Muthén and Muthén 1998-2017) to analyze peer-rating and -nomination data, where ratings or nominations at level 1 are nested within students at level 2 (van Duijn 2013). Measurement models for peer-rated defending, acceptance, rejection, and victimization with ordered-categorical indicators (Bovaird and Koziol 2012) were established and subsequently tested for longitudinal measurement invariance using a robust weighted least squares estimator (WLSMV). To evaluate whether the assumption of invariance is tenable, changes in CFI and RMSEA were considered. It has been suggested that a change in CFI of more than .01 (Cheung and Rensvold 2002) and a change in RMSEA of more than .015 (Chen 2007) indicate a meaningful decrease in model fit, making the invariance assumption not reasonable. The results showed no meaningful decrease in model fit between the hierarchically nested models for peer-rated defending, acceptance, rejection and victimization (see Appendix). Moreover, the final model assuming scalar measurement invariance showed good model fit for peer-rated defending ( $\chi^2(28) = 626.32, p < .001, CFI = .986$  and  $RMSEA = .039$ ), social preference comprising acceptance and rejection ( $\chi^2(38) = 150.02, p < .001, CFI = .997$  and  $RMSEA = .014$ ), and victimization ( $\chi^2(28) = 242.83, p < .001, CFI = .993$  and  $RMSEA = .023$ ). To reduce model complexity (i.e., the number of estimated parameters), factor scores for all scales were extracted and subsequently used in the main analysis. For social preference, a composite score based on the factor scores for acceptance minus the factor scores for rejection was computed.

**Self-report data.** Confirmatory factor analysis (CFA) was conducted in Mplus Version 8 (Muthén and Muthén 1998-2017) to establish measurement models for self-rated defending, empathy, social self-efficacy, and perceived peer and teacher injunctive norms and to test for longitudinal measurement invariance. Measurement models for self-rated defending comprising ordered-categorical indicators were analyzed using a WLSMV estimator, whereas all other

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measurement models comprising continuous indicators were analyzed using a robust maximum likelihood estimator. The results showed no meaningful decrease in model fit between the hierarchically nested models for self-rated defending, empathy, social self-efficacy, and perceived peer and teacher injunctive norms (see Appendix). Moreover, the final model assuming scalar measurement invariance showed good model fit for self-rated defending ( $\chi^2(16) = 59.23, p < .001, CFI = .984$  and  $RMSEA = .060$ ), empathy ( $\chi^2(21) = 18.49, p = .618, CFI = 1.000$  and  $RMSEA = .000$ ), social self-efficacy ( $\chi^2(38) = 68.02, p = .002, CFI = .983$  and  $RMSEA = .032$ ), perceived peer injunctive norms ( $\chi^2(22) = 38.72, p = .015, CFI = .989$  and  $RMSEA = .032$ ), and perceived teacher injunctive norms ( $\chi^2(23) = 48.06, p = .002, CFI = .989$  and  $RMSEA = .038$ ). To reduce model complexity (i.e., the number of estimated parameters), the factor scores for all scales were extracted and subsequently used in the main analysis.

### **Intraclass Correlation**

Next, the proportion of the variance of the dependent variables was examined at the student and classroom levels. The intraclass correlation (ICC) values for peer- and self-rated defending were computed separately based on the null model of the multilevel model. For peer-rated defending, 1.4% of the variance was accounted for by the measurement level ( $ICC_{time} = .014$ ), 52.2% of the variance was accounted for by the student level ( $ICC_{students} = .522$ ), and 46.5% of the variance was accounted for by the classroom level ( $ICC_{class} = .465$ ). For self-rated defending, however, 15.6% of the variance was accounted for by the measurement level ( $ICC_{time} = .156$ ), 79.7% of the variance was accounted for by the student level ( $ICC_{students} = .797$ ), and 4.7% of the variance was accounted for by the class level ( $ICC_{class} = .047$ ).

### **Individual- and Classroom-Level Variables Predicting Peer- and Self-Rated Defending**

In the first step, the predictor *time* was included in the model at the measurement level (Model 1). The results showed a statistically significant result for *time* for both peer-rated

defending ( $b = -0.064, p = .004$ ) and self-rated defending ( $b = -0.364, p < .001$ ), indicating that peer- and self-rated defending decrease over time.

In the next step, predictors at the measurement, student, and classroom levels were added to the model (Model 2, see Table 2). At the measurement level, *age* ( $b = 0.14, p = .030$ ), *empathy* ( $b = 0.032, p = .026$ ), *social self-efficacy* ( $b = 0.064, p = .008$ ), *social preference* ( $b = 0.14, p < .001$ ), and *perceived peer injunctive norms* ( $b = 0.030, p = .008$ ) were statistically significant for predicting peer-rated defending, and the predictors *empathy* ( $b = 0.75, p < .001$ ), *social self-efficacy* ( $b = 0.39, p < .001$ ), and *perceived peer injunctive norms* ( $b = 0.43, p < .001$ ) were statistically significant for predicting self-rated defending. All other predictors failed to reach statistical significance. These results showed that higher empathy, social self-efficacy, and perceived peer injunctive norms were associated with higher peer- and self-rated defending, while higher age and social preference were associated with higher peer-rated defending. At the student level, *sex* was statistically significant for both peer-rated defending ( $b = 0.50, p < .001$ ) and self-rated defending ( $b = 0.59, p < .001$ ), indicating higher self- and peer-rated defending for girls than for boys. At the classroom level, classroom victimization and classroom perceived peer injunctive norms were statistically significant for peer-rated defending ( $b = 0.28, p = .025$ ;  $b = 0.36, p < .001$ ) and self-rated defending ( $b = 3.68, p < .001$ ;  $b = 1.81, p = .004$ ).

Next, the predictor *time* was tested for random slope effects at the student and classroom levels (Model 3, see Table 2) using the deviance test (Snijders and Bosker 2012). The result indicated random slope effects of *time* for peer-rated defending ( $\chi^2(2) = 75.09, p < .001$ ) and self-rated defending ( $\chi^2(2) = 15.53, p < .001$ ). More specifically, there was a random slope variance of *time* at the classroom level for peer-rated defending and a random slope variance of *time* at the student level for self-rated defending.

In the last step, (cross-level) interaction effects were investigated at the measurement, student, and classroom levels (Model 4, see Table 2). At the measurement level, the interaction

*time x perceived peer injunctive norms* was statistically significant for predicting self-rated defending ( $b = 0.20, p = .005$ ). That is, the higher the perceived peer injunctive norms, the weaker the decrease in self-rated defending. At the student level, there was a statistically significant interaction of *time x sex* for predicting peer-rated defending ( $b = 0.04, p < .001$ ), i.e., boys had a stronger decrease in peer-rated defending than girls. All other interaction effects failed to reach statistical significance.

– Insert Table 2 about here –

### Discussion

A growing body of research has documented that students' capacity to defend their victimized peers is associated not only with individual characteristics but also with the social context, particularly with norms as shared standards of attitudes or behaviors (Salmivalli 2010). Based on the social-ecological perspective (Espelage and Swearer 2010), the classroom context, which is shaped by peers and teachers, presents the most proximal environment for defending (Pozzoli et al. 2012). Injunctive norms, which refer to expected standards of appropriate behaviors (what students ought to do), have been understood as a primary force of the normative influence on defending (Salmivalli and Voeten 2004), but the longitudinal effects of these norms from different sources (peers versus teachers) still need to be elucidated (Peets et al. 2015). Because students' perceptions of injunctive norms are likely to influence their behaviors (Sandstrom et al. 2013), the present study followed the line of research assessing individual perceptions of norms as well as sharing of these perceptions within classrooms (Pozzoli et al. 2012; Saarento et al. 2013).

The present study adopted a short-term longitudinal design to examine whether student perceived peer and teacher injunctive norms, at the individual and classroom levels, have unique effects on defending behavior over the course of six months in early adolescents. The results suggest that in early adolescence, student perceived peer injunctive norms, as well as their

classroom-level aggregates, are relevant for defending, while no effects were found for perceptions of injunctive norms imposed by teachers. This does not necessarily mean that perceived teacher injunctive norms are not important for early adolescents, but their role might be less central for this age group.

On average, the levels of defending slightly decreased during the school year. Importantly, the effects of perceived peer injunctive norms at the individual and classroom levels were found while controlling for a number of other predictors: gender, age, empathy, social self-efficacy, social preference, and classroom victimization. Of these variables, the most consistent predictors across the peer- and self-ratings were female gender, social self-efficacy, and classroom-level victimization. Girls were more likely to defend (as indicated by both peer- and self-ratings) and showed lower decreases in peer-rated defending over the six-month interval. These findings confirm existing knowledge on the preponderance of girls among defenders (e.g., Sijtsema et al. 2014). The effects of social self-efficacy on defending point to its previously demonstrated crucial role in defending (e.g., Peets et al. 2015). Finally, the effects of classroom-level victimization on peer- and self-rated defending correspond to the conceptualization of defending as a reaction to victimization (Salmivalli 2010).

### **Effects of Peer Injunctive Norms**

This study showed that early adolescents are more likely to defend over a six-month timespan when they perceive that their peers expect them to defend victimized classmates and when they attend classrooms where the average classroom levels of these perceptions are high. Importantly, these effects were found for both peer- and self-rated defending.

In line with previous cross-sectional studies (Pozzoli and Gini 2010; Pozzoli et al. 2012), the findings confirmed that individual perceptions of injunctive norms imposed by peers do matter for defending. Specifically, the present study extended existing knowledge by indicating that students who perceived that defending was expected from them by peers showed higher

defending over the course of half a year. Even though longer-term associations and causal links remain unclear, the present study reveals the role of perceived peer pressure in defending over a six-month period and across different sources of information. The findings provide support for the direction of associations from perceived peer injunctive norms to defending, which was theoretically assumed in cross-sectional studies to date (Pozzoli et al. 2012).

For self-rated defending, individual-level perceived peer injunctive norms also contributed to the explanation of the change in defending over time. This association was not found for peer-rated defending, indicating that it is important to differentiate between self and peer perceptions. While self-assessments are able to shed light on subtle forms of defending that are not necessarily perceived by peers, peer assessments are able to shed light on phenomena that are visible in the peer group (Archer and Coyne 2005). Subtle forms of defending might be subjectively meaningful, however, as indicated by the identified association. Of course, it is possible that the identified effect was inflated by shared method variance and therefore should be replicated in future studies.

Importantly, positive effects on defending over time, across peer- and self-ratings, were also demonstrated for the classroom-level aggregate of perceived peer injunctive norms, an indicator of the perceptions shared within the classroom group. The finding is an important contribution to the existing literature that pointed to the role of the classroom context in defending but mostly relied on cross-sectional data or addressed other types of classroom injunctive norms rather than injunctive norms that specifically referred only to defending (e.g., Peets et al. 2015). The present study confirmed the effects of classroom perceived peer injunctive norms that were marginally significant in the cross-sectional study by Pozzoli and colleagues (2012).

These findings correspond to longitudinal associations between aggressive behavior and peer injunctive norms, referring to the appropriateness of aggression found in early adolescents

by Henry and colleagues (2000). In agreement with normative development in early adolescence (Rubin et al. 2015), peers seem to be a salient force not only in terms of aggressive behavior but also in terms of prosocial behavior, such as defending victimized classmates. The demonstrated role of perceived peer injunctive norms, as an individual characteristic and a shared group property, in defending provides further support for the social-ecological perspective (Espelage and Swearer 2010), which is of practical relevance for aggression prevention and interventions that aim to encourage defending (Polanin et al. 2012).

### **Effects of Teacher Injunctive Norms**

Although the cross-sectional correlational analyses indicated that perceived teacher injunctive norms were associated positively with peer-rated defending and partially with self-rated defending, they did not have unique main effects beyond the effects of perceived peer injunctive norms. These results are in line with the results reported by Pozzoli et al. (2012) and might mirror the developmental drive for autonomy and independence from authorities that is typical for early adolescents. However, the findings call for further investigation of individual differences among teachers in future studies because it is likely that some teachers play a greater role in the lives of students than others for various reasons (e.g., time spent in the classroom, personal characteristics). For instance, students may have more opportunities to talk about their bullying experiences with teachers who are supportive, empathic and genuine (Naylor and Cowie 1999). These teachers may also encourage students to stand up for their peers. An emotionally warm teacher-student relationship also encourages students' autonomous motivation to defend their victimized peers (Jungert et al. 2016). Importantly, some teachers may be unaware of bullying episodes among students (Craig et al. 2000), or they may overlook the importance of encouraging adolescents who witness bullying episodes to stand up for their peers.

The fact that no direct effects of perceived teacher injunctive norms were found might also suggest that teachers play a more distal role in setting norms for students' defending

behavior or that their norm-setting behaviors are not visible enough to be perceived and reported by students. It is possible that additional variables that were not investigated could have acted as mediators or moderators (e.g., quality of the student-teacher relationship or punitive vs nonpunitive strategies to deal with bullying) in the association between teacher injunctive norms and defending behavior. Research demonstrated that in classrooms where teachers disapprove bullying, fewer students are victimized (Saarento et al. 2013). Teachers who promote a positive classroom climate and who apply appropriate and visible behaviors after bullying incidents occur might be able to establish injunctive norms that promote defending (Espelage and Swearer 2010). Future research should explore various facets of teacher attitudes and behaviors that might be relevant for defending while also examining the possible mediating role of peer injunctive norms in associations between teacher injunctive norms and defending.

### **Peer- Versus Self-Rated Defending**

Both peer- and self-rated defending were highly stable across the half-year investigated, underscoring the previously demonstrated stability of defending (Sijtsema et al. 2014). The fact that defending behavior was stable between the beginning and the end of the school year may partially reflect the organization of the Czech school system, in which classrooms comprise stable groups that spend most of the school hours together for several years. In such a group setting, the aggression dynamics might stabilize with the same students involved in defending behavior. Interestingly, average levels of defending slightly decreased over the timespan investigated, and the change was more pronounced for self-rated defending, indicating that the social reputation of a defender might be difficult to change. The overall decrease might reflect habituation to aggression over the course of the school year.

Investigating peer- and self-rated defending resulted in consistent patterns of effects with minor and explainable differences, underscoring the usefulness of differentiating these two sources of information (Saarento et al. 2013). While peer-reports can be considered a highly

reliable multi-informant measure that reflects social reputation, self-reports provide information about students' self-perceptions (Juvonen et al. 2001). Although peers have been confirmed as competent informants about defending, defenders themselves can provide valid information about their own behavior from a different perspective (Pozzoli and Gini 2010). Defenders report their first-hand experience and are able to report behaviors not witnessed by the peer group. The results obtained underscore that the peer- and self-report perspectives provide consistent and complementary information (Juvonen et al. 2001). Of course, it cannot be ruled out that the change in defending mirrors the differences in reliabilities between the two measurement approaches rather than the stability of the constructs (Doramajian and Bukowski 2015).

### **Limitations and Directions for Future Research**

The validity and generalizability of the findings of the present study are limited by the selected set of classroom predictors tested and by the age span studied. Future studies could include variables other than the investigated individual variables, such as personal attitudes toward defending and aggression that might be associated with injunctive norms and that were previously found to correlate with defending in early adolescents (Salmivalli and Voeten 2004). Moreover, stronger effects could be expected, if not global measures, but specific measures of empathy and social self-efficacy that refer directly to victimization and defending were used. For the measurement of the classroom perceived peer and teacher injunctive norms, the interrater agreement index for multiple items,  $rwg^{*(J)}$ , showed a weak to moderate agreement among classroom members. That is, students within a classroom did not perfectly agree on the extent of peer and teacher injunctive norms, which probably reflects that students were asked about injunctive norms imposed by peers or teachers that were important for them. Future research could devote more attention to consensus among students (Schweig 2016) and yield higher agreement by asking students about injunctive norms imposed by most of their peers or teachers,

which would also more accurately correspond to the original conceptualization of injunctive norms (Cialdini 1991).

The sample size allowed for tests of a limited range of classroom-level predictors. Future studies could benefit from taking into account a larger number of classroom variables and tracing both their main and interactive effects, as suggested by Peets and colleagues (2015). Larger samples could shed more light on the potential role of school characteristics in defending because school characteristics might have small but non-negligible effects on bullying-related behaviors (Saarento et al. 2013). The sample comprising students from only a single grade (seventh-graders) had pragmatic benefits in keeping possible intervening variables (mainly the length of existence of the peer group) constant but limited the generalizability of the results to a narrow age range. The findings should be verified with early adolescents of other ages.

### **Conclusion**

Defending behavior has been described as helping behavior towards victimized peers, which can effectively stop aggression and improve the victim's adjustment (Salmivalli 2010). The current study expands our understanding of the social ecological factors that contribute to defending and suggests that the perception of the appropriateness of defending affects early adolescents' proneness to help their victimized peers. Based on the effects identified, defending behavior may be understood as a social process in which early adolescents are more likely to defend their victimized peers over a six-month timespan when they perceive that defending is approved in the peer group. These longitudinal effects of perceived peer injunctive norms on defending, at the individual and classroom levels, support the direction of associations assumed in previous cross-sectional research (Pozzoli et al. 2012). These results complement an important picture about the longitudinal role of injunctive norms in the lives of students, which was suggested almost two decades ago with respect to aggressive behavior (Henry et al. 2000). The unique effects of individual-level and classroom-level perceived peer injunctive norms, which

were found by the present study regardless of whether the source of information about defending was peers or oneself, indicate that our understanding of peer relations can benefit from the social-ecological perspective (Espelage and Swearer 2010), acknowledging various levels of normative influences on students.

The findings also underscore the relevance of aggression prevention and intervention programs that encourage defending through a focus on the classroom ecology and, specifically, on the norms imposed by peers (Juvonen et al. 2016). Given the complex social risks and benefits of defending (van der Ploeg et al. 2017), peer injunctive norms seem a reasonable focus for efforts to increase an individual's capacity to defend. Peer injunctive norms, such as the normative appropriateness of defending that is perceived by individuals and shared within classrooms, are a salient focus for efforts to increase the individual's capacity to defend. An effective strategy to increase defending could be to change the group norms by encouraging all students in the classroom to reflect on appropriate and inappropriate sociomoral behaviors in bullying situations. This assumption is based on intervention programs showing that bullying and victimization decrease when students are encouraged to consider bullying as an immoral and inappropriate behavior and when they are empowered to stand up for their victimized peers (Kärnä et al. 2011). In line with previous evidence-based findings and with the results of the current study, antibullying intervention programs should include activities that aim to develop students' critical thinking about the importance of defending to deal with bullying situations. This approach, in turn, would foster peer injunctive norms that are in favor of defending.

### Appendix

#### *Summary of Model Fit Indices for Testing Longitudinal Measurement Invariance*

Model	$\chi^2$	<i>df</i>	CFI	$\Delta$ CFI	RMSEA	$\Delta$ RMSEA
<b>Peer-rated defending</b>						
Configural invariance	273.52	20	.994		0.030	
Metric invariance	294.14	22	.994	.000	0.029	0.001
Scalar invariance	626.32	28	.986	-.008	0.039	-0.010
<b>Self-rated defending</b>						
Configural invariance	38.67	8	.989		0.072	
Metric invariance	37.97	10	.990	.001	0.061	-0.011
Scalar invariance	59.23	16	.984	-.006	0.060	-0.001
<b>Empathy</b>						
Configural invariance	9.85	15	1.000		0.000	
Metric invariance	13.34	18	1.000	0.000	0.000	0.000
Scalar invariance	18.49	21	1.000	0.000		0.000
<b>Social self-efficacy</b>						
Configural invariance	56.34	29	.984		0.035	
Metric invariance	57.06	33	.986	.002	0.031	-0.004
Scalar invariance	68.02	38	.983	.003	0.032	0.001
<b>Social preference (acceptance and rejection)</b>						
Configural invariance	126.14	32	.998		0.014	
Metric invariance	126.34	34	.998	.000	0.014	0.000
Scalar invariance	150.02	38	.997	-.001	0.014	0.000
<b>Perceived peer injunctive norms</b>						
Configural invariance	28.44	17	.993		0.030	
Metric invariance	28.74	19	.994	.001	0.026	-0.002
Scalar invariance	38.72	22	.989	-.005	0.032	0.006
<b>Perceived teacher injunctive norms</b>						
Configural invariance	88.15	18	.971		0.072	
Metric invariance	60.73	20	.983	.012	0.052	-0.020
Scalar invariance	48.06	23	.989	.006	0.038	-0.014
<b>Victimization</b>						
Configural invariance	285.21	20	.991		0.030	

Metric invariance	226.67	22	.993	.002	0.025	0.005
Scalar invariance	242.83	28	.993	.000	0.023	0.002

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