Aggressive and Prosocial Peer Norms: Change, Stability, and Associations With Adolescent Aggressive and Prosocial Behavior Development

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Abstract

This longitudinal study examined the extent to which the development of prosocial and aggressive peer norms was related to individual prosocial and aggressive behavior development across the first year of secondary education (three waves, n = 1,134 adolescents from 51 classes, M_{age} = 12.66). A distinction was made between descriptive norms (the aggregated average peer-perceived behavior within the classroom) and status norms (the within-classroom correlation between peer-perceived popularity and behavior). Results indicated that descriptive norms represented a stable, static peer ecology, whereas status norms were somewhat more dynamic and changed across the school year. The development of descriptive and status norms was associated with initial levels of individual prosocial and aggressive behavior, whereas the development of status norms was also associated with the development of prosocial behavior.

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During adolescence, aggressive (i.e., harming someone physically, socially, or psychologically) and prosocial (i.e., voluntary behavior intended to benefit another) behavior increase in comparison with childhood (Eisenberg & Morris, 2004; Moffitt, 1993). Reducing adolescent aggressive behavior and, instead, fostering adolescent prosocial behavior are concerning issues for schools; not only to maintain order and safety, but also because both behaviors have important consequences for adolescent academic achievement, well-being, and long-term social-emotional adjustment (Jones, Brown, Hoglund, & Aber, 2010; Wentzel, Filisetti, & Looney, 2007). The actual display of aggressive and prosocial behavior may be dependent on the extent to which the peer context motivates adolescents to do so (Wentzel et al., 2007). Especially during early adolescence, peers are assumed to play a crucial role in the development of adolescent aggressive and prosocial behavior, by constituting a powerful socialization context in which they influence each other's behaviors (Veenstra & Dijkstra, 2011). One way of characterizing this socialization context is with the concept of *peer norms* (Dijkstra & Gest, 2014), which reflect the expected and accepted behavior of a social group (Shaw, 1981). To date, peer norms have been treated as rather static constructs: They have been identified at a certain moment in time and have been used to predict individual-level behavior at a later time-point. Although this approach has yielded valuable insights into how peer norms form a context that affects adolescent behavior, it overlooks the idea that peer norms themselves may be dynamic constructs that change over time. The aim of the current study is therefore to examine to what extent the development of prosocial and aggressive peer norms is associated with the development of individual-level prosocial and aggressive behavior.

Theoretical Background

Two types of peer norms can be distinguished: descriptive norms and status norms. Descriptive norms refer to the peer-perceived average behaviors in a given setting (Wright, Giammarino, & Parad, 1986), such as a classroom. Status norms indicate the extent to which certain behaviors in a classroom are associated with popularity (i.e., norm salience; Henry, Guerra, Huesmann, Tolan, VanAcker, & Eron, 2000). Both types of peer norms within classrooms are assumed to be associated with individual behavior development

(Bukowski & Sippola, 2001). Some peer norms may provide opportunities for certain behaviors to flourish, whereas other peer norms do not (Dijkstra & Gest, 2014). Several theories provide explanation for the relation between peer norms and individual-level behaviors with the notion that adolescents have a tendency to *conform* to peer norms (e.g., Asch, 1987).

Conformity to *descriptive norms* can be explained by the social identity theory (Abrams & Hogg, 1990; Festinger, 1954). This theory states that individuals adopt behaviors that conform to peer norms, yielding a shared identity that provides social and emotional support, behavioral confirmation, peer status, and a "sense of self." Moreover, according to the social misfit model (Wright et al., 1986), adolescents may conform to norms in order to fit in with the expectations of the group (Miller & Prentice, 1994; Prinstein & Dodge, 2008), to gain peer acceptance, and to avoid peer rejection (Dijkstra & Gest, 2014; Dijkstra, Lindenberg, & Veenstra, 2008). In line with these theories, there is some evidence with regard to descriptive norms that aggressive behavior at the class level is predictive of aggressive behavior at the individual level (Thomas, Bierman, & Powers, 2011; Werner & Hill, 2010). To date, the effect of descriptive norms on the adoption of individual prosocial behavior has been under-investigated, but based on the aforementioned theories (i.e., social identity theory, social misfit theory), it seems likely that adolescents also try to conform to prosocial descriptive norms in order to establish and maintain a shared identity (Abrams & Hogg, 1990; Festinger, 1954), and to gain peer acceptance (Chang, 2004; Dijkstra & Gest, 2014) by fitting in with the expectations of the group (Prinstein & Dodge, 2008).

Whereas the *descriptive norm* approach places equal weight on the behavior of all peers in a given setting, the *status norm* approach holds that popular adolescents especially seem to influence which behaviors are seen as valuable and attractive (Kruglanski, Shah, Fishback, Friedman, Chun & Sleeth-Keppler, 2002). According to the reputational salience hypothesis (Hartup, 1996), behaviors that are positively associated with popularity in a given context become "reputationally salient." This implies that these behaviors have high valence in a context and that these behaviors are an important tool for improving an adolescent's reputation (i.e., popularity in the current study). As adolescents generally strive for status, they may be inclined to adopt behaviors that are associated with status, in order to enhance their own status either directly or via affiliation with popular peers (Dijkstra, Cillessen, Lindenberg, & Veenstra, 2010). Moreover, according to the resource control theory, adolescents may tend to adopt the behaviors of popular peers as this provides them with access to valuable material and social resources (Hawley, 2003). A few empirical studies have underlined the importance of status norms for the adoption of aggressive behavior. For

instance, Dijkstra and colleagues (2008) demonstrated that levels of bullying were higher in classes where bullying was associated with popularity than in classes where bullying was associated with non-popularity. In addition, one longitudinal study demonstrated that middle school students (M_{age} = 11 years) who associated aggressive behavior with high social status in the first semester increased their own aggressive behavior in the second year at that school (Juvonen & Ho, 2008). No studies have yet examined adolescent conformity to prosocial status norms, but based on aforementioned theories (i.e., reputational salience hypothesis; resource control theory), it is likely that adolescents have a tendency to conform to prosocial status norms to enhance their own status (Dijkstra et al., 2010) and to get access to valuable resources (Hawley, 2003).

Although these existing studies provide valuable insights in the extent to which peer norms can be predictive for individual-level aggressive behavior, there are two aspects that are frequently overlooked in the literature. First, a setting, for instance, a classroom, may be characterized by peer norms for different kinds of behaviors (i.e., prosocial and aggressive behaviors in our study). Peer norms for prosocial and aggressive behavior do not occur in isolation but might form combinations: distinct classroom peer norm profiles, which can be predictive of individual-level outcomes (Dijkstra & Gest, 2014). Second, in previous studies, peer norms have been treated as static constructs, that is, peer norms were measured at one time-point and used to predict individual-level behaviors at a later time-point. However, this overlooks the idea that peer norms (or more specifically, peer norm profiles) themselves may develop over time as well, and that this development may also be related to individual-level behavior development.

First, the hypothesis that the combination of prosocial and aggressive norms is predictive of individual-level outcomes is supported by a recent study by Dijkstra and Gest (2014). They addressed the proposition that prosocial and aggressive peer norms do not occur in isolation but, instead, are combined within classrooms. More specifically, this cross-sectional study of second-year secondary education students (M_{age} = 13.60 years) took a profile-centered approach and identified distinct peer norm profiles for status norms. School classes were assigned to two meaningfully distinct peer norm profiles, based on different combinations of aggressive, prosocial, and academic achievement norms. One part of these school classes was characterized by a peer norm profile with lower levels of prosocial and academic achievement norms and higher levels of aggressive norms. The other part was characterized by a peer norm profile with higher levels of prosocial and academic achievement norms and lower levels of aggressive norms. These peer norm profiles were indicative of broader patterns of student classroom experiences

and adjustment: Youth in classes with higher prosocial and academic achievement norms and lower aggression norms reported lower levels of peer rejection, lower levels of peer victimization, higher levels of practical support from peers, and more positive feelings about school (Dijkstra & Gest, 2014). In the current study, we examined whether peer norm profiles based on prosocial and aggressive peer norms within classrooms are predictive for individual-level prosocial and aggressive behavior development.

Second, regarding the hypothesis that peer norms could change over time, it is important to investigate how peer norms emerge and unfold in a new peer context: for instance, in the first year of secondary education. Theoretical robust equilibrium models define the development of peer norms in a new peer context as a dynamic, self-organizing process toward "equilibrium". This "equilibrium" refers to a stable, norm-based peer ecology, or, in other words, a stable classroom peer norm profile (Arrow, Poole, Henry, Wheelan, & Moreland, 2004). During the developmental process towards this stable norm profile, internal or external forces may initially bring some change in peer norm profiles (Arrow, 1997; Arrow et al., 2004). Internal forces refer to the natural developmental processes that take place with regard to peer norms, whereas external forces could refer to external events like interventions or teacher interference. A change in peer norm profiles most likely reflects the more aggressive peer norms associated with the increase in aggressive behavior during adolescence (Cillessen & Mayeux, 2004; Moffitt, 1993). The fact that aggression increases can be explained by the "maturity gap," which is experienced by adolescents who feel biologically mature but do not yet receive adult-like rights and privileges from society. Engaging in aggressive behavior is a way for these adolescents to obtain an adult-like status among their peers (Moffitt, 1993). Soon after the possible initial change toward more aggressive norm profiles, it is expected that a homeostasis (stability in norms) will emerge (Arrow, 1997). In this homeostasis, the combination of prosocial and aggressive peer norms is stable, and both peer norms form building blocks of a predictable norm-based peer ecology (or classroom peer norm profile) in which adolescents know what behaviors are expected of them (Arrow, 1997; Arrow et al., 2004; Gest & Rodkin, 2011). The way in which peer norms emerge and unfold across the school year may therefore be associated with prosocial and aggressive behavior development of adolescents.

The Present Study

The present longitudinal study aimed to examine the development of peer norm profiles of aggressive and prosocial descriptive norms and status norms respectively in classrooms in relation to individual aggressive and prosocial

behavior development, across the first year of secondary education. To examine the development of peer norm profiles, we conducted two steps. First, we explored without a strong a priori hypothesis how many "latent classes" (in our case, peer norm profiles) were present in the data (Finch & Bronk, 2011). Second, we examined to what extent classes made transitions between peer norm profiles, and what kind of developmental trajectory these classes made *throughout the whole school year*. We expected that, initially, some classes would make a transition toward more aggressive peer norm profiles (Cillessen & Mayeux, 2004; Moffitt, 1993), but that after some potential initial change, classes would remain stable within a certain peer norm profile across the school year (Arrow et al., 2004). We used data from early adolescents in their first year of secondary education, who are to a large extent unfamiliar to each other, allowing us to assess the establishment and development of classroom peer norm profiles in a new peer context.

Next, we examined to what extent norm development was associated with individual aggressive and prosocial behavior development. As individuals are assumed to have a tendency to conform to the norm (Abrams & Hogg, 1990; Miller & Prentice, 1994; Prinstein & Dodge, 2008; Wright et al., 1986), we expected that individual-level aggressive behavior will flourish in classes that are stable in, or make a transition toward, a more aggressive norm profile, whereas individual-level prosocial behavior will flourish (higher initial levels and greater increase) in classes that are stable in, or make a transition toward, a more prosocial profile. When classes would make transitions over time across different profiles, we expected that individual-level aggressive and prosocial behavior would adapt to the changing norms. Moreover, as popular adolescents particularly seem to influence which behaviors are seen as valuable and attractive (Hartup, 1996; Kruglanski et al., 2002), we expected these effects to be more evident for status norm class profiles than for descriptive norm class profiles.

Method

Procedure and Participants

The SNARE (Social Network Analysis of Risk behavior in Early adolescence) project is a longitudinal study on adolescent social and behavioral development. The study was approved by the Institutional Review Board (IRB) of one of the participating universities (for more information, see also Dijkstra et al., 2015; Franken, Moffit, Steglich, Dijkstra, Harakeh, & Vollebergh, 2016). From two secondary schools in the Netherlands, all first-year students were approached to take part in the SNARE project (Cohort 1) at the beginning of

the academic year (2011-2012). The next academic year (2012-2013), a second cohort of students entered the first year of the secondary schools and was also approached (Cohort 2). In the Netherlands, when adolescents enter secondary education, they enter a new school and are organized in classrooms based on their academic capacities. This implies that most adolescents (hardly) know anybody in their new classroom at the start of the academic year (on average, we estimated that approximately less than two students per classroom came from the same primary school). This provides an excellent situation to examine peer norm development in a new peer context.

Students received an information letter for themselves and their parents. Parents who did not wish their children to participate in the project were asked to indicate so (passive consent), and students were told that they could opt out anytime. Data were collected 1 month after students transferred to secondary education (T1) in October 2011 for Cohort 1 and October 2012 for Cohort 2, followed by a second wave (T2) in December and a third wave in April (T3). The survey was completed by computer within the classroom (under supervision of a researcher or researcher-assistant) using the CS socio software (www.sociometric-study.com). Of the 1,144 approached first-year respondents, 0.9% declined to participate. Hence, participants included 1,134 first-year students (50.1% boys) from 51 classes, with a mean age of 12.66 ($SD = 0.48$). Each class consisted of 12 to 30 students ($\bar{X} = 22.24$ students per class). Of the participants, 46.5% were enrolled in lower level education (including preparatory secondary school for technical and vocational training), whereas 53.5% were attending higher level education (including preparatory secondary school for higher professional education and preparatory secondary school for university). The majority of the sample was native Dutch (83.4%).

Measurements

All variables were based on peer nominations measured in three measurement waves (T1, T2, and T3). The number of times an individual was nominated by classmates was tallied and divided by the number of classmates minus one (as the individual was not allowed to nominate himself or herself), in order to take differences in the number of respondents per class into account. This yielded scores ranging from 0 (*no nominations*) to 1 (*nominated by everybody*) per item.

Aggressive behavior (individual level). This referred to aggression in the school context, that is, aggression in different forms, visible to all students in the classroom (see also Hamre & Pianta, 2006; Logis, Rodkin, Gest, & Ahn,

2013; Molano, Jones, Brown, & Aber, 2013). Individual-level aggressive behavior was assessed using peer nominations on five items: "Who quarrels and/or initiates fights with you?" "Who sometimes spreads rumors or gossips about you?" "Who bullies you?" "Who is rude and defies teachers?" and "Who makes fun of others?" (based on Lease, Kennedy, & Axelrod, 2002). For each wave, the average of these five items was used as a scale for aggressive behavior (for a similar procedure, see Gest & Rodkin, 2011). Hence, a score of 0 on this scale implied that an adolescent was not nominated by his or her peers on the five aggression items. A score of 1 implied that the adolescent was nominated by all of his of her peers on all five aggression items. Cronbach's alphas were $\alpha_{T1} = .76$, $\alpha_{T2} = .77$, and $\alpha_{T3} = .78$, respectively.

Prosocial behavior (individual level). Peer-perceived prosocial behavior was assessed using peer nominations on four items: "Who gives others the feeling that they belong to the group?" "Who helps others by giving good advice?" "Who cooperates in a friendly way with you?" and "Who keeps his or her promises?" (these questions were developed based on Hawley, 2003). For each wave, the average of these four items was used as a scale for prosocial behavior. The interpretation of this score is the same as the score for peer-perceived aggressive behavior. Cronbach's alphas of the resultant scale were $\alpha_{T1} = .68$, $\alpha_{T2} = .82$, and $\alpha_{T3} = .86$, respectively, indicating sufficient and good internal consistency.

Status norms (classroom level). Aggressive and prosocial status norms were calculated for each class separately as the correlation between aggressive behavior and popularity, and prosocial behavior and popularity (see Dijkstra & Gest, 2014; Dijkstra et al., 2008). Popularity was assessed by asking participants "Who is the most popular?" and "Who is least popular?" The score for least popular was subtracted from the score for most popular to obtain a single continuum of popularity (e.g., Cillessen & Rose, 2005; Lease et al., 2002).

Descriptive norms (classroom level). Descriptive norms were measured as the aggregated average proportion score for aggressive behavior and prosocial behavior, respectively, across all students in the class. Hence, the descriptive norms represented the average proportions of peer-nominated aggression and prosocial behavior within the classroom.

Analytic Strategy

Of the 1,134 respondents, 2.9% showed missing values in T1, and 3.4% and 3.3%, respectively, in T2 and T3. The average percentage of missing values

per variable was 0.01%. Attrition analyses showed no significant or substantial differences in research variables of interest between partially missing cases and complete cases. Missing data were handled using full information maximum likelihood in M*plus* 7.31.

To examine the development of peer norm profiles across the school year, we conducted two steps. First, we used cross-sectional and longitudinal latent class analyses (LCA) to explore the number of latent classes (i.e., peer norm profiles) within our data based on aggressive and prosocial norms for both status and descriptive norms. LCA is a person-centered analytical strategy that groups classes into class profiles based on empirically distinct patterns of scores on the variables (i.e., prosocial and aggressive peer norms). Thus, a class profile is a configuration of class-level characteristics, in this case, the prosocial and aggressive peer norms within a class. We used cross-sectional and longitudinal LCA in order to examine whether the classes that we found cross-sectionally were also the same longitudinally. To find the appropriate number of class profiles, we inspected the class-solutions based on five frequently used criteria (Meeus, van de Schoot, Keijsers, Schwartz, & Branje, 2010; Meeus, van de Schoot, Klimstra, & Branje, 2011). First, the sample size-adjusted Bayesian Information Criteria of the final class-solution should be lower than for other class-solutions. Second, a significant Lo–Mendell–Rubin Test should indicate that the fit of the final class-solution is significantly better than the fit of other class-solutions. Third, entropy values should be >.70 to indicate good classification accuracy (Reinecke, 2006). Fourth, when evaluating the content of the classes, the addition of a new class should provide unique information. Fifth, the percentage of additional classes is not allowed to be lower than 5.0% (Speece, 1994).

As a second step to examine the development of peer norms, we performed latent transition analyses (LTA) in M*plus*. LTA comprises a longitudinal extension of LCA (for an overview, see Kaplan, 2008), offering two types of structural parameters: (a) varying numbers of classes within a particular class type across waves, indicating an increase or decrease in *prevalence* over time; and (b) *transitions* of classes between class types that carry these changes in prevalence. Based on the potential transitions that classes could make across norm profiles *throughout the whole school year*, we identified different *norm trajectories*, and assigned all classes to a certain norm trajectory. In this way, we were able to test our hypothesis that initially, some classes would make a transition toward more aggressive peer norm profiles (Cillessen & Mayeux, 2004; Moffitt, 1993), but that after some potential initial change, peer norms would stabilize during the school year (Arrow et al., 2004).

Next, to examine the association of peer norm development and individual behavior development, we used Multilevel Multigroup Latent Growth Curve

Models, in which we controlled for the multi-level structure of the data. In this way, we examined whether individual-level development of aggressive and prosocial behavior differed between classes with different norm trajectories (Preacher, Wichman, MacCallum, & Briggs, 2008). Model fits were evaluated and considered as adequate if their comparative fit index (CFI) was greater than .90 (Kaplan, 2000) and their root mean square error of approximation (RMSEA) was less than .08 (Kline, 2005). As the normal distribution of individual-level aggressive behavior was positively skewed, we used Restricted Maximum Likelihood Estimation (Banks, Mao, & Walter, 1985).

The results were computed in two ways for descriptive norms, in order to account for endogenous feedback that might take place (i.e., the individual adds to the norm and may also be impacted by the norm). First, we used the whole sample to calculate descriptive norms, disregarding the fact that endogenous feedback might be present. Second, we split the sample into two parts. The first part (33.3%) was used to estimate the development of descriptive norm profiles, and we performed analyses to predict individual-level aggressive and prosocial behavior development on the second part of the sample (66.7%). Both methods of analyzing the data produced the same results, so we decided to present the results of the analyses of the whole sample in this article. The results of the other method (split method) are available upon request.

Results

Descriptive Statistics

Descriptive results are presented in Table 1. Correlations between individual aggressive and prosocial behavior were significantly negatively related across waves ($r_{T1} = -.06$, $r_{T2} = -.14$, and $r_{T3} = -.11$). Correlations between status norms and descriptive norms varied between $r = -.03$ and $r = .34$ and were non-significant, except for the correlation between prosocial status norms and prosocial descriptive norms at T2 ($r_{T2} = .34$), which was significant.

Development of Peer Norm Profiles of Aggressive and Prosocial Peer Norms

Based on our cross-sectional and longitudinal LCA, we found a two-class solution to be superior for descriptive norms (Figure 1) and a three-class solution to be superior for status norms (Figure 2). For descriptive norms, a prosocial peer norm profile (with high levels of prosocial peer norms and low

Table 1. Means and Standard Deviations for Status Norms, Descriptive Norms, Individual Prosocial Behavior, and Aggressive Behavior.

	Time 1	Time 2	Time 3
	$\bar{X}$ (SD)	$\bar{X}$ (SD)	$\bar{X}$ (SD)
Class level (n=51)			
Prosocial status norms	0.523 (0.243)[a]	0.495 (0.250)[a]	0.470 (0.225)[a]
Aggressive status norms	0.309 (0.317)[a]	0.358 (0.317)[a]	0.421 (0.242)[a]
Prosocial descriptive norms	0.120 (0.042)[a]	0.136 (0.048)[b]	0.131 (0.053)[b]
Aggressive descriptive norms	0.043 (0.022)[a]	0.053 (0.021)[b]	0.064 (0.026)[c]
Individual level (n=1134)			
Prosocial behavior	0.119 (0.065)[a]	0.134 (0.078)[b]	0.129 (0.086)[c]
Aggressive behavior	0.041 (0.062)[a]	0.052 (0.075)[b]	0.062 (0.083)[c]

Note. Status norms indicate average correlations between behavior and status across classes. Descriptive norms indicate average aggregated proportional peer-nominated scores of behavior. Means that do not share the same superscript across the row differ at *p* < .05.
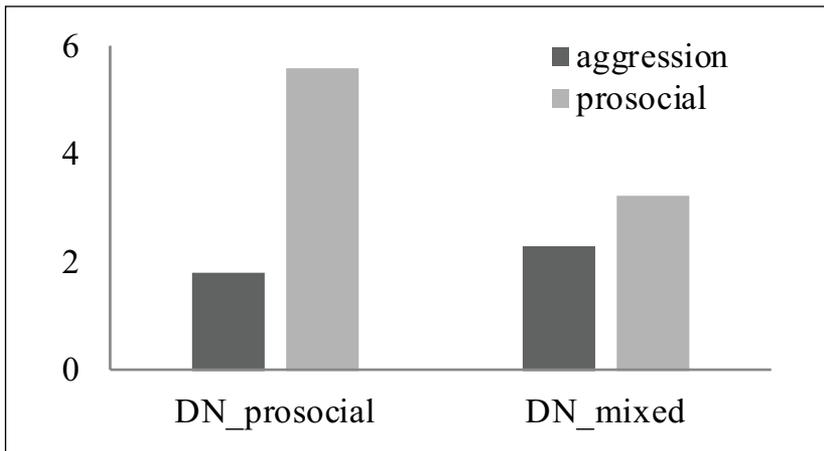
Figure 1. Two-class solution for DN based on standardized average proportional scores.
Note. DN = descriptive norms.

levels of aggressive peer norms) and a mixed class profile (with fairly similar levels of prosocial and aggressive peer norms) were visible. For status norms, in addition to a similar prosocial and mixed peer norm profile, there was an aggressive peer norm profile (higher levels of aggressive norms than
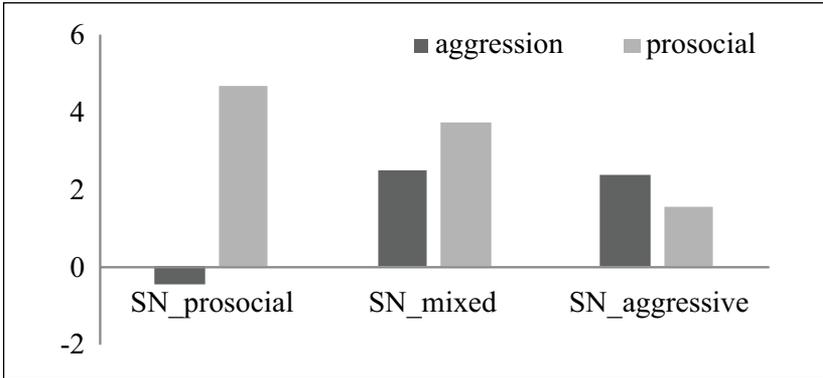
Figure 2. Three-class solution for SN based on standardized correlation scores.
Note. SN = status norms.

prosocial norms). In the longitudinal LCA, the peer norm profiles were assumed to be the same for each wave by restricting the profiles and variances to make them equivalent across waves (see Nylund, Asparouhov, & Muthén, 2007), with an excellent model fit: entropy values of .81 for descriptive norms and .80 for status norms.

We performed two LTA analyses to examine the development of peer norm profiles for descriptive norms and status norms, respectively. The prevalence of the prosocial and mixed *descriptive norm* class profiles remained stable over time. Over the whole period, the majority of classes ($n = 40$) were in the mixed profile, while the minority of classes were in the prosocial profile ($n = 11$). In terms of transition probabilities between descriptive norm profiles, the probability of moving to another profile was zero for each descriptive norm profile. For *status norm* profiles, the prevalence of classes within the prosocial status norm profile decreased over time from $n_{T1} = 14$ classes to $n_{T2} = 12$ and $n_{T3} = 5$ classes, whereas the prevalence of classes within the mixed status norm profile first stayed stable and then increased over time from $n_{T1} = 20$ classes to $n_{T2} = 20$ and $n_{T3} = 33$ classes. The prevalence of classes within the aggressive profile initially increased, followed by a decline from $n_{T1} = 17$ classes to $n_{T2} = 19$ and $n_{T3} = 13$ classes. In terms of transition probabilities, the probability of making a transition to a mixed class profile increased across the two time intervals, whereas the probability of making a transition to an aggressive or prosocial profile declined. The prosocial profile was least stable across waves (Table 2).

Table 2. Class-level Transition Probabilities for Prosocial, Aggressive, and Mixed Status Norm Classes.

	Wave 2			Wave 3		
	Aggressive	Mixed	Prosocial	Aggressive	Mixed	Prosocial
Wave k-1						
Aggressive	.941	.000	.059	.684	.316	.000
Mixed	.100	.750	.150	.000	.950	.050
Prosocial	.071	.357	.571	.000	.333	.667

Note. Transition probabilities sum up to 1.00 across rows for each interval set.

We distinguished between different trajectories that the classes could make over time based on the transitions that they made across class norm profiles *throughout the whole school year* (i.e., different norm trajectories). For descriptive norms, two stable norm trajectories could be distinguished. The first trajectory consisted of classes that remained continually in the mixed profile (mixed norm trajectory) and the second trajectory consisted of classes that remained continually in the prosocial profile across waves (prosocial norm trajectory). For status norms, four norm trajectories could be distinguished based on the stability and the endpoint (i.e., transitions) of norm development. Across the whole school year, 14 (27.5%) classes remained stable within the mixed profile (mixed norm trajectory: stable mixed). Only one class remained stable within the prosocial type, whereas four classes made a transition from the mixed or aggressive profile to the prosocial profile from T1 to T2; hence, the latter four classes were stable in prosocial norms from T2 to T3. We collapsed these five classes into a longitudinal prosocial class profile (prosocial norm trajectory: stable prosocial or prosocial endpoint; 9.8%). Furthermore, 13 classes remained stable in the aggressive profile and one class made a transition from a mixed profile to the aggressive profile from T1 to T2; hence, this class was stable in the aggressive profile from T2 to T3. We collapsed these 14 (27.5%) classes in an aggressive trajectory (aggressive norm trajectory: stable aggressive, or transition to aggressive profile). Furthermore, 18 (35.3%) classes made a transition from an aggressive profile (three classes) or prosocial profile (15 classes) toward a mixed profile. Because this was the most often made transition, we decided to make a separate trajectory based on classes who had the mixed profile as an endpoint (transition mixed trajectory: mixed profile as endpoint). Hence, we found two norm trajectories for descriptive norms and four norm trajectories for status norms, and we were able to include all classes in one of these developmental trajectories.

In sum, it appeared that descriptive norms were very stable and that classes did not make transitions toward other descriptive norm peer profiles. The change in status norms was somewhat more dynamic and classes most often made a transition toward a status norm mixed profile.

Individual-Level Aggressive and Prosocial Behavior Development in Classes With Different Norm Trajectories

We used two multi-level multi-group Latent Growth Curve Models (LGCM) to investigate differences in individual-level aggressive and prosocial behavior development between classes with different norm trajectories, comparing two longitudinal descriptive norm trajectories and four longitudinal status norm trajectories.

The model fit of the LGCM with the two descriptive norm trajectories, $\chi^2(14) = 22.52$, $p = .069$, RMSEA = .033, CFI = .990, was good. The addition of a quadratic slope did not significantly improve the model fit for descriptive norms. For status norms, the $BIC_{adjusted}$ of the model with a quadratic slope was 104.30 points lower than the model without a quadratic slope. The RMSEA was .027 points lower for the model with a quadratic slope, indicating a better model fit. The model fit with the quadratic slope was good, $\chi^2(24) = 41.81$, $p = .01$, RMSEA = .051, CFI = .989.

We examined the 95% confidence intervals to test differences between the intercepts and slopes of individual-level development of aggressive and prosocial behavior in different class profiles. For descriptive norms, in line with our hypotheses, the intercept of individual-level prosocial behavior was significantly higher within classes with a prosocial norm trajectory than in classes with a mixed norm trajectory. For aggressive behavior, the intercept of individual-level aggressive behavior was significantly higher within the mixed norm trajectory than in the prosocial norm trajectory. Hence, initial levels of individual-level prosocial behavior were higher and initial levels of individual-level aggressive behavior were lower in classes with prosocial descriptive norms. There were no significant differences in slopes of individual-level prosocial and aggressive behavior (Table 3).

For status norms, in contrast to our hypothesis, individuals initially had significantly lower initial levels (i.e., intercepts) of prosocial behavior in classes with a prosocial norm trajectory compared with individuals in classes with other norm trajectories. In line with our hypothesis, the linear slope of individual prosocial behavior in classes with the prosocial norm trajectory was significantly higher than in classes with the aggressive and mixed norm trajectory, but not higher than the linear slope of individual prosocial behavior in classes with the transition mixed norm trajectory. The linear slope

Table 3. Intercepts and Slopes for Individual Development of Prosocial and Aggressive Behavior for Different Class Norm Trajectories.

| | Descriptive norms | | Status norms | | | |
	Prosocial norm trajectory *n* = 11	Mixed norm trajectory *n* = 40	Prosocial norm trajectory *n* = 5	Mixed norm trajectory *n* = 14	Aggressive norm trajectory *n* = 14	Transition mixed norm trajectory *n* = 18
Prosocial behavior						
Intercept	.176 [.160, .191][a]	.106 [.097, .114][b]	.086 [.073, .100][a]	.124 [.107, .142][b]	.122 [.101, .142][b]	.120 [.101, .140][b]
Linear slope	.012 [−.008, .031]	.004 [−.004, .011]	.106 [.053, .160][a]	.000 [−.024, .023][b]	−.011 [−.045, .023][b]	.058 [.029, .087][a]
Quadratic slope			−.043 [−.069, −.016][a]	.003 [−.011, .016][b]	.006 [−.006, .018][b]	−.027 [−.043, −.012][a]
Aggressive behavior						
Intercept	.030 [.022, .039][a]	.044 [.038, .050][b]	.037 [.021, .053][a,b]	.032 [.024, .040][a]	.048 [.041, .056][b]	.044 [.034, .054][a,b]
Linear slope	.011 [.002, .020][a]	.010 [.007, .013][a]	.010 [−.003, .022][a]	.017 [.003, .031][a]	.005 [−.005, .015][a]	.012 [−.010, .034][a]
Quadratic slope			.000 [−.006, .006]	−.002 [−.008, .004]	.001 [−.003, .005]	−.001 [−.010, .008]

Note. Prosocial norm trajectory/mixed norm trajectory/aggressive norm trajectory = classes that are stable and/or make transition to the profile. Transition mixed norm trajectory: classes that have the mixed profile as endpoint. Numbers in parentheses represent 95% confidence intervals. Parameters with different superscripts differ significantly from each other at the *p* < .05 level.

effects were somewhat weakened by the quadratic effects. This quadratic effect was significantly higher for individuals of classes within the prosocial norm trajectory and the transition mixed norm trajectory. As expected, for individual-level aggressive behavior development, the intercept of classes with a mixed norm trajectory differedsignificantly from classes with an aggressive norm trajectory and a transition mixed norm trajectory (Table 3). In contrast to our hypothesis, aggressive behavior slopes did not differ significantly across classes with different norm trajectories.

Discussion

The present study investigated the profile-centered development of prosocial and aggressive descriptive and status norms in a new peer context across a school year in relation to individual behavior development. Our findings suggest that descriptive norms constitute a stable, static peer ecology whereas status norms show some dynamic change across the school year toward more aggressive norm profiles. Descriptive and status norm development was correlated with initial levels of individual prosocial and aggressive behavior, whereas status norm development was also associated with the development of individual prosocial behavior.

The Development of Peer Norm Profiles Based on Aggressive and Prosocial Peer Norms

Descriptive norms in particular constituted a predictable and stable class environment for adolescents from the beginning of the school year onward, with the majority of classes remaining continually in a mixed norm profile (consisting of almost evenly high levels of prosocial and aggressive behavior) and the minority of classes being continually in a prosocial norm profile (consisting of high levels of prosocial behavior and low levels of aggressive behavior). Status norms were fairly stable as well, as the probability of staying within the same class norm profile was higher compared with making a transition toward another class profile. However, status norms were also somewhat more dynamical, as some classes made transitions across peer norm profiles. The aggressive class norm profile (higher aggressive than prosocial norms) was most stable across the first two waves whereas the mixed profile was most stable across the last two waves. If a transition was made, this was most often made from a prosocial profile toward a mixed profile (i.e., more aggressive profile).

These findings are largely in line with the theoretical robust equilibrium models of Arrow and colleagues (Arrow, 1997; Arrow et al., 2004) about

norms being building blocks of a fairly predictable and stable environment (Gest & Rodkin, 2011). For descriptive norms, no initial change seemed to happen; the norm-based peer ecology was quickly established in this new peer context. For status norms, change was possible across the whole school year, which indicates that next to initial change, there may still be a chance that a class makes a transition in its norm development. The finding that classes increasingly make a transition toward a more aggressive peer norm profile can be explained by the fact that adolescents increasingly are confronted with the "maturity gap," which they attempt to bridge by displaying deviant behaviors (Moffitt, 1993). Also, it could be the case that highly popular adolescents have to reject friendship invitations in order to maintain in their own, highly popular clique, which could be viewed as aggressive behavior to those who made such friendship invitations. The fact that the prosocial profile was the least stable across waves is a finding that needs some attention as well. Apparently, "internal forces" drive classes toward somewhat more aggressive norm profiles (for instance, the mixed profiles). For instance, these "internal forces" may reflect the general tendency of adolescents to become more deviant over time (Moffitt, 1993). However, schools may find it more desirable when there is a prosocial status norm in classes. It might be the case that external forces (teachers, interventions) are needed to make sure that more classes remain prosocial (Arrow et al., 2004). More studies are needed to examine why prosocial norms are less stable and how teachers and interventions may play a role in peer norm development.

The Development of Descriptive and Status Norms and Individual-Level Prosocial and Aggressive Behavior Development

The development of descriptive norms and status norms was associated with the extent to which individual-level behaviors flourished within the classroom. Regarding descriptive norms for prosocial behavior, there were higher levels of initial prosocial behavior (and individuals ended up higher on prosocial behavior as well, but not due to differences in slopes) in classes that had stable prosocial norms. This is in line with our hypothesis. For status norms, initial levels of prosocial behavior were *lower* in more prosocial norm trajectory classes, which seems counterintuitive and in contrast to our hypothesis. This may be explained by the fact that, for status norms, the classes with a prosocial norm trajectory consisted of only one class that was prosocial at the first time-point, as the other classes made a transition toward the prosocial profile from the first to the second time-point. Moreover, in line with our hypothesis, there is a greater increase in prosocial behavior in classes with a prosocial norm trajectory in that individuals end up relatively higher on

prosocial behavior compared with their initial values. Regarding aggressive behavior, in line with our hypotheses, descriptive and status norm development were both associated with initial levels of individual aggressive behavior; initial aggressive behavior flourished in classes with more aggressive peer norm trajectories. In contrast to our hypotheses, the direction of aggressive behavior development (i.e., the slope) did not differ across classes with different descriptive and status norm trajectories.

Our findings are largely in line with theories that explain the association between peer norms and individual-level behavior with the notion that individuals conform to peer norms due to a desire to be accepted by peers (Chang, 2004; Dijkstra & Gest, 2014; Wright et al., 1986), or to increase their own popularity by adopting behaviors that are positively valued within the classroom (i.e., reputationally salient; Hartup, 1996). The fact that initial levels of individual-level prosocial behavior, and aggressive behavior in particular, seemed to be associated with the development of peer norms could indicate that individuals rapidly start to conform to the norm after entering a new peer context with unfamiliar peers. However, next to the possibility that individuals tend to *conform* to the norm, it should also be considered that individual-level behavior development may contribute to the development of peer norms as well. For instance, the structure and composition of peer relationships, together with the way in which peers within a context behave and interact, may inform the conceptualization of peer norms (McCormick & Cappella, 2015; Neal & Neal, 2013; Wellman, 1988).

The finding that descriptive and status peer norms were not associated with the direction (i.e., slope) of individual aggressive behavior development can be explained in three ways. First of all, the reported aggressive behavior was low within classes:only about 5.0% of adolescents within the class exhibited aggressive behaviors. The low levels of aggressive behavior may be a reason why class variables (in our case, peer norms) might not explain a lot of the variation in individual-level aggressive behavior and, therefore, the effects may be non-significant. Second, it might be the case that status norms are only associated with individual-level aggression at the very beginning of the school year, in order to establish dominance hierarchies. Once these dominance hierarchies are established, adolescents may not feel the urge to further increase their aggressive behavior. For instance, the study of Pellegrini and Long (2002) provides some evidence for this proposition. Third, it might be the case that characteristics of the individual play a role in the extent to which conformity to the norm takes place. For instance, only adolescents with certain personality characteristics or lower self-control may have a tendency to conform to the norm. Also, it may well be that particular peers, for instance, best friends who are also popular, have more influence on adolescents' aggressive behavior compared

with the popular peers within a class. Several studies have indeed shown that friendship with aggressive (popular) peers is associated with increases in an individual's own level of aggression (Dijkstra et al., 2010; Espelage, Holt, & Henkel, 2003; Logis et al., 2013). Moreover, peer norms have been demonstrated to influence on friendship socialization (and selection) with respect to aggressive behavior (Laninga-Wijnen et al., 2017). Future studies are encouraged to take moderators into account in examining the association between norm development and aggressive behavior development.

Strengths, Limitations, and Future Research

Several limitations of the present study need to be acknowledged. First, our study is mainly concerned with descriptive findings on change and stability of classroom peer norms. We did not investigate *why* peer norms change or remain stable throughout the school year, or why one peer norm profile is more likely than the other. We believe that future research should examine which endogenous (e.g., individual social skills, pubertal status) or exogenous forces (e.g., teachers, school climate) influence the way in which norms emerge and develop (Dijkstra & Gest, 2014; Gest & Rodkin, 2011).

Second, to what extent our findings are generalizable to developmental stages other than early adolescence remains a matter for future research. Just as shifts take place in the correlates of popularity throughout child and adolescent development (Cillessen & Mayeux, 2004), there may also be developmental differences in the way in which status and descriptive norms affect individual prosocial and aggressive behavior. Third, the data used in our study stem from peer nominations only, which might lead to problems in terms of shared method variance (Vaillancourt & Hymel, 2006). However, measures stemming from peer nominations were aggregated across multiple nominators, enhancing the validity and reliability of our data (Bukowski, Gauze, Hoza, & Newcomb, 1993). Moreover, respondents in our study were allowed to nominate an unlimited number of peers. Consequently, we avoided a ceiling effect in which respondents tend to nominate a certain maximum number of peers. Fourth, the periods between data collection waves were not identical, as the period between the second and the third time-point was somewhat longer than the period between first and second time-point. However, we do not believe that a wave with exactly the same time interval would have yielded different results, as norms are shown to be reasonably stable across the three time points. Moreover, between the second and third wave, there were more holidays than between the first and second wave, implying that the time individuals within classes spent together between second and third wave is roughly similar to the time from first to the second wave.

The present study also has several strengths. First of all, we examined peer norm development using a profile-centered approach by taking the prosocial and aggressive peer norms into account simultaneously. Hence, both aggressive and prosocial norms are important building blocks of an overall norm-based peer ecology. Moreover, we showed that descriptive norms and status norms should be considered as psychometrically distinct and conceptually complementary approaches to measure norm development within a classroom (Dijkstra & Gest, 2014). Whereas descriptive norms are static and stable, status norms show both stability and change across the school year. Second, our data were longitudinal and consisted of first-year secondary school students, who in most cases initially did not know each other, due to the system in the Netherlands where adolescents enter secondary education in new schools. It is a strong point that we started one month after the transition to secondary education. This provided us with an excellent opportunity to examine the emergence and stability of descriptive and status norms in a new peer context, something which has not been done before. At the same time, it might have been the case that adolescents were relatively unfamiliar to each other during the first time-point, which might have hindered making an accurate assessment of each other's behaviors. However, we believe that adolescents were sufficiently familiar with one another to accurately assess each other's behavior. Students were in the same class, every day, all day. They not only observed each other in the classroom but also in other important school-related contexts such as in the lunchroom, the playground, and the hallways of the school. Moreover, our constructs of prosocial and aggressive behaviors within the school context tap into behaviors that are visible for all students within the classroom. Therefore, adolescents had extensive opportunities to observe and experience each other's aggressive and prosocial behavior. Third, a strong point of our study is that we are the first to examine the development of descriptive norms and status norms in relation to both individual prosocial and aggressive behavior development.

Implications

The implications of our findings are threefold. First, the knowledge that status norms within the classroom may be associated with the direction of individual-level prosocial behaviors is a crucial prerequisite to proposing solid research-based intervention strategies designed to change classrooms and, consequently, to creating environments that appropriately foster children's adjustment. Based on the results of our study, it could be reasoned that changing the status peer norm in the classroom may have important consequences for fostering prosocial behavior within the classroom.

Second, we found that both descriptive norms and status norms differed in their development over time. Both were associated with initial individual-level behavior, whereas status norms also were associated with changes in prosocial behavior across the school year. Thus, even though recent studies emphasize the important role of status norms in terms of influence processes (Sandstrom, 2011), our study indicates that descriptive norms should not be disregarded in examining the association between norms and individual behavior (Cialdini, 2007).

Third, our results indicate that it is important to study the development of peer norms in relation to adolescent prosocial and aggressive behavior development. First of all, although adolescents are thought to be able to display higher levels of prosocial behavior than children (Eisenberg & Morris, 2004), the actual display of these prosocial behaviors is assumed to be dependent on the extent to which the context motivates them to do so (Wentzel et al., 2007). Our results indicate that the context in terms of peer norms seems to be an important motivator to display prosocial behavior. Furthermore, even though the development of aggressive behavior was not directly related to the development of peer norms, it might be the case that peer norms form a context that has a moderating impact on processes that are associated with individual-level aggressive behavior. A recent study of Laninga-Wijnen and colleagues (2017) indicated that peer norms indeed affect friendship dynamics with regard to aggression. More specifically, in classes with high aggressive peer norms, adolescents had a higher tendency to adopt the aggressive behavior of their friends, whereas in classes with low aggressive peer norms, adolescents did not have a tendency to adopt the aggressive behavior of their friends. Next to the fact that peer norms may play a moderating role in friendship dynamics on aggression, it could also be the case that peer norms are especially important for aggressive behavior at the beginning of the school year, as dominance hierarchies may be established during this particular period (Pellegrini & Long, 2002). Indeed, we found that the development of peer norms was associated with initial levels of aggressive behavior. Future studies are encouraged to examine possible moderators in the relation between peer norms and adolescent aggression development, and to pay particular attention to this relation in a situation in which peer norms emerge.

This article demonstrates that a profile-centered approach is an innovative way to examine the development of a norm-based peer ecology which is associated with the extent to which individual prosocial and aggressive behavior flourish within the classroom across the school year. We encourage future studies that examine to what extent peer norms predict certain outcomes to report estimates regarding the stability of these peer norms, as status norms seem to be especially susceptible to change over time. We also

encourage future studies to take a holistic, profile-centered approach in examining peer norms, as we have indicated that " . . . the whole is more than the sum of its parts."

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