

## Antagonists in Mutual Antipathies: A Person-Oriented Approach

Berna Güroğlu, Gerbert J. T. Haselager, Cornelis F. M.  
van Lieshout, and Ron H. J. Scholte

*Radboud University Nijmegen*

This study investigated the heterogeneity of mutual antipathy relationships. Separate cluster analyses of peer interactions of early adolescents (mean age 11 years) and adolescents (mean age of 14) yielded 3 *types of individuals* in each age group, namely Prosocial, Antisocial, and Withdrawn. Prevalence analysis of the 6 possible combinations of types of individuals constituting mutual antipathy dyads yielded *antipathy dyad types*. The majority of these dyads consisted of a combination of 2 dissimilar types of individuals. Implications of the high prevalence of the Antisocial–Withdrawn antipathy dyad type are discussed.

Relationships based on mutual dislike or so-called mutual antipathy relationships are fairly common in preadolescence and adolescence. Recent research shows 30% of early adolescents and adolescents to be involved in mutual antipathy relationships on average (Hartup, 2003). Having mutual antipathies seems to be related to psychosocial maladjustment (Abecassis, Hartup, Haselager, Scholte, & van Lieshout, 2002; Parker & Gamm, 2003), but several studies fail to report this link (Pope, 2003; Schwartz, Hopmeyer-Gorman, Toblin, & Abou-ezzeddine, 2003). Given the heterogeneity of the behaviors that can trigger dislike in others, it may be possible to distinguish various types of mutual antipathy relationships. The identification of different types of mutual antipathy relationship forms then the first step in understanding the differential links between involvement in

mutual antipathies and adjustment. The goals of our research were therefore to identify different types of mutual antipathy dyads. To this end, we first (1) distinguished between types of individuals and then (2) identified antipathy dyads based on combinations of individuals in a mutual antipathy relationship.

Three central orientations or indicators of social competence have been found to be related to various areas of social functioning and peer acceptance from an early age, namely: *antisocial*, *prosocial*, and *withdrawal behavior* (Hartup & Van Lieshout, 1995). After entry into a peer group, early adolescents' interactions are shaped by their behavioral displays, and peer-perceived social behaviors clearly contribute to peer preference (Stormshak, Bierman, Brushi, Dodge, & Coie, 1999). Antisocial and withdrawn behaviors are often mentioned as determinants of peer dislike, whereas prosocial behavior is often found to be a determinant of acceptance by peers (Dodge, 1983). In other words, peer reports of these three main behavioral orientations are crucial for a typology of individuals based on their peer interactions.

*Bullying* and *victimization* are other forms of social behavior that become increasingly salient in early adolescence (Rubin, Bukowski, & Parker, 2006). As bully-victim relationships may underlie certain mutual antipathies, experiences of bullying and victimization may be particularly relevant interactions underlying mutual antipathy relationships. Peer perceptions of bullying and victimization were included in our peer-reported antisocial and withdrawn behavior measures, respectively. However, in order to acquire a more complete behavioral profile of individuals' peer interactions that are relevant for the formation of mutual antipathies, we also included self-reports of bullying and victimization behavior in our study. Whereas peer reports of bullying and victimization are indices of peer-group functioning, self-reported bullying and victimization reflect individual behavioral characteristics. In short, we used peer-reported antisocial, prosocial, and withdrawn behavior and self-reported bullying and victimization as clustering variables to distinguish different types of mutual antipathies.

Understanding the development of mutual antipathy relationships requires an inspection of the particular combinations of individuals involved in the relationship. For this purpose, we first pursued a typology of individuals' socially relevant behaviors that in the peer context yield behavioral profiles of types of early adolescents and adolescents. Based on the above-outlined social behaviors, we expected to find three *types of individuals* along the three basic behavioral orientations, i.e., Prosocial, Antisocial, and Withdrawn types. Involvement in mutual antipathies is generally negatively related to prosocial behavior and positively related to

antisocial and withdrawn behavior (Abecassis et al., 2002). Therefore, we expected to find an overrepresentation of Antisocial and Withdrawn individuals involved in antipathies.

The second step was to explore the combinations of individual types in antipathies. Just like a mutual friendship relationship involves two friends, a mutual antipathy relationship involves two antagonists. Given that dissimilarity in and of itself can trigger dislike (Rosenbaum, 1986), we expected the majority of mutual antipathies to be characterized by dissimilarity. Dissimilarity (vs. similarity) is a continuous measure indicating the degree of similarity between various trait profiles of two individuals. Here dissimilarity (vs. similarity) will be defined as a categorical variable characterizing antipathy dyads based on two different versus same types of individuals as antagonists involved in the dyad. Previous studies have found correlations between having mutual antipathies and the number of antipathy relationships on the one hand and victimization, aggression and bullying on the other hand (Abecassis et al., 2002; Parker & Gamm, 2003; Schwartz et al., 2003). If some peers with antipathy relationships are highly aggressive and bullying and some are highly victimized, we might expect a subgroup of mutual antipathies that consist of bully–victim relationships. Considering the correlations between antisocial behavior and bullying and withdrawn behavior and victimization, the bullies in these antipathies would possibly fall under the Antisocial type and victims under the Withdrawn type of individual.

The literature on early adolescents' friendships documents the prevalence of same-sex friendships from the preschool years on (Rubin et al., 2006), and significant numbers of same-sex friendships are based on either shared prosocial or antisocial patterns of behavior (Güroğlu, Van Lieshout, Haselager, & Scholte, 2007). Dissimilarity in antisocial and prosocial interactions patterns with peers can thus be expected to characterize a certain type of mutual antipathy relationship, that is, between Prosocial and Antisocial types of individuals.

Although dissimilarity plays a major role in the dislike of individuals, mutual antipathies may also develop between two similar individuals (Abecassis, 2003). Rivalries or former friendships are examples of mutual antipathies that nevertheless can involve high behavioral similarity between the antagonists. As antisocial behavior is more strongly related to involvement in mutual antipathies than prosocial or withdrawn behavior (Abecassis et al., 2002), we particularly expected similarity to play a role in mutual antipathies involving antagonists with similarly high levels of antisocial behavior and thus to obtain a relatively large group of mutual antipathy relationships between two Antisocial type of individuals.

## METHOD

### Participants

Participants were 2,394 early adolescents ( $M = 11.0$  years,  $SD = 1.2$ ) from 102 fourth- to sixth-grade classrooms representing 59 schools and 3,333 adolescents ( $M = 14.5$  years,  $SD = 9$  months) from 149 seventh- to ninth-grade classrooms representing 41 schools. These early adolescents and adolescents formed part of the third and fourth cross-sectional waves, respectively, of a larger longitudinal study conducted in the Nijmegen–Arnhem area of the Netherlands (Abecassis et al., 2002; Cillessen, van Ijzendoorn, van Lieshout, & Hartup, 1992; Haselager, Hartup, van Lieshout, & Riksen-Walraven, 1998). The participants in the initial wave were 231 boys from 54 kindergarten and 43 first-grade classrooms. One, 5, and 8 years after initial assessment, 210, 190, and 200 boys, respectively, were again assessed in their respective school classes. During these three subsequent assessment waves, all of the classmates of the participating boys were included in the study.

Of the early adolescents, 48% were female; of the adolescents, 43% were female. Information on the ethnic backgrounds of the participants was not collected during the third wave, but school census records for this area of the Netherlands showed 89.5% of the early adolescents attending elementary school to be of a Dutch origin. Ethnic minorities for this area of the Netherlands originated from Suriname, the Dutch Antilles, and the Moluccas (2.1%); Turkey (1.3%); Morocco (1.2%); or other (5.9%). Information on ethnic background of adolescents showed 5% to have an ethnic minority background: 1.5% from Suriname, the Dutch Antilles, or the Moluccas; 2% from Mediterranean countries; and 1.5% from other countries.

### Procedure

Parents and school authorities were informed about the study. Participants were guaranteed confidentiality and told that their participation was not obligatory. They were asked to fill out questionnaires during otherwise normal classroom sessions led by trained graduate students. The questionnaire contained both self-report and peer-report (sociometric) items. For all sociometric nomination items, a maximum of three nominations in early adolescence and a maximum of five nominations in adolescence could be made; self-nomination was not allowed. In adolescence, only the first three nominations were used in order to have comparable numbers of nominations in the two samples.

## Clustering Variables

*Self-report of involvement in bullying and victimization.* Involvement in bullying and/or victimization was measured using a Dutch translation of Olweus' (1989) bully/victim inventory. Victimization was assessed using the subscale *Victim of direct bullying* (five items, e.g., "How often have you been bullied in the last five days?";  $\alpha = .78$  for early adolescents,  $\alpha = .72$  for adolescents). Bullying was assessed using the subscale *Bullying others* (five items, e.g., "How often have you bullied other early adolescents in the last five days?";  $\alpha = .78$  for early adolescents,  $\alpha = .81$  for adolescents). Item scores were first standardized and then averaged.

*Peer report of social behavior.* Peer-group functioning was assessed using peer nominations. Early adolescents were asked to nominate classmates that fit best with the underlined descriptive statement. All items had the format "Which three classmates ...?" (see Haselager, 1997, for an extensive description of the procedure). Per item and per student, the number of nominations received was counted. To correct for varying numbers of given nominations by classmates and for class size differences, probability scores were computed for each item. These scores reflect the chance of receiving the counted number of nominations or less than that (Newcomb & Bukowski, 1983). The sets of nomination items were not completely identical for the early adolescents and adolescents. Separate principal component analyses with varimax rotation nevertheless yielded three similar components for both early adolescence and adolescence (loadings higher than .61 and .71 explaining 69% and 67% of variance, respectively). The underlying components were labeled *Antisocial behavior* with three items (i.e., starts fights, disturbs, bullies other students;  $\alpha = .88$  for the early adolescents; becomes angry quickly, disturbs, bullies other students;  $\alpha = .74$  for the adolescents); *Prosocial behavior* with two items (i.e., offers help, is cooperative;  $r = .69$  for the early adolescents; likes to work with others, is considerate;  $r = .48$  for the adolescents); and *Social withdrawal* with three items (i.e., is shy, is being bullied, asks for help;  $\alpha = .42$  for the early adolescents, is shy, is being bullied, is withdrawn;  $\alpha = .70$  for the adolescents). The means of the probability scores for those items belonging to each target construct were calculated and standardized.

## Determination of Mutual Antipathy Dyads

Mutual antipathy dyads were identified per class when two classmates nominated each other as someone whom they "do not like at all" on the

sociometric questionnaire (Abecassis et al., 2002). Fourteen percent of the early adolescents and 21% of the adolescents did not nominate any peers as someone they do not like at all. A total of 460 early adolescent and 596 adolescent mutual antipathy dyads were obtained.

In early adolescence, 28% (37% girls) and in adolescence 27% of the participants (42% girls) had one or more mutual antipathies. In early adolescence, boys (34%) had more often a mutual antipathy relationship than girls (22%),  $\chi^2(1) = 40.15, p < .001$ . The prevalence of mutual antipathy relationships did not differ for gender (26% for girls, 27% for boys;  $\chi^2(1) = .37, p < .54$ ) and ethnic background in adolescence (26% for Dutch, 31% for ethnic minorities;  $\chi^2(1) = 2.21, p < .14$ ).

Sixty-five percent of the early adolescents with antipathies had only one antipathy, 28% had two antipathies, and 7% had three antipathies. Among the adolescents with antipathies, 70% had only one antipathy, 25% had two, and 5% had three. In early adolescence, 14% of the mutual antipathy dyads involved same-sex girl antipathies, 36% involved same-sex boy antipathies, and 50% involved mixed-sex antipathies. These percentages were 21%, 35%, and 43% for the adolescent sample, respectively.

## RESULTS

### Types of Individuals

The first aim was to identify different types of individuals; this was done using a hierarchical as well as a  $k$ -means cluster analysis with individual scores of *all* participants on five behavioral measures, namely, bullying, victimization, and antisocial, prosocial, and withdrawn behavior, as clustering variables. We first examined the scree-plots of the combined cluster distances from the hierarchical cluster analysis using Ward's method and squared Euclidean distances. The scree-plot tests did not yield a clear cluster solution. We then examined the amount of improvement in explained variance relative to previous solution ( $PRE_k$ ) and the explained variance versus unexplained variance (F-Max) statistics based on the  $k$ -means cluster analyses with 2 to 10 cluster solutions (Bacher, 2001). The scree-plot tests based on the  $PRE_k$  values indicated a three-cluster solution for both samples; the highest F-Max values were obtained for the two-cluster solution for early adolescents and the three-cluster solution for adolescents.<sup>1</sup> Cluster analyses were also conducted using different starting values for the  $k$ -cluster centers in order to measure cluster stability.

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<sup>1</sup> More detailed information on the cluster analysis results can be obtained from the first author.

TABLE 1  
Cluster Means and Standard Deviation for the Behavioral Characteristics of Individual Types  
in Early Adolescence and Adolescence

	<i>Individual Types</i>					
	<i>Prosocial</i>		<i>Antisocial</i>		<i>Withdrawn</i>	
Average squared Euclidean distance	1.79 <sup>a</sup>	2.33 <sup>a</sup>	3.29 <sup>c</sup>	4.13 <sup>b</sup>	2.69 <sup>b</sup>	4.03 <sup>b</sup>
	<i>n</i> = 1,101 (46%)	<i>n</i> = 1,409 (42%)	<i>n</i> = 613 (26%)	<i>n</i> = 998 (30%)	<i>n</i> = 680 (28%)	<i>n</i> = 926 (28%)
	<i>Early Adolescents</i>	<i>Adoles- cents</i>	<i>Early Adolescents</i>	<i>Adoles- cents</i>	<i>Early Adolescents</i>	<i>Ado- lescents</i>
Bullying	-.23 (.48)	-.28 (.63)	.53 (.96)	.69 (1.29)	-.10 (.57)	-.32 (.69)
Victimization	-.26 (.49)	-.31 (.57)	.06 (.76)	-.06 (.89)	.37 (.85)	.54 (1.34)
Antisocial behavior	-.61 (.46)	-.46 (.75)	1.41 (.50)	1.00 (.74)	-.29 (.68)	-.38 (.77)
Prosocial behavior	.67 (.75)	.68 (.77)	-.30 (.88)	-.46 (.86)	-.79 (.71)	-.54 (.83)
Social withdrawal	-.50 (.74)	-.46 (.66)	-.12 (.88)	-.48 (.63)	.90 (.83)	1.21 (.70)

*Note.* The superscripts indicate significant differences ( $p < .001$ ) in average squared Euclidean distance per sample.

Cases were finally assigned to the three clusters using a k-means cluster analysis with starting values generated by the hierarchical cluster analysis.

In both age groups the three clusters differed significantly in cluster homogeneity as indicated by the average squared Euclidean distance,  $F(2, 2,391) = 121.02$  for early adolescents and  $F(2, 3,330) = 76.03$ , for adolescents,  $p < .001$ . The average squared Euclidean distances per cluster, as well as the cluster means, are shown in Table 1. Note that all of the scores have been z-standardized at the individual level for the entire sample, separately for early adolescents and adolescents. Cluster centers for the antagonists can thus be viewed as deviations from the grand mean, which is zero due to standardization. According to Cohen (1988), a score between .2 and .5 represents a minor deviation, between .5 and .8 a moderate deviation, and larger than .8 a large deviation.

Cluster I, labeled Prosocial, contained 46% and 42% of all individuals in early adolescence and adolescence, respectively, and was characterized by moderately high levels of prosocial behavior. They scored slightly to moderately lower than average on all other four measures.

Cluster II, labeled Antisocial, contained 26% and 30% of all early adolescents and adolescents, respectively. These individuals showed very

high levels of antisocial behavior and moderately high levels of bullying. They displayed slightly low levels of antisocial behavior and did not differ from average on being victimized. Antisocial early adolescents did not differ from average on withdrawal, and in adolescence they were slightly less withdrawn than average.

Cluster III, labeled Withdrawn, consisted of 28% of both the early adolescents and adolescents, and had the highest scores on social withdrawal, and they reported being victimized by their peers slightly to moderately more often than average. They were slightly less antisocial and moderately less prosocial than average. In early adolescence, withdrawn individuals bullied on average, whereas in adolescence they bullied slightly less than average.

### Combinations of Individual Types in Mutual Antipathy Dyads: Types of Antipathies

The distributions of types of individuals differed between the total sample and the sample of individuals with one or more mutual antipathies,  $\chi^2(2) = 998.71$  early adolescents and  $\chi^2(2) = 535.10$  adolescents,  $p < .001$ . Confirming our expectations, in early adolescents and adolescents with mutual antipathies, fewer were Prosocial (21% and 25%;  $\chi^2(1) = 1,133.16$  and 530.43,  $p < .001$ , respectively) and more were Withdrawn (37% and 34%;  $\chi^2(1) = 45.78$  and 57.41,  $p < .001$ , respectively) and Antisocial (42% and 41%;  $\chi^2(1) = 206.68$  and 168.45,  $p < .001$ , respectively).

Cross-tabulation of three individual types involved in mutual antipathy dyads yields six possible combinations of antipathy dyad types. The distribution for the combination of individual types in antipathy dyads can be seen in Table 2. Three of these combinations can be characterized by similarity in that the two individuals in the antipathy dyad have the same individual type. In total 28.3% of the mutual antipathy dyads in early adolescence and 22.8% of those in adolescence consisted of similar individuals. About half of these *similar* antipathy types (15.0% in early adolescence and 11.6% in adolescence) consisted of two antisocial individuals.

The majority of the mutual antipathy dyads (71.7% in early adolescence, 77.2% in adolescence) could be characterized by dissimilarity, that is, the dyads consisted of two different types of individuals. In both age groups, with about two fifths of the dyad sample, the Antisocial–Withdrawn combination formed the most common type of antipathy dyad. The distribution of the antipathy dyad types based on the combination of individual types in a dyad differed significantly from the expected distribution,  $\chi^2(5) = 43.72$ , for early adolescents and  $\chi^2(5) = 60.74$  for

TABLE 2  
Frequencies for Combinations of Individual Types in Mutual Antipathy Dyads

Characteristic of Dyad	Early Adolescence	% of All			
		Antipathy Dyads	Observed Frequency	Expected Frequency	Post Hoc $\chi^2$ (1)
Similar	Prosocial versus Prosocial	2.4	11	18.4	3.10 <sup>†</sup>
	Withdrawn versus Withdrawn	10.9	50	55.2	0.56
	Antisocial versus Antisocial	15.0	69	73.6	0.34
Dissimilar	Prosocial versus Antisocial	15.8	72	69.0	0.15
	Prosocial versus Withdrawn	12.8	59	59.8	0.01
	Withdrawn versus Antisocial	43.2	199	124.2	61.71**
	Total	100	460	460	
Adolescence					
Similar	Prosocial versus Prosocial	5.2	31	35.8	0.67
	Withdrawn versus Withdrawn	6.0	36	65.6	15.00**
	Antisocial versus Antisocial	11.6	69	101.3	12.42**
Dissimilar	Prosocial versus Antisocial	20.1	120	125.2	0.27
	Prosocial versus Withdrawn	15.1	90	101.3	1.52
	Withdrawn versus Antisocial	41.9	250	172.8	48.52**
	Total	100	596	596	

<sup>†</sup> $p < .07$ ; \*\* $p \leq .00$ .

adolescents,  $p < .001$ . Post hoc tests showed that in early adolescence there was a tendency for the Prosocial–Prosocial combination to occur less often than expected. In adolescence, the Withdrawn–Withdrawn and the Antisocial–Antisocial combinations occurred less often than was expected. Furthermore, the Antisocial–Withdrawn combination was observed more frequently than expected in both age groups.

## DISCUSSION

The results of this study demonstrate the role of individual behavioral profiles in mutual antipathy relationships. Cluster analyses on the five aspects of social behavior, namely antisocial, prosocial, and withdrawn behavior, bullying and victimization, resulted in three types of individuals, Antisocial, Prosocial, and Withdrawn, in both early adolescence and adolescence. This categorization should be viewed as the dominant behavioral orientation early adolescents and adolescents display in the peer context, rather than an absolute categorization of individuals. Veenstra et al. (2008) show indeed that antisocial and prosocial behaviors are

independent dimensions and the relative amounts of displayed prosocial and antisocial behavior may depend on the context. Approximately half of the early adolescents were categorized as Prosocial, and this percentage was somewhat lower in adolescence. The significantly larger size of the Antisocial cluster in adolescence than in early adolescence fits with the adolescent-limited antisocial behavior theory (Moffitt, 1993).

Three types of individuals yielded six possible combinations of two antagonists in mutual antipathy dyads, that is, six types of mutual antipathy relationships. As expected, more than two thirds of the antipathy dyads involved different types of antagonists, which supports the contention that *dissimilarity* is linked to the dislike that underlies mutual antipathy relationships. Further longitudinal investigation is necessary to determine if this behavioral dissimilarity is indeed a trigger for the formation of mutual antipathies (Rosenbaum, 1986). Approximately half of the mutual antipathy dyads characterized by similarity involved two Antisocial antagonists, which supported our expectation that similarity in antisocial behavioral orientation is more likely to result in a mutual antipathy relationship than similarity in prosocial or withdrawn behavioral orientation. It should be noted that in adolescence mutual antipathy between two Withdrawn and two Antisocial antagonists occurred, nevertheless, less often than expected by chance.

In early adolescence, it was slightly atypical for mutual antipathies to occur between two Prosocial individuals. Although about half of the mutual antipathy relationships involving a Prosocial antagonist were between Prosocial and Antisocial peers, antipathy dyads involving at least one Prosocial antagonist occurred as much as would be expected by chance. Thus, mutual antipathy relationships of Prosocial individuals do not seem to be systematically related to the behavioral orientations of their antagonists. Our expectation that the Prosocial–Antisocial combination would occur rather frequently among mutual antipathy dyads is hereby not supported.

The results showed that about 40% of all mutual antipathy relationships in both age groups involve a Withdrawn and an Antisocial peer. Moreover, this combination occurred more often than would be expected by chance and highlights the *dissimilar* nature of mutual dislike. Mutual antipathies between a bully and a victim are likely to fall under this mutual antipathy type. Social interactions of Antisocial peers may be to a great degree displays of approach and dominance, whereas interactions of Withdrawn peers are largely inhibited and possible with signs of social incompetence. These two types of individuals may experience a lack of fit when the Antisocial peers' initiations of social interaction, which are not necessarily positive, are not reciprocated or, conversely, when Withdrawn

peers may perceive the approach as intimidating or threatening. Such behavioral mismatches may develop—when sufficiently frequent or marked—into a mutual antipathy relationship.

Bully–victim relationships can be seen as an extreme subgroup of the Antisocial–Withdrawn antipathy type: not all Antisocial peers would be bullies, just like not all Withdrawn peers are victimized. Indeed, a post hoc examination of the behavioral profiles of the Antisocial and Withdrawn antagonists showed that Antisocial antagonists are slightly more antisocial and bullying than Antisocial individuals and that Withdrawn antagonists are moderately more victimized and withdrawn than Withdrawn individuals. Such patterns may have developmental implications for the stability of these negative behaviors as reinforced by processes within mutual antipathy relationships.

As much as it is possible that dissimilarity among peers is a trigger for further mutual dislike, interactions between peers may proceed in ways that increase small discrepancies that originally exist or mutual dislike may result in higher behavioral discrepancy over time. Future research needs to focus on the role of dissimilarity on the formation, maintenance, and progress of, especially negative, peer relationships.

In closing, this study clearly shows the systematic behavioral heterogeneity of mutual antipathies in early adolescence and adolescence and paves the road for future research on the role of such negative peer relationships in social and emotional development of early adolescents and adolescents.

## ACKNOWLEDGMENTS

The authors would like to thank Pierre Souren and Maria Thissen-Pennings for their methodological help.

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