

# Misbehavior at School and Delinquency Elsewhere

## A Complex Relationship

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This article addresses the relationship between problem behaviors inside school (misbehavior) and outside school (delinquency). Self-report data about 12 types of misbehavior and 9 types of delinquency were collected among 1,978 secondary school students in The Netherlands of which 1,385 were followed up one year later. The relationship between misbehavior and delinquency was not studied before in such detail. The findings show that there is a general relationship between misbehavior inside school and delinquency elsewhere; however, this relationship appears to be less strong than suggested by earlier studies. Also the predictive value of misbehavior for later delinquency is limited because one half of the respondents who misbehave at school are not involved in delinquency one year later. However, serious forms of misbehavior do seem to increase the risk of later delinquency considerably. These findings nuance conclusions of earlier studies on the misbehavior-delinquency relationship.

**Keywords:** *delinquency; generality of deviance; misbehavior; prediction*

Misbehavior at school and delinquent behavior are phenomena that have received a lot of research attention. The first subject is studied by researchers who are primarily interested in “school safety” or “school crime” (see, e.g., Dinkes, Forrest Cataldi, Kena, Baum, & Snyder, 2006; Lawrence, 2007) or researchers who have specialized in “bullying” (e.g., Olweus, 1993; P. K. Smith et al., 1999). It is often studied using victimization surveys; however, self-report studies have been conducted in several countries (see Debarbieux & Blaya, 2001). The second subject, delinquent behavior of juveniles, has been studied extensively by criminologists and other social scientists (i.e., Agnew, 2001; Tonry & Doob, 2004; Wikström & Butterworth, 2006). Here, the use of self-report questionnaires is a common form of data collection because many victims do not know whether offenders are minors or not. Self-reports are used not only to study the causes and correlates of crime but also to make cross-national comparisons (see Barberet et al., 2004; Junger-Tas, Haen Marshall, Ribeaud, & Killias, 2003).

Despite this abundance in research on school misbehavior and delinquency separately, studies in which both types of problem behavior are combined are scarce. We could find only four studies in which the relationship between rule breaking at school and offending

outside school is analyzed (Andershed, Kerr, & Stattin, 2001; Junger-Tas & Van Kesteren, 1999; Nansel, Overpeck, Haynie, Ruan, & Scheidt, 2003; Rigby & Cox, 1996). These studies combined a limited number of offenses inside and outside school; specifically bullying behaviors and violent offenses were studied. All four studies were cross-sectional and focused on general correlations between both types of problem behavior.

In our study, the Dutch NSCR School Project (Weerman & Smeenk, 2005; Weerman, Smeenk, & Harland, 2007), almost 2,000 secondary school students were surveyed in 2002 and a part of the sample (1,385 students) was surveyed for a second time in 2003. Because of our interest in problem behavior within and outside the school context, we included an extensive self report questionnaire on rule violations in and outside school. Ten different school misbehaviors were included as well as 13 delinquent acts outside school. The resulting combination of data offers a unique opportunity to analyze the relationship between offending in and outside school. It also enables us to correlate different types of misbehavior and delinquency in more detail and offers the opportunity to conduct longitudinal analyses on the relationship between school offending at one point in time and delinquency a year later.

With our data, we seek to answer the following questions:

- What is the prevalence of different types of misbehavior at school and delinquency elsewhere among our sample of students?
- Is there a general relationship between misbehavior and delinquency, that is, do students report involvement or absence of problem behavior inside school as well as outside?
- Are similar categories of problem behavior inside and outside school more strongly related to each other as different categories of misbehavior and delinquency?
- How often is misbehavior at school generally followed by delinquency a year later?
- How often are various categories of misbehavior followed by similar and different categories of delinquency a year later?

Linking misbehavior and delinquency offer scientifically valuable information about the co-occurrence of different types of problem behavior and about the potential predictive value of the adolescent's behavior at school for (later) involvement in delinquency elsewhere. Enhanced insights in these issues have implications for the validity of theoretical perspectives on deviant behavior (in this article we look at the school climate perspective, generality of deviance, and the trajectories approach). However, they may also have important policy implications. Knowledge about which kind of students are at risk for developing delinquent behavior can help tailoring preventive interventions. On the other hand, insights in types of misbehavior that are only weakly related to delinquency may help to prevent overreaction and unnecessary labeling or stigmatization.

### Three Perspectives

Three theoretical perspectives or approaches may be useful in understanding the misbehavior—delinquency relation: the school climate perspective, the generality of deviance perspective, and the trajectories approach. From each of these perspectives we deduced expectations about the relation between problem behavior at school and delinquency elsewhere.

The school climate perspective represents a line of thinking and research that departs from the idea that there is something unique in the school organization and culture that

influences achievement and behavior of students (Sprott, 2004; Welsh, Greene, & Jenkins, 1999). More specifically, important elements of school climate are the amount of order and organization in school, the clarity and justness of rules, and the way in which teachers and students personally interact with each other. This tradition can be traced back to the influential study by Rutter, Maugham, Mortimer, and Ouston (1979) among students from a large number of schools. The results of this study indicated that several school climate characteristics had an effect on positive outcomes (good classroom behavior and better achievements) independent from the effects of individual student variables. Schools with comparable population of students with problematic backgrounds and located in comparable neighborhoods appeared to differ vastly in their outcomes because of these differences in school climate. These results were confirmed by other studies, which also consistently reported that school climate is related to the amount of disorder and misbehavior in schools (Gottfredson, 2001; Gottfredson & Gottfredson, 2002; Hawkins & Herrenkohl, 2003).

Based on the school climate perspective, we would expect a moderate association between misbehavior at school and delinquency elsewhere. The behavior of students may be influenced by school climate during the time they are at school; however, delinquency outside school will be less affected by the characteristics of the school environment. A study by Welsh (2000) in this tradition did find indeed that school climate factors had a stronger effect on school misconduct than on delinquent behavior. Furthermore, we would expect that students in a very poor school climate may be misbehaving at school, while respecting the rules in other contexts. On the other hand, we would also expect that students that are delinquent outside school because of adversarial personal circumstances or a bad neighborhood may refrain from misbehavior when they find themselves in a positive school climate. More generally, the school climate approach leads to the hypothesis that there are considerable differences between the behavior of students inside the school context and behavior elsewhere.

The generality of deviance perspective adheres to the assumption that offenders do not only break the law but are also characterized by involvement in a wide range of other problem and risky behaviors (Hirschi & Gottfredson, 1994). Adherents to this perspective view different types of problem behavior as the result of the same underlying syndrome. For example, Gottfredson and Hirschi (1990) theorized that delinquent behavior belongs to the same category as many kinds of risky and imprudent behaviors that are all the result of one underlying construct: a lack of self control. This lack of self control leads easily to different forms of deviant behavior. This theoretical line also acknowledges contextual factors, such as opportunities to deviate that may influence the type and frequency of rule breaking. However, the decisive underlying factor is supposed to be a lack of self control, which is supposed to be decisive. In the same line of thinking, other authors (Angenent & de Man, 1996; Jessor & Jessor, 1977) use the term “deviance syndrome” to refer to a wide range of antisocial and problematic behaviors. These authors believed that the common causes for all these behaviors can be found in a combination of individual characteristics, family factors, and criminogenic contexts.

If indeed there is an amalgam of problem behaviors caused by the same underlying factors, we would expect a strong and general relationship between problem behavior inside and outside the school context. Different forms and types of misbehavior and delinquency would be “one of a kind.”

The trajectory approach represents a different view on problem behavior. Generally, trajectories are different pathways of behavior over time (Nagin, 2005). Offenders may differ in the trajectories they follow, and in the corresponding types and seriousness of their offenses. The trajectory approach has become increasingly important in what is called developmental and life course criminology (see Farrington, 2003; Piquero & Mazzerolle, 2001). The underlying assumption is that problem behavior develops through distinguishable paths into more-or-less severe forms of delinquency. In this line of reasoning, Loeber distinguished three separate trajectories, using the data of the well-known longitudinal Pittsburgh Youth Study (Loeber, 1997; Loeber, Farrington, Stouthamer-Loeber, Moffitt, & Caspi, 1998). The first trajectory was called “overt” problem behavior by Loeber and others. In this trajectory, antisocial behavior and aggression develops into physical fighting and violent offending. The second trajectory was called “covert” problem behavior in which problem behavior develops from lying, damaging, and shoplifting to more serious forms of property offending (like burglary) and fraud. The third trajectory was called “authority conflict,” which starts with disobedience and develops to truancy and runaway behavior.

If separate trajectories of problem behavior do exist, we would expect a more specific relationship between certain types of misbehavior at school and the same types of delinquency elsewhere. To be precise, we would expect a strong association between what Loeber called the “overt” forms of misbehavior and “overt” delinquency and between “covert” misbehavior and “covert” delinquency, or in other words, between personal types of problem behavior and between property violations. We would also expect a fairly strong relationship between more serious forms of misbehavior and delinquency because youths who are further in their trajectories will commit more serious offenses inside school as well as outside.

We do not aim to test the validity of these three theoretical perspectives. They are mainly used as a framework to understand the relationship between misbehavior and delinquency and to derive various expectations about this relationship. These expectations will be analyzed with the data of the NSCR school project. Resuming, they are the following:

- There is a moderate relationship between misbehavior at school and delinquent behavior elsewhere, and a considerable number of students differ in their behavior inside and outside the school context (derived from the school climate perspective).
- There is a strong general relationship between misbehavior at school and delinquent behavior, and misbehavior is predictive for later delinquency (generality of deviance).
- There is a specific relationship between certain types of misbehavior and delinquency (“overt” or personal, “covert” or property, and serious), and these relationships are stronger than those between different forms of problem behavior in and outside school (trajectories approach).

Our analyses may show that one of these expectations is favorable over the others; however, it is also possible that we find evidence for two or all of them. All of the addressed perspectives have empirical support in the literature, so it might well be the case that different processes are at work in shaping the relation between misbehavior at school and delinquency.

## Earlier Research on Misbehavior, Delinquency, and the Relationship Between Them

As indicated in the introduction, a lot of research has already been done regarding the subjects of misbehavior and delinquency separately. Studies on school misbehavior are often based on victimization surveys or reports (i.e., Dinkes et al., 2006). However, to get a valid picture of how many students are actually involved in different types of misbehavior, self-report studies are needed, and these are less common. Most knowledge is available on bullying behaviors that has been the subject of several studies in different countries. Olweus (1978, 1993) found that about 7% of the surveyed students in Norway could be labeled as bully. Similar prevalence rates were found in other countries. An international research collaboration led to the conclusion that bullying was present among students in all 21 participating countries (P. K. Smith et al., 1999), with prevalence rates for frequent bullying ranging between 4% and 12%.

Other forms of school misconduct are less extensively studied. Prevalence information about rule violations like vandalizing school property, aggression in schools, and theft by students can be found scattered in the literature (i.e., Debarbieux & Blaya, 2001; Gottfredson, 2001; Jenkins, 1997; Welsh et al., 1999). The general impression from these studies is that fewer serious misconducts are common among school students. For example, Jenkins (1997) found that 41% of the students had hit someone at school, 20% vandalized school property, and 12% had stolen something at school. Similar findings were reported for The Netherlands (Junger-Tas & Van Kesteren, 1999; Mooij, 2001). More serious offenses or school crimes, however, are scarce and usually committed by 1% or 2% of the students.

The prevalence of delinquent behavior is studied more often using self-report questionnaires, one of the standard techniques in criminological research (see, e.g., Elliott, Huizinga, & Ageton, 1985; Junger-Tas & Haen Marshall, 1999; D. J. Smith & McVie, 2003; Thornberry & Krohn, 2003). An international comparative study, the International Self-Report Delinquency study, employed an identical questionnaire in 10 countries, including the United States of America (Barberet et al., 2004; Junger-Tas et al., 2003; Junger-Tas, Terlouw, & Klein, 1994). About one half of all surveyed youths appeared to have committed one of the 28 studied offenses during the previous year (percentages among countries ranged between 35% and 68%). In most countries, property offenses are the type of delinquency that is most often reported (with percentages usually between 20% and 35%). More serious types of offending (seriously beating up someone, drug selling, or serious theft) are rarer; however, still 10% of the investigated youths reported one or more of these acts.

Results from Dutch "delinquency monitors" (i.e., Van der Laan & Blom, 2006; Wittebrood, 2003) are in line with this picture. About 40% to more than 50% of the Dutch youths report at least one offense during the past year (depending on which offenses are included in a questionnaire). Offenses like assault or wounding someone, theft from school or work, shoplifting, vandalism, and graffiti are common (about 10% of the investigated youngsters reported one of these offenses during the past 12 months). More severe offenses are rare (reported by about 1%), like using a knife, theft of items over 10 euros, burglary, and robbery.

The number of studies we found in which information on school misbehavior and delinquency are combined (four) stand in contrast with the body of research on the subjects separately. This

indicates that the relation between both types of problem behavior needs more exploration. Yet some information is already available.

Rigby and Cox (1996) conducted a study on almost 800 students at a high school in Australia. They analyzed correlations between an index for bullying behavior and some delinquent activities. Significant relationships were found between bullying on the one hand and shoplifting, graffiti, and "trouble with the police" on the other. The correlation values (Pearson's  $r$ ) were about the same for boys and for girls, ranging between .22 and .33, which indicates a moderately strong relationship. The correlations were strongest for the relationship with graffiti and lowest for the relationship with police contacts. A regression analysis showed that the effect of bullying on the delinquency items remained when controls for gender and age were included in the analysis. The researchers concluded from this that bullying at school contributes to other forms of problem behavior outside school.

Junger-Tas and Van Kesteren (1999) investigated the relationship between bullying and delinquent behavior among 2,000 youths in The Netherlands. They found a significant relationship between bullying and general delinquency. Students who were frequent bullies were twice as much involved in any delinquent acts (54% of them) than students who did not bully at all (27%). Apart from this, bullies also reported more often bad habits like smoking, drinking, and using soft drugs. Unfortunately, no further details were revealed about the type of delinquency that bullies report. The researchers also analyzed potential risk factors like weak social bonds, low levels of supervision at home and at school, and poor neighborhood quality. They found that these variables were related to bullying as well as to delinquency. Based on this finding, they concluded that bullying and delinquent behaviors are part of the same lifestyle that is caused by a weakening of social bonds.

Andershed et al. (2001) studied the relationship between bullying and street violence in Sweden among almost 3,000 respondents who were age 14 or 15 years. Beforehand they formulated two contrasting hypotheses. The first hypothesis was that bullying is a product of the school situation and therefore should be a largely isolated phenomenon. The second hypothesis was that bullying and violence are part of a more general aggressive behavior pattern and therefore highly correlated. The results of the study showed that there was a strong relationship between (frequent) bullying in school and violent behavior on the street, for boys as well as for girls. Nonbullying youngsters were seldom involved in violent activities (5% of the nonbullying boys and 2% of the nonbullying girls). Bullies were much more involved in occasional or frequent violence in public (46% of the bullying boys, 32% of the bullying girls). The same kind of relationship was found for weapon carrying. The authors concluded from their results that bullying is part of a broader aggressive and violent behavior pattern.

Nansel et al. (2003) conducted a survey among 16,000 high school youths in the United States. They investigated the relationship between bullying (in- and outside school), possession of weapons, and violent behavior (frequent fighting and getting wounded in fights). Unfortunately, no distinction was made between violence inside and violence outside school. With this in mind, Nansel et al. also found that there is a relationship between bullying inside the school and violent behavior in a broader sense. Students who frequently bullied had a higher chance of weapon possession and getting involved in fights. Among those who never bullied fellow students, about 10% were involved in any of the investigated violence items. This percentage increases for those who did bully. Among those who bullied at least

once a week, 52% carried a weapon and 39% were involved in fighting. The authors concluded that bullying is not an isolated phenomenon but instead should be seen as a marker for more serious violent behaviors.

Based on these four studies, we would expect a strong and general relationship between different misbehaviors and delinquency. However, the existing research on school misbehavior and delinquency is limited in several ways. First, only the relationship of bullying with other types of problem behavior has been studied, though there are many other forms of school misbehaviors and school crimes. To our knowledge, these other forms have never been linked to delinquent behaviors outside school until now. Second, three of the four studies focused on the relationship of bullying with aggressive and violent behavior, and the fourth (Jonger-Tas & Van Kesteren, 1999) only included a limited number of delinquent acts. Therefore, it is an open question whether bullying is only related to aggressive forms of delinquency or also to so-called covert forms of offending, property crimes, and vandalism. Third, all of the studies are cross-sectional and do not analyze the predictive value of school misbehavior for later delinquency. That makes it difficult to draw conclusions about the signaling potential of school misbehavior and school crime.

Our study expands on earlier research in several ways. We report on nine rule violations and offenses inside school and 12 delinquent acts outside school. As far as we know, school misbehavior and delinquency have never been studied in such detail before. Moreover, this combination of data enables us to investigate the relation between school misbehavior and delinquency in more detail. Unlike the four studies described before, we are able to link other types of school misbehavior than bullying to delinquency outside school. We are also able to analyze whether different types of school misbehavior (personal/"overt," property/"covert," and serious) are differentially correlated with different types of delinquency. And, finally, because the current study has two waves of data, we are able to explore the signaling function of school misbehavior for later involvement in delinquent behavior.

## Method

### Data

Data for this article were collected as part of the NSCR School project, a research program that involves longitudinal quantitative and qualitative data collection in secondary schools in The Netherlands. We selected schools for general and vocational training (VMBO), a basic type of education that holds about one half of the Dutch students in its age group. Most of these schools were located in a relatively large city in the province of South Holland in The Netherlands; other schools were located in smaller cities in the area. This focus on lower educated city youths was chosen to increase the chances on problem behavior among our respondents, while keeping some variation with regard to the location of the schools.

The sample consisted of two cohorts of students who completed a questionnaire in the spring of 2002 and 2003. During the first wave, the students were either in their first or third year of secondary education. The first year of secondary education in the Netherlands is comparable with seventh grade in the United States (most students are age 13 years), the third year is comparable with the ninth grade (mainly 15-year-old students). In the second year most of these students were in the second and fourth grade of their school. With this sampling strategy, we covered the whole period of 4 years that it takes to complete this type of education.

The cross-sectional analyses in this article employed data from the first wave sample on 1,978 students from 12 school locations. The parents of these students were informed of the study and could refuse participation of their children (passive consent). The respondents participated on a voluntary basis during school time and completed their questionnaires on computers in a classroom. In total, more than 83% of the complete first- and third-grade student population of the participating schools (2,370 students) is included in the sample. Most of the remainder did not participate because they were ill during the data collection period or because they were absent for unknown reasons (which often implied that they were truant).

The first wave sample of 1,978 students contains a reasonably comparable number of girls and boys (45% girls, 55% boys). The two cohorts included 1,036 first-year and 942 third-year students. Because of the sampling method, most students were age 13 or 15 years (32% and 25%, respectively). However, also a substantive number of 12-year-old students (11%), 14-year-olds (17%), 16-year-olds (13%), and a few 17- and 18-year-olds (2%) were included in the sample. More than one half of the students (58%) went to school in what constitutes a relative large city for Dutch standards (about 400,000 inhabitants), 34% attended schools in a medium-sized city (about 100,000 inhabitants), and the remainder (8%) went to a small town (10,000 inhabitants) school. A substantial number of the students (38%) belong to ethnic minorities (determined by one or both of their parents being born outside The Netherlands). Because our sample is stratified over larger and smaller cities in the densely populated province of South Holland, it gives a rough representation of students in the lower half of secondary education in urbanized areas in The Netherlands.

The longitudinal analysis in this article is based on a sample of students who participated in both waves of data collection. In one large school, students were moved to a new building with a new director who refused to participate in the second wave. Of the remaining 11 schools, there were 1,385 students who participated in both waves of data collection (77% of the 1,809 students who were in Wave 1 in these schools). The absentees did not attend that school any more when we collected the data or did not participate because they were ill or skipped classes. We conducted a small attrition analysis to get some insight in possible differences between those who participated and those who were not included in the second wave. There were no significant differences in gender and grade between those who dropped out of the study and those who participated in the second wave. However, nonparticipating respondents were significantly more often from ethnic minorities (36% and 32%) and from the big city (64% and 51%). They also reported more misbehavior (1.21 times as much) and delinquency (1.42 times as much) in the first wave than those who remained in the study. In short, inner-city youths with more problem behavior had a higher chance of dropping out of the study, which is common for this kind of research. Although there are still enough respondents with misbehavior and delinquency to conduct analyses, it is probable that the level of misconduct and delinquency that we found is somewhat underestimated. The effects on the relationship between the two types of problem behavior are unclear.

## Measures

The data on school misbehavior and on delinquent behavior were collected using self-report questions. This is generally regarded as an adequate method to investigate problem behavior and delinquency, on the condition that respondents are ensured that their information remains

**Table 1**  
**Used Measures for Misbehavior and Delinquency**

Item	Wordings in the questionnaire, beginning with: "During this school year (from summer leave until now), did you ever . . ."
<b>Misbehavior at school</b>	
Verbal bullying	"bully other students by laughing at them, making fun of them, not talking with them or gossiping a lot about them?"
Physical bullying	"bully other students by pushing or kick them?"
Graffiti in school	"besmear or place graffiti on school walls, doors, windows etc. with a pencil, paintbrush or something else?"
Vandalizing school property	"destroy or damage school things, for example tables, chairs, blackboards, windows, belongings from other students, or something else?"
Theft at school < 5 euro	"steal things at school that cost less than 5 euro, for example, pencils, exercise books, drawing chinks, tools, or something else?"
Theft at school > 5 euro	"steal things at school that cost more than 5 euro, for example, jackets, cell phones, books, CDs, or something else?"
Fighting at school with injury	"fight or hit so badly at school that some other person got wounded (for example, needed a bandage, needed to go to a medicist, or that someone had a black eye or a lost a tooth)?"
Fighting at school without injury	"fight or hit at school without somebody getting wounded?"
Threatening or assaulting teacher	"threaten, hit, or wound teachers or other adults from school?"
<b>Delinquency outside school</b>	
Graffiti outside school	"besmear or place graffiti on walls, doors, buses etc., outside school with a pencil, paintbrush, or something else?"
Vandalism	"destroy or damage things on the street, like bicycles, bus stops, street lights, or something else?"
Shoplifting < 5 euro	"steal something from a shop that is worth less than 5 euro, for example, candy, pencils, or something else?"
Shoplifting > 5 euro	"steal something from a shop that is worth more than 5 euro, for example, CDs, books, clothes, or something else?"
Buying stolen goods	"buy something of which you thought or knew it was stolen?"
Stealing a bike or moped	"steal a bicycle or a moped?"
Car theft	"steal a car?"
Burglary	"break and enter somewhere to steal something?"
Robbery	"rob someone?"
Other theft	"steal things in another way, for example, by snatching something or by pickpocketing?"
Fighting with injury	"fight or hit or use a weapon outside so school in a way that some other person got wounded?"
Fighting without injury	"fight or hit on the street without somebody getting wounded?"

anonymous (see Junger-Tas & Haen-Marshall, 1999; Thornberry & Krohn, 2000). For a list of 9 offenses and rule violations in school and 12 delinquent offenses, respondents were asked if they had committed them during the past school year, starting from summer leave.<sup>1</sup> This covered a 9-month period and provided respondents with a reference event that enhances correct answering and minimized "telescoping effects" (see Klein, 1989). The items covered a wide range of delinquent behaviors and were based on existing national and international self-report instruments (see Baerveldt, Van Rossem, Vermande, & Weerman, 2004; Elliott et al., 1985; Junger-Tas et al., 1994). Table 1 presents the items and their exact wordings, which were quite detailed to stimulate recollection of events.

**Table 2**  
**Categories of Misbehavior and Delinquency**

Category	Items
Misbehavior at school	
Any misbehavior	One or more of the nine misbehaviors at school
Personal ("overt") misbehavior	Verbal bullying, physical bullying, fighting at school with injury, fighting at school without injury, threatening/assaulting teacher
Property ("covert") misbehavior	Graffiti at school, vandalizing school property, theft at school < 5 euro, theft at school > 5 euro
Versatile (personal & property) misbehavior	At least one property misbehavior as well as one personal misbehavior
Serious misbehavior	theft at school > 5 euro, fighting at school with injury, threatening/assaulting teacher
Delinquency outside school	
Any delinquency	One or more of the 12 delinquent acts outside school
Personal ("overt") delinquency	Fighting without injury, fighting with injury, robbery
Property ("covert") delinquency	Graffiti, vandalizing, buying stolen goods, shoplifting < 5 euro, shoplifting > 5 euro, stealing bike/moped; car theft; other theft; burglary
Versatile (personal & property) delinquency	At least one property offense as well as one personal offense
Serious delinquency	Wounding someone; shoplifting > 5 euro, car theft, burglary; robbery

To analyze the hypothesis derived from the trajectory approach, we constructed four specific categories of offenses. Two of these categories that we name "personal" and "property" follow the distinction that is made between "overt" and "covert" trajectories of problem behavior (Loeber, 1997; Loeber et al., 1998).<sup>2</sup> The overt trajectory begins with less serious forms of aggression (including bullying) that may develop to serious forms of violence and violent crimes. The covert trajectory starts with lying, stealing small things, and also vandalism which can develop into more serious property crimes. We replaced the terms *overt* by *personal* and *covert* by *property*, to conform to the usual terminology in criminal justice publications.

We also constructed a (third) category of serious problem behavior to distinguish between respondents with serious types of problem behavior from those with relatively light rule violations. We believed that seriousness might be a more important predictor of later delinquency than the distinction between personal and property types of problem behavior. Therefore we included serious violent offenses as well as several serious property offenses in the category of serious problem behavior. "Other theft" is left out because this may include stealing small things, like candy at home. We also distinguished respondents who committed any (light and serious) personal as well as property offenses. These respondents do not limit themselves to one type of problem behavior but seem to be following both trajectories that are distinguished by Loeber. Perhaps such versatility also leads to a higher risk of later delinquent behavior.

The different categories of problem behavior were constructed for misbehavior at school as well as for delinquency elsewhere, which enables us to study the relationship between specific types in different contexts. Table 2 shows the items that constitute the different categories.

**Table 3**  
**Prevalence of Misbehavior and Delinquency**  
**(During the school year, first wave, N = 1,978)**

Type of Misbehavior	Percentage	Type of Delinquency	Percentage
Verbal "bullying"	43.6	Fighting without injury	21.4
Fighting at school without injury	29.4	Shoplifting < 5 euro	15.0
Physical "bullying"	27.3	Graffiti outside school	14.9
Vandalizing school property	14.0	Buying stolen goods	12.4
Theft at school < 5 euro	11.7	Vandalism	9.8
Graffiti at school	10.7	Fighting with injury	8.3
Fighting at school with injury	9.4	Theft of bike or moped	5.8
Threatening / assaulting teacher	4.5	Shoplifting > 5 euro	4.2
Theft at school > 5 euro	1.8	Other theft	3.2
Any of the nine misbehaviors	68.6	Robbery	1.1
		Burglary	0.9
		Car theft	0.8
		Any of the 12 delinquent acts	43.2

## Findings

Before combining the two forms of problem behavior (misbehavior at school and delinquency elsewhere), we present descriptive information on how many respondents are involved in the various misbehavior and delinquency items. Table 3 presents the prevalence rates of the different forms of misbehavior and delinquency among the students in the first wave sample. The percentages stand for the proportion of students who reported to have committed the offense during the ongoing school year. They are sorted in order of communality. Note that our sample consists of relatively lower educated youths from an urbanized part of The Netherlands, so the figures are representative for that group.

Table 3 shows that some misbehaviors and delinquent acts are quite common, whereas others are rare. In general, misbehavior at school is a common thing among the investigated youths. Almost 7 of 10 report that they committed at least one misbehavior in the previous school year. From the various types of misbehavior, verbal bullying is the most common (43.6%). Also physical bullying and fighting at school are often reported (by more than one of four respondents).<sup>3</sup> "Bullying" (verbal or physical) and fighting are manifestations of light forms of violence, and our figures make clear that such aggressive behavior is quite widespread at the schools where we conducted our study. There is also a quite high percentage of students who report to have injured someone at least once during the previous school year (9.4%), which indicates that also more serious violence occurs regularly in schools. Also common are graffiti and vandalizing at school, and stealing small things (all three offenses are reported by about 1 in 10 students). Relatively rare are the more serious misconducts of threatening/assaulting teachers (4.5%) and stealing things that are worth more than 5 euros (this is the least common misbehavior, reported by 1.8% of the sample).

Also delinquent behavior is common among the respondents of our study. Close to one half of them (43.2%) appeared to have committed at least one of the offenses that were

**Table 4**  
**Prevalence of Different Categories of**  
**Misbehavior and Delinquency (N = 1,978)**

Category Misbehavior	Percentage	Category Delinquency	Percentage
Personal misbehavior	63.9	Personal delinquency	25.3
Property misbehavior	25.8	Property delinquency	33.2
Personal & property misbehavior	21.1	Personal & property delinquency	15.3
Serious misbehavior	12.4	Serious delinquency	11.8

included in the questionnaire. From these delinquent acts, fighting on the street without injury is most often reported (21.4%). These may often be relatively harmless; however, they are still indicative of aggressive behavior. Petty crimes, like shoplifting small things, vandalism, and graffiti are quite often reported, each by about 15% of the respondents. Also buying stolen goods appear to be reported regularly. Like inside school, more serious violence (fighting with injury) is common. Almost 1 out of 10 respondents report to have injured someone during the past school year. The more serious property crimes “theft of bike/moped,” “shoplifting things worth more than 5 euros,” and “other theft” are less common but not rare (percentage ranging from 3.2% to 5.8%). The most serious offenses (robbery, burglary, and car theft) are very rare among the investigated youths. About 1% of the sample report to have committed these crimes during the ongoing school year.

In Table 4, we present the percentages of respondents that reported at least one of the behaviors within the different categories of problem behavior.

Table 4 shows that many respondents, almost two thirds, reported at least one personal form of misbehavior (mostly fighting or bullying). The property category of *misbehavior* is less prevalent. About one fourth of the respondents reported one of the property offenses in school. A somewhat smaller proportion of the respondents (21.4%) committed personal as well as property types of misbehavior, and about one in eight of the sample reported that they committed at least one serious offense in school.

About one fourth of the respondents reported one or more personal types of delinquency. This is much lower than the percentage in the category of personal misbehavior. This is partly due to the fact that the category of *personal misbehavior* includes verbal and physical bullying. Offenses within the category of *property delinquency* are reported by 33.2% of the respondents which is slightly higher than the corresponding category of *property misbehavior* (but property delinquency includes some more offenses). About 15.3% of the respondents reported personal and also property types of delinquency, which is clearly lower than each of the separate categories of personal and property delinquency. Almost 12% of the sample was involved in serious delinquency, which is about the same proportion of respondents that we found in the serious misbehavior category.

In Table 5, we present our findings about the general relationship between misbehavior at school and delinquency elsewhere. The table shows total percentages for each combination of misbehavior and delinquency.

Table 5 shows first and foremost that there is a significant relationship between misbehavior at school and delinquency elsewhere. A large part of the sample (38.3%) reported rule violations within both types of problem behavior. Almost one fourth of the respondents

**Table 5**  
**Percentage Respondents in Different Combinations of**  
**Misbehavior and Delinquency (N = 1,978)**

		Any Delinquency	
		Yes	No
Any misbehavior	Yes	38.3	30.2
	No	4.9	26.6

$\chi^2 = 284.6; p < .001.$

**Table 6**  
**Correlations (phi) Between Types of**  
**Misbehavior and Delinquency (N = 1,978)**

	Any Delinquency	Personal Delinquency	Property Delinquency	Personal & Property Delinquency	Serious Delinquency
Any misbehavior	.38 <sup>a</sup>	.27	.33	.24	.20
Personal misbehavior	.33	.28 <sup>a</sup>	.27	.23	.20
Property misbehavior	.34	.16	.40 <sup>a</sup>	.25	.24
Personal & & property misbehavior	.32	.19	.38	.28 <sup>a</sup>	.26
Serious misbehavior	.25	.26	.24	.28	.35 <sup>a</sup>

Note: All correlations are significant at  $p < .001$ .

a. The correlations between similar types of misbehavior and delinquency.

reported neither misbehavior nor delinquency. It seems that both categories of students are consistent in the degree of rule breaking in- and outside school. Taken together they make up the majority of the sample. However, quite a large percentage of the students is involved in misbehavior inside the school but does not report any delinquent acts elsewhere. For a large part, these students are involved in “school specific” types of misbehavior like bullying and fighting with fellow students. Apparently, they do not extend these behaviors outside the school. There is also a small, but intriguing proportion of the sample (4.9%) that reports to have committed delinquent acts outside the school but that do not report any type of misbehavior inside school. This is a remarkable combination of behaviors because delinquency outside school is less common than misbehavior inside school.

To analyze whether the same types of misbehavior are more strongly related to each other as to different types of delinquency, we calculated correlations between all categories of problem behavior.<sup>4</sup> Table 6 presents these correlations, including those of the general categories of any misbehavior and any delinquency. The cells on the diagonal indicate the correlations between similar types of misbehavior and delinquency.

Table 6 shows that, in general, the different categories of misbehavior are significantly related to each other. The phi correlations are moderately high. Any misbehavior and the different categories of it are also moderately correlated with any delinquency. In general, we see that similar types of problem behavior appear to have the strongest phi values.

In the first row, we see that any misbehavior is less strongly correlated to versatile (personal as well as property) and serious delinquency, than with general delinquency and the separate types of personal and property delinquency. There is a similar pattern for personal misbehavior, which is slightly more correlated to general delinquency than to the same category (personal) of delinquency.

The pattern for misbehavior is different. Here, we see a clearly stronger correlation with the same category of *delinquency* than with all the other categories, and the lowest value for the correlation with personal delinquency. There is a comparable pattern for those students with a versatile style of misbehavior, in the sense that relatively low correlations are found with the category of *personal delinquency*. The correlation with the corresponding category of *personal* and *property delinquency*, however, is not the highest. Instead of that we find a stronger correlation between versatile (personal and property misbehavior) with the category of *property delinquency*. Apparently, those with both types of misbehavior are more like those with property misbehavior than students with personal misbehavior.

Finally, we see in the last row that serious misbehavior has the strongest correlation with serious delinquency. The other correlations are moderately strong and do not differ much from each other.

We checked whether these correlations became different when we used frequency measures for the different categorizations of problem behavior instead of correlating prevalences. The results appeared to be remarkably similar to those presented in Table 6 (see the Appendix for the precise findings). The correlations are slightly higher than in Table 6<sup>5</sup>; however, again, the highest values are generally found for correlations between similar types of problem behavior. We also see the differences between any and personal misbehavior on one side and property misbehavior on the other. The pattern for frequency of serious misbehavior is also very similar to the results based on prevalence. The only important difference occurs within the categories of versatile (personal and property) misbehavior and delinquency; however, that is an artifact of the use of frequency measures instead of prevalence figures. Although prevalence of the combination of personal and property problem behavior is rarer than prevalence of any problem behavior, the frequency measures for both categories become logically the same and so are the resulting correlation findings.

In Table 7, we present the first results of our longitudinal analyses. We cross-tabulated any misbehavior in the first wave of data collection with any delinquency during the second wave. Table 7 shows which part of the respondents without and which part of the respondents with misbehavior appeared to commit any offense a year later. This offers information about the predictive value of misbehavior in general.

Table 7 shows that there is a significant relationship between misbehavior and later delinquency. The chance that someone who misbehaves in school reports any delinquent activity outside school during the following year is higher than for someone who does not break the rules at school. However, misbehaving in school does not predict delinquent behavior with any certainty. In fact, the chance that someone who misbehaves in school will also break the law elsewhere is almost fifty–fifty. As such, the general predictive value of misbehavior in general for delinquency seems to be low, although it increases the chance on it.

Reporting no misbehavior at school at all offers clearer information about problem behavior outside school. More than four of five of these respondents appear to report no offenses at all outside school a year later. This is a large majority; however, there is still 20% of the students reporting delinquency while conforming to the rules inside school.

**Table 7**  
**General Relationship Between any Misbehavior at**  
**Wave 1 and Any Delinquency at Wave 2 (N = 1,385)**

		Any Delinquency at Wave 2		
		Yes	No	Total
Any misbehavior at Wave 1	Yes	49.0%	51.0%	100% (n = 966)
	No	20.0%	80.0%	100% (n = 419)

$\chi^2 = 101.6; p < .001.$

**Table 8**  
**Relationship Between Categories of Misbehavior and Later Delinquency**  
**(N = 1,385); Percentages of Those With Certain Types of Misbehavior at**  
**Wave 1 Also Involved in Certain Type of Delinquency at Wave 2**

Involved in:	Any Delinquency at Wave 2	Personal Delinquency at Wave 2	Property Delinquency at Wave 2	Personal & Property Delinquency at Wave 2	Serious Delinquency at Wave 2
Prevalence in sample	40.2	22.7	29.9	12.3	9.7
Any misbehavior Wave 1	49.0a	29.5	36.2	16.8	12.1
Personal misbehavior Wave 1	49.3	30.0a	36.3	16.9	12.6
Property misbehavior Wave 1	57.6	32.0	46.9a	21.3	14.6
Personal & property misbehavior Wave 1	60.8	34.0	49.7	22.9a	16.7
Serious misbehavior Wave 1	69.1	43.9	47.5	22.3	28.1a

Note: All separate cross-tabulations that form the bases of these cells resulted in significant relationships at  $p < .001$  ( $\chi^2$  test).

a. Misbehavior and delinquency of the same category.

Table 8 presents our findings about the predictive value of specific categories of misbehavior for later delinquency and its categories. The table shows which percentage of students reporting a certain type of misbehavior at Wave 1 is involved in a certain category of delinquency at Wave 2. We also included general (“any”) involvement in misbehavior and delinquency. The cells on the diagonal indicate misbehavior and delinquency of the same category.

When we look at the first column of Table 8, we see how different categories of misbehavior predict any involvement in later delinquency. For example, the second (shaded) cell in the first column represents the extent to which any misbehavior is followed by any delinquency a year later; the percentage of 49.0 is the same as already shown in the “both yes” cell of Table 7. We see that there is a comparable percentage for the personal category of *misbehavior*. Property misbehavior and the combination of personal and property misbehavior, however, are followed more often by any delinquent activity outside school. This is even more strongly the case for serious misbehavior: almost 7 of 10 of the students (69.1 %) who report this in the Wave 1 are involved in any delinquency in Wave 2.

The other columns follow a similar pattern, although with some variations. Misbehavior at school always increases the chance that someone is involved in later delinquency, and the less

common and more severe the type of misbehavior is, the higher the percentages become. Noteworthy is the fact that personal misbehavior is not particularly predictive for later personal delinquency. On the other hand, property and versatile (personal and property) misbehavior are relatively strongly related to the same categories of delinquency, although the differences are not large.

In the last column of Table 8, we see how predictive different categories of misbehavior are for serious forms of delinquency, like wounding someone and serious types of theft. Here we see a large difference between serious misbehavior and all other categories of breaking the rules in school. The percentages for any, personal, property, and versatile misbehavior are all higher than the percentage of the general sample, but not spectacularly higher. The percentage for students with serious misbehavior, however, is almost 3 times higher. So this category can be linked to a clearly higher percentage reporting serious delinquent behavior outside school a year later, although it is still a minority. However, it should also be noted that serious delinquency is far from certain because still a majority (almost three fourths) of the serious misbehaving students do not become involved in serious types of delinquency.

## Discussion

The current study is among the first to investigate the relationship between misbehavior conducted within the school and delinquent behavior outside school. We used cross-sectional and longitudinal data collected among secondary school students in The Netherlands. About 2,000 of them were surveyed in 2002; 1,385 students were followed up in 2003. The participants of the current study completed a questionnaire that covered 9 types of misbehavior at school and 12 types of delinquency outside school. We expand on earlier studies by reporting on more types of school misbehavior and their relationship with delinquency, by relating different categories of school misbehavior and delinquency to each other and by analyzing the “predictive value” of different categories of misbehavior for delinquency a year later. The four categories are “overt” or personal forms of rule violation; “covert,” that is, property offenses and vandalism; the combination of “overt” and “covert” offenses; and serious forms of school misbehavior and delinquency. As far as we know, the relationship between misbehavior at school and delinquency elsewhere has never been studied before in such detail.

Our descriptive analyses show that misbehavior and delinquency are common among the participants of our study. More than two thirds of them reported at least one of the investigated misbehaviors, and almost one half reported that they have been involved in some delinquent activity. The most common misbehaviors and delinquent activities are fighting without injury, bullying, petty theft of items worth less than 5 euro, and vandalizing and graffiti. Most of these reported problem behaviors are relatively light and in a way exploratory behaviors that occur in a period when young people are growing up. Serious misbehaviors and serious offenses are exceptional. Advanced criminal activities, like burglary, robbery, and aggravated theft, are reported by only one or a few percent of the respondents, and threatening teachers and injuring others by a somewhat higher proportion of the respondents. The proportions we found are somewhat higher than reported about the International Self-Report Delinquency (ISR) study and other representative samples (i.e., Debarbieux & Blaya, 2001; Jenkins, 1997; Junger-Tas et al., 2003; Junger-Tas et al., 1994; Junger-Tas & Van Kesteren, 1999). However, our findings come from a relatively “high risk” sample, consisting of relatively low-educated youths from the urbanized part of the country.

With regard to categories of problem behavior, we found that personal (“overt”) types of misbehaviors were much more prevalent than personal delinquent activities. Partly, this is due to the inclusion of bullying in the category of *personal misbehavior*. However, also fighting without injury appears to be more common inside school than outside. Apparently, personal problem behavior is something that is more common in the school situation. Property delinquency (property crimes and vandalism) is slightly more prevalent than property misbehavior (property crimes and vandalism at school); however, this is probably caused by the inclusion of more types of offenses in the first category. Versatile (combination of personal and property) and serious problem behavior are reported about the same proportion of respondents inside school as outside.

In line with earlier studies on this subject (Andershed et al., 2001; Junger-Tas & Van Kesteren, 1999; Nansel et al., 2003; Rigby & Cox, 1996), we found a general and significant relationship between misbehavior at school and delinquency elsewhere. However, this relationship appears to be moderate and less strong than suggested by the earlier studies. There are many respondents (more than 3 of 10) who misbehave in the school context but do not report any delinquent activity outside the school. More remarkable is the finding that about 5% of the respondents reported delinquency, although they do not misbehave inside school. Perhaps these students are not involved in misbehavior at school because they are feeling well at school and protected by a positive school bond. However, they also may think that misbehavior at school is not profitable to them or just too risky.

Our findings further show that similar categories of *misbehavior* and *delinquency* generally have the highest correlations with each other, which offers some support for the existence of different trajectories (the “overt” and “covert” trajectories corresponding to the personal and property types of problem behavior). However, the correlations between dissimilar categories are also moderately high; so many respondents do not limit themselves to behaviors within one category. Analyses on the relationship between categories over time show that the category of *property misbehavior* is more often followed by *property delinquency* a year later than by *personal delinquency*. Personal misbehavior, however, is also more often followed by property delinquency.

We found a significant relationship between misbehavior at school in general and later delinquency. At the same time we conclude that the predictive value of misbehavior is limited. One half of the respondents who misbehave at school are not involved in delinquency one year later. This proportion increases slightly when we know that respondents were involved in property or versatile (personal and property) misbehavior. Serious misbehavior at school has the most predictive value for general delinquency. Serious misbehavior is also more predictive for serious forms of later delinquency than other categories of misbehavior. Nevertheless, the majority of those who report serious misbehaviors at school do not become involved in severe types of delinquency.

These findings nuance the conclusions of earlier studies on the misbehavior–delinquency relation. We do not find evidence that misbehavior is a “marker” for delinquency, in contradiction to the suggestion of Nansel et al. (2003) that bullying is a marker for serious delinquency. However, our findings do support the assumption that misbehavior increases the chances that someone gets involved in delinquency. Especially serious forms of it seem to be a risk factor for later delinquent behavior outside school, though clearly not the only one.

With the analyses in this article, we can not draw conclusions about the influence of school factors on misbehavior. This would require direct measurement of the different elements of school climate that are supposed to have an influence on misbehavior at school. However, our results do not contradict the school climate perspective. Our finding of a moderate relationship between misbehavior and delinquency resembles the expectation derived from the school climate perspective that the correlation is modest because positive or negative school influence may lead to differences in behavior inside and outside school. We also found that a number of students differ in their behavior inside and outside school.

We did not find a very strong general relationship between misbehavior and delinquency or a strong predictive value of misbehavior that would be expected from the “generality of deviance” perspective. However, there was a significant and clear relationship between problem behaviors inside and outside school, so to a certain extent, deviance can be called general, but clearly not for everyone and not so strong as adherents of this perspective would expect. Of course, opportunities may be different between the school situation and elsewhere; however, we do not think that this can explain the differences between misbehavior and delinquency. There are ample possibilities to break rules in general for people who would have a “general tendency to deviate,” inside as well as outside school, certainly in the urbanized context where we conducted our study. Nevertheless, to enhance insights in the role of contextual factors, future research might include different categories of problem behavior as well as opportunities to deviate in different circumstances.

We also did not find the strong specific relationship between similar categories of misbehavior and delinquency that we would expect from the “trajectory approach.” Although there is a general pattern that similar categories are somewhat more strongly related to each other than dissimilar categories, the difference is not large, and there are exceptions to the rule. Especially the category of *personal misbehavior* did not seem to be much more related to personal delinquency than to property offenses.

All in all, our findings do not clearly favor one expectation we derived from three criminological perspectives above the others. We believe that the relationship between misbehavior at school and delinquency elsewhere is more complex than we expected at forehand, based on these available perspectives. First, it seems that certain school misbehaviors (like fighting and incidental bullying) are so widespread that they can not be linked solely to individual characteristics (although there may be associations with personality characteristics). These kinds of behaviors seem to be connected to the period of adolescence and to a school situation where many young people are brought together. This may explain why quite many students do misbehave at school, but not on the streets. Second, there are young people who are more willing to break the rules than others, and they may do it in different circumstances. These are the ones that report problem behavior in both contexts (inside and outside school) and thus contribute to the general relationship that we find between misbehavior and delinquency. Third, when it comes to predicting future delinquency, it appears that the seriousness of the reported misbehaviors is more important than the categories of personal and property problem behavior. Unlike earlier studies (Loeber, 1997; Loeber et al., 1998), we do not find that personal types of problem behavior are predictive for future behavioral developments. Instead, serious misbehavior seems to be the most revealing risk factor.

Our study has a couple of limitations. A first limitation is that our sample is not representative for the total population of Dutch youths. This is because we aimed to get a relatively

high-risk sample with some variation in school situations. This resulted in a sample with students from relatively low levels of education who live more often in larger cities in The Netherlands and who more often have an ethnic minority background. Therefore, our prevalence figures of misbehavior and delinquency represent this part of the Dutch youth population. However, we have no reason to believe that our findings about the relationship between misbehavior and delinquency could not be generalized to the wider population of youths.

A second limitation relates to our longitudinal analyses. We had some selective attrition of respondents in the second wave: among those who did not participate for a second time, there are relatively more youths from ethnic minorities and a higher prevalence of misbehaviors and delinquent activities in the first wave of data collection. It is possible that the relationship between misbehavior and delinquency is stronger among these students, although that is not certain. It is important to note that there are still many respondents left in the sample who are involved in the investigated types of problem behavior, and there is also enough variation in these behaviors within our sample. Therefore, we believe that the selective attrition does not affect our ability to draw conclusions from the data.

A third limitation is that the categories of problem behavior that we operationalized (personal, property, and serious) did not contain exactly the same items inside and outside school. For example, personal misbehavior at school included not only fighting and injuring but also verbal and physical bullying. And property delinquency outside school included different types of stealing than property misbehavior. These differences may have influenced the strength of the associations between similar categories of problem behavior. However, associations between all separate types of misbehavior and delinquency do not reveal a different pattern than the ones we found among the categories of personal, property, and serious problem behavior. Nevertheless, future studies may be helpful to replicate our findings by streamlining measurements of misbehavior and delinquency.

A fourth limitation of our analyses is that we paid attention only to the behaviors themselves. We did not analyze associations with personal and social characteristics of the individual respondents, and we did not include data about the climate of the participating schools in our analyses. Therefore, we could not directly test the validity of the different perspectives on the misbehavior–delinquency relationship. Future studies might shed more light on this issue.

Despite these limitations, the current study has improved our insights in several ways. Our findings suggest that there is a general relationship among more types and categories of misbehavior and delinquency than was known from earlier studies that focused mainly on bullying and violent types of delinquency. At the same time, we found that this relationship is less strong and more complex than existing empirical studies and criminological perspectives suggest.

Of particular interest is our finding that the general predictive value of misbehavior at school for delinquency is rather limited, whereas more serious types of misbehavior are associated with a higher prevalence of later delinquency. The practical implication of this is that misbehavior at school in itself is no reason for much concern about the development of the student, despite the fact that it can be harmful or a nuisance to teachers and fellow students. General preventive measures and enhancing the school climate might be the best means to tackle these kinds of behaviors. Serious types of misbehavior on the other hand seem to be more reason for concern and for paying extra attention to students who are involved in these types of problem behavior. This seems relevant with regard to current

problems and risks for high levels of future delinquency. However, radical and intrusive interventions are not automatically warranted because most of the serious misbehaving students do not get involved in serious types of delinquent behavior. Rather, we would argue that it should be seen as a warning signal. This should give reason to collect more information about the backgrounds and characteristics of these students, to decide whether interventions are to be taken. These interventions should be adjusted to the individual characteristics and circumstances that are found among the misbehaving students.

### Appendix

#### Correlations (Kendall's tau-b) Between Frequency Measures of Misbehavior and Delinquency (N = 1,978)

	Any Delinquency	Personal Delinquency	Property Delinquency	Personal & Property Delinquency	Serious Delinquency
Any misbehavior	.42 <sup>a</sup>	.30	.38	.42	.28
Personal misbehavior	.36	.29 <sup>a</sup>	.31	.36	.25
Property misbehavior	.38	.18	.42 <sup>a</sup>	.38	.26
Personal & property misbehavior	.42	.30	.38	.42 <sup>a</sup>	.28
Serious misbehavior	.29	.27	.27	.29	.36 <sup>a</sup>

Note: All correlations are significant at  $p < .001$ .

a. The correlations between similar types of misbehavior and delinquency.

### Notes

1. Two other violations were included in the questionnaire ("throwing things through the classroom," and "fare dodging"); however, these were so prevalent among the respondents (71% and 49%, respectively) that we decided to leave them out of the analyses. Otherwise misbehaving and delinquency would have had no distinguishing value at all.

2. We did not operationalize the third trajectory of authority conflict. This trajectory does not contain offenses or rule violations at school and is not covered by the items of the questionnaire.

3. "Bullying" in the current study differs from the operationalization of "bullying" in other studies (i.e., Olweus, 1993). It is mostly incidental and unsystematic, only in part are they the frequent and severe kinds of abuse that can be called "systematic bullying."

4. The phi coefficient gives an indication for the strength of the correlation between two dichotomous variables.

5. We used Kendall's tau-b instead of the usual rho coefficient because of the skewed distribution of the variables with relatively many zero values.

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