Societal Vulnerability and Troublesome Youth Group Involvement: The Mediating Role of Violent Values and Low Self-Control

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Abstract

Troublesome youth groups (TYGs) or "gangs" have been a research topic in the past, especially in the United States, and an increasing number of studies are currently being conducted in European countries. However, Belgium has been rather absent from the study of TYGs. This study aims to fill that gap in the literature. In the present contribution, the authors are interested in the prevalence of Belgian adolescents' involvement in TYGs and the role of societal vulnerability in this involvement. The authors are interested in the strength of the relationship between societal vulnerability and TYG and test the hypotheses that violent values and low self-control mediate the relationship between societal vulnerability and TYG. The analyses are conducted on the Belgian sample of the second edition of the International Self-Reported Delinquency study (ISRD-2). Both violent values and self-control mediate the effect of societal vulnerability and have strong independent effects on TYG. The implications of these findings are discussed.

Keywords

troublesome youth group involvement (TYG), ISRD-2 Belgium, societal vulnerability, violent values, self-control

Introduction and Research Questions

Informal youth groups in which offending is tolerated and a part of their activities have been a classic theme in criminology for a long time. Early criminological theories used the term youth gang

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and the existence of these "gangs" has been subsequently explained by the social disorganization perspective of the Chicago School (Thrasher, 1927), strain and subcultural theories (Cloward & Ohlin, 1959; Cohen, 1955; Miller, 1958), control theories (Hirschi, 1969; Kornhauser, 1978), and life style/routine activities theories (Riley, 1987). In the present study, we avoid the term youth gang as it is a very broad and culturally loaded term. We prefer to use the term troublesome youth group (henceforth TYG) as used by the Eurogang working group.[1] Triggered by findings in other European countries, the aim in this study lies in contributing to our knowledge of TYG in Belgian cities and in evaluating the role of societal vulnerability on the odds of self-reporting TYG. The survey-based quantitative approach to the study of TYGs is a rather new research tradition in development in Belgium. The participation of Belgium in the second round of the International Self-Reported Delinquency study (ISRD-2) study allows us to gain insight into the phenomenon, as the ISRD questionnaire contained a battery of questions investigating the prevalence of TYG involvement. The Belgian questionnaire contained some additional questions to measure societal vulnerability. In this contribution, we address the following descriptive research questions: (1) How large is the percentage of TYG involvement of young adolescents in the Belgian sample? (2) Is societal vulnerability related to TYG, independent of gender, age, and academic tracking? Societal vulnerability is conceptualized as an accumulation of disadvantage and the theory was originally developed to explain persistent offending. We test one key hypothesis derived from the theory of societal vulnerability. (3) Do violent values and low self-control mediate the relationship between societal vulnerability and TYG involvement, independent of demographic controls such as gender, academic tracking, and age?

Previous research on gangs or TYGs has been the subject of study in the United States especially (Decker & Weerman, 2005; Klein & Maxson, 2006; Tita, Riley, & Greenwood, 2002) and has become the subject of study in some European countries as well (Bjørgo & Haaland, 2001; Decker & Weerman, 2005; Haaland, 2000). Comparative studies have also been conducted (Esbensen & Weerman, 2005; Klein, Weerman, & Thornberry, 2006). Despite observed differences between characteristics of "street gangs" in the United States and in Europe, we can no longer deny the existence of small numbers of juveniles involved in some kind of TYG in European cities, although it is worthwhile to repeat that none really meet the stereotype criterion of boys from the "hood" controlling a neighbourhood. This has previously been documented by Klein & Maxson (2006) and Klein, Weerman, and Thornberry (2006). The present study questions the relationship between a weak socioeconomic position and TYG in a small Western European country with rather low levels of poverty in comparison with other Western European countries. The socioeconomic status (SES)–crime link has inspired criminological studies for a long time, while results have been mixed (Cullen & Agnew, 2003). The present study assesses the Belgian situation.

Previous Belgian Studies on TYG Involvement

We aim to build upon prior research and present evidence from the Belgian sample from the ISRD-2. In Belgium, quantitative research on TYGs has long been missing, as has quantitative research on the causes of offending, although some studies have been conducted.[2] Previously, Pauwels (2008; 2010) studied TYG involvement in Antwerp, a major city in Belgium (approximately 500,000 inhabitants) with a high level of urban segregation. In short, Pauwels (2008) found that demographic background variables such as immigrant background, gender, belonging to a one-parent family, and SES were only very modestly related to TYG and that morality, self-control, and lifestyle risk were the strongest predictors of TYG. A multilevel analysis (Pauwels, 2010) demonstrated that the ecological concentration of TYGs in disadvantaged areas could be explained by selection effects and not genuine contextual effects (as found using random intercept modelling): poor adolescents tend to live in those areas characterized by poor housing and disadvantage, but

these neighborhood characteristics were no longer significantly related to the odds of self-reporting TYG, once demographics were entered into the equations. These studies are limited as the results are based on a school sample of young adolescents (12–15 years old) and a limited selection of background variables that refer to a weak socioeconomic position. The present study therefore fills a gap in Belgian studies of TYG.

The Theory of Societal Vulnerability, TYG, and the Role of Violent Values and Self-Control

In the present study, we are able to study the relationship between societal vulnerability and TYG and to test how strong this relationship is, when control is held for violent values and self-control—two strong and stable covariates of offending (Wikström & Butterworth, 2006) and TYG (Weerman & Esbensen, 2005). In the beginning of the 1980s, Vettenburg, Walgrave, and Van Kerckvoorde (1984) proposed an integrative theory of persistent offending: the theory of societal vulnerability. The key assumption of that theory is that an accumulation of negative experiences and contacts with official societal institutions may lead to an unfavorable societal perspective. Such experiences may have a psychological impact because they may give rise to specific social–psychological coping strategies and may affect individual "characteristics" that increase the risk of persistent offending, such as the development of antisocial values. The systematic observation of societal vulnerability in some groups must be understood within the framework of the larger macro-level sociological context. Vettenburg and colleagues define societal vulnerability as an interactional process between the adolescent and societal institutions. Societal vulnerability is a multidimensional interactional concept that is situated at the family level[3] and the adolescent level.[4] It should be noted that the theory of societal vulnerability incorporates elements of bonding/control theory as outlined by Hirschi (1969) but stresses the interactional components. Instead of studying the relationships between each element of the social bond and persisting offending, the theory of societal vulnerability studies the consequences of the accumulation of negative experiences in these domains. It is of the utmost importance that this dynamic aspect is taken into account when measuring societal vulnerability in empirical inquiries. Some Belgian studies were conducted from the framework of the theory of societal vulnerability (Vettenburg, 1988; Vettenburg & Walgrave, 2008). These studies combined family structural and cultural characteristics as two dimensions of the vulnerability of the adolescent (e.g., social ties, social pressure, moral development, experiences with institutions, the treatment of adolescents by official institutions, such as the school, and the relationship between pupils and their teachers, adolescent problem behavior, and contacts with the criminal justice system). Variables derived from the theory of societal vulnerability were initially able to explain 43% of the variance in persistent offending (Vettenburg, 1988). From the perspective of the theory of societal vulnerability, it is hypothesized that high levels of societal vulnerability may not only increase one's level of offending but may also increase the probability that one will react toward societal vulnerability by joining a TYG. These prior Belgian studies that were conducted from the standpoint of the theory of societal vulnerability were not able to study the strength of the relationship between societal vulnerability and TYG because adequate measures of TYG were lacking. The present study is the first attempt actually to do so based on Belgian data. We take into account mechanisms from the still nascent empirical literature on covariates of TYG (Katz & Fox, 2010; Thornberry, Krohn, Lizotte, & Smith, 2003; Wood & Alleyne, 2010).[5]

From an overview of risk factors that are correlated to joining a TYG (Klein & Maxson, 2006), one learns that the relationship between poverty/disadvantage and TYG is mostly not supported and that delinquent beliefs is one of the most consistent covariates of TYG. Deviant belief is a key mechanism in explaining individual differences in offending. In his differential association theory, Sutherland (1947) pointed to the importance of learning norms that approve of lawbreaking

(definitions favorable to the violation of law), while control theories stipulated the role of social bonds in socialization. In the recently developed situational action theory, Wikström (2005) argues that morality is the main factor in the explanation of offending, influencing whether an individual will see crime as an alternative for action. In general, attitudes that are supportive of lawbreaking are stable covariates of offending (Svensson, Pauwels, & Weerman, 2010). Therefore, it is important to consider deviant beliefs when one wants to assess the strength of the relationship between societal vulnerability and TYG.

Another key mechanism that has to be considered to study the strength of the relationship between societal vulnerability and TYG is the concept of self-control. The central assumption in Gottfredson and Hirschi's (1990) General Theory of Crime is that low self-control increases the risk of offending as well as other deviant and imprudent behaviors. A large number of studies have tested this proposition, and empirical research shows that low self-control is associated with offending among different samples (e.g., youth, college students, adults, males vs. females, criminals) and in different designs (Burton, Cullen, Evans, Alarid, & Dunaway, 1998; Pratt & Cullen, 2000). More recently, attention has been paid to the concept of self-control in the explanation of TYG (Kissner & Pyrooz, 2009). While self-control theory was originally developed to explain individual differences in offending, the model may be applied to TYG (Esbenson & Weerman, 2005; Hope & Damphousse, 2002; Peterson-Lynsky et al., 2000). Gottfredson and Hirschi (1990) highlight the importance of opportunity facilitating criminal and analogous behavior, such as joining a TYG. Previously, Hope and Damphousse (2002) found empirical evidence for the negative relationship between self-control and gang membership, while Pauwels (2010) found evidence for the existence of a strong positive effect of impulsivity and aggression (two major dimensions of lack of self-control) on TYG, even when controlling for background characteristics, social bonds, deviant beliefs, and exposure to criminogenic moral settings.[6] To assess the strength of the relationship between societal vulnerability and TYG, we have decided to include these two covariates of TYG that were identified previously in empirical studies, namely violent values and self-control.

Measurement of Constructs

Involvement in a TYG is the key variable in the present study. We therefore start by introducing its measurement. TYG involvement can be defined in different ways. However, these differences impede the comparability of cross-national findings and this is one major reason for developing a standard definition in cross-national research, to a large extent stimulated by the Eurogang network. Klein, Weerman, and Thornberry defined involvement in TYGs as follows: "A street gang (or a troublesome youth group corresponding to a street gang elsewhere) is any *durable, street-oriented* youth group whose *own identity includes involvement in illegal activity*." 2006, p. 418, own italic).

Thus, such a group is characterized by a certain degree of duration, independent of shifts in individual membership, group identity, and involvement in illegal (criminal) activities. In the present study, we are restricted to the questionnaire used by the research team of the ISRD.

The questions used to measure TYG involvement are intellectually, strongly related to the measurement instrument developed by the Eurogang working group. We need to point out that there are considerable differences between both instruments, however.

The Eurogang measurement instrument includes questions concerning the durable character of the group, which have not been taken into account in the present study. We therefore need to stress that our measurement instrument is somewhat different. Nevertheless, the ISRD questionnaire contains the core elements of the Eurogang instrument. Thus, we still argue that the ISRD instrument may provide insight into the phenomenon, albeit in a slightly restricted way. Similar to the Eurogang instrument, the ISRD questions refer to the street (or neighborhood) orientation of the members, the approval of illegal things, and the engagement in illegal activities.

TYG involvement was measured using a funneling technique, that is, we combined answers to one filter question and three follow-up questions to measure self-reported TYG. The leading question was "Some adolescents have a steady group of friends to do things together, or to hang around outside. Do you have such a group of friends?" ($1 = yes$, $0 = no$). The three follow-up questions were (1) "Are the members of this group spending a lot of time with each other in public places such as parks, on the streets, or a shopping mall in the neighborhood?" (2) "Do the members approve of illegal things (i.e., things that are not allowed by law)?" (3) "Are there some members of this group that have engaged in illegal activities (i.e., activities that are not allowed by law)?" These follow-up questions are also dichotomies ($1 = yes$, $0 = no$). Respondents were categorized as involved in a TYG if they answered affirmatively to the leading question as well as to the three follow-up questions. To the introductory question ($n = 1540$), 73.7% responded positively, 65.7% (of the 73.7%) answered positively to the first follow-up question; 25.5% of the 73.7% answered positively to the second follow-up question ($n = 389$); and 28.8% answered positively to the third follow-up question ($n = 434$). In total, 213 respondents answered positively on the leading question and the follow-up questions.

Four dichotomous "comfort items" were asked, "Do you have a room to yourself?" "Do you have access to a PC at home?" "Do you own your own mobile phone?" and "Does the family own a car?" If the respondents answered *no* to at least two of these, they were given a score of 1, indicating the risk end of the distribution. Although each of these indicators is questionable, combining these items overcomes the flaw in each indicator.

Societal vulnerability was measured by creating one overall additive index that measures the key dimensions of societal vulnerability. In constructing the overall additive index of vulnerability, we have used the principle of working with dichotomous risk scores on 14 indicators. Respondents were given a dichotomous risk score, where 1 symbolizes the *at risk* end of the distribution and 0 measures the *not at risk* end of the distribution. The following two dimensions were taken into account: (1) vulnerability at the family level and (2) societal vulnerability at the adolescent level. Societal vulnerability at the family level: the educational level of the parents ($1 = no \ parent \ with \ a \ secondary$ *educational level* and $0 = else$), SES work: $1 = none \ of \ both \ parents \ have \ a \ paid \ job$ and $0 = else$), comfort at home: $1 = 2 \ or \ less \ comfort \ items \ answered \ positively$[7]), neighborhood status ($1 = lower$ *than or equal to 2* and $0 = higher \ than \ 2$), mother tongue spoken at home ($1 = no \ official \ language$ *of Belgium spoken* and $0 = French \ or \ Dutch$), lifetime prevalence of physical violence in the family ($1 = yes$ and $0 = no$), immigrant status ($1 = first \ or \ second \ generation$ and $0 = no \ immigrant \ status$).

Societal vulnerability at the adolescent level: attachment to parents ($1 = below \ or \ equal \ to \ the \ average \ scale \ score$ and $0 = else$), relation to school teacher ($1 = below \ or \ equal \ to \ the \ mean \ scale \ score$ and $0 = else$), attachment to school teacher: $1 = below \ or \ equal \ to \ the \ average \ scale \ score$ and $0 = else$), commitment to school ($1 = below \ or \ equal \ to \ the \ mean \ score$ and $0 = else$), time spent on homework, repeated a grade ($1 = repeated \ once \ or \ more$ and $0 = never$), achievement ($1 = below \ average$ and $0 = average \ or \ above$). No value of Cronbach's α is reported as all items are dichotomous.[8]

The present study measures violent values with regard to defensive or retaliatory acts of violence. We used an attitudinal scale as a measurement of deviant attitudes with regard to the use of violence. All items refer to positive attitudes toward the use of violence, as is common in the studies on the effect of violent values on offending (e.g., Oberwittler, 2004). Violent values was measured by adding five questions: "A little bit of violence is part of having a good time," "You have to use violence to deserve respect," "If someone hits me, I hit back," "Without violence everything would be more boring," "It is completely normal that boys want to prove themselves to others by fighting." Cronbach's α is .753. High scores refer to high levels of violent values. A factor analysis was conducted on the scale and all items have sufficiently high factor loadings on this one-dimensional factor.

Self-control was measured by combining 12 items: "I react immediately without taking a break to reflect," "I do what I like to do at any given moment, even if that goes at the expense of others,"

"I am more occupied by things that happen to me in the short run than in the long run," "I think it is fun to test myself to do something risky," "Sometimes I like to take risks just for fun," "Excitement and adventure are more important to me than security," "First I take care of myself, even if that makes it difficult for others," "If I do things that other people consider unpleasant, it is their problem," "I try to get the things I want to have, even if others end up in trouble because of that," "I get angry really fast," "If I am really upset, others had better stay out of my way," "If I really have a problem with somebody, I think it is hard to remain calm and talk about it without getting upset." Gottfredson and Hirschi's conceptualization of low self-control is that six traits come together in the same people. As the authors summarize "the dimensions of self-control are, in our view, factors affecting calculation of the consequences of one's acts" (1990, p. 95). The indicators resemble the items of the well-known scale constructed by Grasmick, Tittle, Bursik, and Arneklev (1993). The questions refer to the key characteristics of low self-control: preferring simple tasks over complex tasks, impulsivity, risk-seeking behavior, temper, self-centeredness, and physical activities. All items were collapsed into a general scale. High scores refer to high levels of self-control. Cronbach's α is .808. A one-factor solution indicated that no item had unacceptable factor loadings. We preferred the overall composite as we did not use the entire 24-item scale that allowed to measure all dimensions with a sufficient number of indicators, thus allowing to create robust subscales (e.g., Arneklev, Grasmick, & Bursik, 1999).

Control Variables

Gender, age, and academic tracking were used as statistical controls. Gender is coded 1 for boys and 0 for girls. Age is a metric variable representing the level of development and is important as a proxy for the developmental phase in life. The age variable was standardized before entering into the equation. Academic tracking is a dichotomy that is coded 1 if the respondent participates in the academic track and 0 if the respondent participates in the vocational track of secondary education.[9] It has been correctly argued that the use of statistical controls that are not interpreted as causes of offending is questionable. The argument for using statistical controls is simply that we are interested in the independent effect of societal vulnerability independent of gender, age, and academic tracking, as these characteristics have been shown to be related to both offending (e.g., Wikström & Butterworth, 2006) and TYG (Linskey et al., 2000). Although these variables may not be the causes of offending, they may be correlated with causes of offending and thus confound the relationship between societal vulnerability and offending and as such it may be valuable to include these variables.

Data

ISRD-2. The first International Self-Report Delinquency (ISRD-1) study was launched in 1992 by the Research and Documentation Centre of the Dutch Ministry of Justice (WODC). The study was based on self-report delinquency data collected in 12 countries, most of which belong to the European Union (Junger-Tas, Marshall, & Ribeaud, 2003; Junger-Tas, Terlouw, & Klein, 1994). The ISRD questionnaire was conceived in a collegial fashion on the basis of the different theoretical and empirical elements from both the Anglo-Saxon and the French-speaking approaches to juvenile delinquency. The ISRD-1 variables with theoretical significance were primarily those drawn from the social-bonding theory (Hirschi, 1969), focusing on parents, school, friends, aspirations, and leisure activities. In 2003, the idea of repeating the study and starting a series of such surveys emerged. Thirty-one countries participated in ISRD-2. The survey was carried out in 2006 using a standardized questionnaire (Junger-Tas et al., 2009; Vettenburg, Gavray, & Born, 2009). Studies concerning juvenile delinquency have classically been focused either on individual characteristics or on the context, and most importantly on the principal places of socialization (Born & Thys, 2001; Galand,

Philippot, Petit, Born, & Buidin, 2004; Pellegrini, Bartini, & Brooks, 1999). Nevertheless, in the context of ISRD-2, new indicators have been used in relation to psychological (Blatier, 2002; Le Blanc & Morizot, 2001), sociological (Filleule, 2001), or integrative (Thornberry et al., 2003; Vettenburg & Walgrave, 2008; Wikström, 2005) theories.

The Belgian City Samples

In Belgium, the research team responsible for the ISRD-2 survey opted for a city-based sampling strategy, as proposed by the ISRD-2 Steering Committee. Four cities were chosen in both Belgian regions; two cities in Wallonia and two in Flanders. All cities share quite similar characteristics. Two of the selected cities belonged to the group of metropolitan cities in Belgium (Ghent and Liege, approximately 300,000 inhabitants) and two were rather small, but similar in demographic background characteristics (Aalst and Verviers, approximately 60,000 inhabitants). Within the framework of this survey, we surveyed both male and female students in the 7th, 8th and 9th grade (in the U.S. school system). In Belgian terms, the respondents were in the first 3 years of the secondary school system. A paper-and-pencil questionnaire was administered to the respondents because most schools did not have the accommodation to allow us to conduct a computer-assisted self-report. Each of the secondary schools of the four cities received a letter and a phone call. Many of the schools' boards showed genuine interest in the survey and asked for the results in due course. Of the 93 schools (29 of 64 for the 2 medium-sized cities and 14 of the 29 for the 2 small cities), 43 agreed to participate. In other words, 46.3% of the contacted schools agreed to cooperate in the survey. Within each school, a random sample of one to three classes was taken, depending on the number of study years organized by the school. Finally, 148 classes were visited. The students' parents also received a letter about the survey (passive consent), and 38 refusals were received. In all, 2851 students were present at the moment the survey was conducted, and 2349 students filled in the questionnaire (82.4% of 2851 students). In total, the research team received 2247 questionnaires (78.8% of the 2851 students that were present at school when the survey was conducted). The sampling and the methodology are described in detail elsewhere (Vettenburg, Gavray, & Born, 2010). Due to item nonresponse, the sample used for the multivariate analyses consists of 2103 respondents.

Analysis Plan

As the dependent variable is a dichotomy, logistic regression analysis is used to gain insight into the independent effects of the available set of independent variables (Hosmer & Lemeshow, 2000). As the data are clustered within schools, adjusted standard errors for cluster samples were used. All the analyses were conducted in Mplus version 6 (Muthén & Muthén, 1998–2010). Conducting the logistic models with adjusted standard errors yielded no significant differences from multilevel logistic models (Snijders & Bosker, 1999). All models were run using the blockwise regression method. The order of introducing the variables in the equation is guided by the framework of the theory of societal vulnerability. We assume that the effect of societal vulnerability on TYG involvement is by and large mediated by violent values and self-control. The descriptive results are based on the weighted sample data, while the multivariate analyses are conducted on the unweighted data (Gelman, 2007).

Descriptive Results

Table 1 reveals the univariate sample descriptive for both adolescents involved in a TYG and those not involved in a TYG.[10] From the first row it can be read that, in the total sample, 10.1% self-reported TYG. We found no statistically significant differences between the city samples. Table

Table 1. Descriptives of Scale Constructs by TYG

Total Sample: $N = 2,103$ Scale constructs	Non-TYG ($n = 1,890$ or 89.9% of Total Sample)				TYG ($n = 213$ or 10.1% of Total Sample)			
	Mean	Std	Min	Max	Mean	Std	Min	Max
Self-control*	−0.81	0.77	−2.73	1.81	0.1	0.87	−2.73	1.82
Violent values*	0.70	0.94	−1.17	2.51	−0.1	0.83	−1.17	2.51
Societal vulnerability*	2.8	1.98	0	9	1.8	1.70	0	11
Age*	13	1.20	11	17	14	1.24	11	17
Dummy variables	Proportion	Std	Min	Max	Proportion	Std	Min	Max
Gender (1 = male)*	0.47	—	0	1	0.61	—	0	1
Academic track* (1 = *Academic track* And 0 = *vocational track*)	0.77	—	0	1	0.58	—	0	1

Note. TYG = Troublesome youth group.
* $p < .05$ or better.

Table 2. Blockwise Logistic Regression Analyses of TYG Involvement

Dependent Variable: TYG Involvement	Model 1 B (SE)/Odds Ratio	Model 2 B (SE)/Odds Ratio	Model3 B (SE)/Odds Ratio
Societal vulnerability	0.18 (0.03)/1.20***	0.09 (0.04)/1.10*	0.05 (0.04)/1.05ns
Age+	0.35 (0.08)/1.42***	0.39 (0.08)/1.47***	0.40 (0.08)/1.49***
Male	0.50 (0.21)/1.66*	0.13 (0.24)/1.14ns	0.21 (0.25)/1.23ns
Academic tracking	−0.27 (0.22)/0.76ns	−0.04 (0.25)/0.96ns	0.06 (0.29)/1.06ns
Violent values[a]	—	0.70 (0.07)2.02***	0.35 (0.08)/1.41***
Self-control[a]	—	—	−0.73 (0.08) 0.48***
Goodness-of-fit measures			
AIC	1293.81	1206.14	1147.07
BIC	1322.05	1240.04	1186.62
Pseudo R^2	12.3%	21.8%	29.8%

Note. TYG = Troublesome youth group; AIC = Akaike information criterion; BIC = Bayesian information criterion; ns, not significant.
*** $p < .001$. ** $p < .01$. * $p < .05$.
Note. [a] Metric variables were standardized before entering the equation in order to be able to compare the magnitude of the independent effects.

1 also shows the sample descriptive for the variables that will be used in the multivariate analyses. Adolescents involved in a TYG have lower mean scores on self-control, a higher mean score on violent values and age. Both subgroups have significant differences in proportion of males and academic track. The proportion of adolescents that are taking the academic track is 0.77 for those not involved in a TYG and 0.58 for those involved in a TYG. The proportion of males is 0.47 for those not involved in a TYG and 0.61 for those involved in a TYG. All bivariate associations are significant at the .05 level (or better).

Multivariate Analyses of TYG Involvement

Table 2 gives an overview of the findings from the multivariate analyses. We report for all independent variables the logistic coefficient (B), followed by its standard error. Finally the odds ratios

are presented. Odds ratios that have a value higher than 1 indicate an increase in the odds of self-reported TYG (thus a positive effect), while odds ratios that have a value lower than 1 indicate a decrease in the odds of TYG (thus a negative effect). Model 1 shows that societal vulnerability increases the odds of TYG, when all statistical controls are taken into account. Of these controls, age has a significant positive effect on the odds of TYG, males have significantly higher odds of reporting TYG involvement than females, and finally taking the academic track in education decreases the odds of TYG. Academic tracking does not have a significant effect when societal vulnerability is included in the model. It is important to understand how these effects can be statistically explained and in the present study we focus on the role of both violent values and self-control. We have introduced sequentially violent values (model 2) and self-control (model 3) into the equation to assess whether these variables decrease the relationship between societal vulnerability and TYG, all controls being equal. When violent values are introduced into the equation in Model 2, males no longer have higher odds than females of self-reporting TYG. An increase of 1 standard deviation (SD) in violent values significantly increases the odds of TYG. The Akaike information criterion (AIC) and Bayesian information criterion (BIC) measures have decreased significantly. The AIC and the BIC can both be interpreted as criteria for model selection among a class of parametric models with different numbers of parameters. When parameters are added in a regression model, the AIC and BIC criteria should significantly decrease. In that case the model fit has improved in comparison with the previous model. Societal vulnerability still has a positive effect on TYG involvement, but the effect has decreased. Violent values are thus a partial explanation of the reason why societal vulnerability has an effect on TYG involvement. In Model 3, self-control is introduced into the equation and the findings suggest that a 1-SD increase in self-control significantly reduces the odds of TYG involvement. The introduction of self-control decreases the effect of violent values, while the effect of societal vulnerability has become completely insignificant. The relationship between societal vulnerability and TYG, which still exists when controlling for violent values, is reduced to zero when self-control is taken into account. The AIC and BIC measures have decreased significantly, which means that the model fit has improved. In short, these analyses reveal that the effect of societal vulnerability on TYG involvement is mediated in two ways: by increasing violent values and by decreasing self-control. The independent effect of self-control is stronger than the independent effect of violent values. This can be seen directly from the magnitude of the logistic coefficient.

Conclusion and Discussion

This study provided some preliminary descriptive insights into the involvement of adolescents in TYG in four Belgian municipalities. Three research questions were addressed: (1) How large is the percentage of TYG involvement of young adolescents in the Belgian sample? (2) Is societal vulnerability related to TYG involvement, independent of demographic background characteristics, such as gender, age, academic tracking? and (3) Do violent values and low-self control mediate the relationship between societal vulnerability and TYG involvement, independent of demographic controls such as gender and age?

First, TYG involvement among adolescents in schools seems to be about as prevalent in our four Belgian city samples as it is in the United States and other Western European countries, but further research is necessary to gain a global picture of the involvement of Belgian adolescents in TYGs. About 10.1% of the respondents in the Belgian city samples were involved in a TYG. As TYG involvement has not been studied much in Belgium, it is rather difficult to compare the results of this study with previous Belgian studies. Earlier Pauwels (2008; 2010) found that an overall percentage of 5% of young adolescents was involved in TYGs in Antwerp. Both studies used the same funneling technique with the same introductory question, but it should be noted that the Antwerp study included follow-up questions on violence and fights with rival youth groups. The latter were absent

from the present study. This might be one explanation for the difference in percentages. The two Belgian samples do not differ dramatically in terms of background characteristics, with the exception of age. The smaller percentage found earlier in Antwerp may thus also be due to the fact that the Antwerp sample consisted of a younger age group (the modal age group was 12–14 years old). However, our results do not dramatically differ from the results described in a Dutch school sample (Esbensen & Weerman, 2005). Second, societal vulnerability plays an important structural role—independent of age, being male, and academic tracking—in explaining the odds of becoming involved in a TYG. Academic tracking has no independent effect when age, being male, and societal vulnerability are controlled for. Being male and age are the only statistical controls that have statistically significant effects on the probability of reporting TYG, but when both ''social processes''—variables violent values and self-control—were introduced into the equation, only age remains significantly and positively related to TYG involvement. The effect of societal vulnerability is partially mediated by violent values and fully mediated by violent values and self-control. This study reinforces the importance of taking into account these social process variables and reconfirms that violent values and self-control are important mechanisms that not only explain (persistent) offending but also TYG involvement.

Societal vulnerability is a structural condition that seriously limits the behavioral options of individuals who can be labeled as societal vulnerable. Previously, it has been argued that societal vulnerability increases persistent offending. This is reflected in the fact that societal vulnerability also predicts TYG involvement. It has been shown previously that levels of offending are much higher within TYGs and gangs (Decker & Weerman, 2005; Pauwels, 2010). The finding that the effect of societal vulnerability is mediated by violent values and self-control is highly suggestive of the idea that societal vulnerability is an indirect cause of joining a TYG.

However, the present study has some important limitations that should be taken into account. First of all, the study is cross-sectional and examined the strength of the statistical association between societal vulnerability and TYG. Therefore, we warn against causal interpretations. Second, the empirical model has causal arrows in one direction and does not take feedback loops into account. It is possible that involvement in a TYG in itself further affects moral violent values and self-control, but such a design would require instrumental variables to test feedback loops and such measures were not available in the present study. Third, the ISRD-2 questionnaire was not primarily developed to assess and measure fully such a complex characteristic as societal vulnerability. Therefore, we created one single index that consisted of key indicators of societal vulnerability. Fourth, our results are restricted to Belgium. The ISRD-2 data were gathered in many other European countries: this means that future studies that use the ISRD survey may further unravel similarities and differences. To evaluate the strength of the association between societal vulnerability and TYG involvement, societal vulnerability should be measured in exactly the same way in all countries. Up to now, this is not the case. In the case of questions regarding societal vulnerability, the Belgian research team posed additional questions that refer to the concept of societal vulnerability. Despite the number of cautionary notes, the present study provides additional evidence for the importance of taking into account measures of deviant beliefs and self-control in the explanation of TYG involvement. Despite difference in measures, the finding that both self-control and deviant beliefs are important predictors of TYG involvement is consistent with previous studies (e.g., Klein & Maxson, 2006; Weerman & Esbensen, 2005; Pauwels, 2010). Our study suggests that the correlates of offending and the correlates of TYG are to a certain degree similar. These variables may therefore play an important role in the prevention of TYG involvement. Future studies should extend on these findings and examine the nature of the relationship between self-control and deviant beliefs, on one hand, and TYG involvement on the other. The effects may be moderated by levels of exposure to criminogenic settings, as is suggested from the standpoint of the Situational Action Theory (Wikström, 2005). This recently developed framework is a theory of crime causation, but the framework might also

be applied to the explanation of TYG involvement. At the end of this study, we can only argue that more research is needed, including in Belgium, to establish further the mechanisms that are related to TYG involvement and its consequences, such as offending and victimization. One underexplored issue is the study of interaction effects between TYG involvement, causal mechanisms of offending, and offending behavior. Involvement in a TYG may amplify the effects of some causal mechanisms derived from the theories of crime causation (e.g., informal controls, moral beliefs, self-control, and situational triggers). The ISRD-2 data provided us with an interesting instrument that can be of use to test some of the issues raised above and therefore deserves further exploitation in criminological inquiries of TYG involvement. Finally, in order to compare findings from different studies, it is of utmost importance that scholars increase their efforts to make use of identical rather than similar measures.

Declaration of Conflicting Interests

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Notes

1. The Eurogang network consists of leading European and American scholars in the field. They are now working together to develop a common framework for comparative research, based on standardized methodological instruments and a common research design.
2. Belgian research concerning youth and delinquency has primarily focused on the social and penal reaction toward the delinquent behavior of minors as well as the treatment of delinquent youth, that is, the juvenile justice system (Christiaens, De Fraene, & Delens-Ravier, 2005). For an overview of self-reported delinquency studies in Belgium and the Netherlands see Pauwels & Pleysier, 2009.
3. Societally vulnerable families are often families in which parents do not have jobs, do not have the minimum comfort of housing, and who live in low-status neighborhoods.
4. Societal vulnerability at the adolescent level refers to weak social bonds of adolescents with their parents, weak attachment to peers, weak attachment to teachers, and low commitment to school.
5. An overview of risk factors that are correlated to joining a TYG can be found in Klein and Maxson (2006).
6. This measure included peer delinquency and other routine risk behavior and was measured in exactly the same way as was done by Wikström and Butterworth (2006).
7. Four dichotomous "comfort items" were asked, "Do you have a room to yourself?" "Do you have access to a PC at home?" "Do you own your own mobile phone?" and "Does the family own a car?" If the respondents answered "no" to at least two of these, they were given a score of 1, indicating the risk end of the distribution. Although each of these indicators are questionable, combining these items overcomes the flaw in each indicator.
8. All indicators were sufficiently correlated and all items load sufficiently high on a one-factor solution using factor analysis for categorical variables.
9. In Belgium, secondary education is provided for adolescents aged 12 to 18 and consists of 6 years, divided into three grades (or educational cycles) of 2 years each. The first grade (2 years: type A or B) offers a range of general subjects. For pupils who did not receive their elementary education certificate or who are considered to be not academically strong enough to pass the first year of secondary education, 1 transitional year (B-class) is offered during which the subject matter of primary school is repeated. From the second grade of secondary education (i.e., generally at the age of 14), students are divided into three main tracks. General secondary education (GSE) offers academic subjects only and prepares pupils for higher education. Technical secondary education (TSE) involves a combination of general, technical–theoretical, and

practical subjects. Vocational secondary education (VSE) is a practical education form in which pupils learn a specific occupation. It prepares youngsters for a job. Within each type, there are several options (combination of subjects), and they all lead to the certificate of secondary education.

10. Only valid cases, descriptives weighted by sample weights in ISRD-2.

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