IN THEIR OWN HANDS:
YOUNG PEOPLE AND SELF-JUSTICE RETALIATION IN GERMANY

Abstract
Strong and viable modern states seek to protect their monopoly of power and have limited the use of private force to narrowly defined situations of self-defense. Yet, evidence from crime surveys shows that a significant proportion of violent and property crimes is not reported to police. Instead of calling the police, people either take no action or employ variables mechanisms, including retaliation, to settle disputes. Drawing on data from a survey of 2,921 young people in two German cities, we investigate the propensity of adolescents to resort to self-justice retaliation. The results show strong and widespread propensity to engage in retaliatory actions, particularly among male juveniles of low socio-economic status. Further, attitudes toward police, unsupervised routine activities, and delinquency-related variables were the most influential correlates of propensity to retaliatory actions. We discuss the implications of these findings for criminological analyses of retaliation and vigilantism.

Key words: self-justice retaliation; vigilantism; police legitimacy; delinquency, social bonds.
INTRODUCTION

Inside a courtroom in Lübeck, West Germany, in 1981, Marianne Bachmaier shot dead the alleged murderer of her seven-year-old daughter. The man was indicted for having abducted, sexually abused and murdered Bachmaier’s daughter (Süddeutsche Zeitung 2010). Bachmaier was convicted of manslaughter and sentenced to six years of imprisonment. The sentence was widely criticized for being too lenient and is nowadays considered a major judicial error (Paul 2005). The case Bachmaier received widespread public attention and remains, until today, Germany’s most (in)famous case of self-justice retaliation (Haas, de Keijser, and Bruinsma 2012). Although in more recent times Germany has witnessed other events of violence motivated by self-justice, they have received comparably low media coverage. A case of particular relevance for this paper is the murder of a 55 years-old man, a convicted child sex offender, in Berlin. A young man of 15 years stabbed the man to death in a high-rise apartment complex where the victim lived. In the aftermath of the murder, the adolescent reported having been a victim, together with his friends, of repeated sexual harassments by the man. In his confession statement, he claimed he could not rely on the judiciary to offer him justice (Der Tagesspiegel 2013).

Both of these cases show that retaliation and self-help justice mechanisms do happen even in mature democracies such as Germany (see Brake 2005; Copes, Hochstetler and Forsyth 2013; Loveluck 2019; Papp et al. 2019). Criminologists and social anthropologists have documented cases of retaliation across different countries (see, Anderson 1999; Pratten 2006; Tankebe 2009; Jacobs and Wright 2010). Jacobs and Wright (2010) see retaliation as an alternative sanctioning mechanism. The authors argue that it is an “unofficial yet highly punitive […] informal sanction that looks both backward and forward—backward by punishing wrongdoers for past misbehavior, forward by deterring wrongdoers from committing additional violations in the future” (p. 1740). In general strain theory (GST), retaliation is a form of criminal coping (Agnew 1992). GST defines strain as “events and conditions that are disliked by the individual” (Agnew and Moon 2018: 519). In retaliation, individuals suffer aversive treatment by others which creates pressure for violent resolution or coping. Consequently, retaliatory violence operates on a moral imperative according to which aggrieved parties decide to “take the law into their own hands” to retaliate for a past wrong (Jacobs 2004).

Retaliation in the context of self-justice results from perceptions of unavailability, inexpediency of or dissatisfaction with state responses and as such it is closely related to
the concept of vigilantism (Johnston 1996). Both are forms of social control “meted out in
the shadow of the law” (Apel and Burrow 2011), fulfilling functions otherwise reserved
for formal justice sanctioning, such as retribution, deterrence, incapacitation, and
restitution. Self-justice retaliation may prosper in societies with a dysfunctional law
enforcement system and with weak state institutions; yet, as the incidents at the beginning
of the article seem to suggest, it also happens in segments of modern democracies which
lack (or think they lack) access to law enforcement authorities (Abrahams 1998; Goldstein
2003; Smith 2004; Super 2016). Despite this fact, we know very little about the extent to
which self-justice thrives in strong and viable modern societies. The few studies on
retaliation in such societies (e.g., Girling, Loader and Sparks 1998; Jacobs and Wright
2010; Haas, Keijser, and Bruinsma 2012; Jackson et al. 2013a; Koch 2017) focus mainly
on the adult population. They find that people are generally keener to endorse retaliation
and engage in self-justice when have difficulties to access the formal justice system, have
lower trust in state institutions or are involved in subcultures and forms of parallel justice
that entail values and norms requesting non-cooperation with the police. Self-justice is
modern societies is thus reflection of the difficulty, or the unwillingness, to resort to the
law.

Our study adds to this research by focusing on the views and experiences of
adolescents in Germany. The focus on adolescents is informed by research showing that
younger victims are reluctant to report offenses to the police and prefer to resolve conflicts
by themselves (e.g., Skogan 1984; Goudriaan and Nieuwbeerta 2007; Langton et al. 2012).
Some studies estimate that the percentage of violent victimizations adolescents report to
the police vary between ca. 10 and 20 per cent (Enzmann 2012: 151; Oberwittler,
Schwarzenbach, and Gerstner 2014: 20), much lower than the 30 to 40 per cent of assaults
This finding suggests that the potential for resorting to retaliation might be much larger
among adolescents than it is among adults. Moreover, the studies find that various factors
account for the failure to report violent victimization to the police, such as gender and
ethnicity of both perpetrator and victim. In some cases, non-reporting leads to no further
action by victims; in other instances, victims resort to retaliatory and other violent coping
mechanisms. Our interest in this study lies with the latter. Why do young people resort to
self-justice retaliation to redress wrongdoings?

The paper is structured as follows: first, we outline various theoretical approaches
suitable to the explanation of self-justice retaliation and specify hypotheses to be tested.
Next, we contextualize our study by providing information on crime patterns, policing, history of immigration and policy of integration in Germany. Then, we describe the data and methods for the study. We present findings from testing our hypotheses on young people’s propensity to engage in acts of self-justice retaliation. Finally, we conclude with a discussion of the findings and their implications for our understanding of young people’s normative orientations to retaliation.

CORRELATES OF SELF-JUSTICE RETALIATION

Different theoretical approaches from sociology and criminology can aid our understanding of self-justice retaliation. In this section, we review potential correlates of the decision to resort to retaliation based on insights from legitimacy theory and general strain theory (GST).

COMPROMISED POLICE LEGITIMACY

A commonplace explanation of the resort to retaliation is the lack of police legitimacy. Police organizations are legitimate if citizens recognize their authority as valid (Coicaud 2002; Bottoms and Tankebe 2012). It is a multidimensional concept, encompassing lawful exercise of authority, the effectiveness in maintaining social order, fair decisions, and fair procedures (Bottoms and Tankebe 2012; Tankebe 2013). Evidence from various survey-based studies show that legitimacy matters in nurturing deference to institutions and rules (Tyler 2006; Jackson et al. 2013b). Without it, the normative status of institutions become weakened, depriving them of emotional attachment (Hirschi 1977), and this may free people to seek for alternative conflict resolution mechanisms and engage in self-justice.

In his widely acclaimed ethnographic study of violence in inner cities in the US, Anderson (1999) found that self-help justice arose in situations of perceived police ineffectiveness, thereby rendering retaliation an attractive, even necessary, substitute for official criminal sanctions (see also, Smith 2004; Apel and Burrow 2011). In such cases, “an oppositional culture can arise, a culture wherein one’s safety depends, in part, on one’s ability to appear intimidating and even threatening” (Gau and Brunson 2015: 136). In their study, Jackson and his colleagues explored the conditions under which violence becomes acceptable in the eyes of people in their everyday life. Analyzing survey data from young people of different ethnic minority communities in London, UK, the authors found a strong correlation between negative judgements about police legitimacy and positive views about
the use of violence. When people perceive compromised legitimacy, they are more likely to use violence to achieve social control and social change (Jackson et al. 2013a). Using data from a community survey in Pakistan, Tankebe and Asif (2016) found that public support for retaliatory violence depended on experiences of police illegality as well as perceptions of poor quality of police decision-making (see also Tankebe 2009).

**H1A:** *The more favorable adolescents’ perceptions of police legitimacy, the lesser the likelihood of self-justice retaliation.*

**H1B:** *The more favorable adolescents’ experiences with the police, the lesser the likelihood of self-justice retaliation.*

**DELINQUENT HISTORY AND DELINQUENT PEERS**

Retaliation is a special case of delinquent behavior, and hence theories of delinquency can also be applied to explain retaliation. In fact, if adolescents are asked to report offending in surveys, some acts of retaliation are likely to be included in their self-reports. Delinquent behavior and attitudes supporting norm-breaking put adolescents on a path toward favoring retaliation, since delinquency almost by definition contributes to a drift from conventional society (Sykes and Matza 1957; Simons et al. 2014) and renders cooperation with the police (whose prime task is the enforcement of conventional norms) problematic. Personal experiences of delinquent behavior as well as influence by delinquent peers may reinforce attitudes that favor alternative modes of conflict resolution. Ethnographic studies of disadvantaged and violence-infested neighborhoods have often found evidence of the subcultural norm of “stop snitching” which stigmatizes cooperation with police (Yates 2006; Goudriaan and Nieuwbeerta 2007; Clampet-Lunquist, Carr, and Kefalas 2015) and instead favors informal strategies of redress which become part of a subcultural “street code” emphasizing masculinity and respect (Anderson, 1999). Retaliation to often minor grievances and disputes accounts for a considerable share of violence in disadvantaged neighborhoods, fueling ‘tit-for-tat’ circles of violence (Wolfgang 1958; Kubrin and Weitzer 2003).

Associating with delinquent peers has also been linked to the likelihood of resorting to retaliation as a coping mechanism. According to GST, delinquent peers serve a number of functions in an individual’s decision to respond to negative experiences – such as
victimization – with violent self-help. Agnew and Moon summarize the role of delinquent peers as follow:

“These others are more likely to model violence, reinforce violence, and teach beliefs favorable to violence, thereby influencing the individuals’ disposition for violence. Others may also provide individuals with assistance in carrying out violent acts, thereby influencing their ability to engage in violence. Further, others may lower the perceived costs of violence, because they are seen engaging successfully in violence and there is strength in numbers” (Agnew and Moon 2018: 523).

We account for this research by testing both individual and collective effects of delinquency:

\[H2A: \text{Compared with others, adolescents with a delinquent history will be more inclined to self-justice retaliation.}\]

\[H2B: \text{Compared with others, adolescents with delinquent peers will be more inclined to self-justice retaliation.}\]

**CONVENTIONAL SOCIAL TIES**

GST postulates that individuals with weak ties to conventional others and with “little investment in conventional institutions” (Agnew and Moon 2018: 523) most likely respond to strain with violent retaliation. This postulation recalls Hirschi’s social control theory according to which reactions to the law depend on the strength of an individual’s bonds with conventional society: the weaker the bond, the lesser the commitment to law-abiding behavior and the greater the risk of criminal involvement (Hirschi 1977). More recent work on police-public relationships have also stressed the importance of family and other social bonds. Thus, analyzing data from a sample of adolescents from various US cities, Wu, Lake, and Cao (2013) found that social bonds, particularly commitment to school and conventional beliefs, significantly shape juveniles’ attitudes toward the police.

Other research has broadened the scope of the social bonding theory by introducing consideration on social identity, shared beliefs and group identification. These elements strongly relate to beliefs in the moral values of society, which is part of the original
operationalization of the social bonds concept. People who do not feel a strong group identification are individuals with low investment in that group; in other words, they have little stake in conforming to the normative imperatives of the group. The available evidence shows that identifying more strongly with one’s ethnic group of origin and less strongly with the host society can be connected to a reduced inclination to cooperate with the police. Thus, Murphy, Sargeant, and Cherney (2015) found in an Australian survey that respondents with “subordinate” (relating to ethnic minorities) or “separatist” identities (rejecting cultural assimilation) were less willing to cooperate with the police. In recent years, European research has started to shed light on the extent whereby common values and a shared social identity influence the relationship between the police and the public. This research finds that trust in police and propensity to cooperate with the police are lower among minority groups that do not identify with the norms and values of their host society (see e.g., Schwarzenbach 2020). Relying upon findings from a survey of young Londoners, Bradford (2014) analyses how positive social identities or shared values and beliefs relate to cooperation with the police. The author found that social identity mediated the link between perceptions of police fairness and cooperation with police. According to Bradford, this relationship is particularly strong among young people holding multiple identities (Bradford 2014).

We argue that a similar dynamic might apply in the use of informal mechanisms – such as self-justice retaliation– for dispute resolutions. Consequently, we hypothesize that:

H3A: *The weaker the bonds with family and school, the greater adolescents’ willingness to resort to self-justice retaliation.*

H3B: *The weaker the bonds with the nation-state, the greater adolescents’ willingness to resort to self-justice retaliation.*

**UNSUPERVISED ACTIVITIES AND SITUATIONS**

Conventional ties form one dimension of GST definition of low social control; the other dimension is the absence of closed supervision by others (Agnew and Moon 2018). According to opportunity and situational approaches, criminogenic routine activities have in common that adolescents meet with peers in unsupervised and unstructured settings, thus reducing informal social control and increasing the likelihood of spontaneous and “risky” behaviors (Cohen and Felson 1979; Osgood et al. 1996; Osgood and Anderson 2004). As
Simons and his colleagues argue, “risky activities increase the probability of criminogenic situational definitions to the extent that they include, by their nature, a degree of disinhibition and spontaneity, and they involve interaction within a boisterous crowd of strangers” (Simons et al., 2014: 661). Although the link between routine activities and retaliation has not yet been thoroughly investigated in empirical research, we assume that in the same way that criminogenic situations create opportunities for offending, they likewise could promote retaliation through creating situations in which adolescents spend unsupervised time with peers.

H4: Compared with others, adolescents with unsupervised and risky routines will be more inclined to self-justice retaliation.

CRIME AND POLICING IN GERMANY

Germany is a large, prosperous European nation, with a per capita GDP of 42,500 USD in 2011, above France, the UK, and the Eurozone average of 37,300 (OECD 2020). Judged by its very low homicide rate (0.8 per 100,000 citizen) Germany’s society is not crime-ridden (UNODC 2013). According to the last International Crime Victims Survey 2004-2005, the prevalence rates of key crimes as burglary, robbery and assault were lower than in many neighboring European states (van Dijk, van Kesteren, and Smit 2007), and registered crime has been declining since the early 2000s, as in most developed nations (Boers, Walburg, and Kanz 2017).

Germany is one of the ethnically most diverse countries in Europe, making it a particularly good research site for our analyses. The country has witnessed several waves of mass emigration until the end of the 19th century before slowly and reluctantly accepting its role as a major receiving country of international migration which it is today (Meyers 2004). Both the labor immigration flows from Turkey and Southern Europe during the 1960s and 1970s as well as more recent, predominantly humanitarian, migration flows of asylum seekers and civil war refugees from the Balkans, the Near/Middle East and Africa were characterized by non-selective policies and the prevalence of unskilled migrants. According to estimates from the 2011 micro census, 18.5 per cent of the German population had a migration background (including third-generation descendants), which rises to 26 per cent in the adolescent age group that spans between 15 to 19 years. (Statistisches Bundesamt 2011). The Turkish are the largest ethnic minority in Germany, with most
second- and third-generation adolescents stemming from labor migrant families. Due to Germany’s previously restrictive immigration policies, many of these minority residents still have foreign citizenship.

The two cities selected for the present study have both migrant populations above the national average, with roughly half of the adolescent populations from migrant families, and with Turkish as the largest group (see chapter Data and Methods for details). Integration of migrants into the host society is an intensely debated issue in Germany. In combination with the lack of pro-active integration policies, there are relatively wide gaps in socio-economic success between the native and large segments of the migrant populations including second- and third-generation descendants (Diehl 2016). For example, 12.4 per cent of the native German population but 36.1 per cent of the Turkish migrant population were at risk of poverty in 2011 (Statistisches Bundesamt 2011 p. 314). Yet, despite these indicators of socio-economic disadvantage, some scholars have found less signs of alienation among the Turkish minority in Germany than in comparable minority communities for example in neighboring France (Tucci 2011). The Muslim community is formally represented through different institutions and takes active part in the political dialogue (Halm and Sauer 2017). Perceptions of the Muslim minority population are largely positive also among the police forces (Schwarzenbach 2012).

European research has started to catch up with US research on police-citizen-relations generally and policing of minorities in particular (Oberwittler and Roché 2018). Findings from this research found clear evidence for ethnic discrimination in the practice of proactive policing in some European countries, such as France (e.g., Schwarzenbach 2020). Results for Germany do not support this notion, and trust in the police among the migrant population in Germany is rather high (e.g., Heitmeyer et al. 2005; Baier et al. 2009). Still, German official statistics as well as self-reported studies report that young people of Muslim and other minority background are overrepresented among the violent offenders (e.g., PKS 2012). Scholars have suggested that higher rates of offending among male minority juveniles in particular are linked to their less favorable social conditions (see Walburg 2014; Baier 2015).

Finally, evidence from German youth crime victimization studies shed light on young people’s crime reporting behavior. Next to social status, gender and ethnicity as well as the relationship between perpetrator and victim play heavily into the decisions whether young victims report crimes in Germany. Crime reporting is lower among male and ethnic minority youth. Victims are also less likely to report crimes that are committed by
perpetrators who are part of their peer group. Crime reporting also depends on the material damage that is produced: the higher the damage, the more likely young victims report crimes (Enzmann 2015; Baier and Rabold 2016).

DATA AND METHODS

The data used for the analysis of juveniles’ propensity to adopt retaliation are drawn from a large cross-sectional school survey conducted between September 2011 and March 2012 as part of the XXX study. Two West German cities were selected for the survey: XXX with a population of one million, and XXX, a medium-sized city with around 300,000 residents. Both cities are characterized by mixed economic structures with a strong industrial base, and in both cities, roughly half of the population under 18 years has a migration background (mainly second and third generation).

According to figures from the official crime statistics for the year 2012 (see PKA 2012), XXX ranked among the most crime-ridden cities in Germany with 14,838 crimes per 100,000 inhabitants, topped only by Frankfurt and Düsseldorf (16.310 and 14.966 crimes per inhabitants respectively). Crime rates in XXX for the year 2012 were significantly lower (around with 9,674 crimes per 100,000 inhabitants).

The sampling procedure was as follows. First, all 73 secondary schools in pre-selected geographic sections (which reflect the overall structural make-up of both cities) were asked to participate, and 57 agreed (school-level response rate of 78%). Next, among the participating schools, around two thirds of the classes from grades 8 to 10 were randomly selected for inclusion in the final sample. This resulted in the inclusion of 194 classes in XXX and 157 classes in XXX. The survey was administered as a paper-and-pencil survey during class time by trained interviewers without interference of teachers and lasted up to 1.5 hours. At the student level, the response rates were 79 per cent in XXX and 76 per cent in XXX. The overall sample size was 6,948.

As the questions about police and vignettes about hypothetical reactions to crime were randomly assigned to only half of the school classes in a split survey design, the effective sample used for the analysis presented in this paper was 2,905 observations (after exclusion of missing values). The 27-page long questionnaire contained questions about

1 Note from the authors: names labeled with “XXX” are deleted to maintain the integrity of the review process
self-reported delinquency, family and peer relations, routine activities, neighborhood perceptions and socio-demographic background. One section of the survey was devoted to the respondents’ experiences with and attitudes to the police, and hypothetical reactions to short scenarios describing victimization. Information from the school survey captures especially the forms of retaliation committed in response to a wrongdoing and in pursuit of self-justice. This self-justice is carried out either by the wronged himself or as an act of solidarity to retaliate a harm committed to a third person.

MEASURES

Propensity to Retaliate. To measure retaliation, we employed two scenarios. In the first scenario respondents were asked to imagine a situation in which, whilst walking alone in their neighborhood, they are being attacked and robbed of their mobile phones by other juveniles they know by sight. In the second scenario, the respondents were invited to imagine that their little brother was repeatedly threatened by fellow students at school who extort money from him or her. For both scenarios, five different formal and informal types of reactions were presented, as informing parents, reporting the case to the police, talking to the perpetrators, doing nothing or confronting the perpetrators. The latter is measured through the statement “I, together with friends, would take the perpetrators to task (if necessary by the use of force)” and has been introduced to measure the propensity to adopt (possibly violent) retaliation.

We are interested in analyzing which factors correlate with retaliation among young people and therefore, we focus only on the statement depicting retaliation and do not consider the other possible reactions outlined above. One may argue that “taking to task” a perpetrator does not necessarily amount to violent retaliation, although by including the possibility of the use of force, it might. Either way, the scenarios do not allow any conclusion on the amount of retaliatory violence that young people would potentially use for the cases depicted above. Moreover, adding the statement “I would talk to them” to the list of possible alternative reactions helps to demarcate “taking to task” from less antagonistic interactions.

Respondents were asked to rate the likelihood of each of the types of reactions using response categories “in every case”, “maybe”, “rather not”, or “definitely not”. The responses to the self-justice statement for both scenarios are combined to an interval scale variable “propensity to retaliate” ranging from 1 (not likely) to 7 (very likely), based on
the mean score. The variable has a meaningful order: higher values signal a stronger tendency toward retaliation.

The two ordinal variables were strongly correlated (Spearmans’ $\rho = .66$). Table 1 illustrates the distribution of the item “I would take the perpetrator to task with my friends (if necessary, by the use of force)” for the two scenarios. In both cases the agreement to this item is high, with 46 per cent of the respondents favoring the engagement in self-justice retaliation in the case of money extortion, and more than half of the respondents, 57 per cent, in the case of theft of mobile phone. One may argue that the high level of agreement to the statement in both scenarios is due to a rather loose definition of the item, since the act of retaliation is, as discussed above, addressed only indirectly.

Insert Table 1 about here

Conventional Social Ties. Attachment to mother, commitment to school, and national identification are three concepts measuring social ties which we include in the analysis. The scale “attitudes to mother” includes six items such as “I trust my mother deeply” or “I often have a dispute with my mother” (Cronbach’s alpha = .75). “Attitudes to school” is a scale that includes three items such as “I try very hard at school” (Cronbach’s alpha = .57). The response categories for both scales range from “strongly agree”, “agree”, “disagree” to “strongly disagree”. Positive items were reverse coded so that higher scores indicate more positive attitudes. Finally, to measure the “national or ethnic identification”, immigrant respondents were asked if they perceive themselves as German or as members of their group of origin. On a five-point scale the answers were: “completely German”, “more German”, “divided”, “more as member of group of origin” and “completely or more as member of group of origin”. Native respondents did not answer this question, therefore for the default value form them was set at “completely German”. For the purpose of the analysis, the two categories at each side of the scale, were collapsed into one, producing a factor variable with three occurrences: “completely or more German”, “divided”, “completely or more as member of a group of origin”.

Self-Reported Delinquency. The frequency of self-reported offending was measured by asking the pupils if they have ever committed and, if yes, how often during the last twelve months, 15 types of criminal offences, including property, violent, and drug offences. The frequency index during the last twelve months was recoded to two categories
(“none” and “one or more” offences) and included in the analysis as a dummy variable “self-reported delinquency”.

Victimization. We were interested in knowing whether and how often during the last twelve months respondents had been a (recurrent) victim of four types of violent offences, namely assault, robbery, threatening and cyberbullying. The summary index of the “victimization” variable was subsequently recoded as a dummy variable that indicates whether or not the respondent has been victimized at least once in the twelve months prior to the survey.

Peer Delinquency. We asked the respondents how many of their friends had committed acts of vandalism, shoplifting, breaking-in, robbery, serious assault, or illegal substance use, using the answer categories “none”, “one” or “several”. The sum index was recoded to a factor score “peer delinquency” with higher values signaling more delinquent friends.

Contacts with Police. To measure police contacts, we asked the respondents whether and how often they had had interactions with the police in their city during the last twelve months on different types of occasions, three of which represent police-initiated contacts: “As a suspect of a criminal offence (e.g. shoplifting, brawl/fighting)”; “As a traffic participant (e.g. on a bike ride)”; and “I was approached or checked (stopped and searched) on the street/ in a park/ on a public square”. Thus, the variable “police-initiated contacts” includes both occasions, those when the police initiated the contact due to the suspected behavior of the individual and those arising from routine police street patrols. The summary index of police-initiated contacts variables is included in the analysis, recoded to a dummy variable, to identify whether the respondents have had no or at least one police-initiated contact in the last twelve months. In total, approximately 25 per cent of the respondents reported one or more police-initiated contacts. Most police-initiated contacts took place because the police stopped and searched the juveniles (19 per cent of all respondents). Less common were police-initiated contacts for the suspicion of a criminal offence or as traffic participant (both approximately 7 per cent).

Attitudes to Police. To measure “attitudes to police”, a 4-item scale was used measuring positive and negative aspects of trust and legitimacy in the police: “The police protect adolescents”, “Overall the police can be trusted”, “The police disrespect adolescents”, “, and “The police treat foreigners worse than natives”. The response categories range from “strongly agree”, “agree”, “disagree” to “strongly disagree”. The
negative items were reverse coded so that higher scores reflect more positive attitudes toward the police. Cronbach’s alpha was .73.

Unsupervised Activities and Situations. To measure “unsupervised leisure activities”, respondents were asked to report the frequency of different activities, specifically “meet friends outside on the street and hang around”, “go to parties/go clubbing”, “meet with friends in a park/at a see and have a drink”, and “go to pubs”. The answer categories range from “never”, “sometimes”, “often” to “very often” (Cronbach’s alpha = .67).

Socio-Demographic Variables. Males and females are represented to about an equal extent in the survey. The respondents’ age ranges from age 11 to age 18. Around half were aged 15 years or younger at the time of the school survey; only a few respondents were older than age 17. We also measured respondents’ “migration background” based on country of birth of respondents, their parents and their grandparents. Thus, the definition of migration background includes second- as well as third-generation migrants reflecting the history of migration to Germany. We distinguish ten different types of migration backgrounds according to countries of origin: native German, Turkish, Southern European, Ex-Soviet Union, Polish, other Eastern European, Maghrebian/Near and Middle Eastern, Other, as well as mixed German/Turkish and mixed German/Other migration background.

The measurement of occupational status variable relies on ISCO-codes assigned to free text information on parents’ occupations, which were then transferred into the International Socio-Economic Index of Occupational Status (ISEI) (Ganzeboom, De Graaf, and Treiman 1992). To define the “parental occupational status” of the respondents we relied on the highest ISEI value of father or mother. The ISEI scale ranges from a value of 13 that indicates low economic status to a value of 90 that stands for high economic status.

The “parental educational level” is included as a factor variable with four categories: no qualification, qualification below Abitur (German university entrance qualification), Abitur, qualification above Abitur. “Parental unemployment” is a dummy variable signaling whether one or both parents are unemployed. Both parental unemployment and educational status are supplemented by a residual category “don’t know/no answer” which is used but not reported in the regression models with the aim to minimize losses due to missing values.

Studies on the reliability of students’ reports of parental SES stress that this information “should be utilized with some caution” (Kayser and Summers, 1973). Kreuter et al. (2010) compared students’ reports with parents’ self-reports of their educational
status and found the reliability of students’ reports to depend on cognitive competence, introducing a potentially systematic measurement bias. However, students’ reports of parental SES are routinely used in current international studies on educational achievement (OECD 2020). “Concentrated disadvantage” of neighborhoods is measured by the official rates of welfare recipients and immigrants in small areas of residence that range from less than 1 per cent to 46 per cent. Many studies have shown that neighborhood concentrated disadvantage can be a strong structural antecedence of subcultural orientations of adolescents and crime reporting behavior (Oberwittler 2007; Harding 2010; Slocum et al. 2010; Berg et al. 2012).

For testing our theoretical assumptions, we estimate a series of block-wise ordered logistic regressions with propensity to retaliate in a hypothetical case of victimization as the dependent variable. Due to the ordinal nature of this dependent variable, the ordered logistic regression model was considered more appropriate than the traditional ordinary least square model (Fullerton 2009). The theoretical concepts suggest a causal logic with regard to the effect of young people’s experiences and attitudes on their propensity to retaliate. The cross-sectional nature of the data, however, limits causal interpretation of statistical associations. This is particularly true for the measures related to young people’s perceptions and attitudes. For instance, a positive perception of the police might affect the propensity to retaliate but the reverse could be true, too.

Table 2 lists the descriptive statistics. For all scales included in the analysis, confirmatory factor analyses have been performed to test the dimensionality and loadings, with positive results. Interval-scaled predictors were standardized with a mean of 0 and a standard deviation of 1 to facilitate the comparison of effects. In all models we use robust standard errors correcting for sample clustering by schools. Data are weighted to adjust for the proportion of different types of secondary schools in the population universe. For some model specifications, multilevel regression models designed to identify possible neighborhood-level effects were run using 74 neighborhoods in XXX and 42 neighborhoods in XXX. Tests show that the socio-demographic composition of respondents in these neighborhoods mirrors very closely the composition based on official data provided by the statistical offices: the correlation between a survey factor score of parental unemployment, parental educational status and migration background and an official data factor score of poverty and migration background is $r=.90$ in XXX and $r=.92$ in XXX.
RESULTS

We begin our analysis with bivariate correlations of the variables measuring key theoretical concepts. The results are presented in Table 3. We report significant positive correlations among the variables that measure exposure to crime and delinquency, such as self-reported and peer delinquency. Variables that pertain to the realm of the social bond theory, such as attitudes to school and family ties are positively correlated, too. Finally attitudes to police which stands in the focus of this paper performs as expected: it is positively correlated to social ties negatively correlated to crime and delinquency variables. In addition, we examine the relationship between these variables and the dependent variable propensity to retaliate. As our theoretical framework suggests, the latter is negatively correlated to strong social ties and positively correlated to crime and justice related variables.

The detailed results from the ordered logistic regressions of propensity to retaliate are presented in four models in Table 4. The results are displayed as odds ratios. We rely on Akaike's information criterion (AIC) and Bayesian information criterion (BIC) to perform model comparisons, both statistics are reported at the bottom of Table 4. We begin in Model 1 (see Figure 1 and Table 4) by regressing the propensity to retaliate solely on gender, age, and ethnicity and socio-economic status of the respondents’ families. This step is important, as it allows us to confirm that socio-demographic status and social disadvantage condition the propensity to retaliate, even if these effects are later mediated by attitudinal and behavioral predictors. The results show a lower propensity to retaliate among female, younger and native German adolescents. On average, girls show substantially smaller odds of propensity to retaliate than boys, indicating that inclination to retaliation is heavily gendered and predominantly a male issue. One standard deviation increase in age increases the odds of propensity to retaliate by (25 %, p > .001). This effect is, however, completely mediated once attitudinal and behavioral variables are included (see Model 4). In comparison with native German youth, the odds to resort to retaliation are significantly greater for adolescents of Turkish, Maghrebian and Near/Middle Eastern as well as other Eastern European backgrounds. In contrast, respondents of mixed Turkish-native German background do not differ from native Germans. Yet we find significant
effects for respondents of mixed German and other (non-Turkish) migration background which, however, is a heterogeneous group preventing further conclusions.

The results show that social disadvantage significantly affects the propensity to retaliate. The odds to adopt retaliation are larger among adolescents with at least one unemployed parent, compared to those whose parents do not receive welfare. In contrast, a higher parental occupational status lowers adolescents’ tendency to resort to retaliation. Similarly, adolescents whose parents hold a degree of higher education are less likely to use retaliation. Compared to adolescents whose parents hold no qualification their odds of propensity to retaliate are significantly smaller. The inclusion of these status indicators considerably attenuates the relevance of belonging to ethnic minority groups. The difference compared to native Germans is almost halved for adolescents of Turkish background, and reduced by a quarter for adolescents of Maghreb and Near/Middle Eastern backgrounds.

In Model 2 (see Figure 1 and Table 4), we explore the influence of conventional social bonds. Next to attachment to the mother, this model includes school commitment and national identification. The results are as predicted: stronger conventional bonds are negatively correlated with adolescents’ inclination to resort to retaliation. In contrast, identifying closely with the country of origin rather than with Germany strongly and positively relates to juveniles’ propensity to retaliate. For adolescent of foreign descent who strongly identify with their country of origin the odds of the propensity to retaliate are significantly greater.

Conventional social bonds further mediate the impact of migration status, rendering the effect of being of Turkish or other Eastern European origin insignificant, and reducing the effect of being of Maghrebian and Near/Middle Eastern origin. We tested for interaction effects between migration background and national identification following the idea that the national identification has differential impacts for different migrant communities, but found no significant interaction effects. The overall predictive value of Model 2 is only slightly stronger than Model 1, suggesting that social bonds are a poor explanation of young people’s propensity to use retaliation.

Insert Figure 1 about here

Model 3 (see Figure 2 and Table 4) is the first of two models which tests the influence of theoretical concepts linked to crime and justice. First, we include two
predictors representing procedural justice theory: attitudes to and experiences with the police. We find strong support for the procedural justice hypothesis that positive attitude toward the police negatively correlates with adolescents’ propensity to engage in retaliation. One unit increase of positive attitudes toward the police significantly decreases the odds of propensity to retaliate among the young people of our survey (by 47 %, p < .001). Procedural justice theory further predicts that experiences with the police shape people’s perceptions of the formal justice system. In line with this hypothesis, we find that experiences of police-initiated contacts are strongly and positively related to tendency to opt for retaliatory acts. However, as we will see in the final Model 4, this effect is entirely mediated by the inclusion of predictors representing other theoretical concepts, i.e. delinquency.

Model 4 (see Figure 2 and Table 4) tests the effects of self-reported and peer delinquency, victimization and the amount of unsupervised activities. Self-reported and peer delinquency significantly relate to juveniles’ propensity for reverting to retaliation. Compared to juveniles who have not committed any delinquent acts, the odds of propensity to retaliate among respondents who report offences are significantly greater. Similarly, higher scores on the peer delinquency scale are associated with an increased inclination to use retaliation. These findings suggest that adolescents who are not exposed to delinquency clearly reject the idea of taking the law in their own hands, contrarily to those who hold a record of delinquent offenses and/or are surrounded by an environment that favors delinquent behavior. When controlling for delinquency covariates we found no effect of the experience of victimization on adolescents’ responsiveness to retaliatory acts of self-justice. However, when excluding the self-reported and peer delinquency from the analysis, victimization is significantly and positively correlated with propensity to retaliate.

Next to delinquent experiences and self-reported and peer delinquency, we also tested the influence of juveniles’ unsupervised activities. As we know from previous studies, routine activities that involve frequent meeting with peers in public spaces in the absence of adult supervision are intertwined but not identical with delinquent propensities (Wikström 2014). As expected, we found a significant positive main effect of unsupervised activities. Those adolescents who spend more time unsupervised with peers tend to favor retaliation more strongly.

Summing up, in our final Model 4, we include all predictors from the previous models in order to examine the relative strength of theoretical concepts and the mediation of effects. Of all models Model 4 performs best (both AIC and BIC values are at their
minimum), suggesting that it is most adequate to explain young people’s inclination to retaliation. As already noted, many effects are reduced in size or completely mediated when including the complete set of variables in the analysis. Some effects, however, remain strong and robust in the final model estimation.

Boys are still more likely to use (violent) retaliation than girls. Concerning minority status, we find an effect of being of Turkish, Maghrebian and near/middle Eastern, or other Eastern European background. Our results suggest that in our research participants from these ethnic groups are more inclined to say they will use self-justice retaliation. Previous studies have shown links between legal cynicism and tolerance of deviance (see Sampson and Bartusch 1998; Kirk and Papachristos 2011). Consequently, the ethnic differences in retaliatory propensities may reflect frustrations with the formal legal system among some ethnic minorities as well as a feeling that the police are unable (or, perhaps, unwilling) to provide adequate security and protection. Of the other socio-demographic variables, only the effects of parental occupational status and education level persist.

Looking to the predictors representing theoretical constructs, ties to family and school no longer influence adolescents’ propensity to resort to retaliation but are apparently mediated by more proximal variables. The same is true for police-initiated contacts, whereas we retain a strong effect of police legitimacy. Finally, a strong identification with the country of origin remains an important predictor of young people’s propensity to retaliate.

We have also tested for possible neighborhood-level influences using random intercept models with neighborhoods of residence as the grouping variable. However, no substantial amount of variance was attributable to the neighborhood, once we included attitudinal and behavioral variables. Furthermore, concentrated disadvantage – measured by the percentages of welfare recipients and immigrant population – was not associated with the inclination to use retaliation. Thus, we conclude that, among our sample, we find no substantial evidence of a direct influence of neighborhood on retaliation. As Slocum et al. (2010) suggest, neighborhood characteristics may, however, indirectly influence young people’s behavior, by shaping their attitudes and experiences.

Insert Figure 2 about here

2 These supplementary results are not reported in the paper. They are, however, available from the authors.
DISCUSSION AND CONCLUSION

This paper explores correlates of young people’s propensity to retaliate in everyday life situation, given a hypothetical setting of victimization, using survey data from Germany. Our results reveal that the propensity to resort to self-justice retaliation is quite widespread among adolescents. Specifically, between 46 and 57 per cent (depending on the scenario) expressed a propensity to engage in retaliation, signaling that a large share of young people prefers to sort out conflicts and victimization experiences by own means rather than rely on the police. The finding would seem to be consistent with evidence from previous studies which shows that the large share of cases of adolescent victimization are not reported to the police (Enzmann 2012). However, while various studies have documented many cases of actual retaliatory violence in weak states, there appears to be few such cases in modern democratic states. The findings of our study show that retaliatory attitudes are also prevalent in those states.

A number of key findings emerged from our multivariate analysis. First, negative attitudes to police strongly relate to young people’s intentions to engage in retaliation (see hypothesis H1A). This is consistent with finding from prior studies which attest that public attitudes to police matter for support of retaliation (see Tankebe 2009; Haas, Keijser, and Bruinsma 2012; Jackson et al. 2013a; Nivette 2016). We also find that police-initiated contact (see hypothesis H1B) have an indirect effect on retaliatory propensities; specifically, the effects are mediated by self-reported and peer delinquency, and unsupervised activities. Those adolescents who are frequently stopped by the police are also the most delinquent ones, which explains why the effect of police contacts is completely mediated by delinquency predictors. Frequent interactions with the police do not massively alienate adolescents from the police nor alter their propensity to co-operate with the police once we separate these effects from the delinquent inclinations that this group of adolescents often have. In this sense, our findings do not contradict assumptions made by procedural justice theory that the effects of police actions depend on the fairness and respect of police officers to citizens (see Tyler 2006).

Second, and consistent with GST (Agnew and Moon 2018), we find that among young people in Germany associating with delinquent peers (see hypothesis H2B) and engaging in unsupervised activities (see hypothesis H4) are highly correlated with retaliatory conduct. These factors mediate the influence of conventional ties (see hypothesis H3A). Thus, our measures of GST exhibited both direct and indirect influence on
predisposition for retaliatory behavior among the young people in Germany. In line with strain theory, such predisposition can be viewed as a coping mechanism for the strain of victimization. According to Agnew and Moon (2018: 458), delinquent peers reinforce violence and “teach beliefs favorable to violence, thereby influencing the individual’s disposition for violence. Others may also provide the individual with assistance in carrying out violent acts, thereby influencing their ability to engage in violence.” Delinquent peers can also convey messages about the consequences of law-breaking, such as that the risk of apprehension is low, which, in turn, can influence a person’s retaliatory predispositions.

Third, not surprisingly, as we had postulated in hypothesis H2A, among the strongest and most robust predictor of the propensity to retaliate is experience of delinquent offending. Adolescents who self-reported that they have broken the law were most inclined to say they would take retaliatory action if they themselves or someone close to them was victimized. A possible explanation is that the young people have learnt from their own offending that the risk of apprehension is low, hence the formal justice system fails victims. Consequently, they might form the view that recourse to retaliatory acts was a more effective pathway to justice. The effect of self-reported delinquency was found to trump that of contacts with the police. Although we did not measure the quality of the contact, this overriding effect of self-reported delinquency could point to the potential role of legal cynicism, defined as “a cultural orientation in which the law and the agents of its enforcement, such as the police and courts, are viewed as illegitimate, unresponsive, and ill equipped to ensure public safety” (Kirk and Papachristos 2011: 1191). When people develop such cynicism, they will, in some situations, see informal justice as a viable dispute resolution mechanism.

Fourth, supporting the idea that attitudes to police (and other state agencies) of migrants are shaped by the level of integration into the host society (see hypothesis H3B), the identification either with the host society or with the own ethnic group of origin substantially mediated effects of migration background on the propensity to retaliate. This important finding supports the idea that group identities and sense of belonging influence cooperation with the police (Tyler and Blader 2003). Propensity to cooperate with the police depends on a sense of belonging to the group the police is associated with – the host society. Inversely, adolescents who do not identify strongly with the host society are more inclined to choose alternative strategies of conflict management.

However, respondents of Turkish, Maghrebian and Near/Middle Eastern as well as from Eastern European descent (excluding the juveniles from Polish origin) remained more
predisposed to self-justice in most multivariate models. Thus, the mechanism of group identities is insufficient to fully account for the higher tendency to retaliation of adolescents with migration backgrounds from this world region. We assume that, in addition to identity issues in relation to the host society, this group of adolescents is also influenced by cultural norms stemming from the respective countries of origin which particularly promote legal cynicism and value the readiness to defend oneself without resort to state institutions, a behavioral strategy typically used in societies with a non-existent or very weak state monopoly (Peristiany 1966; Kirk and Papachristos 2011).

Finally, whereas we regard police relations, delinquency and group identities as the more proximate predictors of propensity to retaliate, other predictors in the regression models can be seen as “causes of the causes”. This interpretation is supported by the fact that most of them are fully or partly mediated by delinquency and police-related predictors in the complete model. This is true for most of the socio-demographic variables, for predictors representing conventional social bonds and for neighborhood-level characteristics: they explain relatively little of young people’s propensity to engage in retaliation, when controlling for a range of other theoretically important variables. Specifically, we found that only gender and socio-economic status were consistently associated with retaliation: young males and people of low socio-economic background supported retaliation. As stated by Donald Black (1983), lower-class people are more likely to resort to (violent) retaliation. This holds true in our study, in particular if one looks at the model using socio-demographic predictors only: lower parental socio-economic status has a positive effect on the propensity to retaliate, whereas a higher parental educational level has a preventive impact.

Findings from this study inform research on retaliation, vigilantism and related forms in two ways. On the one hand, the results call for policy-makers to keep an attentive eye on self-justice mechanism among young people, a group in society particularly vulnerable to engage in retaliatory acts. On the other hand, the findings suggest that positive perceptions of the police inhibit the attractiveness of retaliation as a conflict resolution mechanism. Police forces seem to achieve better outputs in crime prevention when they are trusted.

Our study holds a couple of limitations. As our analysis is based on cross-sectional data, we drive our assumptions of causality from the theoretical framework and previous studies. Consequently, the interpretations of the directions of the effects discussed in this paper have to be treated with some reservation. Further longitudinal studies are needed to
validate our findings. We have discussed predictors of self-justice retaliation based on a school survey carried out in two Germany cities. The findings are representative for those cities. For a generalization of our results, however, our study will have to be reproduced in additional cities inside and outside of Germany. Finally, by asking respondents about their propensity to retaliate in hypothetical situations, with our study design we cannot determine whether these intentions would or would not turn into real actions. Still, other studies (see, for instance, Wikström 2014) have shown that delinquent propensity are highly correlated with criminal behavior.
References


Der Tagesspiegel (2013), Jörn Hasselmann, Kerstin Hense and Saara Wendisch. Denn sie wussten, was er tut, https://www.tagesspiegel.de/berlin/selbstjustiz-an-sexualstraftaeter-denn-sie-wussten-was-er-tut/7671382.html [05/27/2020].


Harding, D. J. (2010), Living the Drama. Community, Conflict, and Culture among Inner-City Boys, Chicago.


Table 1: Propensity to retaliate by means of two scenarios (N = 3479)

<table>
<thead>
<tr>
<th>in the case of...</th>
<th>definitely not</th>
<th>rather not</th>
<th>maybe</th>
<th>in any case</th>
</tr>
</thead>
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<td>Robbery of mobile phone</td>
<td>24%</td>
<td>19%</td>
<td>23%</td>
<td>34%</td>
</tr>
<tr>
<td>Money extortion</td>
<td>27%</td>
<td>27%</td>
<td>23%</td>
<td>23%</td>
</tr>
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Table 2: Descriptive statistics of predictors as included in the model

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<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
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<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>0.543</td>
<td>0.498</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Age</td>
<td>0</td>
<td>1</td>
<td>-2.858</td>
<td>6.697</td>
</tr>
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<td>9</td>
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<td></td>
</tr>
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</tr>
<tr>
<td>Parental unemployment</td>
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<td></td>
</tr>
<tr>
<td>Parental educational level</td>
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<td></td>
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<td>National identification</td>
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<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitudes to mother</td>
<td>0.019</td>
<td>1.011</td>
<td>-3.806</td>
<td>1.338</td>
</tr>
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<td>Attitudes to school</td>
<td>0.049</td>
<td>0.986</td>
<td>-3.639</td>
<td>1.800</td>
</tr>
<tr>
<td>Attitudes to police</td>
<td>0.024</td>
<td>0.979</td>
<td>-2.748</td>
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<tr>
<td>Police-initiated contacts</td>
<td>0.247</td>
<td>0.431</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Victimization</td>
<td>0.311</td>
<td>0.463</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Self-reported delinquency</td>
<td>0.351</td>
<td>0.477</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Peer delinquency</td>
<td>0</td>
<td>1</td>
<td>-1.017</td>
<td>3.238</td>
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<tr>
<td>Unsupervised activities</td>
<td>0</td>
<td>1</td>
<td>-0.781</td>
<td>4.237</td>
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<tr>
<td>Observations</td>
<td>2921</td>
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<td></td>
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Table 3: Correlation coefficients among core variables

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<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
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</thead>
<tbody>
<tr>
<td>Propensity to retaliate</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National identification</td>
<td>.15***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitudes to mother</td>
<td>-.17***</td>
<td>-.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitudes to school</td>
<td>-.19***</td>
<td>.06***</td>
<td>.28***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitudes to police</td>
<td>-.39***</td>
<td>-.12***</td>
<td>.24***</td>
<td>.31***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Police-initiated contacts</td>
<td>.22***</td>
<td>-.01</td>
<td>-.12***</td>
<td>-.13***</td>
<td>-.24***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Victimization</td>
<td>.14***</td>
<td>.01</td>
<td>-.18***</td>
<td>-.09***</td>
<td>-.14***</td>
<td>.16***</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Self-reported delinquency</td>
<td>.38***</td>
<td>.03*</td>
<td>-.22***</td>
<td>-.23***</td>
<td>-.34***</td>
<td>.32***</td>
<td>.27***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer delinquency</td>
<td>.45***</td>
<td>.07***</td>
<td>-.26***</td>
<td>-.29***</td>
<td>-.44***</td>
<td>.32***</td>
<td>.26***</td>
<td>.53***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unsupervised activities</td>
<td>.28***</td>
<td>-.10***</td>
<td>-.14***</td>
<td>-.19***</td>
<td>-.32***</td>
<td>.28***</td>
<td>.12***</td>
<td>.35***</td>
<td>.45***</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: N= 2921 observations; * p < 0.05, ** p < 0.01, *** p < 0.001. Socio-demographic variables are excluded from the correlation matrix. The following variables are dichotomized: national identification (0= host country; 1 = divided or country of origin), police-initiated contacts (0= none, 1= one or more), victimization (0= no, 1=yes) and self-reported delinquency (0= no crimes; 1= one or more crimes). Spearman’s rho and rank biserial correlation are used to estimate the correlation between the dependent variable propensity to retaliate and the independent variables. Pearson’s r and product-moment correlation are used to estimate correlation among the dependent variables.
### Table 4: Ordered Logistic Regression of propensity to retaliate

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Odds Ratio / z</td>
<td>Odds Ratio / z</td>
<td>Odds Ratio / z</td>
<td>Odds Ratio / z</td>
</tr>
<tr>
<td>Sex (ref=boy)</td>
<td>0.24*** (-15.34)</td>
<td>0.24*** (-17.46)</td>
<td>0.26*** (-15.98)</td>
<td>0.28*** (-16.60)</td>
</tr>
<tr>
<td>Age</td>
<td>1.25*** (6.00)</td>
<td>1.20*** (5.22)</td>
<td>1.11** (2.82)</td>
<td>0.99 (-0.39)</td>
</tr>
<tr>
<td>Migration background (ref=native)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turkish</td>
<td>1.45*** (3.98)</td>
<td>1.24 (1.60)</td>
<td>1.25 (1.87)</td>
<td>1.35* (2.33)</td>
</tr>
<tr>
<td>Southern European</td>
<td>1.07 (0.41)</td>
<td>0.82 (-0.97)</td>
<td>0.89 (-0.51)</td>
<td>0.91 (-0.36)</td>
</tr>
<tr>
<td>Ex-Soviet</td>
<td>1.40 (1.33)</td>
<td>1.07 (0.27)</td>
<td>1.03 (0.10)</td>
<td>1.08 (0.32)</td>
</tr>
<tr>
<td>Polish</td>
<td>1.04 (0.21)</td>
<td>0.93 (-0.40)</td>
<td>0.89 (-0.55)</td>
<td>0.98 (-0.10)</td>
</tr>
<tr>
<td>other Eastern</td>
<td>1.48* (2.06)</td>
<td>1.19 (0.81)</td>
<td>1.29 (1.40)</td>
<td>1.51* (2.00)</td>
</tr>
<tr>
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<tr>
<td>Maghrebian/Muslim</td>
<td>1.73** (2.94)</td>
<td>1.62* (2.35)</td>
<td>1.60* (2.17)</td>
<td>1.68* (2.46)</td>
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<tr>
<td>Asian</td>
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<tr>
<td>other migration background</td>
<td>1.33 (1.60)</td>
<td>1.14 (0.73)</td>
<td>1.00 (-0.02)</td>
<td>1.06 (0.29)</td>
</tr>
<tr>
<td>mixed</td>
<td>1.00 (0.01)</td>
<td>0.94 (-0.21)</td>
<td>0.97 (-0.09)</td>
<td>0.93 (-0.22)</td>
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<td>German/Turkish background</td>
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<tr>
<td>mixed German/other migration background</td>
<td>1.32* (2.23)</td>
<td>1.17 (1.31)</td>
<td>1.08 (0.62)</td>
<td>1.09 (0.80)</td>
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<tr>
<td>Parental occupational status</td>
<td>0.82*** (-4.50)</td>
<td>0.83*** (-4.54)</td>
<td>0.85*** (-3.76)</td>
<td>0.87*** (-3.41)</td>
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<td>Parental unemployment (ref=no)</td>
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<td></td>
</tr>
<tr>
<td>yes</td>
<td>1.33** (3.04)</td>
<td>1.22* (2.19)</td>
<td>1.19 (1.76)</td>
<td>1.15 (1.41)</td>
</tr>
<tr>
<td>unclear</td>
<td>1.30 (1.92)</td>
<td>1.23 (1.49)</td>
<td>1.19 (1.31)</td>
<td>1.22 (1.62)</td>
</tr>
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<tr>
<td>degree below Abitur</td>
<td>0.98 (-0.23)</td>
<td>1.03 (0.25)</td>
<td>1.01 (0.10)</td>
<td>1.02 (0.19)</td>
</tr>
<tr>
<td>Abi</td>
<td>0.82 (-1.45)</td>
<td>0.85 (-1.08)</td>
<td>0.81 (-1.44)</td>
<td>0.78 (-1.72)</td>
</tr>
<tr>
<td>above Abi</td>
<td>0.74* (-2.34)</td>
<td>0.77 (-1.87)</td>
<td>0.68* (-2.79)</td>
<td>0.63*** (-3.42)</td>
</tr>
</tbody>
</table>
National identification
(ref=host country)
divided 1.25 (1.80) 1.19 (1.40) 1.25 (1.81)
country of origin 1.82*** (3.77) 1.53** (2.94) 1.56** (2.82)
Attitude to mother 0.77*** (-5.42) 0.86** (-2.91) 0.93 (-1.44)
Attitude to school 0.73*** (-8.42) 0.85*** (-4.49) 0.94 (-1.80)
Attitude to police 0.53*** (-12.36) 0.64*** (-7.12)
Police-initiated contacts (ref=no)
Victimization (ref=no) 1.03 (0.30)
Self-reported 1.68*** (4.88)
delinquency (ref=no)
Peer delinquency 1.55*** (7.73)
Unsupervised activities 1.22*** (4.95)

Exponentiated coefficients; z statistics in parentheses
* p < 0.05, ** p < 0.01, *** p < 0.001