KRIMINOLOGISCHES FORSCHUNGSINSTITUT NIEDERSACHSEN E.V.

Research Report No. 165

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Results of the Lower Saxony Survey 2019

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Bibliographic Information of the German National Library
The German National Library lists this publication in the German National Bibliography; detailed bibliographic data are available on the Internet at http://dnb.dnb.de.

ISBN: 978-3-948647-14-8
Printed by DruckTeam Druckgesellschaft mbH, Hanover.

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Printed in Germany

This research report is an English translation of the German language KFN Research Report No. 154. It is possible, that this English version may therefore contain deviations in explanations or meanings which are caused by the translation process.

Content

Summary

Method and sample description

The content of the Lower Saxony Survey 2019 is based on the previous KFN student surveys as well as the three previous surveys of the Lower Saxony Survey from 2013 to 2017 (cf. Bergmann et al., 2017; Bergmann et al., 2019). The focus of each survey is the investigation of unreported cases of juvenile delinquency, i.e., experiences of violence, violent offenses, as well as victimhood and perpetration of property crimes. In addition, factors of juvenile delinquency as well as other forms of deviant behavior are collected, including truancy and the consumption of alcohol and drugs. To assess trends in juvenile delinquency and its factors, the results of the 2019 survey are primarily correlated with those of the 2017 survey. In some cases it is possible to observe a trend beginning in 2013. The data of the Lower Saxony Survey are not compared statistically with previous student surveys by the KFN, as these are in part not based on representative samples or were not conducted in Lower Saxony. If the differences between the years or the subgroups show at least a weak effect according to the limits of effect sizes defined by Cohen (1988) (see chapter 1.2 The Lower Saxony Survey 2019), we speak of a substantial or clear effect. For all other effects that are significant but fall below the limits defined by Cohen (1988), we speak of a tendency or minor changes at best.

In the context of the Lower Saxony Survey, the aim was again to assess around 10,000 ninth-grade students in 2019. This goal was clearly exceeded in the fourth survey wave in 2019, with 12,444 adolescents surveyed. This corresponds to a response rate of 41.4 % (see chapter 2.1.2 Response rate). The most common reason for non-participation at the school level was due to time-related reasons. The most frequent reason for non-participation at the student level was the lack of parental consent. Unlike in previous years, students had to check the box for parental consent at the beginning of the questionnaire. According to the assessment of the test administrators, it was possible, in most cases, to create an appropriate survey situation in all school types.

Due to numerous advantages of a computer-based survey, about two-thirds of the surveys in the Lower Saxony Survey 2019 were conducted on computers in the PC labs of the schools for the first time (see chapter 2.1.1 Paper-pencil vs. computer-based surveys). Another third of the survey was conducted by using the traditional paper-pencil method. If the prevalence rates of the Lower Saxony Survey 2019 of the computer- and paper-based survey are compared, some significant differences emerge. However, considering the limits of effect sizes defined by Cohen (1988), the differences across all the total indices do not turn out to be substantial on average. Moreover, the cases in which a significant difference was observed are not consistently in one direction (partly higher values in the computer-based surveys and partly higher values in paper-pencil surveys), so that a consistent methodological bias in one direction can be excluded. Nevertheless, when interpreting the findings, it must be considered that it was the first time both methods were used in the Lower Saxony Survey 2019.

In terms of school type composition, the sample corresponds quite well to the proportions of the population of schools in Lower Saxony in 2019 (see chapter 2.2 The sample of students). Also, regarding the regional distribution, there are only minor deviations from the general population.

For the sample, approximately every second student is male, the average age is slightly above 15 years old, and slightly more than every tenth respondent grew up in a family that is dependent on government transfer payments. Almost every third respondent does not live with both biological

parents and has a migration background. Most of the adolescents with a migration background have a migration history from Russia, followed by Turkey. In the following, the results are listed according to their order in the report.

Police statistics on juvenile crime in Lower Saxony in 2019

- **According to the police crime statistics, the number of juvenile suspects per 100,000 inhabitants in Lower Saxony decreased by 26.1 % in the period from 2008 to 2019** (see chapter 1.1 Juvenile delinquency in Lower Saxony in 2019 in police statistics). This positive development of juvenile delinquency is not a typical phenomenon exclusive to Lower Saxony, but can be observed in a comparable way in other federal states. In recent years, however, a slight increase in violent crime can be observed again in all federal states, although it is still far below the level from the 2008 official figures.
- **If we compare the number of suspects in Lower Saxony to the numbers of 2016/2017, i.e., the numbers, which are also compared to the data of unreported cases, there is a decrease of 1.6 to 2.0 %.** Differentiated by offense, an increase can be observed for theft and violent crime as well as minor assault, and a decrease for fraud and fare evasion. No clear trends can be observed regarding drug-related offenses and property damage.

Delinquent behavior from the perspective of victims and perpetrators

- **The negative trend in delinquent behavior among adolescents, which was already noted in the last survey in 2017, continues. Property delinquency is no exception for Lower Saxony's adolescents. Almost 30 % of adolescents have already committed property crimes themselves in their lifetime** (see chapter 3.1.2 Perpetration).
- In addition, illegal downloading/streaming of movies, music, and the like, as well as using public transportation without a valid ticket, show high prevalence rates. Except for the perpetration of property damage, **both the lifetime and 12-month prevalence of property offenses are somewhat higher than in the previous surveys of the Lower Saxony Survey**. For fare evasion, this applies only to the lifetime prevalence.
- **The descriptive comparison of the 12-month prevalence from the Lower Saxony Survey with the prevalence from the Germany-wide KFN student survey in 2007/2008** (Baier et al., 2009) concludes that the adolescents in Lower Saxony in **2019 are significantly less likely to have committed property crimes than twelve years ago.**
- **More than half of the surveyed adolescents have already been victims of a property crime in their lifetime** (see chapter 3.1.1 Victimhood). The comparison of the lifetime prevalence rates of victimhood of property crimes since 2013 has shown that **the adolescents have already made significantly more frequent victimization experiences in their lives compared to the adolescents in the previous surveys**. The negative trend is most pronounced for victimization of theft and property damage. In contrast to lifetime prevalence, the 12-month prevalence shows only small differences depending on the year of the survey. **Thus, the 12-month prevalence for all property crimes surveyed combined is not significantly different from the previous surveys.**
- **More than one in three adolescents has already experienced violence in their lives** (see chapter 3.1.1 Victimhood). The comparison of the lifetime prevalence of victimhood for all surveyed violent offenses combined, has shown that at **no previous date of survey did so**

many adolescents have to experience violent victimization in their lives as the adolescents in the Lower Saxony Survey 2019. The most significant increase is recorded for assault by a single person and sexual harassment. The 12-month prevalence of sexual harassment and sexual violence has remained at its highest level since 2013. In the last 12 months, violent victimization as a whole – specifically victimization through extortion, assault with a weapon or by singular persons – is at the same level as previously in 2017, yet slightly higher than in 2015 and 2013. The 12-month prevalence of robbery and assault by multiple persons has remained stable over the years.

- **On the perpetrator side, every sixth adolescent has already exercised violence** (see chapter 3.1.2 Perpetration). The perpetration of a robbery and of extortion have a slightly higher lifetime prevalence than at the three previous survey dates. The prevalence rate of assault with a weapon has only slightly increased compared to 2015, and is therefore at the same level as 2013 and 2017. Multiple-perpetrator assault is back at the same level as 2013, after an increase since 2015. After a decrease compared to 2017, the lifetime prevalence of assault carried out by a singular person is also back at the same level as 2013. Regarding **the 12-month prevalence, there are no differences compared to 2017.** Compared to the first two survey dates of the Lower Saxony Survey, adolescents were more often perpetrators of a robbery and extortion (2013/2015) as well as perpetrators of an assault with several persons and alone (2015) in the last twelve months.
- **However, the descriptive comparison of the 12-month prevalence from the Lower Saxony Survey with that from the KFN's nationwide student survey in 2007/2008** (Baier et al., 2009) concludes that in 2019, adolescents in Lower Saxony **are significantly less likely to have committed violent crimes than twelve years ago.**
- **The 12-month prevalence of verbal and physical violence against parents** (see chapter 3.4 Physical and verbal assaults on parents) is, **compared to the survey years 2017 and 2019, at about the same level. A decrease in all violent behavior towards parents can be observed when compared to 2013.** For example, the percentage of adolescents who have engaged in verbally aggressive behavior toward parents at least once in the past 12 months is 41.1 % in 2019. For physical violence, the prevalence is 4.7 %.
- **Bullying at school and on the Internet is a prevalent problem** (see chapter 3.3 Bullying at school and cyberbullying). **Just under one in five students stated that they have been bullied in the last twelve months. 8.7 % of the adolescents stated that they have bullied themselves.** On both the victim and the perpetrator side, verbal and relational bullying occur most frequently. Male adolescents are more likely to be perpetrators of physical and verbal bullying than female adolescents. Female students are more often bullied online as well as verbally and relationally than male students. The latter, in turn, are more often victims of physical bullying than female students.
- The **number of delinquent friends, truancy, physical and psychological parental violence, problematic alcohol consumption, risk seeking, norms of masculinity that legitimize violence, second-generation migration background and male gender** increase the probability of committing property crime, violent crime and cybercrime (see chapter 3.5 Conditional factors of criminality). **High emphatic capacity and different religious affiliations** decrease the probability of committing the offenses. Moreover, cybercrimes are more likely to be carried out by individuals with **low parental control, good grades,** and more likely to be carried out at **higher school types** compared to lower and intermediate school types. In contrast, the

opposite picture emerges for violent and property crime: violent and property crimes are more likely to be committed at **lower and intermediate school types** (reference: higher school type); property crimes are more likely to be committed by students with **poor grades.** Furthermore, the risk of committing a violent crime increases with **age** and increased **affinity for violence. Parental attention** reduces the probability of property and cybercrimes.

Risk attitudes and behaviors

- **Since 2013, there has been a trend toward a higher age of first-time use of alcohol and cigarettes** (see chapter 4.1 Alcohol and drug use). Since 2017, the age at which alcohol is first consumed has fallen slightly, but the difference compared to 2017 is insignificant. For illicit drugs, the age of first use has remained constant over time.
- **Slight tendencies towards increasing alcohol consumption can be observed, although the specific form of binge drinking tends to decrease** (see chapter 4.1 Alcohol and drug use). Alcohol consumption continues to be the most common form of substance use among adolescents: At least once a week, 13.4 % of adolescents drink, while 26.2 % of students have practiced binge drinking in the past 30 days. Alcohol consumption is still more widespread among boys than among girls. In addition, alcohol is more likely to be consumed at a problematic level in rural areas than in urban areas. According to the *Alcohol Use Disorder Identification Test* (Babor et al., 2001), 29.1 % of adolescents demonstrate hazardous alcohol use. This behaviour decreases as the number of inhabitants increases and is more prevalent among boys and lower school type students than among girls and adolescents from medium and higher-school types.
- **The use of cannabis and hard drugs as well as medication for intoxication, is increasing slightly over the years** (see chapter 4.1 Alcohol and drug use). About one in 20 students uses cannabis several times a month in 2019.
- There is a **trend for adolescents in Lower Saxony to smoke less over the years,** although the proportion of students smoking daily has remained constant since 2017 (see chapter 4.1 Alcohol and drug use). In 2019, 5.6 % of adolescents still smoke every day. Adolescents from higher school types are less likely to be daily smokers than adolescents from lower school types.
- **With regard to the carrying of weapons, stable prevalence rates can be reported overall for the social area school and a downward trend in prevalence rates for leisure time, when comparing the 2017 and 2019 survey years** (see chapter 4.2 Weapon Carrying). **The carrying of tear gas or pepper spray has been declining since 2017.** Still around one in three male adolescents occasionally carries a potential offensive weapon with them in their leisure time; at school, this applies to around one in ten.
- **Attitudes with an affinity for violence as well as norms of masculinity that legitimize violence are shared more frequently in 2019** (see chapter 4.3 Risk seeking, affinity for violence and norms of masculinity). The increase in risk-seeking attitudes that has been noted in recent years is leveling off again somewhat. Adolescents who strongly agree with these attitudes are more likely to have been violent in the past twelve months than adolescents who do not strongly agree with these attitudes.
- **For the survey year 2019, the prevalence rate of suicidal adolescents is 13.8 %** (see chapter 4.4 Suicidality and self-harming behavior). There are clear gender effects to the disadvantage of the female respondents. According to this, about one in five girls in Lower Saxony is suicidal.

- **Overall, contact with delinquent peers has tended to decline since 2017, although not back to the levels of 2013 and 2015** (see chapter 4.5 Delinquent peers). Only about half of the respondents have no friendships with delinquent peers. The finding that acquaintance with delinquent friends is related to one's own delinquency is confirmed. Respondents who have more than five delinquent friends are significantly more likely to behave delinquently themselves.
- **In 2019, truancy was more frequent than in all previous survey years. About one third of the ninth graders in Lower Saxony skipped school at least once in the past school year** (see chapter 4.6 Truancy). 7.6 % of the students skipped more than five days per school year. The trend is observed for both boys and girls and at all types of schools. Girls are slightly more likely to be truant than boys. However, there are no significant gender differences related to frequent truancy. Differentiated by school type, significant differences are only noted regarding to multiple truancy. So, truancy for more than five days is more frequent at lower secondary schools and special-needs schools, followed by medium and higher school types. Even rare truancy is related to increased delinquency. Particularly high delinquency rates can be observed among multiple truants: For example, the proportion of violent offenders in this group is almost five times higher than in the group of students who have never been truant in the past year.

Right-wing extremism

- **In 2019, right-wing extremist attitudes are still not uncommon among young people in Lower Saxony, although they have decreased slightly over the years** (see chapter 5.1 Right-wing extremist attitudes and Group-Focused Enmity). In 2019, for example, more than one in ten adolescents share attitudes of Group-Focused Enmity (10.1 %) directed against people who are (supposedly) foreign. Differentiated by gender, significantly higher prevalence rates are found for boys than for girls. In addition, some of the right-wing extremist attitudes are more prevalent at lower school types than at higher school types.
- **The highest prevalence rates for Group- Focused Enmity are found for the degradation of people receiving Hartz IV**[1] (see chapter 5.1 Right-wing extremist attitudes and Group-Focused Enmity). Almost every third adolescent shares such an attitude (32.0 **%**). In addition, almost one fifth (19.2 **%**) of the adolescents can be classified as derogatory towards refugees. Furthermore, 9.6 % of the students can be categorized as anti-Muslim and derogatory towards homeless people. Moreover, 9.5 % of the adolescents have a derogatory attitude towards homosexual people. People with disabilities are devalued by 3.7% of the ninth graders.
- **There are no changes to right-wing extremist crimes in the overall index when compared to 2017** (see chapter 5.2.3 Right-wing extremist crimes). Every seventh adolescent has already carried out at least one of the behaviors queried in relation to low-threshold right-wing behavior (see chapter 5.2.1 Low-threshold right-wing behavior). Beyond that, more than one in ten ninth graders (10.1 %) have committed at least one discriminatory act or offense against homosexual, homeless, foreign, Jewish or Muslim people or people with disabilities (see chapter 5.2.2 Discriminatory offenses and behavior).

[1] Hartz IV is the colloquial term for the common German system of welfare aid.

Environment and everyday experiences of adolescents

- **The majority of adolescents in Lower Saxony are rather as well as very satisfied in life, with satisfaction with friendships being the highest and satisfaction with success at school the lowest factor** (see chapter 6.1 Life satisfaction). Over the years, there are only minor changes in life satisfaction. Overall boys are more satisfied than girls. In addition, satisfaction is higher at higher school types than at lower types of school.
- **18.4 % of adolescents with a first-generation migration background and 13.1 % of the second generation have had at least one experience of discrimination based on their nationality, origin, language, or skin color in the last twelve months** (see chapter 6.2 Life world of adolescents with a migration background). The first generation of immigrants has experienced discrimination more frequently than the second generation.
- **Adolescents with a migration background are significantly more likely to be victims of property and violent crime than adolescents without a migration background, both throughout their lives and within the last twelve months** (see chapter 6.2 Life world of adolescents with a migration background). Adolescents with a first- and second-generation migration background are about equally likely to become victims of property and violent crime. **However, adolescents with a migration background also appear more frequently as perpetrators of these crimes**. An exception - both in terms of victimhood and perpetration - is the 12-month prevalence of property crimes. In this case, there is no difference between adolescents without a migration background and those of the first migration generation. However, when other delinquency-related predictors are considered in further analyses, the **first migration generation no longer differs from adolescents without a migration history. For the second generation, the differences remain, but in a weakened form.** Other determinants are clearly more significant in explaining delinquency than the migration background of the second generation (see chapter 3.5 Conditional factors of criminality).
- **Trends show that the level of trust in the police has decreased slightly, and is therefore back at the same level as in 2015** (see chapter 6.3.1 Trust in police, lack of law abiding and attitudes towards punishment). Nevertheless, adolescents in Lower Saxony still have a high level of trust in the police overall: almost 80 % of students trust the police. Girls and adolescents of higher school types show a higher level of trust than boys and respondents of lower school types.
- **The proportion of law-abiding young people in 2019 is slightly higher than in 2017, but still lower than in 2013 and 2015** (see section 6.3.1 Trust in police, lack of law abiding and attitudes towards punishment). Most of Lower Saxony's adolescents tend to be law-abiding, with only about one-fifth willing to transgress norms. In gender comparison, girls are slightly more law-abiding than boys.
- **Almost one in six adolescents had contact with the police about something prohibited in 2019. These contact experiences have increased slightly since 2017** (see chapter 6.3.1 Trust in police, lack of law abiding and attitudes towards punishment). When adolescents have had this form of police contact, they are less law-abiding and less likely to trust the police. Moreover, attitudes toward punitive severity have remained nearly unchanged since 2017, while there has been a trend decline in punitive attitudes compared to 2015.
- **Since 2017, adolescents have tended to feel slightly safer in their own neighborhoods in the evenings and on public transport** (see section 6.3.2 Sense of safety, fear of crime and assessment of crime development). **Nevertheless, about a quarter of the students feel rather**

unsafe **on public transportation and almost two-thirds of the adolescents feel rather unsafe in the evening and at night in their own neighborhood.** Boys feel safer than girls. The comparison of school types shows that the highest perception of safety on the way to/from school and on school grounds is recorded at higher school types, followed by intermediate and finally lower school types. For public transportation, the highest perception of safety is observed in Hanover and metropolitan regions respectively, the lowest in the northeast region, rural and urban regions respectively.

- **In the last twelve months, more than one third of the adolescents have, at the very least, rarely been afraid of becoming a victim of theft and almost a quarter of the students have been afraid of becoming a victim of a terrorist attack** (see section 6.3.2 Sense of safety, fear of crime and assessment of crime development). In general, the fear of crime is more pronounced amongst girls – especially in regard to sexual offenses – than amongst boys.
- Between 2017 and 2019, parental educational behavior has tended to change somewhat in its positive aspects (see 6.4 Parental upbringing). **While the experience of high levels of parental attention tended to increase slightly before age 12, the proportion of adolescents reporting high levels of parental control decreased slightly compared to 2017 and 2019.** Thus, the slight trend toward greater parental control behavior that was still observed previously does not continue.
- With regard to parental violence, it turns out that there has been **a significant decrease of physical violence inflicted by parents** when compared to the survey years 2017 and 2019; this applies in particular to violence in childhood (see chapter 6.4 Parental upbringing). In 2019, a total of 35.1 % of the surveyed students still report that they experienced mild and/or severe violence by their mother or father at least once during their childhood (before the age of 12). In terms of the last twelve months, 20.8 % have been affected in 2019. There is also a slight decrease in the experience of psychological abuse from parents in childhood. Especially frequent psychological abuse from parents is reported less.
- The results also show that experiences of neglect in childhood are a quite prevalent phenomenon (see chapter 6.4 Parental upbringing). **A total of 45.0 % of the adolescent's report having experienced at least mild forms of neglect by their mother or father (or by a caregiver) at least once during their childhood.**
- **Being conscious of violent physical interactions between one's parents remains at similar levels in 2019 as in 2017, but has tended to decrease slightly in terms of frequent witnessing of physical violence** (see chapter 6.4 Parental upbringing). Overall, 63.2 % of adolescents have witnessed verbal violence between their parents or legal guardians at least once in the past twelve months. At least one physically violent interaction was observed between their parents by 4.6 % in the same period.
- With regard **to experiencing violence, there are significant gender differences in that, compared to boys, girls tend to report more psychological abuse by their parents in their childhood, as well as violent interactions between their parents, especially verbal violence in the last twelve months** (see section 6.4 Parental upbringing). Concerning the school type attended, it turns out that adolescents from lower school types, compared to adolescents from higher school types, report severe physical violence by parents in their youth more often and that they were more often exposed to neglectful behavior in their childhood. Furthermore, students from lower school types are more likely to have witnessed physically violent interactions between their parents than adolescents from higher school types. In addition,

students from lower school types experience less affection and control from their parents than adolescents from higher school types.

Situation of the teachers

- **Teachers in Lower Saxony rarely report that they have been physically attacked or threatened by students in or outside school** (see chapter 7.1 Teachers as victims). **However, teachers have certainly been victims of verbal assaults: Almost one third of the teachers were insulted by students at school.** Differentiated by school type, teachers at higher school types were significantly less likely to be victims of insults or verbal abuse than teachers at lower or intermediate school types.
- With **regard to aggressive behavior at school, it turns out that disruption of lessons as well as the teasing and bullying of students** occur **most frequently** (see chapter 7.2 Aggressive behavior at school). In general, almost all forms of aggressive behavior are least represented at higher school types, while they are most frequently observed at lower and intermediate school types, depending on the type of behavior.
- **In addition, 5.8 % of the teachers show both high levels of emotional exhaustion and depersonalization or a loss of empathy, as well as low levels for performance review, which can be a first indicator of an occupational burnout** (see chapter 7.3 Occupational Burnout). Moreover, 9.3 % of the teachers consume alcohol at a risky level (see chapter 7.4 Alcohol consumption). There are no significant differences by school type, but male teachers are more likely to partake in hazardous alcohol consumption than female teachers.

1 Introduction

1.1 Juvenile delinquency in Lower Saxony in 2019 in police statistics

The trends in juvenile delinquency, as they appear in the police statistics, will first be presented based on selected evaluations of the Police Crime Statistics (PKS) (Bundeskriminalamt, 2020; Landeskriminalamt Niedersachsen, 2020), before the results of the 2019 survey are presented.

In the PKS, persons between the age of 14 and 18 are classified as adolescents. If the PKS is evaluated in relation to this age group, the picture shown in Table 1 emerges for 2019 regarding various offenses. This year a total of 18,989 adolescents were recorded by the police for an offense in Lower Saxony. This means that about every 17th adolescent had to deal with the police, as there were 316,173 adolescents between the ages of 14 and 18 living in Lower Saxony that year. This is also reflected in the suspect number per 100,000 adolescents: out of 100,000 adolescents in Lower Saxony, 6,006 were recorded by the police, i.e. 6 %**.** Compared to the suspect number per 100,000 adolescents in the Federal Republic of Germany as a whole (5,790.3), the crime rate in Lower Saxony is slightly above average: the suspect number per 100,000 adolescents for all crimes is 6,005.9 in Lower Saxony, which is slightly higher than for the entire Federal Republic of Germany.

Table 1. Juvenile suspects and suspect number per 100,000 adolescents in 2019.

	Number of juvenile Suspects Lower Saxony	**Suspects/100,000 adolescents Lower Saxony**	**Suspects/100,000 adolescents Federal Republic total**
All offenses	18 989	6 005.9	5 790.3
Aggravated theft	1 624	513.6	391.5
Simple theft	5 289	1 672.8	1 674.0
Including: Shoplifting	3 531	1 116.8	1 242.1
Damage to property	2 364	747.7	648.7
Fraud	1 636	517.4	580.3
Including: Fare evasion	744	235.3	364.8
Intentional/light bodily injury	2 791	882.7	840.5
Violent Crime	2 512	794.5	772.3
Including: serious/grievious bodily injury	1 982	626.9	602.8
Including: Robbery	532	168.3	195.6
Including: Rape	128	40.5	28.1
Including: Murder/manslaughter	16	5.1	5.1
Drug-related offenses	4 217	1 333.8	1 127.1
Including: Offenses involving cannabis	3 116	985.4	840.9
Including: trafficking	814	257.5	208.2

Note. The suspect number per 100,000 adolescents indicates how many persons per 100,000 persons of a certain age group were registered by the police as suspects of a crime.

Most juvenile offenders have committed simple theft (5,289 offenders; including shoplifting: 3,531 offenders); the second most common are offenders with drug-related offenses (4,217 offenders). Offenses involving cannabis are the most frequent among them (3,116 offenders). Intentional/light bodily injury was the third most common offense committed by 2,791 juvenile offenders. Even before property damage, with a total of 2,364 perpetrators, 2,512 adolescents were registered by the police for violent crimes. The largest proportion of violent offenses was serious/grievous bodily injury, with

1,982 offenders. Among the fraud offenses, on the other hand, almost half of the juvenile offenders (45.5 %) were registered for fare evasion. For most of the offenses, Lower Saxony's adolescents are slightly above or slightly below the comparable figure for the whole of Germany, with differences being quite small. It is conspicuous that, as seen before in 2017, adolescents in Lower Saxony are registered by the police much more frequently for drug-related offenses (especially cannabis-related offenses).

The development of juvenile delinquency in Lower Saxony is shown in Table 2, based on the suspect number per 100,000 adolescents. This rate is used because it compensates for demographic changes. Between 2008 and 2019, the number of adolescents decreased by 16.2 %, from 377,371 to 316,173. The consequence of this is – under ceteris paribus assumptions – that the absolute number of suspects should decrease. Since this figure is a relative indicator of the number of suspects in relation to the population, it is a good indicator of crime trends.

The development from 2008 to 2019 is shown. If all offenses are considered, 2009 had the highest suspect number per 100,000 adolescents with 8,318 cases; the lowest rate is observed in 2018. If all offenses are combined the suspect number per 100,000 adolescents has decreased by 26.1 % from 2008 to 2019, meaning suspects have reduced by over a quarter.

In the following offenses, among others, there has been a halving of the suspect number per 100,000 adolescents: aggravated theft has decreased by 50.3 % from 2008 to 2019, simple theft has decreased by 42.5 % from 2008 to 2019, and property damage has decreased by 52.5 % from 2008 to 2019. Furthermore, within a short period of time, there has been a large decrease among fraud crimes from 2010 to 2019 by 43.3 %. Although violent crime has experienced a slight increase in the suspect number per 100,000 adolescents from 2015, an overall decrease of 45.1 % can be stated over time from 2008 to 2019. If the individual violent crimes are considered, a decrease in the suspect number per 100,000 adolescents appears for (attempted) murder/manslaughter compared to the previous years. It should be noted, however, that (attempted) murder/manslaughter is an offense that is still committed very rarely. For example, the suspect number per 100,000 adolescents for (attempted) murder/manslaughter was 8.4 in 2017, and 5.1 in 2019. Due to the amendment of Section 117 of the Penal Code, the suspect number per 100,000 adolescents for rape from 2017 is not comparable to previous years. To deem a sexual assault as a punishable offense, it is no longer relevant whether the perpetrator threatened or used violence, but whether the victim did not want the sexual act ("No means no"). Regarding drug-related offenses, the suspect number per 100,000 adolescents was in 2017. Since then, however, it has dropped again by 1.1 %.

Table 2. Development of suspect number per 100,000 adolescents by offense type for adolescents in Lower Saxony 2008 to 2019.

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2018 to 2016 (in %)	2019 to 2017 (in %)
All offenses	8 125.1	**8 317.8**	7 455.2	6 917.4	6 443.8	5 981.9	5 959.1	5 895.9	5 878.6	6 103.8	5 762.2	6 005.9	-2.0	-1.6
Aggravated theft	1 033.8	**1 056.1**	848.1	808.0	701.5	558.4	565.2	518.9	483.3	493.0	483.4	513.6	0.0	+4.2
Simple theft	2 911.3	**2 938.8**	2 589.1	2 380.5	2 153.0	1 887.1	1 686.9	1 581.2	1 548.4	1 631.0	1 676.5	1 672.8	+8.3	+2.6
Including: Shoplifting	1 683.0	**1 762.6**	1 539.8	1 356.7	1 240.6	1 036.9	923.4	935.8	926.6	1 022.7	1 082.9	1 116.8	+16.9	+9.2
Damage to property	**1 575.1**	1 554.8	1 302.0	1 218.2	1 105.7	865.4	804.6	767.7	766.7	828.4	801.3	747.7	+4.5	-9.7
Fraud	774.4	820.8	**911.9**	685.3	711.5	709.5	723.0	719.1	673.2	667.8	499.1	517.4	-25.9	-22.5
Including: Fare evasion	**463.0**	462.4	454.7	281.3	288.0	312.2	334.9	350.0	340.4	354.8	251.1	235.3	-26.2	-33.7
Intentional/light bodily injury	**1 190.2**	1 163.3	1 100.9	1 049.3	949.1	824.4	851.5	695.9	820.5	856.8	824.1	882.7	+0.4	+3.0
Violent Crime	**1 448.0**	1 418.4	1 200.9	1 062.3	887.9	751.4	691.4	606.9	684.4	741.4	716.4	794.5	+4.7	+7.2
Including: serious/dangerous bodily injury	**1 225.9**	1 177.3	979.0	848.6	718.6	605.8	552.0	486.1	549.5	572.5	563.8	626.9	+2.6	+9.5
Including: Robbery	**284.6**	290.0	266.2	235.1	194.4	165.2	143.7	135.0	141.7	153.7	153.6	168.3	+8.4	+9.5
Including: Rape	32.7	30.2	34.3	30.9	33.3	21.0	33.9	24.9	26.8	35.9	32.9	**40.5**	/	+12.8
Including: Murder/manslaughter	8.0	6.6	6.2	8.2	6.0	6.3	3.4	3.8	5.9	**8.4**	6.8	5.1	+15.3	-39.3
Drug-related offenses	573.0	625.1	578.0	609.0	722.0	928.6	1 128.0	1 193.3	1 207.1	**1 348.5**	1 314.6	1 333.8	+8.9	-1.1
Including: Offenses involving Cannabis	441.5	496.2	434.7	475.8	577.7	738.5	859.5	914.3	896.7	**987.4**	955.2	985.4	+6.5	-0.2
Including: trafficking	111.9	114.1	121.3	116.1	122.9	183.3	247.5	236.1	235.5	276.8	**282.8**	257.5	+20.1	-7.0

Note. Bold: highest suspect number per 100,000 adolescents in the period 2008 to 2019; underlined: lowest suspect number per 100,000 adolescents.

[a] Due to the amendment of Section 117 of the Penal Code, the suspect number per 100,000 adolescents for rape of 2017 is not comparable with previous years.

Table 2 also shows the change of the suspect number per 100,000 adolescents compared between the years 2018 and 2016 as well as 2019 and 2017. The years 2018 and 2016 were selected because the reference period for the offenses in the questionnaire referred to the past twelve months in each case. However, since the twelve-month reference period for the queried offenses sometimes also falls within the year of the survey itself (surveys were conducted until May 2017 and July 2019, respectively), a comparison of the years 2019 and 2017 is also shown.

Overall, there was a slight decrease of 2.0 % for all offenses in 2018 compared to 2016. Differentiated according to single offenses, a decrease of 25.9 % was only recorded for fraud, including fare evasion (-26.2 %). In contrast, the suspect number per 100,000 adolescents of simple theft, damage to property, light bodily injury, violent crime, and drug-related offenses increased. For the crime of light bodily injury the increase is very low (0.4 %), but for drug trafficking it is very high (20.1 %).

The comparison of the years 2019 and 2017, on the other hand, shows a partially different picture: for 2019, a decrease of 1.6 % can also be observed in relation to all offenses compared to 2017. Comparing these years, the decrease for fraud (-22.5 %) and fare evasion (-33.7 %) is very high too. Whereas in comparison of the years 2018 and 2016 increases were recorded around property damage and drug-related offenses, the comparison of the years 2017 and 2019 again shows a slight decrease of 9.7 % (property damage) and 1.1 % (drug-related offenses). A decrease can also be recognized according to the suspect number per 100,000 adolescents for (attempted) murder and manslaughter (-39.3 %). In line with the development in 2016/2018, increases were recorded for theft, light bodily injury, and violent crime.

For the evaluations of the Lower Saxony Survey 2019, the comparison of the suspect number per 100,000 adolescents of the years 2016/2018 and 2017/2019 means that an increase can be expected for theft and violent crime as well as light bodily injury and a decrease for fraud and fare evasion. Regarding the drug-related offenses and property damage, no clear assumptions can be made about the expected prevalence rates of self-reported juvenile crime due to the different trends for the comparisons 2016/2018 and 2017/2019.

Table 3 shows that the positive development of juvenile delinquency is not a typical Lower Saxony phenomenon but can be observed in a comparable way in other German states. Presented is the suspect number per 100,000 adolescents for violent crime in all western German states, except for the city states. In all federal states, the highest rate is found in 2008; the lowest figure is presented in 2015, with two exceptions (Saarland and Bavaria). If the lowest and highest rates are put in relation to each other, the decline is between 41.6 % (Saarland) and 59.6 % (Schleswig-Holstein). The rate of the decline thus differs between the German states, but not the direction. It is also noticeable that the federal states differ in their levels of violence: Bavaria and Baden-Württemberg have the lowest suspect number per 100,000 adolescents, while Saarland and North Rhine-Westphalia have the highest. In recent years, however, there has been a slight increase in violent crime in all German states, although this is still far below the level of the 2008 rates.

Table 3. Development of the suspect number per 100,000 adolescents of adolescents for violent crime in the eight western German states (excluding the city states) 2008 to 2019.

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Highest to lowest number
SL	**1 148.6**	1 012.3	987.1	853.0	783.9	670.5	705.6	689.3	868.3	767.0	876.7	935.1	-41.6
RP	**1 180.9**	1 134.7	1 028.9	948.4	899.1	822.8	656.4	615.3	665.4	759.2	722.8	799.7	-47.9
NW	**1 337.5**	1 292.6	1 219.0	1 115.8	967.6	885.3	797.3	735.5	829.1	873.0	894.4	945.3	-45.0
NI	**1 448.0**	1 418.4	1 200.9	1 062.3	887.9	751.4	691.4	606.9	684.4	741.4	716.4	794.5	-58.1
HE	**1 263.1**	1 137.3	1 101.0	970.2	815.4	697.4	631.4	565.5	639.3	674.1	664.9	706.0	-55.2
SH	**1 386.3**	1 270.4	1 190.7	1 017.0	812.4	631.3	593.2	560.4	629.4	667.4	683.8	651.7	-59,6
BW	**916.7**	870.3	825.2	755.0	612.3	541.5	478.4	454.1	501.8	512.8	521.0	547.7	-50,5
BY	**776.5**	709.1	669.3	623.9	527.0	502.8	435.1	441.1	489.5	486.4	453.5	501.9	-44.0

Note. Bold: highest suspect number per 100,000 adolescents in the period 2008 to 2019, underlined: lowest suspect number per 100,000 adolescents
SL=Saarland, RP=Rhineland Palatinate, NW=North Rhine-Westphalia, NI=Lower Saxony, HE=Hesse, SH=Schleswig-Holstein, BW=Baden-Württemberg, BY=Bavaria.

Summary

According to the police crime statistics, the number of juvenile suspects per 100,000 inhabitants in Lower Saxony decreased by 26.1 % in the period from 2008 to 2019. This positive development in juvenile delinquency is not a phenomenon typical to Lower Saxony but can be observed in a comparable way in other federal states. In recent years, however, there has been a slight increase in violent crime in all federal states, which is still far below the level of the 2008 suspect number per 100,000 adolescents.

If we compare the suspect number per 100,000 adolescents in Lower Saxony to 2016/2017, i.e., the years which are also compared with the estimated number of unreported cases, we see a decrease of 1.6 to 2.0 %. Differentiated by offense, an increase can be observed for theft and violent crime as well as light body injury and a decrease for fraud and fare evasion. No clear trends can be observed regarding drug-related offenses and property damage.

1.2 The Lower Saxony Survey 2019

"The development of juvenile delinquency can be seen as temperature curve of society. If juvenile delinquency, and in particular juvenile violence, decreases, it can be assumed that the integration of the next generation into society is successful, and that adolescents have a positive outlook to the future. If juvenile delinquency increases, this indicates undesirable developments in the adolescents' close and wider environment; families, schools, cities, and municipalities, basically society as a whole, are less and less successful in conveying adolescents the insight that crime and violence can be dispensed with" (Bergmann et al., 2017, p. 5). This was the starting point in the deliberations of the Criminological Research Institute of Lower Saxony (KFN) when, in 2012, it proposed to the Lower Saxony state government that a continuous representative dark figure survey of Lower Saxony's ninth graders, the so-called Lower Saxony Survey, should be established.[2] The state government of Lower Saxony agreed

[2] For a detailed account of the development and motivations, see Bergmann et al. 2017a, 5ff.

to the proposal to introduce a Lower Saxony Survey and provided the corresponding funding for this purpose. The aim of the Lower Saxony Survey, which was first conducted in 2013, is to survey around 10,000 adolescents in the ninth grade, at regular intervals of two to three years, on self-reported deviant behavior and crime from the perspective of perpetrators and victims and simultaneously record other aspects of the adolescents' living environment. Thus, on the one hand, the focus of the survey is on the investigation of the dark figure of juvenile delinquency; on the other hand, it is possible to uncover temporal trends in the delinquent behavior of adolescents and to explain these developments by analyzing the conditioning factors of deviant behavior. Existing data sources that track the development of juvenile delinquency have the following disadvantages compared to the Lower Saxony Survey: The Police Crime Statistic (PKS), for example, reports the number of offenses and identifies offenders every year, and thus the development of reported criminal cases can be tracked over many years. However, the PKS has a central disadvantage, especially regarding juvenile delinquency: It is less reliable, especially in the case of the lighter offenses that dominate during adolescence (trivial nature of juvenile delinquency). This is because on the one hand the PKS is dependent on the willingness to report crimes. If this increases, for example, because schools and police stations cooperate more closely and schools begin reporting criminal incidents in schools more frequently, then the number of offenses and perpetrators in the crime statistic increases, although there may not have been a real increase in crime. On the other hand, the control density also has an influence on the statistically registered crime volume. For example, if patrols are stepped up in high-risk areas (train stations, bar districts), crimes will be detected more frequently. The extent of control as well as a change in police strategies therefore help to determine the extent of registered crime in general and juvenile delinquency. Existing studies on the dark figure dedicated to delinquent behavior, which have also been conducted by KFN in various regions of Germany since 1998 (see, for example, Baier et al., 2009), do not allow a systematic tracing of the development for an entire federal state, as they are mostly regionally limited and, moreover, have not been conducted repeatedly. In addition, the generally too small number of respondents in most surveys does not allow differentiation according to various sociodemographic characteristics (see Bergmann et al., 2017, p. 5).

By focusing on one federal state, the Lower Saxony Survey, which has been conducted four times by now (2013, 2015, 2017, and 2019), has the advantage due to various framework conditions (e.g., organization of the education system) being kept constant as well as an advantage in group-specific evaluations due to the large number of respondents. In all four years, the focus was on the ninth grade for the following reasons: first, according to the age-crime curve (Moffitt, 1993), adolescents of this age already show a high level of delinquent behavior and, at the same time, a considerable victimization rate. Second, apart from a few exceptions, the cohort of ninth graders is still in school. Therefore, the goal of a representative survey of adolescents can be achieved very well with the ninth grade. In 2013, 9,513 adolescents were surveyed with a response rate of 64.4 %; in 2015, 10,638 adolescents were surveyed with a response rate of 68.5 %. For the survey year 2017, a response rate of 59.2 % can be stated, in which 8,939 adolescents were surveyed. The results of the survey from 2019 are presented in this report and correlated with the previous surveys in order to make statements about the development of adolescents in the state of Lower Saxony.

In terms of content and methodology, the Lower Saxony Survey 2019 continues the surveys of previous years. In terms of content, this means that the focus in 2019 will again be on investigating the dark figure of juvenile delinquency, i.e., on experiences of violence, violent offenses, and perpetration as well as victimhood of property crimes. At the same time several other topics are also addressed. Among others, additional forms of deviant or risk behavior are examined, especially the consumption

of alcohol and drugs, weapon carrying, bullying, and truancy. Furthermore, risk attitudes such as affinity for violence or norms of masculinity and, in addition, right-wing extremist orientations and behaviors are recorded. To be able to explain possible developments, conditioning factors of juvenile delinquency and deviant behavior were recorded at all three survey points, which are to be localized particularly in the living environment of the adolescents: this concerns the social situation and the parenting styles of the parents, leisure time behavior, contact with (delinquent) peers, various personality traits, and the school environment. As in previous years, the focus was also on the living environment of adolescents with a migration background. Here, the focus is on aspects such as linguistic customs and experiences of discrimination.

Regarding the methodological procedure, the top priority in all four survey waves was to design a survey that was representative of Lower Saxony. This is possible by means of a school class-based survey. School class-based means two things: first, a random selection of school classes in which interviews are to take place is made, based on a list containing all ninth grade classes in Lower Saxony. All types of schools were included in the random drawing, except for special-needs schools with a focus other than learning. The reason why special-needs schools for persons with, for example, mental or physical disabilities are not included is that a survey by questionnaire is not possible here. Secondly, school class-based means that the surveys take place in the context of a school class. This means that at an appointment agreed with the teachers, a KFN-trained test leader comes into class and introduces the survey, hands out the questionnaires and collects and takes away the completed questionnaires or enters the survey link on the computers. In the past, it has been repeatedly demonstrated that reliable findings can be obtained with such a procedure, even on sensitive topics (Bergmann et al., 2017, p. 7). The classic paper-pencil survey will be supplemented by a computer-based survey for the first time in 2019. The implementation of both surveys was the same; in both cases, test administrators were responsible for the smooth running of the survey. The only difference was that the computer-based surveys took place in the PC labs of the schools using the survey tool *soscisurvey.* Thus, about two-thirds of the surveys were computer-based, while one-third took place in the classic paper-pencil variant. For the exact reasons behind this decision, see chapter 2.1.1.

Chapter 2 of this report describes the methodological procedure and the sample in more detail. Chapter 3 then presents the results on delinquent behavior with a focus on violent behavior from the perspective of victims and perpetrators in various contexts. Following this, chapter 4 is dedicated to risk attitudes and behaviors, such as alcohol and drug use or weapon carrying. Chapter 5 presents political attitudes and behaviors related to right-wing extremism, followed by chapter 6, which presents findings on different aspects of the environment and everyday life of adolescents. Finally, there is a chapter about the situation of teachers in Lower Saxony (chapter 7).

To show the development of juvenile delinquency and its conditioning factors, the results of the 2019 survey are hereafter compared primarily with those of the 2017 survey. In some cases, an overall trend since 2013 is also presented. The data of the Lower Saxony Survey are not compared with previous student surveys of the KFN using statistical tests, as these are partly not based on representative samples or were conducted in other regional areas than Lower Saxony. In addition, the results are differentiated with respect to various subgroups, such as gender or type of school. Comparisons of group means are performed using independent *t-tests* (two-sided; pre-specified significance level: $p < .05$) and the effect size measure Cohen's d is reported. According to Cohen (1988), $d \geq 0.2$ is considered small, $d \geq 0.5$ is considered medium, and $d \geq 0.8$ is considered large. For nominally scaled variables, Chi² tests (χ^2; significance level: $p < .05$) and the corresponding effect measure Phi (φ) or

Cramer's V are calculated. For ordinally scaled variables, Mann-Whitney U tests are used, and the effect measure Pearson's *r* is calculated *(*significance level: $p < .05$). For these effect sizes, values of 0.1 or greater are considered a weak relationship, 0.3 or greater is considered a moderate relationship, and values of 0.5 or greater are considered a strong relationship (Cohen, 2013). The partial Eta^2 is reported for the calculation of an analysis of variance. Values of 0.01 and above represent a weak relationship, values of 0.06 and above represent a medium relationship, and values of 0.14 and above represent a strong relationship (Cohen, 2013). In terms of the evaluations, this means that for differences that show at least a weak relationship, we speak of a substantial, clear, or significant effect. For all other effects that are significant but fall below the limits defined by Cohen (1988), we speak of a tendency or minor changes at best.

Excursus: The school system in Lower Saxony

The school system in Germany consists of elementary, primary, junior secondary and senior secondary levels (see Figure 1). As the Lower Saxony Survey focuses on ninth graders, only students at the junior secondary level were queried. These schools can be divided into six school types which differ in their possible diploma:

1) special-needs school (Förderschule) which ends with a 9th and 10th grade diploma,
2) lower secondary school (Hauptschule) leading to a 9th grade diploma
3) integrated secondary school (integrierte Haupt- und Realschule) which ends with a 9th and 10th grade diploma,
4) intermediate secondary school (Realschule) ending with the 10th grade diploma,
5) comprehensive school (Gesamtschule) where 9th and 10th grade diploma as well as a high school diploma can be achieved
6) integrated secondary school (Oberschule) which includes the 9th and 10th grade diploma (as in 3) but can also include an option for a high school diploma
7) upper secondary school (Gymnasium) which leads to a high school diploma.

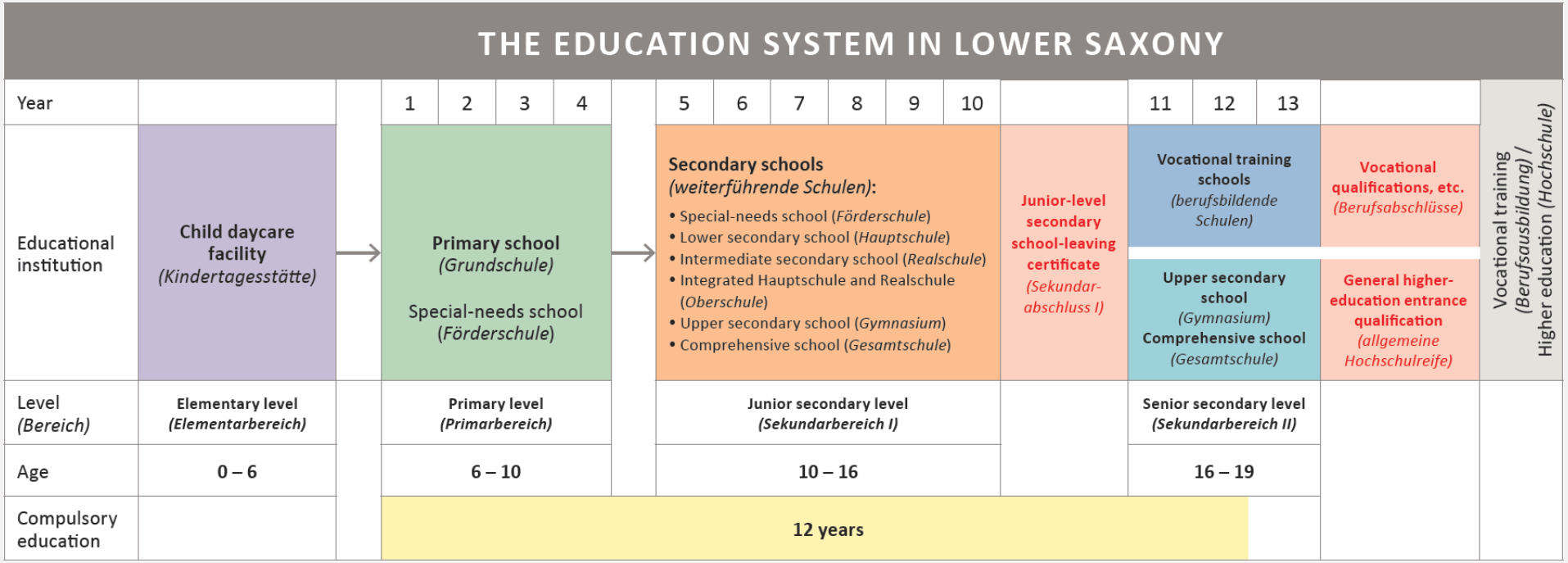

Figure 1. The educational system of Lower Saxony. This figure was taken from a brochure of the Lower Saxony Ministry of Education (2016).

1.3 Acknowledgements

The Lower Saxony Survey 2019 is made possible by the financial support of the state government, specifically the Lower Saxony Ministry of Science and Culture. We would like to take this opportunity to express our sincere thanks for this support. We would also like to thank the Lower Saxony State Education Authority in Hanover, which approved the implementation of the survey in the schools.

The questioning of the students during school lessons was carried out by trained test administrators. We would like to take this opportunity to thank the many test administrators who were active in the Lower Saxony-wide surveys.

We would also like to thank the school principals and teachers who took part in the survey and the adolescents who filled in the questionnaires. Additionally we would like to thank the parents for allowing us to ask their children questions, some of which were quite personal. Furthermore, we would also like to thank Marie Christine Bergmann and Prof. Dr. Dirk Baier for their contribution to the KFN student survey. We would also like to thank Eberhard Mecklenburg for supervising data entry and data editing. For coordinating the survey dates with the schools and test administrators we would like to say thanks to Laura Treskow. Moreover, we would like to thank Tino Dreger, who programmed the different questionnaires. Additionally, we would like to thank the assistants and interns, especially Lea Geyer, Xervenia Wagner, Mario Bauriegel, Katharina Kellner, Louisa Schmittwilken, Stephanie Leonhard, Christoph Kühling, Karla Marek and Theresa Schommer, who supported various steps of the project at KFN. Finally, we would like to thank Nele Haselbach, Konrad Erben, Jasmina Feger and Lena Schwaab for their work on the English translation of the Lower Saxony Survey 2019.

2 Method and sample description

2.1 Methodical approach

As in the previous surveys, student surveys were chosen as an approach in the Lower Saxony Survey 2019 in order to gain insights into the dark figure of juvenile delinquency. This method has been used by KFN since 1998 (Baier et al., 2009; Bergmann et al., 2017; Bergmann et al., 2019; Wetzels et al., 2001; Wilmers et al., 2002). A written, standardized survey is conducted in class supervised by a test administrator. In 2019, approximately two-thirds of the surveys (64.7%; *n* = 8,054) were computer-based for the first time, but otherwise conducted in the same way. Accordingly, one-third of the surveys were conducted in the traditional paper-pencil format (35.3 %; *n* = 4 389). The 2019 surveys took place between 02/26/2019 and 07/03/2019.

A prerequisite for students to report reliable information in such surveys is to ensure anonymity. In the context of the student surveys this is done in two ways: firstly, due to the questioning occurring in a class context, there are always several questionnaires, so that an individual student cannot be de-anonymized. At the end of the survey in class, the questionnaires are closed and sealed together in an envelope or, in the case of a computer-based survey, stored on an online server, where all privacy policy is observed. The tool used to create the questionnaire also places the highest priority on respondent privacy (https://www.soscisurvey.de/de/privacy). Secondly, on the first page of the paper- and computer-based questionnaires, students are informed that parents, teachers, or other persons in school will not receive the questionnaire for inspection. Names, dates of birth, or the like are not requested. This makes deanonymization even more difficult. A detailed description of why the method of the student survey is chosen and provides reliable results is reported in the first report of the Lower Saxony Survey (Bergmann et al., 2017, p. 12).

Apart from the questionnaires for special-needs students (22 pages), the questionnaire comprised approximately 34 pages, as in the two previous surveys. As in previous years, it contained largely tested questions on the topics of violence, truancy as well as drug and media use; in addition, questions were asked about topics described in the literature as causes of violence (e.g., experiences of violence in the family). Except for a few questions, the same questionnaire was used in all survey years, which makes it possible to show developments and trends between the three survey waves, both with regard to the various delinquent behaviors and their conditioning factors. As in previous years, the questionnaire was designed modularly. Different than before, there were not three but four modules. Furthermore, no distinction was made in the modularization between adolescents with and without a migration background. Up to page 31, the questionnaire was identical for all students. From page 32 onwards, four modules were used, to which the adolescents were assigned randomly: right-wing extremism, left-wing extremism, computer games and gambling.

A total of 46 test administrators were employed to coordinate and conduct the survey. On average, they were 31 years old (from 19 to 66 years) and 71.7% female. All test administrators had at least a professional or a high school education. With two exceptions, all test administrators were born in Germany; one person had no German citizenship. The test administrators conducted between one and 41 interviews; the average number of interviews was 17. Almost all test administrators were students (or PhD students) at the time of the survey; the remaining six test administrators had a different employment status (including substitute teacher, teacher (in early retirement), psychosocial parent counselor, lawyer).

The survey was conducted in the same way the previous surveys as follows: the sampling at KFN was done on class level stratified by school type based on a list provided by the State Office for Statistics of Lower Saxony (see below). According to RdErl. D. MK v. 1.1.2014-25b-81402- VORIS 22410- concerning polls and surveys in schools, the permission to conduct the surveys was applied for and granted at the State Education Authority in Hanover. After that all principals of the selected schools were contacted and informed about the upcoming survey. Different from previous years, the schools were not contacted by the test administrators themselves but were called by KFN. Coordinated by a research assistant at KFN, several trained student assistants contacted the schools by phone and/or e-mail. This new method of contacting the schools was chosen as it had become apparent in previous years that the response rate was somewhat lower with each survey year. The fact that there were fewer people responsible for contacting them allowed for more guidance, thereby reducing a source of error in initial contact. If the school administration agreed, the contact details of the responsible class teachers of the class(es) to be interviewed were requested or appointment(s) were arranged directly with the school administration. Subsequently, all concrete steps of the survey preparation were discussed with the school administration, the class teacher or a coordinator appointed by the school (especially the arranging of appointments). Furthermore, it was asked whether the planned computer-based survey could take place at the specific school. This required a computer lab with seats for each student and a stable Internet connection. If one of these conditions could not be fulfilled, the classic paper-pencil method was used. Afterwards, the class teachers received the necessary number of parent information letters for their class as a paper version or, if requested, an e-mail with the PDF version, which the teachers printed themselves. The adolescents took these home. Adolescents whose parents did not agree to participate or who decided against participation themselves were not included in the survey and were otherwise engaged during the survey (see also Bergmann et al., 2017, 13ff.). Adolescents who had reached adulthood decided on their own whether to participate or not.

The survey itself was conducted in class, usually in the presence of a teacher or another adult supervisor. Only 6.7 % of all surveys took place without another adult person around, i.e., the test administrator himself was responsible for conducting the survey; in 80.5 % of the surveys there was another adult around, in the remaining 12.8 % of the cases there were two or even three other adults.

In 63.6 % of the cases the adult present beside the test administrator was the class teacher, and another teacher in 33.3 % of the cases. In 2.5 % of the surveys, other persons such as a didactic specialist, the head of year, a trainee teacher, teaching assistant, school administration or a substitute teacher were present. In 0.6 % of all surveys, another test administrator was present. In more than two thirds of the cases (70.1 %), at least one of the adults was present in the classroom the entire time. Accordingly, in about 30 % of the cases, the persons left the room where the survey took place at different times and for different durations. In only 6.8 % of the cases at least one of the adults stayed in the room for less than half of the time.

The test leaders were also asked to evaluate the behavior of the adults present in various ways. In the following, the average behavior of all present persons is reported, whereby the majority of the evaluations refer to one person present, since in most surveys only one other person was present. In doing so, it shows that, on average, the adults present did not look at the students' questionnaires in 86.0 % of the cases; conversely, this means that slightly more than one in ten people did look, with it only occurring often in two cases. The adults present were instructed not to investigate the questionnaires; however, if it is taken into account that, for example, caregivers were present who had to assist in filling out the questionnaire, then it is not surprising that there were also a few cases in

which the questionnaires were looked at. Both listed cases are situations in which the person assisted the student in filling out the questionnaire, for example by reading it aloud.

Another evaluation of the adult person present concerned their willingness to cooperate. On average, the majority of the adults (87.7%) were rated as very cooperative; only in three cases the present persons were rated as not cooperative. The basic conditions presented here for the surveys are very similar to that of the previous surveys (see also Bergmann et al., 2019, p. 17).

On the day of the survey, the test administrators had to appear at a place agreed upon with the teacher, usually twenty minutes before the start of the lesson, and once again clarify the most important points of the survey procedure with the class teacher or the other person responsible. In case of a computer-based survey, the computers were started, and the link and a password known only to the test administrator were entered. The password was used to ensure that no student could access the questionnaire after the survey and possibly fill it out again. At the beginning of the survey, the test administrators briefly introduced themselves to the students in class and then referred to the computer or handed out the questionnaires. After that, the test administrator read out the first page of the questionnaire, which included information about anonymity and the voluntary nature of the survey. In case of a paper-based survey, the questionnaire was completed together up to page eight, i.e., the test leaders read out the questions and the corresponding answers and gave further instructions or explanations if necessary. From page eight onward, the students were able to complete the questionnaire on their own. This was mainly for the explanation of the filter structure of the questionnaire as well as a pointer not to tick between the boxes. Since these sources of error were excluded in the computer-based survey, the adolescents already completed these questionnaires on their own after the instructions on the first page. This procedure was only deviated from in the special-needs schools insofar as here, if necessary, all pages of the questionnaire were read out. This procedure allows students with reading disability to also follow the survey. On average, the surveys lasted 83 minutes. The time needed to complete the questionnaires did not differ significantly between the different types of school, partly because the questionnaire used in special-needs schools was about 13 pages shorter. At the end of the survey, the test administrator thanked the students and teachers for their participation and let them shut down the PCs. In case of a paper-pencil survey, the questionnaires were collected and sealed in an envelope. Afterwards they were then sent to KFN and only opened there. Subsequently, an initial error check was carried out, so that, for example, questionnaires which had not been completed were destroyed. All other questionnaires were recorded in a database using a custom data entry program. After the completion of the data entry, data processing took place, during which, among other things, further plausibility checks of the questionnaires were carried out. The computer-based survey was saved automatically. Here, again, empty data records were deleted or a plausibility check was carried out using characteristic values provided by *soscisurvey.* These parameters detect if a respondent answered the questionnaire faster than average, through which it can be assumed that the student did not read the questions completely. Conspicuous questionnaires were subsequently deleted from the data set.

After the surveys, the test administrators were asked to give various assessments regarding the implementation (see Table 4). The results show that in 82.6 % of the classes the test administrators estimated that there were *no* or *very few* disciplinary problems during the survey. Disciplinary problems were least common at special-needs schools (92.9 % no or very few disciplinary problems) and most common in comprehensive schools (80.6 %). However, there is no significant difference between the average frequency of disciplinary problems at the different types of schools.

A second finding also points to a positive working atmosphere during the completion of the survey: in 87.5 % of the surveys, the test administrators reported that the majority or all students took the survey seriously. The survey was taken most seriously at special-needs schools (96.4 %), while at lower secondary schools it was taken least seriously. However, even at lower secondary schools most adolescents (83.3 %) took the survey seriously. The small differences are statistically significant.[3] When it was stated that students apparently did not take the survey seriously, the reasons given were that students talked or laughed a lot, seemed listless, handed in the questionnaire quickly, etc. The surveys should take place under exam conditions. Therefore, one task for the test administrators was to separate the students so that each had his or her own workspace. An appropriate class atmosphere could be created in 83.8 % of all classes. There were no statistically significant differences between the school types.

In a further question, the test administrators were asked to indicate whether there had been any particular incidents during the survey. This was the case in more than a third of the surveys (36.3 %) and did not differ significantly between the school types. Typical incidents were that technical problems occurred, individual students left the survey prematurely or arrived late, disciplinary problems had to be solved, words were incomprehensible, the paper-pencil method had to be resorted to at short notice, and so on. For the most part, the specific incidents were very similar to previous surveys. Although, in 2019, incidents related to technology were added due to the computer-based survey.

Table 4. Assessments of survey implementation by school type in 2019 (%).

	Low disciplinary problems	Majority of students took survey seriously	Exam atmosphere for majority of respondents	Special incidents
Total	82.6	87.5	83.8	36.3
Special needs school	92.9	96.4	96.4	28.6
Lower secondary school	77.8	83.3	83.3	27.8
Integrated secondary school	86.4	90.5	86.4	22.7
Intermediate secondary school	83.3	90.9	89.4	29.2
Comprehensive School	80.6	86.8	84.4	38.0
Integrated secondary school	81.3	83.8	82.6	39.3
Upper secondary school	84.4	90.1	81.1	37.6

2.1.1 Paper-pencil vs. computer-based surveys

In the previous survey years of the Lower Saxony Survey, the classic survey method of the paper-pencil survey has been used. One advantage of this method is that it can be conducted regardless of the equipment of the schools since the surveys could take place in any classroom. Nevertheless, the paper-based method faces some limitations, especially on data quality and questionnaire design. Classically, incorrect filtering and non-response are problems in paper-pencil surveys. If respondents do not answer certain questions because of misunderstood filters, this can lead to a higher level of missing data (Turner et al., 1998). Responding to questions that would not need to be answered due to prior filtering is also a problem, creating inconsistent and illogical survey patterns (Wright et al., 1998) that must be compensated with a comprehensive data cleaning. In addition, the paper-pencil format limits

[3] $F(6, 750) = 2.63$, $p = .016$, partial $Eta^2 = 0.02$

the complexity of questionnaires because filtering must be kept as simple as possible to avoid respondent confusion as well as non-response of items when participants get “lost” in the questionnaire (Wright et al., 1998). Similarly, data entry errors that may occur when transferring the paper-based questionnaires to the data entry program cannot be completely avoided (Wang et al., 2005).

At the same time, computer-based surveys have some advantages over paper-pencil surveys. A study by Baier (2018) provides evidence that respondents who completed their questionnaire on a notebook indicate that they completed the questionnaire more honestly and perceived the questions as less personal than students who answered a paper questionnaire. It was also easier to create a calm working atmosphere in class (Baier, 2018). Lucia et al. (2007) reported that students were more motivated in computer-based surveys, they took less time to complete and appeared to have more confidence in their privacy. In addition, school administrations were less reserved to make a commitment to the survey if their students should be surveyed using this survey method (Lucia et al., 2007).

Due to these considerations and for reasons of sustainability and cost, the Lower Saxony Survey 2019 was also designed as a computer-based survey for the first time. About two thirds of the surveys took place on the computer in the PC labs of the schools under the guidance of a test administrator and the presence of a teacher. In one third of the cases, the classic paper-pencil method was used because the schools’ cited reasons that would have made it difficult to conduct the survey on the computer. Reasons for this were, for example, that not enough computers were available for all students or that the school’s Internet was not considered stable.

To determine whether the survey method has an influence on the respondents’ answering behavior, the level of prevalence rates for sensitive questions is compared, for example. Since *underreporting* is expected to be a problem of respondents on sensitive questions, researchers typically assume that higher prevalence means that more truthful responses were given (Tourangeau & Yan, 2007), as *overreporting* is a less common problem than *underreporting (Gomes* et al., 2019). When comparing the prevalence rates of the two survey methods, some studies conclude that paper-pencil surveys and computer-based surveys yield similar results (e.g., Baier, 2018; DiLillo et al., 2006; Hamby et al., 2006; Knapp & Kirk, 2003; Lucia et al., 2007; van de Looij-Jansen & de Wilde, 2008). However, there are also studies that found higher prevalence rates in computer-based surveys than in paper-pencil surveys (Brener et al., 2006; Epstein et al., 2001; Joinson, 1999; Turner et al., 1998; Wang et al., 2005; Ward et al., 2012; Wright et al., 1998). A meta-analysis by Gomes et al. (2019) concluded that although the included studies did not show statistical differences between the two methods, the computer-based method was slightly preferred because there was an 8 % lower probability of reporting delinquent behavior when using the paper-pencil method (Gomes et al., 2019).

When the prevalence rates of the computer- and paper-based surveys of the Lower Saxony Survey 2019 are compared, some significant differences by survey method emerge. However, considering the limits of effect sizes defined by Cohen (1988), the differences do not turn out to be substantial on average across all the total indices obtained and evaluated in this research report. Moreover, the cases in which a significant difference was observed are not consistently in one direction (partly higher values in the computer-based surveys and partly higher values in paper-pencil surveys), so that a consistent methodological bias in one direction can be excluded. Nevertheless, when interpreting the findings, it must be considered that both methods were used for the first time in the Lower Saxony Survey 2019.

2.1.2 Response rate

As in the previous surveys (Bergmann et al., 2017; 2019), the aim was to survey around 10,000 ninth-grade students. This corresponds to approximately one in eight students in Lower Saxony in 2019.[4] The sample was selected in the same way as in previous years. Therefore, the sample was drawn based on the school classes, again. Based on the experience with the previous Lower Saxony Surveys, a total of 1,294 classes were included in the sample. In the 2017/2018 school year, 30,066 students were taught in these classes; as in the previous surveys, the school types were included in the sample proportionally to their share in the population, i.e., the random drawing was stratified by school type. The information on the number of classes and pupils was provided by the State Office for Statistics of Lower Saxony. As in the previous surveys, no further stratification of the random drawings (apart from the type of school) was considered, i.e., no stratification by geographical region, for example. Due to the high number of classes included in the sample, it can be assumed again, that the geographical distribution is well represented (see chapter 2.1.3 Regional distribution). Once again, all types of schools were included in the random drawing (except special-needs schools with a focus other than learning); both public and private schools were considered. Compared to previous years, this represents a considerable increase in the size of the sample. This decision was made because, on the one hand, no additional sample was drawn in individual areas of Lower Saxony. On the other hand, a steady decrease in the response rate has been recorded in recent years (see Bergmann et al., 2019, 19f.). A significant increase in the sample size was therefore intended to prevent a lower number of respondents.

Table 5 shows that of 1,294 classes selected in total, 762 classes participated in the survey. This means that 532 classes, or 41.1 %, did not participate in the survey. Comparing the participation rates of the different types of schools, it is noticeable that the proportion of non-participating classes is highest among the lower secondary schools and the intermediate secondary schools (53.2 %). In contrast, the rate of non-participating classes is lowest in integrated secondary schools (30.9 %). Overall, school participation is lower than in the 2013 and 2015 surveys across all school types. The non-participation rate of schools is significantly higher than in previous surveys (2017: 27.2 %; 2015: 18.9 %; 2013: 24.1 %).

Since this declining trend was already apparent in 2017 (see Bergmann et al., 2019, 19f.), in 2019 it was systematically recorded for which reasons school administrators gave a refusal. Table 6 shows the frequencies of the reasons given. In some cases, school administrations gave multiple reasons, which is why the frequencies in the table add up to more than the 532 classes that did not participate. The most frequently cited reason was lack of time: 198 classes did not participate in the survey due to time constraints. In 145 classes, school administrators could not be reached despite constant calls and emails requesting feedback. In 75 cases, school principals cancelled without reason. Organizational reasons were given by the school administrators of 70 classes as a reason for cancellation. The remaining reasons given were teacher shortages (58 classes), participation in other surveys (46 classes), and other reasons. Other reasons include, for example, poor language skills of the students, no consent of the parents or students, no consent of the school authority, special features of the school, spontaneous cancellation of the survey, no interest in or skepticism about the survey.

[4] Related to all types of schools, except for special-needs schools with a focus other than learning (e.g., mental, or physical disability).

Table 5. 2019 response statistics by school type.

	Special-needs school	Lower secondary school	Integrated secondary school	Intermediate secondary school	Comprehensive school	Integrated secondary school	Upper secondary school	Total
Total number of students in Lower Saxony	1 275	2 851	2 478	7 470	18 239	19 340	27 487	79 140
Number of selected classes	58	58	47	113	276	343	399	1 294
Number of selected students	499	1 087	956	2 833	6 921	7 353	10 417	30 066
Number participating classes	28	36	22	66	159	237	214	762
Number of students in these classes	298	697	493	1 671	3 993	5 291	5 543	17 986
Number of participating students	181	416	333	1 116	2 472	3 460	4 466	12 444
Response rate	**36.3 %**	**38.3 %**	**34.8 %**	**39.4 %**	**35.7 %**	**47.1 %**	**42.9 %**	**41.4 %**
Reason for non-participation: no parental consent	71	89	64	322	753	918	548	2 765
Reason for non-participation: no consent of the respondent	6	27	26	78	164	278	104	683
Reason for non-participation: Illness	24	34	40	57	194	218	199	766
Reason for non-participation: truancy	1	7	1	8	1	15	0	33
Reason for non-participation: not usable	2	33	10	10	52	61	24	192
Reason for non-participation: other/not reconstructable	13	91	19	80	357	341	202	1 103

Table 6. Reasons for cancellation of the schools in 2019 (multiple reasons possible).

Reason	Frequency
Without reason	75
Time reasons	198
Teacher shortage	58
Participation in other surveys	46
Organizational reasons	70
No accessibility of the school	145
Other reasons	52

Of the students taught in the participating classes (17,986), 12,444 ultimately entered the data set, which means that a not insignificant number did not participate in the survey or were subsequently removed from the data set (5,542 students or 44.5 %). The most common reason for non-participation was lack of parental consent: 2,765 did not participate in the survey due to lack of parental consent. In addition, 766 students were sick on the day of the survey. Since illnesses can affect all students, it cannot be assumed that this is a selective failure; the representativeness of the study should not be affected in this respect. In 683 cases, the students did not agree to participate of their own accord.

Furthermore, the data of 192 students who participated in the survey were classified as untrustworthy ("not usable"). These questionnaires are not included in the analysis. In 33 cases, the test administrators indicated that the students had played truant on the day of the survey. For 1,103 adolescents who did not participate, other reasons or reasons that cannot be reconstructed were given. Examples include student exchanges, school events, rewriting class tests, language problems, or no other reasons given.

Comparing the willingness of the students in the participating classes to take part in the survey with the previous surveys, it shows a decreasing willingness of the adolescents to participate (2019: 69.2 %; 2017: 80.8 %; 2015: 84.1 %; 2013: 84.4 %). It is noticeable that significantly more adolescents did not participate in the survey than in previous years due to the lack of parental consent. Almost half of the adolescents canceled for this reason (49.9 %), while in 2017 this was the reason given in 18.8 % of cases.[5] This can be explained, among other things, by the fact that in 2019, for the first time, students had to put a cross on the first page of the questionnaire to confirm that their parents had agreed. It cannot be excluded that parents have become more skeptical about survey studies over the years or more cautious about data protection due to the introduction of the European Union's General Data Protection Regulation (GDPR) and therefore did not give consent. In contrast, no consent from the respondents themselves due to their own initiative occurred significantly less frequently (2019: 12.3 % of refusals; 2017: 21.2 % of refusals).[6] Moreover, significantly fewer students were sick on the day of the survey than in previous years. The reason for cancellation for other/unreconstructable reasons and the non-usability of the questionnaires remained at a similar level as in 2017. In total, a data set with information from 12,444 students was created. This corresponds to an overall response rate of 41.4 %, which is lower than in previous years (2017: 59.2 %; 2015: 68.5 %; 2013: 64.4 %) and continues the decreasing trend in survey commitments. Figure 2 shows the response rate as a flowchart. However, since this decline in response rate was anticipated based on the experience of previous years and therefore a larger sample was drawn, the number of participants turns out to be even larger than in previous years (2013: 9 512; 2015: 10 638; 2017: 8 938 respondents).

As in the previous surveys, the final sample corresponds quite well to the proportions in the population of all ninth graders in Lower Saxony in terms of school type composition (Bergmann et al., 2017, 18ff.; Bergmann et al., 2019, p. 21). This can be seen very clearly in the case of upper secondary schools for example. Thus, in 2017/2018, 34.7 % of all pupils were taught at these; in the sample, the proportion of upper secondary school pupils is 35.9 % (see Table 7). The largest discrepancy is found with integrated secondary schools (24.4 % to 27.8 %).

[5] $\chi^2(1) = 620.82$, $p < .001$, $V = 0.28$

[6] $\chi^2(1) = 96.26$, $p < .001$, $V = 0.11$

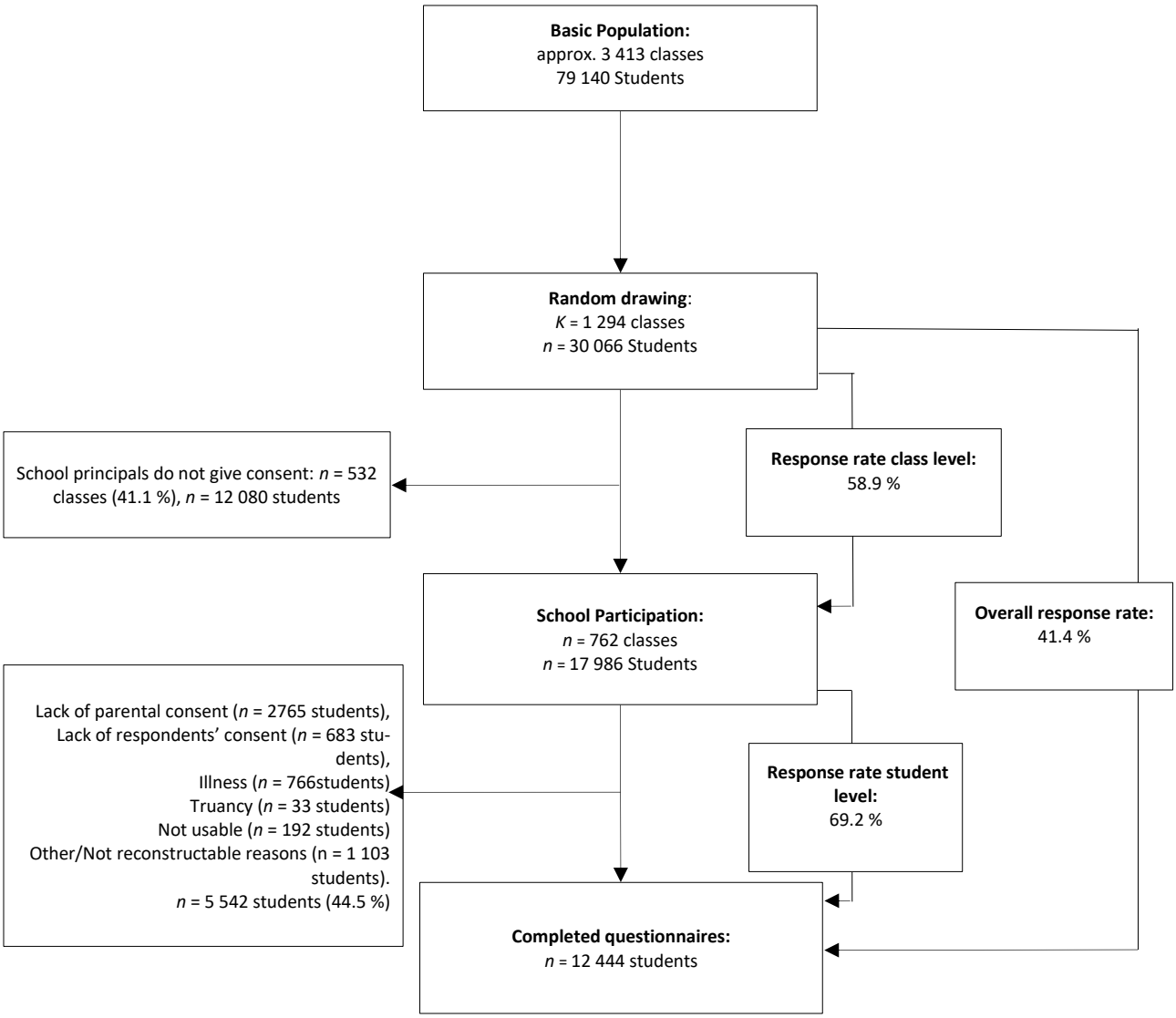

Figure 2. Response statistics 2019.

To compensate for these small differences and to enable representative statements for the ninth-grade students in Lower Saxony, the option of data weighting is used again. The respective weighting factors are shown in Table 7. However, since the deviations between the basic population and the sample, and thus the weighting factors, can ultimately be classified as rather small in the 2019 survey as well, the results of the unweighted and weighted evaluations hardly differ from each other.

Table 7. Comparison of school type composition in 2019 (%).

	Share Lower Saxony	Share of sample	Weighting factor
Special-needs school	1.6	1.5	1.107632184
Lower secondary school	3.6	3.3	1.077625459
Integrated secondary school	3.1	2.7	1.170094735
Intermediate secondary school	9.4	9.0	1.052495781
Comprehensive School	23.0	19.9	1.160156329
Integrated secondary school	24.4	27.8	0.878909841
Upper secondary school	34.7	35.9	0.967770947

2.1.3 Regional distribution

In addition to the school type composition, the following section examines to what extent the realized sample also represents the regional distribution of the pupils in Lower Saxony. For this purpose, as in previous years, we will not use the subdivision of Lower Saxony into districts or independent cities (see Bergmann et al., 2017, 20ff.), but rather the six regions defined by the police departments. The affiliation to a police department is accompanied, among other things, with specific police strategies regarding adolescents, so that it is conceivable that the regions influence the attitudes and behavior of adolescents in different ways. Thus - regarding the research topic - police departments address a regional differentiation that is not insignificant in terms of content. It is not entirely unrealistic to assume that the lives of adolescents are shaped by their affiliation to one of these regions. Accordingly, the regions prove to be socialization spaces.

To assign the adolescents to a police department, they were asked to provide their zip code in the questionnaire. In 2019, 12,088 adolescents provided a zip code that could be assigned to a municipality. For the remaining 356 adolescents, it was decided to use the school's zip code as basis for assignment to a police department. Empirically, for those adolescents for whom both their own zip code and the school's zip code were available, both numbers correlated very highly with each other ($r = 0.93$, $p < .001$), which legitimizes the step of replacing missing values with the school's zip code. Theoretically, this step is also well justified because it will be very rare for an adolescent to attend a school outside his or her district. Based on the district or independent city, the assignment to a police department is ultimately made. The following districts/independent cities have been assigned to departments:

- *Region West* (Osnabrück Police Department): Wittmund, Aurich, Emden, Leer, Emsland, Grafschaft Bentheim and Osnabrück.
- *Central-North Region* (Oldenburg Police Department): Cuxhaven, Friesland, Wilhelmshaven, Wesermarsch, Osterholz, Ammerland, Delmenhorst, Oldenburg, Cloppenburg, Vechta, Diepholz and Verden.
- *North-East Region* (Lüneburg Police Department): Stade, Rotenburg (Wümme), Harburg, Lüneburg, Uelzen, Lüchow-Dannenberg, Celle and Heidekreis.
- *Hanover Region* (Hanover Police Department): Hanover Region.
- *Region East* (Braunschweig Police Department): Gifhorn, Peine, Wolfsburg, Helmstedt, Wolfenbüttel, Goslar, Salzgitter and Braunschweig.

- *Region South* (Göttingen Police Department): Göttingen, Northeim, Holzminden, Hildesheim, Schaumburg, Hameln-Pyrmont and Nienburg (Weser).

Table 8 shows how the students in Lower Saxony are distributed among the police departments and how large the proportion of students is for each department in the Lower Saxony Survey 2019.[7] It is recognizable that the deviations are rather small. For example, 19.4 % of all pupils in Lower Saxony live in the region West, while this proportion is 20.6 % in the sample. The largest deviation is found in the North-East region; in all other regions, the deviations are very small. In general, it can also be assumed in the survey year 2019 that the regions of Lower Saxony are well represented with the 2019 sample. Within the individual regions, the distribution of students across the various types of school largely corresponds to the proportions of the basic population. For a better overview, the school types were combined into three groups: The "lower" group includes special-needs schools and lower secondary schools, while the "medium" group includes integrated secondary schools, intermediate secondary schools, comprehensive schools, and integrated secondary schools. The "higher" group is made up of upper secondary schools. In the western region, for example, 9.2 % of all students attend a special-needs or lower secondary school; in the sample, the proportion is slightly lower at 6.0 %. Larger discrepancies between the basic population and the sample can be found, for example, in the region of Hanover (too many students from lower and intermediate school types, too few upper secondary students). This should be taken into account in the following comparative regional analyses: Higher scores in Hanover Region, for example, in the area of deviant behavior may be due to the fact that students from lower school types exhibit such behavior more often and that these students are overrepresented in this region.

Table 8. Regional composition of the 2019 sample overall and by school type (%; weighted data).

	Share Lower Saxony	**Share sample** (n = 12 381)	**Type of school** (n = 12 382)					
			Lower		**Medium**		**Higher**	
			Basic population	Sample	Basic population	Sample	Basic population	Sample
West (PD Osnabrück)	19.4	20.6	9.2	6.0	63.0	62.2	27.7	31.8
Center-North (PD Oldenburg)	23.1	24.6	9.5	4.8	61.5	56.5	29.0	38.7
North-East (PD Lüneburg)	16.6	14.2	6.5	3.8	62.5	58.5	31.0	37.7
Hanover Region (PD Hanover)	13.0	12.2	7.6	2.3	59.1	71.4	33.3	26.4
East (PD Braunschweig)	13.3	13.3	13.7	7.2	52.4	57.5	33.9	35.3
South (PD Göttingen)	14.6	15.1	8.4	6.9	59.0	57.7	32.5	35.4

2.2 The sample of students

In the Lower Saxony Survey 2019, 12,444 students were reached. Of these, 5.2 % were students attending a lower secondary school or a special-needs school (lower school type; see Table 9). A further 60.1 % attend an intermediate school type (integrated secondary school, intermediate secondary school, comprehensive school, integrated secondary school); the remaining 34.7 % are educated in an upper secondary school (higher school type). The distribution among the three school types differs

[7] Regarding the basic population of all students in Lower Saxony, 79,194 persons are included in the analyses in 2019, and 12,381 students are included in the sample in 2019. The sample size is reduced because 63 respondents do not live in Lower Saxony.

statistically significantly from 2017 ($\chi^2(2) = 20.98$, $p < .001$, $V = 0.03$). In 2017, even more adolescents (6.7 %) attend a lower school type. On the one hand, this can be explained by the reduction of the lower secondary school type or the integration of this school type into the concept of the integrated secondary school. On the other hand, students who would otherwise have attended a special-needs school are increasingly being included in other types of schools and inclusion is being promoted. The proportion of students attending an intermediate school type in 2019 is only slightly higher than in 2017 (2017: 59.5 %). Likewise, the proportion of those adolescents attending a higher school type has increased slightly (2017: 33.8 %). The trend toward attending higher school types is even more evident compared to the 2013 and 2015 survey years (not shown). This development effectively reflects the changed distribution of students among the various types of schools throughout Lower Saxony.

Table 9. Sample description year 2017 and 2019 by school type (%; weighted data).

Type of school (2017: *n* = 8,938; 2019: *n* = 12,444)					
Lower		**Medium**		**Higher**	
2017	**2019**	**2017**	**2019**	**2017**	**2019**
6.7	5.2	59.5	60.1	33.8	34.7

Further variables describing the composition of the sample are presented in Table 10. Looking at the entire sample of the Lower Saxony student survey 2019, 50.6 % of the adolescents are male and 48.7 % are female. To offer a third gender option beside male and female, for example referring to a non-binary gender identity, the option "other" was also given as an answer. This option was chosen by 0.7 % (*n* = 89 persons) of the adolescents. Since the number of students who chose this option is so small, no separate evaluations can be made for the third gender category for reasons of anonymity.

The third gender option was introduced for the first time in the 2019 survey. Therefore, the annual gender comparison only refers to the options "female" and "male". Comparing the 2019 and 2017 survey years, we see that half of the respondents are male (2019: 50.9 %; 2017: 49.0 %). The proportion of adolescent males in the sample increased slightly ($\chi^2(1) = 8.03$, $p = .005$, $\varphi = -0.02$). The average age of the respondents in 2019 is 15.05 years, slightly higher than the average age in 2017 ($t(18\,574) = -13.35$, $p < .001$, $d = 0.18$). However, this difference across years can be explained by the later survey period (2017: January to May; 2019: February to July).

The proportion of adolescents growing up in families dependent on welfare state transfer payments, is 10.6 % in 2019 and 11.4 % in 2017. Dependency on state benefits was mapped via the question about the mother's and father's unemployment or social welfare/unemployment benefit II[8] receipt. If at least one parent is unemployed or if the family receives social welfare/unemployment benefit II, then a dependence on state benefits is referred to. The differences between 2017 and 2019 are not statistically significant.

In 2017, 30.8 % of the adolescents did not live with both parents; in 2019, the percentage is 31.3 %. The differences between the survey years are not significant. The most common family constellations besides living with the biological parents is living alone with the mother (2019: 10.9 %; 2017: 10.0 %) and living with mother and stepfather (2019: 10.1 %; 2017: 10.3 %).

Slightly more than a quarter of the ninth graders in Lower Saxony (2019: 31.1 %) have a migration background. This proportion is statistically significantly higher than in 2017 (27.7 %; $\chi^2(1) = 28.29$,

[8] Unemployment benefit II (Arbeitslosengeld II, also called Hartz IV) is a specific type of German welfare payment.

$p < .001$, $\varphi = 0.04$). To determine the origin, students were asked to indicate where they or their biological parents were born and what citizenship they or their parents held. For the assignment to a group, the nationality of the mother was decisive. For example, if the mother was Turkish, the adolescent was classified as Turkish, if she was Italian, then as Italian, and so on. If no information was available regarding the nationality of the mother, or if the mother was German, the adolescent was classified according to the nationality of the father or the adolescent themselves. In case of adolescents who gave no information about their own nationality or the nationality of their parents, or who stated "German" everywhere, it was checked whether the mother was born in another country. If this was the case, the corresponding origin was assigned; the same procedure was followed regarding the country of birth of the father as well as the country of birth of the interviewee. Ultimately, only those adolescents who answered all the corresponding questions with "German" or "Germany" did not have a migration background. If a non-German nationality or a non-German country of birth was reported, the adolescent is counted as a student with a migration background, whereby the mother was usually the deciding factor for the concrete assignment.

There are significant differences between the six regions of Lower Saxony regarding the composition of the samples (see Table 10). This is evident for the proportion of male respondents[9] , age[10] , dependence on state transfer payments[11], the proportion of adolescents who do not live with both biological parents,[12] and migration background[13]. For example, 2019 respondents from the Hanover region are more likely to receive government benefits, more likely to have a migration background, and more likely to not live with both biological parents. These findings are not unexpected, as Hanover is the largest city in Lower Saxony. Previous surveys show that people with a migration background and adolescents dependent on transfer payments live more in large cities than in rural areas. Respondents from region South are second most likely to be dependent on government benefits, while respondents from the North-East region are second most likely to not live with their biological parents. The second largest proportion of adolescents with a migration background is represented in region East.

[9] $\chi^2(5) = 11.46$, $p = .043$, $V = 0.03$

[10] $F(5, 12344) = 11.29$, $p < .001$, partial $Eta^2 = 0.00$.

[11] $\chi^2(5) = 32.17$, $p < .001$, $V = 0.05$

[12] $\chi^2(5) = 48.98$, $p < .001$, $V = 0.06$

[13] $\chi^2(5) = 254.81$, $p < .001$, $V = 0.15$

Table 10. Sample description by region and year in 2017 and 2019 (% and mean values, respectively; weighted data).

	Share male		Age		Dependent on state benefits		Not living with both biological parents		Migration background		*n*[a]	
	2017	**2019***	**2017**	**2019*****	**2017****	**2019*****	**2017*****	**2019*****	**2017*****	**2019*****	**2017**	**2019**
Lower Saxony	**49.0**	**50.9**	14.92	15.05	11.4	10.6	30.8	31.3	**27.7**	**31.1**	8 380 – 8 930	12 171 – 12 414
West	49.0	50.2	14.92	15.01	**10.4**	**8.4**	28.2	28.1	24.7	24.4	2 005 – 2 140	2 515 – 2 547
Center-North	47.8	48.8	14.88	15.03	10.5	10.3	28.8	28.3	**26.4**	**29.4**	2 084 – 2 197	2 984 – 3 044
North-East	49.4	51.3	14.94	15.04	10.3	9.3	34.8	33.6	24.4	25.4	1 285 – 1 343	1 720 – 1 756
Hanover region	52.1	53.3	14.91	15.01	15.0	12.6	35.6	31.6	42.4	46.0	606 – 648	1 447 – 1 490
East	49.2	52.6	14.95	15.12	11.7	12.8	30.8	33.7	**31.5**	**36.1**	1 032 – 1 100	1 614 – 1 645
South	48.5	51.7	14.94	15.13	13.9	11.6	**31.6**	**35.6**	**28.6**	**33.0**	1 310 – 1 431	1 827 – 1 859

Note. Bold: 2017/2019 differences significant at $p < .05$; *** $p < .001$: differences significant between regions.
[a] Sample size varies due to missing values.

The following section describes in more detail the composition of the group of students with a migration background. Table 11 shows which migration background each of the adolescents has. First, a distinction is made between the five countries that occur most frequently. Since the remaining countries have smaller numbers of cases, the origin for the remaining respondents is shown by continent. For the two continents with the most respondents (Europe and Asia), a further breakdown is made by geographical region according to the United Nations Statistics Division (United Nations, 2020).

Table 11. Migration background of respondents in 2019 (weighted data).

	Total (*n* = 12 169)	**In %**
Germany	8 380	68.9
Russia	737	6.1
Turkey	551	4.5
Poland	480	3.9
Kazakhstan	179	1.5
Europe	1 013	8.3
Southern Europe [14]	505	4.1
Western Europe [15]	195	1.6
Eastern Europe [16]	170	1.4
Northern Europe [17]	143	1.2
Asia	568	4.7
West Asia [18]	328	2.7
South Asia [19]	119	1.0
Southeast Asia [20]	82	0.7
East Asia [21]	22	0.2
Central Asia [22]	17	0.1
North America	47	0.4
South America	62	0.5
Africa	150	1.2
Australia	2	0.0

Most of the adolescents in Lower Saxony, 68.9 %, do not have a migration background. The second most common migration background for ninth graders is Russian (6.1 %). In 4.5 % of the cases in 2019, the adolescents or their parents come from Turkey, in 3.9 % of the cases from Poland. In addition, 1.5 % of the adolescents have a Kazakh migration background. 8.3 % of the adolescents have an otherwise European migration background; most of them have parents or come from Southern Europe themselves (4.1 %). Adolescents with an Asian migration background are represented by 4.7 %, most of them having a West Asian background (2.7 %). The remaining ninth graders have a North American (0.4 %), South American (0.5 %), African (1.2 %) or Australian (0.0 %) migration background.

[14] The following countries were grouped together (number of respondents in parentheses): Albania (51), Bosnia and Herzegovina (33), Greece (40), Italy (116), Kosovo (77), Croatia (42), Montenegro (10), Northern Macedonia (23), Portugal (22), Serbia (45), Slovenia (1), Spain (44).

[15] Belgium (7), France (30), Luxembourg (3), Netherlands (102), Austria (31), Switzerland (22).

[16] Bulgaria (20), former Yugoslavia (5), Moldova (7), Romania (51), Slovakia (6), Czech Republic (12), Ukraine (44), Hungary (16), Belarus (8).

[17] Denmark (7), Estonia (2), Finland (7), United Kingdom (71), Ireland (6), Iceland (2), Latvia (8), Lithuania (22), Norway (3), Sweden (15).

[18] Armenia (10), Azerbaijan (8), Georgia (9), Iraq (64), Israel (7), Jordan (5), Qatar (1), Kurdistan (20), Lebanon (79), Palestine (6), Syria (116), United Arab Emirates (4).

[19] Afghanistan (45), Bangladesh (1), India (13), Iran (33), Nepal (1), Pakistan (12), Sri Lanka (12), Tibet (1).

[20] Indonesia (2), Malaysia (1), Philippines (10), Thailand (28), Vietnam (41).

[21] China (12), Japan (3), Korea (unspecified) (2), South Korea (5).

[22] Kyrgyzstan (11), Tajikistan (3), Uzbekistan (4).

Based on the data on the zip code of the place of residence or, in addition to the zip code of the school (in the case of missing values for the zip code of the place of residence), a further area affiliation can be determined in addition to the region affiliation: the urban-rural affiliation. Based on the number of inhabitants of the place of residence, the following five categories were distinguished:

- *Rural*: under 10,000 inhabitants (2019: 28.4 %; 2017: 27.4 %)
- *Small town*: under 20,000 inhabitants (2019: 22.5 %; 2017: 20.5 %)
- *Urban*: under 50,000 inhabitants (2019: 24.9 %; 2017: 29.2 %)
- *Big city*: under 150,000 inhabitants (2019: 13.5 %; 2017: 13.6 %)
- *Big city/metropolitan*: 150,000 or more inhabitants (2019: 10.7 %; 2017: 9.3 %).

These area categories are distributed in different ways across the regions (police departments): In the Hanover region, for example, there are no students from rural areas, and in the North-East region (Lüneburg police department) and region South (Göttingen police department) there are no students from metropolitan areas. This is due to the municipal structures.

In 2019, there are also the following statistically significant differences between the area categories with regard to the socio-demographic variables considered. The proportion of students whose families receive transfer payments is lowest in rural areas (7.6 %). The proportion is highest in metropolitan areas (15.7 %). The proportion of adolescents who do not live with both biological parents is lowest in small urban areas with 29.2 %.[23] The highest proportion is again in metropolitan areas with 35.3 %.[24] In terms of the proportion of adolescents with a migration background, the lowest proportion is found in rural areas with 21.6 %. The highest proportion of respondents with a migration background is found in metropolitan areas (45.1 %).[25] Significant differences can also be seen regarding the age of the students.[26] For example, students in metropolitan areas are the youngest (14.96 years) and students in metropolitan areas are the oldest (15.13 years).

[23] $\chi^2(4) = 99.78$, $p < .001$, $V = 0.09$

[24] $\chi^2(4) = 23.32$, $p < .001$, $V = 0.04$

[25] $\chi^2(4) = 417.67$, $p < .001$, $V = 0.19$

[26] $F(4, 12409) = 15.76$, $p < .001$, partial $Eta^2 = 0.00$

Summary

In the context of the Lower Saxony Survey, the aim was again to survey around 10,000 ninth-grade students in 2019. This goal was clearly exceeded in the fourth survey wave in 2019, with 12,444 adolescents surveyed. This corresponds to a response rate of 41.4 %. The declining willingness, especially at the school level but also by the students themselves, which was already evident in the previous surveys, continues. To achieve an adequate response rate, the sample size was twice as large as usual. The most common reason for non-participation at the school level was due to time constraints. The most common reason for non-participation at the student level was lack of parental consent. Unlike in previous years, students had to check the box for parental consent at the beginning of the questionnaire. According to the assessment of the test administrators, it was possible to create an appropriate survey situation in all school types in most cases.

In terms of school type composition, the realized sample corresponds quite well to the proportions of the population of schools in Lower Saxony in 2019. Regarding regional distribution, there are also only quite minor deviations from the basic population for both survey years.

For the sample, approximately every second student is male, the average age is slightly above 15 years, and slightly more than every tenth respondent grows up in a family that is dependent on state transfer payments. Almost every third respondent does not live with both biological parents and has a migration background. Most adolescents with a migration background have a migration history from Russia, followed by Turkey.

2.3 The teacher sample

The teachers who were present on the day of the survey were asked to complete a questionnaire totaling 17 pages, in which various information and assessments about the school were collected (e.g., prevention work, all-day school concept, own victimization experiences, alcohol consumption). Participation was voluntary and anonymous.

In the 762 classes surveyed, a total of 675 teachers participated in the survey, corresponding to a rate of 88.6 % (see Table 13). Of the respondents, a total of 405 (60.6 %) completed the survey online and 263 (39.4 %) completed it using the paper-pencil method. The participation rate is lowest at 85.7 % at integrated secondary schools and highest at lower secondary schools (102.8 %). The participation rate of over 100 % can be explained by the fact that in some classes there were two teachers present who completed the questionnaire.

The final sample corresponds quite well to the proportions of the basic population with regard to the composition of the school types. This is evident, for example, in case of intermediate secondary schools. In 2017/2018, 8.8 % of all school classes in Lower Saxony were intermediate secondary school classes; in the sample, 8.9 % of the teachers were intermediate secondary schoolteachers (see Table 12). The largest difference is found for integrated secondary schools (26.2 % to 30.1 %). To compensate for these small differences and to enable representative statements for the teachers of the ninth grade in Lower Saxony, the option of data weighting is used again. The weighting factors are shown in Table 12. If more than one teacher in a class filled out the questionnaire, the teacher who is not the class teacher or who has been teaching the students fewer hours per week and/or for fewer years is excluded. However, since the deviations between the basic population and the sample, and thus the weighting factors, can ultimately be classified as rather small in the 2019 survey as well, the results of the unweighted and weighted evaluations hardly differ from one another.

Table 12. Comparison of school type composition in 2019 (%).

	Share Lower Saxony	Share of sample	Weighting factor
Special-needs school	4.5	4.0	1.114696392
Lower secondary school	4.6	5.5	0.834833073
Integrated secondary school	3.6	3.3	1.098029281
Intermediate secondary school	8.8	8.9	0.986726313
Comprehensive School	21.5	20.3	1.060845807
Integrated secondary school	26.2	30.1	0.872003549
Upper secondary school	30.9	28.0	1.102124628

The demographic information of the teacher sample can also be found in Table 13. 42.9 % of the respondents are male; correspondingly, 57.1 % are female. The percentage of male teachers is highest at upper secondary schools (50.2 %), whereas there are fewer male special-needs (33.3 %), lower secondary school and intermediate secondary school (34.8 %), as well as integrated secondary school (36.0 %) teachers. However, this difference does not show statistical significance. Since the age of the teachers was only asked in groups (e.g., "31 - 35 years", "36 - 40 years"), it is not possible to calculate an average age, which is why the groups were categorized into under and over 45 years. Thus, 62.6 % of the teachers are max. 45 years old. The highest proportion of younger teachers is at lower secondary schools (76.7 %), the lowest proportion of younger teachers is at special-needs schools (40.0 %). The correlation between age and school type is significant ($\chi^2(6) = 19.03$, $p = .004$, $V = 0.17$). Most of the teachers are the respective class teachers of the surveyed class (69.4 %). At special-needs schools, the percentage of surveyed class teachers is the highest with 93.3 %. At upper secondary schools, the person completing the survey is the class teacher in only about half of the cases (51.0 %). The percentage of respondents who (also) taught as subject teachers is 60.2 %. Most of the subject teachers are at upper secondary schools (74.3 %), the fewest at special-needs schools (33.3 %). The correlation between the function as teacher and school type is significant in both cases (class teacher: $\chi^2(6) = 55.53$, $p < .001$, $V = 0.29$; subject teacher: $\chi^2(6) = 34.30$, $p < .001$, $V = 0.23$).

In addition, the teachers were asked to rate how well they knew the students in the class and how much they liked teaching the class. Both times, answer options ranging from "1 - not well at all" or "1 - not at all" to "5 - very well" or "5 - very much" were available. Shown is the percentage of teachers who answered with 4 or 5. A large part of the respondents stated that they know the students well (72.2 %). The highest share is in special-needs schools with 93.3 %. The lowest share of teachers who know their students well is in upper secondary schools (56.4 %). The correlation between knowing students well and the type of school is significant ($\chi^2(6) = 43.68$, $p < .001$, $V = 0.26$). Regarding the enjoyment of teaching, 87.3 % reported that they enjoy teaching. Special-needs teachers reported the most enjoyment at 96.7 %, while upper secondary school teachers reported the least enjoyment at 82.3 %. However, there were no significant differences in the correlation between enjoyment of teaching and type of school.

Table 13. Sample description of 2019 teacher survey by school type (weighted data except participating classes/teachers).

	special-needs school	Lower secondary school	Integrated secondary school	Intermediate secondary school	Comprehensive school	Integrated secondary school	Upper secondary school	Total
Number of classes participating	28	36	22	66	159	237	214	762
Number of teachers participating	27	37	22	60	137	203	189	675
Participation rate	96.4	102.8	100.0	90.9	86.2	85.7	88.3	88.6
Gender: male in %	33.3	41.9	34.8	46.7	42.8	36.0	50.2	42.9
Age: up to 45 years in %	**40.0**	**76.7**	**72.0**	**56.7**	**71.3**	**56.0**	**64.1**	**62.6**
Function: Class teacher in %	**93.3**	**86.7**	**83.3**	**71.2**	**72.9**	**78.7**	**51.0**	**69.4**
Function: Subject teacher in %	**33.3**	**40.0**	**58.3**	**53.3**	**59.0**	**55.2**	**74.3**	**60.2**
Teacher knows students well in %.	**93.3**	**83.3**	**87.5**	**71.2**	**76.8**	**80.0**	**56.4**	**72.2**
Teacher likes to teach in class in %.	96.7	83.3	91.7	84.7	88.4	91.4	82.3	87.3

Note. Bold: differences in school types significant at $p < .05$, underlined: strength of correlation at $\varphi/V \geq 0.1$.

Summary

Teachers completed a questionnaire in 88.6 % of the surveyed classes. The sample is made up of 42.9 % male teachers and 62.6 % teachers who are under the age of 45 years. More than two-thirds of the respondents, in the class in which the survey was conducted, are classroom teachers. Over 70 % and 80 %, respectively, indicated that they know their students well and enjoy teaching. Statistically significant correlations with the type of school exist for age, teaching function and knowledge of the students.

3 Delinquent behavior from the perspective of victims and perpetrators

3.1 Property crimes

3.1.1 Victimhood

As in the surveys of previous years, the experience of four property crimes was surveyed from the victim's perspective:

- *Bicycle theft*: Your bicycle was stolen.
- *Other vehicle theft*: Your small moped, moped, scooter or motorcycle was stolen.
- *Theft*: Someone has stolen objects, money, or other means of payment from you, without breaking into your home and without using force.
- *Property damage*: Someone has damaged or destroyed things that belonged to you.

The students indicated whether they had already experienced these offenses once in their lives or in the last twelve months. If the latter is the case, they were also asked about the frequency. Table 14 shows, that more than half of the students (55.3 %) have already experienced at least one of the property crimes ("total property"). This is significant, with a difference of 14.0 percentage points, so there are significantly more affected adolescents than at the time of the 2017 survey (41.3 %; $\chi^2(1) = 399.63$, $p < .001$, $\varphi = 0.14$). Just under a quarter (23.4 %) had also experienced this in the past 12 months. The 12-month prevalence did not change compared to 2017.

Adolescents were most frequently victims of property damage (37.7 and 13.8 %, respectively). Theft (26.3 and 9.5 %, respectively) and bicycle theft (20.3 and 7.4 %, respectively) were experienced by slightly fewer adolescents. Adolescents were least likely to have their small moped, moped, scooter, or motorcycle stolen (0.9 and 0.2 %, respectively). Compared to 2017, there are significant, slight differences in the lifetime prevalence of a bicycle theft ($\chi^2(1) = 43.43$, $p < .001$, $\varphi = 0.05$) and significant, substantial differences in a theft ($\chi^2(1) = 194.95$, $p < .001$, $\varphi = 0.10$) and property damage ($\chi^2(1) = 447.36$, $p < .001$, $\varphi = 0.15$). The adolescents who participated in the survey in 2019 were far more likely to be victims of these offenses than respondents from the 2017 survey year. There is no significant difference from 2017 in terms of being a victim of a vehicle theft. As was the case for the combined 12-month prevalence of the property offenses ("property total"), there are no significant differences between the two survey dates in terms of 12-month prevalence for the individual offenses.

Table 14. Victimhood of property crimes in 2017 and 2019 (%; weighted data).

	Lifetime prevalence		**12-month prevalence**	
	2017 (n = 8 538-8 729) [a]	**2019** (n = 12 133-12 301) [a]	**2017** (n = 8 467-8 716) [a]	**2019** (n = 12 094-12 290) [a]
Bicycle theft	**16.7**	**20.3**	7.2	7.4
Vehicle theft	0.8	0.9	0.3	0.2
Theft	**18.0**	**26.3**	9.2	9.5
Property damage	**23.8**	**37.7**	13.5	13.8
Total property	**41.3**	**55.3**	23.4	23.4

Note. Bold: difference 2017/2019 significant at $p < .05$; underlined: strength of difference at $\varphi \geq 0.1$.
[a] Sample size varies due to missing values.

Figure 3 shows the lifetime prevalence rates of property crimes surveyed since 2013.[27] Over time, the negative trend that was already evident in the previous report has persisted (see Bergmann et al., 2019, p. 28). The adolescents in the Lower Saxony Survey 2019 have been victims of property crimes more often in their lives than in any other survey year. As was the case in the comparison with 2017, the differences to 2015 and 2013 for all property crimes combined (2015: $\chi^2(1) = 649.53$, $p < .001$, $\varphi = 0.17$; 2013: $\chi^2(1) = 445.21$, $p < .001$, $\varphi = 0.14$) as well as for theft (2015: $\chi^2(1) = 330.25$, $p < .001$, $\varphi = 0.12$; 2013: $\chi^2(1) = 195.44$, $p < .001$, $\varphi = 0.10$) and property damage (2015: $\chi^2(1) = 854.00$, $p < .001$, $\varphi = 0.20$; 2013: $\chi^2(1) = 670.69$, $p < .001$, $\varphi = 0.18$) are also the most significant individually. In addition, there are slight differences in the lifetime prevalence of a bicycle theft compared to both 2015 ($\chi^2(1) = 85.09$, $p < .001$, $\varphi = 0.06$) and 2013 ($\chi^2(1) = 27.64$, $p < .001$, $\varphi = 0.04$) and a vehicle theft compared to 2013 ($\chi^2(1) = 6.69$, $p = .029$, $\varphi = 0.02$).

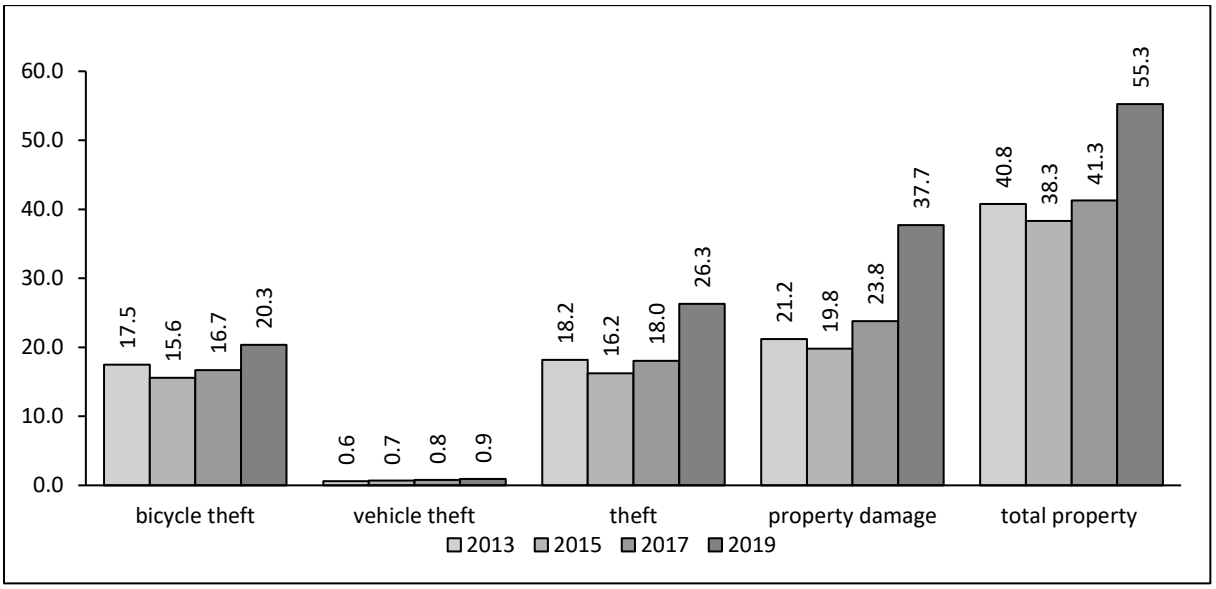

Figure 3. Lifetime prevalence of victimization experiences of property crimes compared over time (%; weighted data; bold: difference to 2019 significant at $p < .05$).

Figure 4 shows the 12-month prevalence of the same offenses[28]. In contrast to the lifetime prevalence, only small differences can be seen here depending on the survey year. As was the case in the comparison to 2017, the 12-month prevalence for all property crimes taken together also does not differ significantly from 2015 and 2013. For the individual offenses, there are only differences regarding victimhood of property damage and theft. Adolescents who participated in the 2019 survey were slightly more likely to have been a victim of property damage in the past twelve months than respondents were in 2015 ($\chi^2(1) = 20.60$, $p < .001$, $\varphi = 0.03$) and 2013 ($\chi^2(1) = 13.84$, $p < .001$, $\varphi = 0.03$). Furthermore, adolescents were slightly more likely to have experienced theft in the past 12 months

[27] According to Bonferroni corrected for three pairwise comparisons (2019 vs. 2017, 2019 vs. 2015, 2019 vs. 2013).

[28] According to Bonferroni corrected for three pairwise comparisons (2019 vs. 2017, 2019 vs. 2015, 2019 vs. 2013).

than adolescents at the 2015 survey time point ($\chi^2(1) = 8.45$, $p = .011$, $\varphi = 0.02$). No other comparison to the previous surveys reached statistical significance.

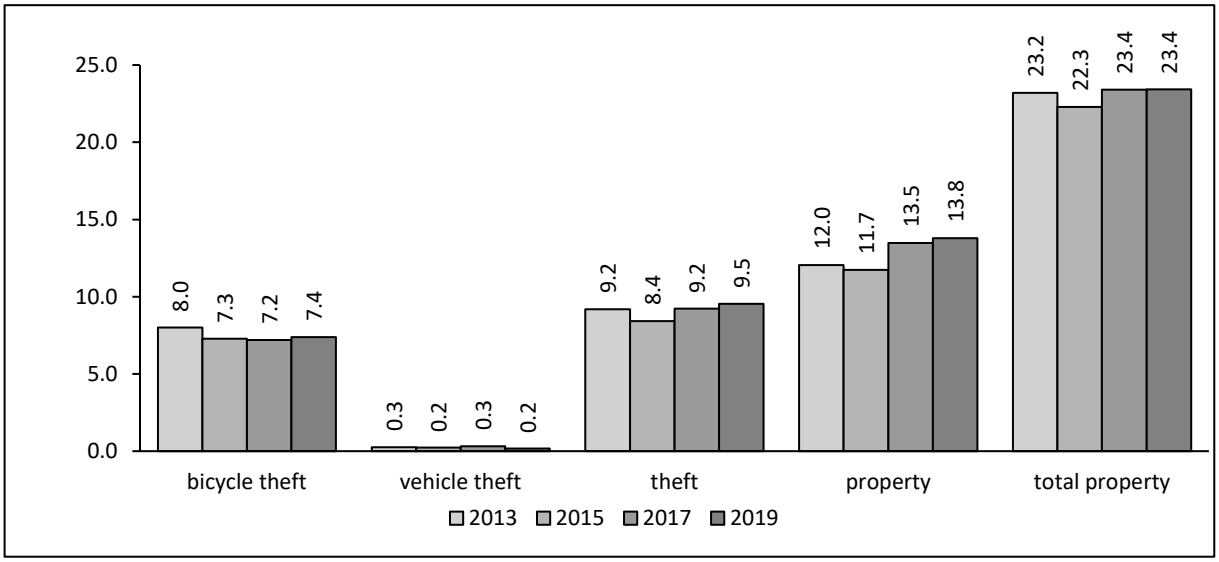

Figure 4. 12-month prevalence of victimization experiences of property crime compared over time (%; weighted data; bold: difference to 2019 significant at $p < .05$).

Differentiated by gender (see Table 15) shows that male adolescents were slightly more often victims of a property crime than female adolescents. This is expressed in both lifetime prevalence ($\chi^2(1) = 37.38$, $p < .001$, $\varphi = -0.06$) and 12-month prevalence ($\chi^2(1)$ 11.04, $p < .001$, $\varphi = -0.03$). Looking at the offenses individually, the same picture emerges for the lifetime prevalence of being a victim of bicycle theft, vehicle theft, and property damage.[29] Male students also experienced these three offenses slightly more frequently than female students in the past twelve months.[30] The only instance in which there are no significant differences between male and female adolescents is in the case of being a victim of theft.

Table 15. Property crimes victimization by gender and type of school in 2019 (%; weighted data).

	Lifetime prevalence					**12-month prevalence**				
	Gender (n = 12 010-12 178) [a]		**Type of school** (n = 12 133-12 302) [a]			**Gender** (n = 11 972-12 167) [a]		**Type of school** (n = 12 094-12 289) [a]		
	M	W	Lower	Medium	Higher	M	W	Lower	Medium	Higher
Bicycle theft	**22.4**	**18.0**	**31.0**	**21.5**	**16.8**	**8.3**	**6.3**	**11.8**	**7.8**	**6.1**
Vehicle theft	**1.2**	**0.5**	1.8	0.9	0.8	**0.3**	**0.1**	0.0	0.2	0.1
Theft	26.1	26.3	25.9	26.5	26.1	9.5	9.5	10.7	9.7	9.0
Property damage	**40.2**	**34.8**	36.5	37.8	37.7	**14.6**	**12.7**	14.5	13.2	14.7
Total property	**57.8**	**52.3**	58.0	55.7	54.1	**24.6**	**22.0**	26.4	23.1	23.4

Note. M = male, W = female
Bold: difference significant at $p < .05$, underlined: strength of difference at φ or Cramer's V ≥ 0.1.
[a] Sample size varies due to missing values.

[29] Bicycle theft: $\chi^2(1) = 36.51$, $p < .001$, $\varphi = -0.06$; vehicle theft: $\chi^2(1) = 17.55$, $p < .001$, $\varphi = -0.04$; property damage: $\chi^2(1) = 37.59$, $p < .001$, $\varphi = -0.06$

[30] Bicycle theft: $\chi^2(1) = 17.48$, $p < .001$, $\varphi = -0.05$; vehicle theft: $\chi2(1) = 6.80$, $p < .001$, $\varphi = -0.02$; property damage: $\chi^2(1) = 9.01$, $p < .01$, $\varphi = -0.03$

Comparing the prevalence of victimhood of property crimes differentiated by school type, statistically significant, slight differences are found only for bicycle theft (lifetime prevalence: $\chi^2(2) = 83.33$, $p < .001$, $V = 0.08$; 12-month prevalence: $\chi^2(2) = 30.26$, $p < .001$, $V = 0.05$). Students at lower school types are the most likely to have been victims of bicycle theft both in their life so far and in the past twelve months. Adolescents of higher school types were least likely to report this for both lifetime and 12-month prevalence. The difference in lifetime prevalence between students attending a lower school type and adolescents attending a higher school type is most pronounced ($\chi^2(1) = 72.82$, $p < .001$, $\varphi = -0.12$).

Adolescents who reported that they have been a victim of a property crime at least once in their lives were asked about the circumstances of the last crime they experienced. A total of 6,517 students reported their last experienced property crime. Students most frequently reported property damage (45.0 %). Bicycle theft (27.0 %) and theft (27.4 %) were reported in roughly equal part. There is data about another vehicle theft from 0.6 % of the 6,517 adolescents.

To exclude memory- related biases, only the data on victim experiences that occurred within a two-year period prior to the survey are taken into account when considering the circumstances of the property crimes experienced. Thus, only victim experiences that occurred between 2017 and 2019 are included. This applies for 4,156 victim experiences. The percentage distribution of reported offenses is equal to all reported property crimes (property damage: 45.9 %, theft: 27.3 %, bicycle theft: 26.4 %, other vehicle theft: 0.4 %). Table 16 lists the reported circumstances of the experienced property crimes. In 37.0 % of the cases, and thus most frequently, the reported property crime was experienced at or in front of school. Almost one in six adolescents (16.1 %) reported being a victim of a property crime at home. With 14.9 %, the third most common place for students to have experienced the reported crime was in town, on the street, or in a public place. Less than one in ten adolescents reported experiencing the property crime at a stop, train station, or in public transportation (8.1 %); at a sports field, gym, or swimming pool (6.6 %); with friends or acquaintances (5.8 %); or at a disco or party (2.4 %). After the crime, 892 adolescents (21.5 %) informed the police. In almost half of the cases (47.9 %), the crime caused financial damage of 50 € or more.

Table 16. Circumstances of the most recent property crime experienced in 2019 (weighted data).

		n	**%**
Location	In or in front of the school	1 519	37.0
	At home	661	16.1
	City, street, public place	612	14.9
	Public transport, stop/station	332	8.1
	Sports field, gym, swimming pool	271	6.6
	With a friend/acquaintance	238	5.8
	Disco, Party	99	2.4
	Other	369	9.0
Police informed	yes	892	21.5
Severity of the damage	Damage of 50 €	1 970	47.9

If the reporting rate is considered as a function of the type of offense, a significant and substantial correlation emerges (bicycle theft, theft, or property damage; $\chi^2(2) = 812.16$, $p < .001$, $V = 0.44$).[31] More than half of the adolescents (51.0 %) whose bicycles were stolen reported it to the police. This only

[31] Due to the small number of cases, the victimization of another vehicle theft was not considered in the analysis.

happened in one in six victimizations of theft (16.3 %). Only 7.3 % of the victims of property damage informed the police about this offense. Moreover, there is a significant, clear correlation between the reporting rate and the severity of the damage ($\chi^2(1) = 755.53$, $p < .001$, $\varphi = 0.43$). If the financial damage of the offenses was less than 50 €, the police was informed in only 4.5 % of the cases. Whereas 39,8 %, of the adolescents who reported financial damage of 50 € or more, informed the police.

3.1.2 Perpetration

As in the surveys of previous years, the perpetration of the following property crimes was recorded:

- *Vehicle theft*: a bicycle, moped or other vehicle stolen.
- *Theft*: stealing someone's belongings, money, or other important documents.
- *Shoplifting*: stealing something from a store/department/shop.
- *Burglary*: breaking in to steal (e.g., construction shed, gazebo, basement, car, etc.).
- *Property damage*: intentionally damaging windows, streetlamps, bus stops, seats in buses and trains or similar.
- *Graffiti spraying*: sprayed graffiti in an unauthorized place.

In addition to these property crimes, lifetime and 12-month prevalence of fare evasion and drug dealing were also collected:

- *Fare evasion*: using public transportation without having a valid ticket.
- *Drug dealing*: drugs sold to others (hashish, ecstasy, etc.).

Furthermore, students were asked about the following offenses on the Internet, with the first offense rephrased and the last three offenses included for the first time in this survey:

- *Illegal downloading*: illegally streaming/downloading movies, music, series, games, live sport events or similar on the Internet.[32]
- *Internet buying/selling fraud*: defrauding others when buying or selling goods on the Internet (e.g., sending defective items, receiving goods but not paying for them).
- *Misuse of personal data on the Internet*: unauthorized use of personal data of others on the Internet (e.g., passwords, access data, gaming or e-mail accounts, bank account and credit card data).
- *Illegal use of the darknet*: used the darknet to do something illegal (e.g., ordered drugs or weapons).

Overall, 67.8 % of the surveyed students stated that they have already committed at least one of the listed offenses at some point in their lives. In the last twelve months, this applies to 48.5 % of the adolescents. Table 17 shows the lifetime and 12-month prevalence of perpetration of the listed offenses. Furthermore, an overall index was calculated for the property as well as cybercrime offenses ("total property" and "total cybercrime," respectively). These indicate the percentage of juveniles who have committed at least one of the related offenses at least once in their lifetime or in the past twelve months. For the total property crime index, it also indicates the percentage of juveniles who committed five or more offenses in the last twelve months (e.g., shoplifting twice and property damage three times).

[32] In the previous surveys, illegal downloading was asked as follows: "illegally downloaded music, computer games, movies, or the like from the Internet?"

The lifetime prevalence rates of the individual offenses differ greatly. The darknet was used least frequently to do something illegal (2.3 %), along with a low frequency for burglaries being carried out (2.1 %) and fraud being committed on the Internet in the purchase and sale of goods (2.0 %). Also in the past twelve months, the prevalence is lowest for illegal use of the darknet (1.4 %), fraud in the purchase and sale of goods on the Internet (0.9 %), and burglary (0.8 %). With a lifetime prevalence of 48.0 %, students were most likely to have illegally downloaded or streamed movies or the like. The second most frequent prevalence (42.2 %) is that adolescents have used public transport without having a valid ticket. This is also reflected in the 12-month prevalence. Just under one-third of the respondents (31.6 %) reported having illegally downloaded/streamed something in the past twelve months. In addition, 26.9 % were traveling without a valid ticket in the last twelve months.

Table 17. Perpetration of property and cybercrime offenses in 2017 and 2019 (%; weighted data).

	Lifetime prevalence		**12-month prevalence**		**Age of first offense**	
	2017 (*n* = 8 471-12 093) [a]	**2019** (*n* = 12 089-12 217) [a]	**2017** (*n* = 8 411-12 091) [a]	**2019** (*n* = 12 089-12 217) [a]	**2019**	
					M	***SD***
Property crimes						
Theft	**5.4**	**7.6**	**2.4**	**3.3**	11.79	2.72
Burglary	**1.4**	**2.1**	0.7	0.8	13.33	2.04
Vehicle theft	**2.0**	**3.5**	**1.3**	**1.8**	13.53	1.98
Shoplifting	**15.8**	**17.9**	**4.2**	**5.5**	11.59	2.78
Property damage	11.0	11.9	5.3	6.1	12.61	2.26
Graffiti spraying	**5.3**	**6.7**	3.1	3.4	13.43	1.71
Total property	**27.0**	**29.4**	**11.8**	**13.6**	11.69	2.70
Total property (min. 5 acts) [b]	-	-	3.1	4.0	-	-
Cybercrime						
Illegal download	-	48.0	-	31.5	12.89	1.74
Internet buying/selling fraud	-	2.0	-	0.9	13.59	1.95
Misuse of personal data on the Internet	-	7.3	-	3.9	13.30	1.78
Illegal use of the darknet	-	2.3	-	1.4	14.01	1.86
Total cybercrime	-	49.6	-	32.6	12.85	1.77
Other						
Fare evasion	**38.4**	**42.2**	26.1	26.9	13.05	1.82
Drug sales	3.9	4.2	3.3	2.9	14.32	1.31

Note. *M* =mean, *SD* = standard deviation

Bold: difference 2017/2019 significant at $p < .05$, underlined: strength of difference at $\varphi \geq 0.1$.

[a] Sample size varies due to missing values. [b] No test for statistical significance.

Overall, 29.4 % of the adolescents reported that they had committed at least one of the listed property crimes in their lifetime, and 13.6 % of the students reported having done so in the last twelve months. One out of 25 students stated that they had done so five or more times in the last twelve months. Due to the high rate of illegal downloading/streaming, the overall lifetime prevalence of cybercrime is 49.6 %. Accordingly, nearly half of the adolescents have committed at least one of the associated crimes in their lifetime to date. For the last twelve months, 32.7 % stated this.

Compared to the previous survey[33], the adolescents in the Lower Saxony Survey 2019 stated somewhat more frequently that they had already been perpetrators of property crimes in their lives ($\chi^2(1) = 14.30$, $p < .001$, $\varphi = 0.03$). For the individual property offenses, this also applies to all offenses except property damage.[34] In addition, the lifetime prevalence of using public transportation without a valid ticket is slightly higher than in 2017 at +3.8 percentage points ($\chi^2(1) = 29.68$, $p < .001$, $\varphi = 0.04$). For lifetime prevalence of selling drugs, adolescents did not differ significantly from students who participated in the survey in 2017. Annual comparisons cannot yet be used for cybercrime. In terms of the 12-month prevalence, the difference in perpetration of property crimes also turns out to be significant ($\chi^2(1) = 14.20$, $p < .001$, $\varphi = 0.03$), with only three significant differences remaining for individual crimes: Theft, Vehicle Theft, and Shoplifting.[35] Comparing these numbers from the dark figure with the data of reported cases from the police crime statistics, it is noticeable that the increase in theft can be found in both statistics. These offenses were committed more frequently than in the survey two years ago. For the remaining property crimes as well as fare evasion and drug sales, there are no significant differences. The decline in the police statistics for fare evasion is therefore not reflected in the data of the Lower Saxony Survey, as there were no significant differences in the last twelve months. Depending on whether one compares the data of reported cases from 2016/2018 or 2017/2019, different findings emerge for the development of drug sales and property damage. The dark field does not show any significant changes in these two areas over the last twelve months.

Table 17 also shows the average age of the first offense. On average, the students surveyed were youngest when they first committed shoplifting, at 11.59 years old. Selling drugs was the latest first-time offense on average at 14.32 years old. Cybercrime offenses tended to be committed for the first time somewhat later (average 12.89 to 14.01 years).

As can be seen from Figure 5, the lifetime prevalence of almost all property crimes (both overall and individually) and of fare evasion and drug sales is higher than in any previous Lower Saxony Survey. Compared to 2015, significantly more adolescents in this survey committed the depicted offenses in their lifetime.[36] With the exception of perpetration of property damage, which significantly fewer adolescents committed compared to 2013, and property crimes overall, where there is no significant

[33] According to Bonferroni corrected for three pairwise comparisons (2019 vs. 2017, 2019 vs. 2015, 2019 vs. 2013).

[34] Theft: $\chi^2(1) = 41.03$, $p < .001$, $\varphi = 0.04$; burglary: $\chi^2(1) = 14.63$, $p < .001$, $\varphi = 0.03$; vehicle theft: $\chi^2(1) = 42.83$, $p < .001$, $\varphi = 0.04$; shoplifting: $\chi^2(1) = 14.53$, $p < .001$, $\varphi = 0.03$; property damage: $\chi^2(1) = 4.02$, $p = .135$; graffiti spraying: $\chi^2(1) = 17.44$, $p < .001$, $\varphi = 0.03$

[35] Theft: $\chi^2(1) = 14.84$, $p < .001$, $\varphi = 0.03$; vehicle theft: $\chi^2(1) = 9.29$, $p = .007$, $\varphi = 0.02$; shoplifting: $\chi^2(1) = 17.70$, $p < .001$, $\varphi = 0.03$

[36] Theft: $\chi^2(1) = 255.88$, $p < .001$, $\varphi = 0.11$; burglary: $\chi^2(1) = 48.60$, $p < .001$, $\varphi = 0.05$; vehicle theft: $\chi^2(1) = 62.93$, $p < .001$, $\varphi = 0.05$; shoplifting: $\chi^2(1) = 52{\cdot}27$, $p < .001$, $\varphi = 0.05$; property damage: $\chi^2(1) = 19.06$, $p < .001$, $\varphi = 0.03$; graffiti spraying: $\chi^2(1) = 49.62$, $p < .001$, $\varphi = 0.05$; total property: $\chi^2(1) = 71.05$, $p < .001$, $\varphi = 0.06$; fare evasion: $\chi^2(1) = 38{\cdot}96$, $p < .001$, $\varphi = 0.04$; drug sales: $\chi^2(1) = 6.86$, $p = .026$, $\varphi = 0.02$

difference, the lifetime prevalence of all other offenses increased slightly compared to 2013. Compared to both 2013 and 2015, the increase in lifetime prevalence of theft is the most significant.[37]

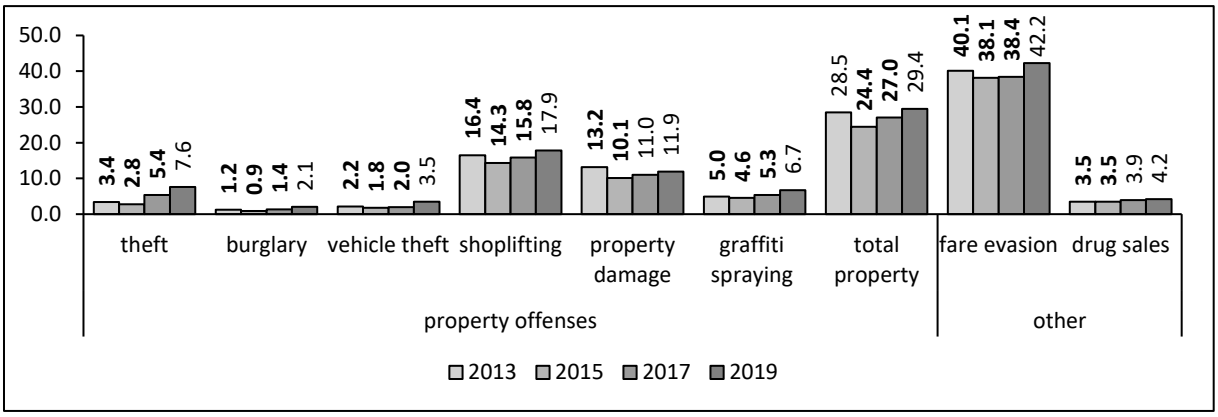

Figure 5. Lifetime prevalence of perpetration of property crimes compared over time (%; weighted data; bold: difference from 2019 significant at $p < .05$).

Figure 6 shows the 12-month prevalence rates of perpetration of property crimes as well as fare evasion and sale of drugs over time since 2013.[38] For property crimes, the pattern is the same as for lifetime prevalence. Although the 12-month prevalence of property damage is higher than in 2017 and 2015, it is still 0.2 percentage points lower than in 2013. The adolescents in the 2019 Lower Saxony Survey committed all other property crimes more frequently than in previous years. Compared to 2015[39], the differences are significant for all property offenses. Compared to 2013[40], only the differences for the perpetration of a theft, a burglary, and a vehicle theft are significant. If one compares the 12-month prevalence from the Lower Saxony Survey with those from the nationwide student survey conducted by the KFN in 2007/2008 (Baier et al., 2009), it can be stated that the adolescents in Lower Saxony in 2019 committed significantly fewer offenses regarding property crimes. For example, the nationwide survey detected a 12-month prevalence of 2.7 % for burglary, 4.7 % for vehicle theft, and 13.3 % for shoplifting. In 2007/2008, 6.2 % of adolescents sprayed graffiti and 4.4 % sold drugs (Baier et al., 2009, p. 64).

[37] Theft: $\chi^2(1) = 172.30$, $p < .001$, $\varphi = 0.09$; burglary: $\chi^2(1) = 23.87$, $p < .001$, $\varphi = 0.03$; vehicle theft: $\chi^2(1) = 33.50$, $p < .001$, $\varphi = 0.04$; shoplifting: $\chi^2(1) = 7.46$, $p = .019$, $\varphi = 0.02$; property damage: $\chi^2(1) = 7.47$, $p = .019$, $\varphi = -0.02$; graffiti spraying: $\chi^2(1) = 30.03$, $p < .001$, $\varphi = 0.04$; fare evasion: $\chi^2(1) = 9.88$, $p = .005$, $\varphi = 0.02$; drug sales: $\chi^2(1) = 6.09$, $p = .041$, $\varphi = 0.02$

[38] According to Bonferroni corrected for three pairwise comparisons (2019 vs. 2017, 2019 vs. 2015, 2019 vs. 2013).

[39] Theft: $\chi^2(1) = 102.86$, $p < .001$, $\varphi = 0.07$; burglary: $\chi^2(1) = 7.87$, $p = .015$, $\varphi = 0.02$; vehicle theft: $\chi^2(1) = 26.05$, $p < .001$, $\varphi = 0.03$; shoplifting: $\chi^2(1) = 27.69$, $p < .001$, $\varphi = 0.04$; property damage: $\chi^2(1) = 17.36$, $p < .001$, $\varphi = 0.03$; graffiti spraying: $\chi^2(1) = 6.70$, $p = .029$, $\varphi = 0.02$; total property: $\chi^2(1) = 49.64$, $p < .001$, $\varphi = 0.05$

[40] Theft: $\chi^2(1) = 58.77$, $p < .001$, $\varphi = 0.05$; burglary: $\chi^2(1) = 6.87$, $p = .026$, $\varphi = 0.02$; vehicle theft: $\chi^2(1) = 8.13$, $p = .013$, $\varphi = 0.02$.

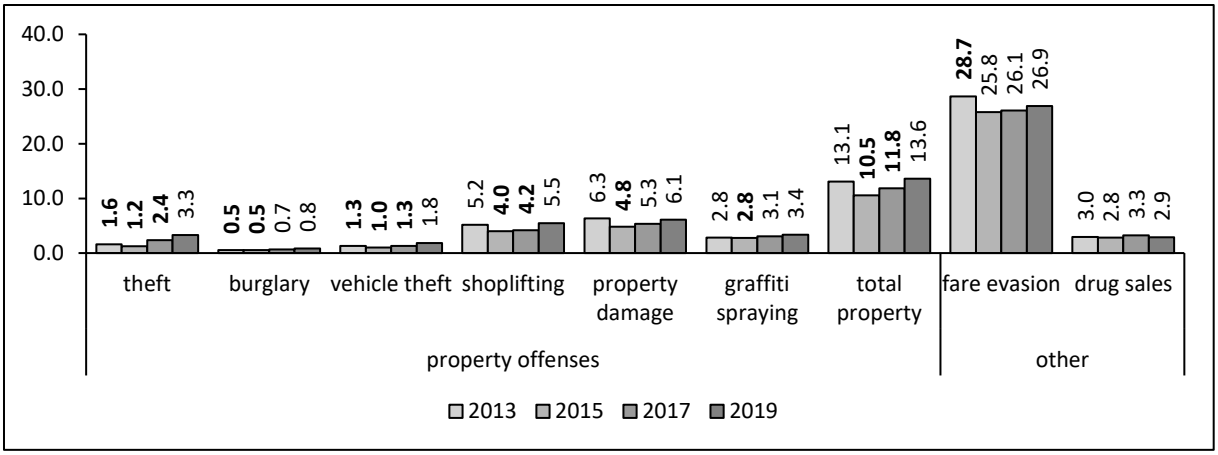

Figure 6. 12-month prevalence of perpetration of property crimes compared over time (%; weighted data; bold: difference from 2019 significant at $p < .05$).

The lifetime and 12-month prevalence of perpetration of the surveyed offenses differentiated by gender and school type is shown in Table 18. With the exception of fare evasion, which does not differ between genders, male adolescents were significantly more likely than female adolescents to have committed all of these offenses at some point in their lives.[41] The differences are most pronounced for property damage and for property crimes overall. Compared to the lifetime prevalence of property damage among female students (6.2 %), that of male students (17.3 %) is more than twice as high. Regarding property crime overall, the lifetime prevalence of male adolescents (34.6 %) is 10.7 percentage points higher than that of female adolescents (23.9 %).

[41] Theft: $\chi^2(1) = 47.84$, $p < .001$, $\varphi = -0.06$; burglary: $\chi^2(1) = 71.25$, $p < .001$, $\varphi = -0.08$; vehicle theft: $\chi^2(1) = 101.38$, $p < .001$, $\varphi = -0.09$; shoplifting: $\chi^2(1) = 14{\cdot}15$, $p < .001$, $\varphi = -0.03$; Property damage: $\chi^2(1) = 353.83$, $p < .001$, $\varphi = -0.17$; Graffiti spraying: $\chi^2(1) = 116.62$, $p < .001$, $\varphi = -0.10$; Total property: $\chi^2(1) = 164.98$, $p < .001$, $\varphi = -0.12$; Illegal downloading: $\chi^2(1) = 71.97$, $p < .001$, $\varphi = -0.08$; Internet buying/selling fraud: $\chi^2(1) = 84.92$, $p < .001$, $\varphi = -0.08$; Misuse of personal data on the Internet: $\chi^2(1) = 65.03$, $p < .001$, $\varphi = -0.07$; Illegal use of the darknet: $\chi^2(1) = 88.74$, $p < .001$, $\varphi = -0.09$; Total cybercrime: $\chi^2(1) = 90.58$, $p < .001$, $\varphi = -0.09$; Drug sales: $\chi^2(1) = 72.59$, $p < .001$, $\varphi = -0.08$

Table 18. Perpetration of property and cybercrime offenses by gender and type of school in 2019 (%; weighted data).

	Lifetime prevalence					12-month prevalence				
	Gender (n = 11 982-12 103) [a]		Type of school (n = 12 089-12 217) [a]			Gender (n = 11 868-12 103) [a]		Type of school (n = 12 068-11 976) [a]		
	M	W	Lower	Medium	Higher	M	W	Lower	Medium	Higher
Property crimes										
Theft	**9.2**	**5.9**	**10.2**	**8.1**	**6.5**	**3.9**	**2.5**	4.1	3.5	2.9
Burglary	**3.1**	**0.9**	**7.0**	**2.4**	**0.9**	**1.3**	**0.4**	**3.0**	**0.9**	**0.4**
Vehicle theft	**5.1**	**1.8**	**8.4**	**4.4**	**1.4**	**2.7**	**0.9**	**3.8**	**2.2**	**1.0**
Shoplifting	**19.1**	**16.5**	**27.6**	**19.3**	**14.0**	5.8	5.1	**8.3**	**5.9**	**4.3**
Damage to property	**17.3**	**6.2**	**16.3**	**12.9**	**9.6**	**8.9**	**3.1**	**6.1**	**6.7**	**5.1**
Graffiti spraying	**9.1**	**4.2**	**8.8**	**7.8**	**4.7**	**4.4**	**2.1**	**3.9**	**3.7**	**2.7**
Total property	**34.6**	**23.9**	**37.9**	**31.2**	**25.1**	**16.8**	**10.1**	**15.0**	**14.6**	**11.7**
Cybercrime										
Illegal download	**51.8**	**44.1**	**37.0**	**46.6**	**51.9**	**36.1**	**26.9**	**23.7**	**30.2**	**35.1**
Internet buying/selling fraud	**3.2**	**0.8**	**2.6**	**2.4**	**1.4**	**1.5**	**0.3**	0.8	1.0	0.7
Misuse of personal data on the Internet	**9.1**	**5.3**	7.4	7.0	7.9	**4.9**	**2.9**	**4.2**	**3.5**	**4.6**
Illegal use of the darknet	**3.5**	**1.0**	**4.6**	**2.7**	**1.3**	**2.1**	**0.6**	**2.5**	**1.5**	**1.0**
Total cybercrime	**53.8**	**45.1**	**39.9**	**48.3**	**53.2**	**37.5**	**27.6**	**25.4**	**31.3**	**36.1**
Other										
Fare evasion	42.5	42.0	**29.7**	**41.2**	**45.8**	27.0	26.8	**16.2**	**26.0**	**30.0**
Drug sales	**5.7**	**2.6**	**7.8**	**5.1**	**2.2**	**3.8**	**1.8**	**4.9**	**3.4**	**1.7**

Note. M = male, W = female

Bold: difference significant at $p < .05$, underlined: strength of difference at φ or Cramer's V ≥ 0.1 a Sample size varies due to missing values.

The same pattern emerges for the 12-month prevalence. The students do not differ with regard to the perpetration of shoplifting and fare evasion. All other offenses were committed significantly more often by male than by female students.[42] The difference is most substantial for the perpetration of property damage and property crimes overall, as well as for illegal downloading/streaming and cybercrime overall. At 8.9 %, male students' 12-month prevalence for property damage is 5.8 percentage points higher than that of female students (3.1 %). In addition, male adolescents have a 6.1 percentage point increase in 12-month prevalence for property crime overall. With a 9.2 percentage point increase in 12-month prevalence, male adolescents are also more likely than female adolescents to have illegally downloaded/streamed movies, music, and the like in the past twelve months. Mainly due to this difference, the 12-month prevalence of cybercrime overall is also significantly higher among male students than among their female peers.

[42] Theft: $\chi^2(1) = 18.14$, $p < .001$, φ = -0.04; burglary: $\chi^2(1) = 28.24$, $p < .001$, φ = -0.05; vehicle theft: $\chi^2(1) = 55.27$, $p < .001$, φ = -0.07; property damage: $\chi^2(1) = 178.29$, $p < .001$, φ = -0.12; graffiti spraying: $\chi^2(1) = 51.75$, $p < .001$, φ = -0.07; total property: $\chi^2(1) = 112.98$, $p < .001$, φ = -0.10; illegal downloading: $\chi^2(1) = 114.75$, $p < .001$, φ = - 0.10; Internet buying/selling fraud: $\chi^2(1) = 48.56$, $p < .001$, φ = -0.06; Misuse of personal data on the Internet: $\chi^2(1) = 31.14$, $p < .001$, φ = -0.05; Illegal use of the darknet: $\chi^2(1) = 55.61$, $p < .001$, φ = -0.07; Total cybercrime: $\chi2(1) = 134.04$, $p < .001$, φ = -0.11; Drug sales: $\chi^2(1) = 43.32$, $p < .001$, φ = -0.6

The lifetime prevalence of perpetration of all offenses, except misuse of personal data on the Internet, also differs significantly depending on the type of school attended.[43] For vehicle theft, theft, damage to property, shoplifting, graffiti spraying, burglary, selling drugs, fraud in buying/selling on the Internet, and illegal use of the darknet, students at lower school types have the highest lifetime prevalence. Adolescents who attend a higher school type have the lowest lifetime prevalence for these offenses. The direct opposite is true for the lifetime prevalence of fare evasion and illegal downloading/streaming. Students at a higher school type have done this most often in their lifetime. Adolescents of lower school types were the least likely to have done this in their lifetime. Students attending lower and higher school types differ the most.[44] In the past twelve months, adolescents of the different school types do not differ significantly from each other regarding the perpetration of a theft as well as fraud in the purchase or sale of goods on the Internet. As with lifetime prevalence, however, 12-month prevalence of perpetration of the remaining offenses differs significantly depending on the type of school attended.[45] Students attending lower school types have the highest 12-month prevalence for the remaining property offenses, followed by adolescents attending a intermediate school type and students attending a higher school type. The same applies to the illegal use of the darknet as well as to the sale of drugs. Students at higher school types, on the other hand, have the highest 12-month prevalence for illegal downloading/streaming and fare evasion, as is the case for lifetime prevalence. Students who attend a lower school type are least likely to have done this in the last twelve months. Unauthorized use of other people's personal data on the Internet was least frequent among adolescents in intermediate school types and most frequent among students in higher school types in the last twelve months. Students of lower and higher school types differed most significantly in terms of perpetrating a burglary ($\chi^2(1) = 49.07$, $p < .001$, $\varphi = -0.10$) and fare evasion ($\chi^2(1) = 49.62$, $p < .001$, $\varphi = 0.10$). The lifetime and 12-month prevalence of the perpetrations can also be differentiated according to regional criteria. For this purpose, a distinction can be made between urban-rural divisions based on population figures and the region based on municipality affiliation. In the former, a distinction is made between rural (less than 10,000 inhabitants), small town (between 10,000 and 20,000 inhabitants), urban (between 20,000 and 50,000 inhabitants), big city (between 50,000 and 150,000 inhabitants) and metropolitan (more than 150,000 inhabitants). The classification

[43] Theft: $\chi^2(2) = 15.33$, $p < .001$, $V = 0.04$; burglary: $\chi^2(2) = 103.91$, $p < .001$, $V = 0.09$; vehicle theft: $\chi^2(2) = 113.74$, $p < .001$, $V = 0.10$; shoplifting: $\chi^2(2) = 93.55$, $p < .001$, $V = 0.09$; Property damage: $\chi^2(2) = 39.70$, $p < .001$, $V = 0.06$; Graffiti spraying: $\chi^2(2) = 43.26$, $p < .001$, $V = 0.06$; Total property: $\chi^2(2) = 71.60$, $p < .001$, $V = 0.08$; Illegal downloading: $\chi^2(2) = 61.39$, $p < .001$, $V = 0.07$; Internet buying/selling fraud: $\chi^2(2) = 12.83$, $p = .003$, $V = 0.02$; Misuse of personal data on the Internet: $\chi^2(2) = 3.02$, $p = .220$; Illegal use of the darknet: $\chi^2(2) = 36.66$, $p < .001$, $V = 0.06$; Total cybercrime: $\chi^2(2) = 50.59$, $p < .001$, $V = 0.06$; Fare evasion: $\chi^2(2) = 64.82$, $p < .001$, $V = 0.07$; Drug sales: $\chi^2(2) = 74.55$, $p < .001$, $V = 0.08$

[44] Burglary: $\chi^2(1) = 120.49$, $p < .001$, $\varphi = -0.16$; vehicle theft: $\chi^2(1) = 117.46$, $p < .001$, $\varphi = -0.15$; shoplifting: $\chi^2(1) = 75.52$, $p < .001$, $\varphi = -0.12$; total property crime: $\chi^2(1) = 45.32$, $p < .001$, $\varphi = -0.10$; illegal downloading/streaming: $\chi^2(1) = 47.87$, $p < .001$, $\varphi = 0.10$; fare evasion: $\chi^2(1) = 56.80$, $p < .001$, $\varphi = 0.11$; drug sales: $\chi^2(1) = 58.53$, $p < .001$, $\varphi = -0.11$

[45] Theft: $\chi^2(2) = 4.18$, $p = .124$; burglary: $\chi^2(2) = 43.39$, $p < .001$, $V = 0.06$; vehicle theft: $\chi^2(2) = 34.57$, $p < .001$, $V = 0.05$; shoplifting: $\chi^2(2) = 23.41$, $p < .001$, $V = 0.04$; Property damage: $\chi^2(2) = 11.29$, $p = .004$, $V = 0.03$; Graffiti spraying: $\chi^2(2) = 9.98$, $p = .007$, $V = 0.03$; Total property: $\chi^2(2) = 19.83$, $p < .001$, $V = 0.04$; Illegal downloading: $\chi^2(2) = 48.57$, $p < .001$, $V = 0.06$; Internet buying/selling fraud: $\chi^2(2) = 2.90$, $p = .235$; Misuse of personal data on the Internet: $\chi^2(2) = 8.55$, $p = .014$, $V = 0.03$; Illegal use of the darknet: $\chi^2(2) = 10.35$, $p = .006$, $V = 0.03$; Total cybercrime: $\chi^2(2) = 43.91$, $p < .001$, $V = 0.06$; Fare evasion: $\chi^2(2) = 58.61$, $p < .001$, $V = 0.07$; Drug sales: $\chi^2(2) = 37.80$, $p < .001$, $V = 0.06$

of municipalities is based on the police departments of Lower Saxony: Region West, Region Central, Region North-East, Region Hanover, Region East, and Region South.[46] Differentiated by number of inhabitants, significant differences are found for the lifetime prevalence of vehicle theft, shoplifting, damage to property, graffiti spraying, total property, illegal downloading, fraud when buying/selling on the Internet, illegal use of the darknet and fare evasion. Among these, the differences regarding traveling without a valid ticket are the most substantial ($\chi^2(4) = 180.32$, $p < .001$, $V = 0.12$). Students living (or going to school) in a metropolitan area were the most likely to have travelled without a valid ticket in their lifetime, at 59.3 %. Adolescents from a rural area were least likely to have done so (38.6 %). Students from a small town (41.0 %), urban area (41.5 %), and big city (40.1 %) are even slightly more likely to have travelled without a valid ticket. In relation to the last twelve months, the difference remains statistically significant only for shoplifting, fraud in buying and selling on the Internet, and fare evasion. The differences in 12-month prevalence are also most significant for travelling without a valid ticket ($\chi^2(4) = 152.66$, $p < .001$, $V = 0.11$). The prevalence rates[47] for the other crimes by number of inhabitants can be seen in Table 19. The same picture is expressed when looking at the prevalence rates depending on the region. There are significant differences in lifetime prevalence for theft, burglary, vehicle theft, shoplifting, property damage, graffiti spraying, total property, illegal downloading, fraud in buying/selling on the Internet, misuse of personal data on the Internet, illegal use of the darknet, and fare evasion. Here, the difference of the latter offense is the most significant ($\chi^2(5) = 267.48$, $p < .001$, $V = 0.15$). As already suggested by the differentiation according to the number of inhabitants, students from Hanover region were travelling without a valid ticket most frequently (58.3 %). [48] In the 12-month prevalence, there are significant differences for illegal downloading/streaming, misuse of personal data on the Internet, and fare evasion, where the difference is most substantial ($\chi^2(5) = 281.79$, $p < .001$, $V = 0.15$). Adolescents from the Hanover region were also most likely to have travelled without a valid ticket in the past twelve months (43.5 %). The prevalence rates[49] for the other offenses according to the region affiliation can be read in Table 19.

[46] See chapter 2.1.3 for the allocation of the municipalities

[47] Rural: 23.7 %, small town: 26.4 %, urban: 26.0 %, big city: 24.9 %, metropolitan: 41.0 %

[48] West: 34.1 %, Center-North: 40.2 %, North-East: 39.5 %, East: 49.2 %, South: 40.1 %

[49] West: 20.6 %, Center-North: 25.0 %, North-East: 24.5 %, East: 30.9 %, South: 24.0 %

Table 19. Perpetration of property and cybercrime offenses by urban/rural classification and regions in 2019 (%; weighted data).

	Lifetime prevalence											12-month prevalence										
	Urban-rural					Regions						Urban-rural					Regions					
	R	S	U	B	M	West	Center-North	North-East	Hanover	East	South	R	S	U	B	M	West	Center-North	North-East	Hanover	East	South
Property crimes																						
Theft	7.1	7.5	7.6	8.5	8.4	**6.2**	**7.6**	**7.1**	**8.5**	**9.1**	**8.1**	3.1	3.5	3.1	3.5	3.5	2.9	3.3	2.9	3.8	3.6	3.5
Burglary	1.7	1.8	2.4	2.4	2.6	**1.6**	**1.6**	**2.1**	**2.7**	**2.7**	**2.5**	0.7	0.7	1.0	1.1	0.9	0.8	0.7	0.6	0.8	1.2	1.0
Vehicle theft	**3.0**	**2.9**	**4.3**	**3.6**	**4.4**	3.2	3.7	3.2	4.3	3.1	3.7	1.6	1.6	2.3	1.5	2.1	1.8	1.8	1.7	2.3	1.2	2.0
Shoplifting	**15.7**	**16.7**	**17.7**	**21.8**	**21.6**	**15.5**	**17.1**	**16.6**	**20.2**	**20.6**	**19.3**	**4.8**	**5.4**	**5.3**	**6.3**	**6.9**	4.8	5.3	5.5	6.8	5.5	5.8
Damage to property	**13.1**	**12.1**	**12.0**	**10.5**	**9.8**	11.3	11.5	13.1	10.7	12.2	13.3	6.4	6.5	6.0	5.5	5.1	6.2	5.5	6.6	5.9	5.9	6.7
Graffiti spraying	**5.7**	**6.2**	**6.9**	**8.4**	**8.3**	**6.2**	**5.6**	**6.1**	**8.6**	**8.2**	**7.3**	3.1	3.0	3.4	4.1	3.8	3.1	2.9	3.5	4.4	3.5	3.4
Total property	**28.3**	**28.9**	**28.7**	**32.3**	**31.7**	**26.3**	**28.4**	**29.7**	**30.8**	**32.2**	**31.7**	13.3	14.0	13.3	13.8	14.3	12.6	13.3	14.0	14.9	13.4	14.4
Cybercrime																						
Illegal download	**47.0**	**46.3**	**50.1**	**49.3**	**47.3**	48.8	49.3	47.9	46.9	47.3	45.7	31.4	30.1	31.9	32.5	33.4	**32.6**	**33.5**	**30.6**	**32.0**	**31.1**	**27.7**
Internet buying/selling fraud	**1.4**	**1.9**	**2.6**	**2.0**	**2.8**	**1.6**	**2.2**	**1.4**	**2.9**	**2.6**	**1.9**	**0.7**	**0.9**	**1.3**	**0.6**	**1.2**	0.9	1.0	0.6	1.2	1.1	0.7
Misuse of personal data on the Internet	6.8	7.5	7.0	8.2	7.9	7.9	8.0	6.0	7.5	7.2	6.5	3.6	4.3	3.6	4.0	4.6	**4.5**	**4.3**	**2.8**	**4.4**	**3.9**	**3.2**
Illegal use of the darknet	**2.3**	**1.7**	**3.0**	**2.3**	**2.5**	2.3	2.0	1.7	3.0	2.5	2.9	1.2	1.2	1.9	1.3	1.2	1.4	1.3	1.2	1.8	1.4	1.4
Total cybercrime	**48.8**	**47.9**	**51.8**	**50.3**	**49.2**	50.7	50.9	48.8	48.5	49.1	47.5	32.5	31.3	33.1	33.2	34.4	**34.1**	**34.4**	**31.6**	**32.9**	**32.3**	**28.6**
Other																						
Fare evasion	**38.6**	**41.0**	**41.5**	**40.1**	**59.3**	**34.1**	**40.2**	**39.5**	**58.3**	**49.2**	**40.1**	**23.7**	**26.4**	**26.0**	**24.9**	**41.0**	**20.6**	**25.0**	**24.5**	**43.5**	**30.9**	**24.0**
Drug sales	3.8	4.1	4.2	4.7	4.6	4.1	3.6	4.3	3.8	5.3	4.6	2.6	2.7	3.0	3.4	2.9	3.3	2.2	2.7	2.4	3.4	3.4

Note. R = rural. S = small-town. U = urban. B = big city. M = metropolitan

Bold= difference significant at $p < .05$, underlined: strength of difference at Cramer's V ≥ 0.1.

Summary

More than half of the adolescents surveyed have been victims of a property crime in their lifetime. The comparison of the lifetime prevalence rates of victimhood of property crimes since 2013 has shown that the adolescents have already had significantly more frequent victimization experiences in their lives compared to the adolescents of the previous surveys. The negative trend is most pronounced for victimization of theft and property damage. In contrast to lifetime prevalence, 12-month prevalence shows only small differences depending on the year of the survey. Thus, 12-month prevalence for all surveyed property crimes combined is not significantly different from the previous surveys.

Almost 30 % of adolescents have already committed property crimes themselves in their lifetime. In addition to the perpetration of property crimes, illegal downloading/streaming of movies, music, and the like, as well as using public transportation without a valid ticket show high prevalence rates. Except for the perpetration of property damage, both the lifetime and 12-month prevalence of property offenses are somewhat higher than in the previous surveys of the Lower Saxony Survey. For fare evasion, this applies only to the lifetime prevalence.

There is a gender difference for both victimhood and perpetration: male students are more frequently found in these groups than female students. In the case of victimhood, significant differences, differentiated by school type are only found for bicycle theft. Pupils attending a lower school type are the most frequent victims of bicycle theft. Adolescents who attend a higher school type have experienced this least frequently. In the lifetime prevalence of perpetration of vehicle theft, theft, property damage, shoplifting, graffiti spraying, burglary, drug sales, fraud in buying/selling on the Internet, and for illegal use of the darknet, students attending a lower school type have the highest prevalence and adolescents attending a higher school type have the lowest prevalence. A mirror image is shown for fare evasion and illegal downloading/streaming. Apart from theft and fraud when buying/selling on the internet, where there is no significant difference between the school types, this distribution is also found for the 12-month prevalence.

The reporting rate of property crimes depends on both the type of crime experienced and the amount of financial damage. Bicycle thefts were reported most frequently, while property damage was reported least frequently. The reporting rate is significantly higher (35.3 percentage points) for financial damage of 50 € or more than for less financial damage.

3.2 Violent crimes

In the Lower Saxony Survey, experiences of violence were surveyed based on the following offenses from the perspective of both victims and perpetrators:

- *Robbery*: snatching something by force or taking something away under threat of force (e.g., bag, bicycle, or money).
- *Extortion*: demanded to give money or things (e.g., jacket, watch, shoes) and threatened with violence if unwilling to do so.
- *Assault with a weapon*: intentionally injuring with a weapon (e.g., knife), object (e.g., chain), or by kicking with heavy shoes/boots.
- *Assault by more than one person*: punched, kicked, choked, or otherwise assaulted by or with more than one person so that I/someone was injured (e.g., a bleeding wound or black eye).

- *Assault by a single person*: punched, kicked, choked, or otherwise assaulted by or a single person so that I/someone was injured (no weapon or object used in the process).[50]
- *Sexual harassment*: touched indecently against one's will, e.g., between the legs or on the breast.
- *Sexual violence*: forced to engage in or to endure sexual acts against one's will by force or by serious threat of force.

3.2.1 Victimhood

In the questionnaire, the adolescents were asked to state whether they had already experienced the behavior in question in their lives to date and whether this had been the case in the past twelve months. If at least one of the seven experiences classified as violence victimization was experienced, an adolescent has experienced violence victimization ("Total violence" in Table 20).

Table 20 also shows the lifetime prevalence and the 12-month prevalence of the individual experiences of being a victim of violence. In their lives to date, 38.8 % of the students surveyed have been the victim of at least one of the seven violent offenses queried. The 12-month prevalence of having experienced at least one of the seven violent offenses is 19.3 %. Looking at the individual offenses, adolescents were most likely to report that they had been hurt by a single person at least once in their lifetime (26.0 %). They were least likely to report having been a victim of sexual violence at some point in their lives (3.2 %). This pattern is also reflected in the 12-month prevalence, with 10.2 % of students having been hurt by a single person in the past twelve months. Sexual violence was experienced by 1.6 % in the past twelve months. The second most common victimization experience - for both lifetime and 12-month prevalence - is sexual harassment (13.8 and 8.1 %, respectively).

Compared to the survey in 2017 (see Table 20), adolescents tended to be victims of violent crimes more often. Thus, significantly more adolescents reported having been victims of extortion ($\chi^2(1) = 21.48$, $p < .001$, $\varphi = 0.03$), assault with a weapon ($\chi^2(1) = 40.61$, $p < .001$, $\varphi = 0.04$), by more than one person($\chi^2(1) = 21.53$, $p < .001$, $\varphi = 0.03$) or by a single person ($\chi^2(1) = 132.11$, $p < .001$, $\varphi = 0.08$), sexual harassment ($\chi^2(1) = 50.98$, $p < .001$, $\varphi = 0.05$), and sexual violence ($\chi^2(1) = 24.55$, $p < .001$, $\varphi = 0.03$). This was also the case for all violent offenses combined[51] ("total violence"; $\chi^2(1) = 106.91$, $p < .001$, $\varphi = 0.07$). Only in the case of being a victim of a robbery the adolescents do not differ significantly from the adolescents who participated in the survey in 2017. Regarding the experience of victimhood within the past twelve months, slightly more adolescents than in 2017 reported having experienced sexual harassment ($\chi^2(1) = 8.35$, $p = .012$, $\varphi = 0.02$) and sexual violence ($\chi^2(1) = 12.91$, $p < .001$, $\varphi = 0.02$). The differences in the other offenses did not reach statistical significance.

[50] This violent offense is subject to rather soft definitional criteria compared to the other bodily injury offenses, as it may also include forms of violence such as grapple or non-intentional acts of violence (e.g., injuries inflicted during sports).

[51] The prevalence rates for violence victimization in total differ from those reported in Bergmann et al. (2019, p. 36) because sexual harassment victimization was not included in the calculation in the previous report.

Table 20. Victimization of violence in 2017 and 2019 (%; weighted data).

	Lifetime prevalence		12-month prevalence	
	2017 (*n* = 8 763-8 884) [a]	**2019** (*n* = 12 312-12 393) [a]	**2017** (*n* = 8 749-8 879) [a]	**2019** (*n* = 12 275-12 386) [a]
Robbery	7.8	8.6	3.5	3.1
Extortion	**4.5**	**5.9**	2.3	2.1
Assault with weapon	**5.7**	**8.0**	2.9	2.9
Assault by several persons	**5.5**	**7.1**	2.3	2.2
Assault by a single person	**19.3**	**26.0**	9.3	10.2
Sexual harassment	**10.5**	**13.8**	**7.1**	**8.1**
Sexual violence	**2.1**	**3.2**	**1.0**	**1.6**
Total violence	**31.9**	**38.8**	18.7	19.3

Note. Bold: difference 2017/2019 significant at $p < .05$, underlined: strength of difference at $\varphi \geq 0.1$.
[a] Sample size varies due to missing values.

Figure 7 shows the lifetime prevalence of all surveyed experiences of being a victim of violence for 2013, 2015, 2017, and 2019.[52] With the exception of the aforementioned non-significant difference in victimization of a robbery from 2017, adolescents in this survey differ from adolescents in previous surveys in every offense. At no previous survey time have so many adolescents experienced victimization by violence in their lives. [53]

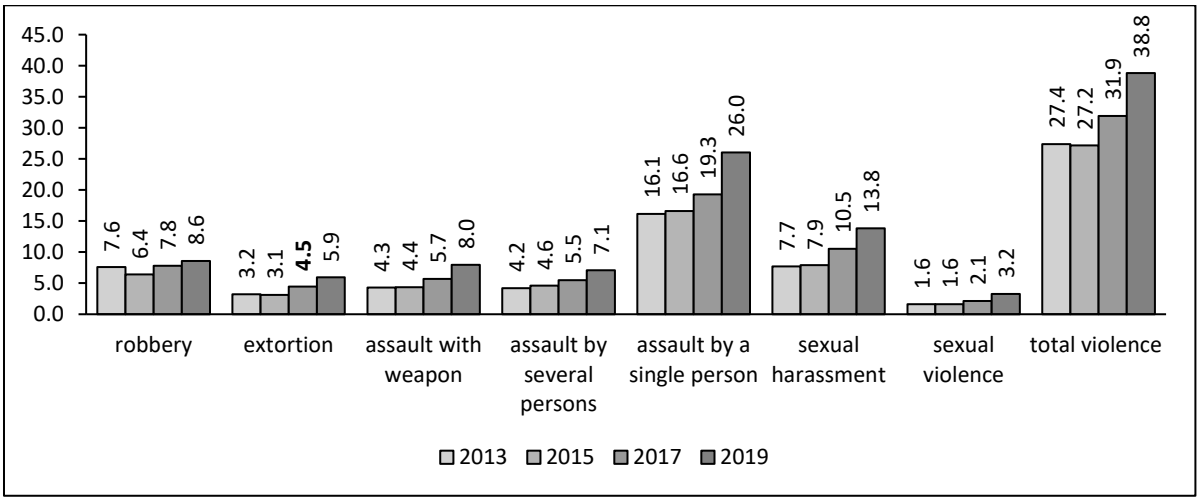

Figure 7. Lifetime prevalence of violence victimization experiences compared over time (%; weighted data; bold: difference from 2019 significant at $p < .05$).

[52] According to Bonferroni corrected for three pairwise comparisons (2019 vs. 2017, 2019 vs. 2015, 2019 vs. 2013).

[53] 2015: robbery: $\chi^2(1) = 37.99$, $p < .001$, $\varphi = 0.04$; extortion: $\chi^2(1) = 100.45$, $p < .001$, $\varphi = 0.07$; assault with weapon: $\chi^2(1) = 125.51$, $p < .001$, $\varphi = 0.07$; assault by several persons: $\chi^2(1) = 61.60$, $p < .001$, $\varphi = 0.05$; assault by a single person: $\chi^2(1) = 296.38$, $p < .001$, $\varphi = 0.11$; sexual harassment: $\chi^2(1) = 203.68$, $p < .001$, $\varphi = 0.09$; sexual violence: $\chi^2(1) = 60.48$, $p < .001$, $\varphi = 0.05$; total violence: $\chi^2(1) = 347.52$, $p < .001$, $\varphi = 0.12$; 2013: robbery: $\chi^2(1) = 7.11$, $p = .023$, $\varphi = 0.02$; extortion: $\chi^2(1) = 84.64$, $p < .001$, $\varphi = 0.06$; assault with weapon: $\chi^2(1) = 120.10$, $p < .001$, $\varphi = 0.07$; assault by several persons: $\chi^2(1) = 79.29$, $p < .001$, $\varphi = 0.06$; assault by a single person: $\chi^2(1) = 304.13$, $p < .001$, $\varphi = 0.12$; sexual harassment: $\chi^2(1) = 202.25$, $p < .001$, $\varphi = 0.10$; sexual violence: $\chi^2(1) = 56.31$, $p < .001$, $\varphi = 0.05$; total violence: $\chi^2(1) = 308.97$, $p < .001$, $\varphi = 0.12$

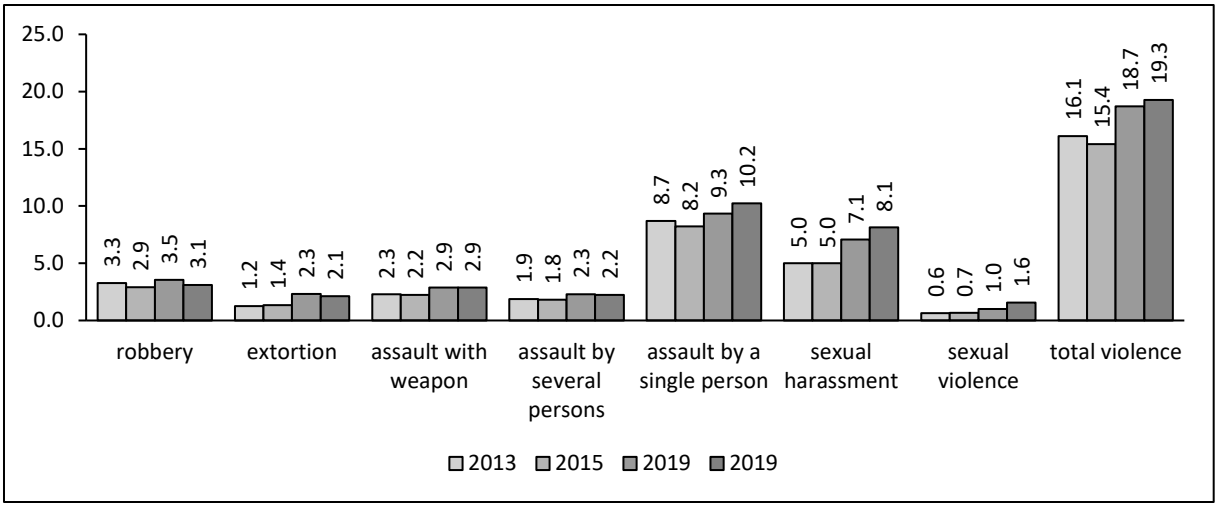

Figure 8. 12-month prevalence of violence victimization experiences over times (%; weighted data; bold: difference from 2019 significant at $p < .05$).

Regarding the 12-month prevalence, a more differentiated picture emerges (see Figure 8).[54] The prevalence rate of a robbery and assault by more than one person has remained stable over the years. For these offenses, there are no significant differences between the adolescents in this survey and the previous surveys. The 12-month prevalence of sexual harassment and sexual assault has increased slightly, but significantly, compared to all previous surveys.[55] In the past 12 months, victimization of an extortion, assault with a weapon or by a single person, and violence in total is at the level of 2017, but tends to be slightly higher than it was in 2015 and 2013.[56] Table 21 shows the lifetime and 12-month prevalence of victimization experiences of violence grouped by gender and school type. Compared to female adolescents, the lifetime prevalence rates of victimization experience of robbery ($\chi^2(1) = 29.94$, $p < .001$, $\varphi = -0.05$), assault with weapon ($\chi^2(1) = 49.92$, $p < .001$, $\varphi = -0.06$), by more than one person ($\chi^2(1) = 118.07$, $p < .001$, $\varphi = -0.10$), and by single persons ($\chi^2(1) = 59.26$, $p < .001$, $\varphi = -0.07$) were significantly higher for male respondents. Female respondents, on the other hand, were significantly and substantially more likely to report having been sexually harassed at least once in their lifetime than male respondents ($\chi^2(1) = 1240.52$, $p < .001$, $\varphi = 0.32$). In addition, female students were also significantly more likely to have been victims of sexual violence in their lives to date than male students ($\chi^2(1) = 223.04$, $p < .001$, $\varphi = 0.14$). In terms of violent offenses overall, female adolescents were also significantly more likely to have experienced them in their lifetime than male adolescents ($\chi^2(1) = 29.19$, $p < .001$, $\varphi = 0.05$). For extortion, genders did not differ in lifetime prevalence.

This pattern also emerges when looking at the 12-month prevalence separately for boys and girls. There is no difference regarding the victimhood of extortion. Moreover, in contrast to lifetime prevalence, the genders do not differ in the 12-month prevalence of an assault by a single person. Robbery ($\chi^2(1) = 22.50$, $p < .001$, $\varphi = -0.04$), an assault with a weapon ($\chi^2(1) = 25.31$, $p < .001$, $\varphi = -0.05$),

[54] According to Bonferroni corrected for three pairwise comparisons (2019 vs. 2017, 2019 vs. 2015, 2019 vs. 2013).

[55] sexual harassment: 2015: $\chi^2(1) = 86.25$, $p < .001$, $\varphi = 0.06$; 2013: $\chi^2(1) = 82.88$, $p < .001$, $\varphi = 0.06$; sexual violence: 2015: $\chi^2(1) = 41.07$, $p < .001$, $\varphi = 0.04$; 2013: $\chi^2(1) = 38.93$, $p < .001$, $\varphi = 0.04$

[56] Extortion: 2015: $\chi^2(1) = 19.75$, $p < .001$, $\varphi = 0.03$; 2013: $\chi^2(1) = 24.17$, $p < .001$, $\varphi = 0.03$; assault with weapon: 2015: $\chi^2(1) = 9.61$, $p = .006$, $\varphi = 0.02$; 2013: $\chi^2(1) = 7.00$, $p = .024$, $\varphi = 0.02$; assault by a single person: 2015: $\chi^2(1) = 27.12$, $p < .001$, $\varphi = 0.03$; 2013: $\chi^2(1) = 14.39$, $p < .001$, $\varphi = 0.03$; total violence: 2015: $\chi^2(1) = 60.79$, $p < .001$, $\varphi = 0.05$; 2013: $\chi^2(1) = 37.12$, $p < .001$, $\varphi = 0.04$

and by more than one person ($\chi^2(1) = 50.68$, $p < .001$, $\varphi = -0.06$) were experienced slightly more frequently by male adolescents than by female adolescents in the past 12 months. The opposite is expressed in the 12-month prevalence of sexual harassment ($\chi^2(1) = 794.51$, $p < .001$, $\varphi = 0.26$), sexual violence ($\chi^2(1) = 152.66$, $p < .001$, $\varphi = 0.11$), and violent offenses in total ($\chi^2(1) = 113.69$, $p < .001$, $\varphi = 0.10$). Significantly more female students experienced this than male students.

Table 21. Violence victimization experiences by gender and school type in 2019 (%; weighted data).

	Lifetime prevalence					**12-month prevalence**				
	Gender (n = 12 191-12 270) [a]		**Type of school** (n = 12 311-12 393) [a]			**Gender** (n = 12 154-12 262) [a]		**Type of school** (n = 12 275-12 386) [a]		
	M	W	Lower	Medium	Higher	M	W	Lower	Medium	Higher
Robbery	**9.8**	**7.0**	**15.1**	**9.4**	**6.2**	**3.8**	**2.3**	**4.7**	**3.5**	**2.1**
Extortion	6.1	5.6	**9.6**	**6.6**	**4.1**	2.0	2.1	**3.5**	**2.4**	**1.4**
Assault with weapon	**9.6**	**6.1**	**12.4**	**9.0**	**5.6**	**3.6**	**2.1**	**4.3**	**3.5**	**1.5**
Assault by several persons	**9.4**	**4.4**	**15.8**	**7.9**	**4.3**	**3.1**	**1.2**	**6.3**	**2.4**	**1.3**
Assault by a single person	**28.9**	**22.8**	**32.6**	**27.6**	**22.3**	10.6	9.6	**16.3**	**10.7**	**8.4**
Sexual harassment	**3.0**	**25.0**	**14.4**	**14.4**	**12.7**	**1.3**	**15.3**	6.0	8.3	8.2
Sexual violence	**0.9**	**5.6**	**4.3**	**3.8**	**2.1**	**0.2**	**3.0**	**1.7**	**1.8**	**1.1**
Total violence	**36.3**	**41.1**	**49.2**	**40.9**	**33.7**	**15.5**	**23.0**	**25.2**	**20.4**	**16.5**

Note. M = male, W = female

Bold: difference significant at $p < .05$, underlined: strength of difference at φ or Cramer's V ≥ 0.1.

[a] Sample size varies due to missing values.

As can be seen in Table 21, and with the exception of the 12-month prevalence of sexual harassment, there is a significant, slight correlation between the type of school and the victimization of all listed violent offenses for both lifetime and 12-month prevalence.[57] Descriptive examination of offenses which are significantly related to type of school shows that the prevalence rates for all offenses are highest at lower types of schools. An exception is the 12-month prevalence of sexual violence. While 1.8 % of students in intermediate school types were victims of this offense in the last twelve months, 1.7 % of adolescents in lower school types and 1.1 % of students attending a higher school type were victims of sexual violence. The differences in lifetime prevalence between adolescents attending a lower school type and students attending a higher school type are most pronounced for victimization of robbery ($\chi^2(1) = 65.17$, $p < .001$, $\varphi = -0.11$), assault by more than one person ($\chi^2(1) = 132.86$, $p < .001$, $\varphi = -0.16$), and violence in total ($\chi^2(1) = 58.48$, $p < .001$, $\varphi = -0.11$). In terms of 12-month prevalence, the difference between these two types of schools is most substantial for assault by several persons ($\chi^2(1) = 71.57$, $p < .001$, $\varphi = -0.11$). All adolescents who had already experienced violence in their lives were asked to provide information on various circumstances of the last crime they experienced. A total of 4,576 students reported on their recent cases. Of these, almost half of the adolescents (47.7 %) had been injured by a single person. A quarter of respondents (24.8 %) indicated that they were sexually

[57] Lifetime prevalence: robbery: $\chi^2(2) = 72.98$, $p < .001$, $V = 0.08$; extortion: $\chi^2(2) = 46.90$, $p < .001$, $V = 0.06$; assault with weapon: $\chi^2(2) = 58.50$, $p < .001$, $V = 0.07$; assault by several persons $\chi^2(2) = 130.94$, $p < .001$, $V = 0.10$; assault by a single person: $\chi^2(2) = 55.46$, $p < .001$, $V = 0.07$; sexual assault: $\chi^2(2) = 7.05$, $p = .029$, $V = 0.02$; sexual violence: $\chi^2(2) = 26.83$, $p < .001$, $V = 0.05$; total violence: $\chi^2(2) = 89.71$, $p < .001$, $V = 0.09$; 12-month prevalence: robbery: $\chi^2(2) = 24.58$, $p < .001$, $V = 0.04$; extortion: $\chi^2(2) = 19.10$, $p < .001$, $V = 0.04$; assault with weapon: $\chi^2(2) = 43.34$, $p < .001$, $V = 0.06$; assault by several persons: $\chi^2(2) = 65.83$, $p < .001$, $V = 0.07$; assault by a single person: $\chi^2(2) = 42.17$, $p < .001$, $V = 0.06$; sexual harassment: $\chi^2(2) = 3.91$, $p = .142$; sexual violence: $\chi^2(2) = 10.56$, $p = .005$, $V = 0.03$; total violence: $\chi^2(2) = 42.40$, $p < .001$, $V = 0.06$

harassed during the last experienced offense. Robbery was the third most frequently experienced crime (8.9 %), followed by assault by more than one person or with a weapon (5.6 and 5.1 %, respectively), extortion (5.1 %), and sexual assault (2.8 %).

To exclude memory-related biases, only data on victim experiences that occurred within a two-year period prior to the survey is considered below. Thus, for further analyses, only victim experiences that occurred between 2017 and 2019 are included. Of the 4,576 reported violent offenses, 2,978 fall within this period. The percentage distribution of offense type differs only slightly from that for all reported acts of violence (assault by a single person: 41.8 %, sexual assault: 32.2 %, robbery: 8.5 %, assault with weapon: 5.1 %, extortion: 4.9 %, assault by several persons: 4.5 %, sexual assault: 3.0 %). In 77.8 % of the described victim experiences, the crime was carried out by one perpetrator. There were two perpetrators in 11.7 % of the crimes. 10.5 % of the adolescents stated that they had been victims of a violent offense committed by three or more perpetrators. Four out of five offenses (79.2 %) were carried out by male offenders and only 8.9 % by female offenders. In 11.9 % of the described offenses there were both male and female perpetrators. The students rated on a scale from 1 (not bad at all) to 10 (very bad) how bad the incident was for them, all in all. On average, the students rated the crime they experienced as 4.81 (*SD* = 2.61).

In Table 22 the frequency and percentage distribution of the circumstances of the described last violent act are listed. First, the students were asked to indicate where the last act of violence was committed. The most frequent place where the violent crime took place was at school or in front of school, namely in about a quarter of the cases. Second most often, the violent crime was experienced in the city, on the street or in a public place (20.6 %). 15.7 % of the reported victim experiences occurred in the victim's own home. One in ten offenses was experienced at a party or in the disco. Another 8.5 % of the crimes took place at a friend's or acquaintance's home, 6.1 % on a sports field, in a gym or swimming pool, and 5.9 % on public transportation or at a bus stop or train station.

The participating adolescents were also asked to estimate the age of the perpetrators. Most often, the acts were carried out by peers. More than half of the students reported that the perpetrators were between 14 and 17 years old. One in six offenses was carried out by offenders between the age of 18 and 21, and one in five offenses was carried out by offenders over the age of 21. Only 7.6 % of the adolescents were victims of violent crimes committed by perpetrators younger than 14 years.

In two out of three violent crimes, the juvenile victims knew their perpetrators. In addition, 8.1 % of the participating adolescents indicated that the perpetrator(s) used one or more weapons in the incident. In more than three out of five victim experiences, the students indicated that the perpetrator had a German national origin.

The adolescents also stated whether and what financial and physical consequences the experienced crime had for them. 8.9 % of the students stated that things or money worth more than 50 € were taken away from them or damaged or broken. In addition, 7.9 % of the adolescents were physically injured during the reported violent crime, so that they had to seek medical treatment.

Table 22. Circumstances of violence victimization experiences in 2019 (weighted data).

		n	%
Location	In or in front of the school	705	24.1
	City, street, public place	602	20.6
	At home	459	15.7
	Disco, Party	308	10.5
	With a friend/acquaintance	247	8.5
	Sports field, gym, swimming pool	179	6.1
	Public transport, stop/station	174	5.9
	Other	252	8.6
Age perpetrator	Under 14 years	219	7.6
	Between 14 and 17 years	1638	56.5
	Between 18 and 21 years	491	16.9
	Over 21 years	553	19.1
Familiarity perpetrator	Yes	1992	68.1
Act with weapon	Yes	237	8.1
Origin perpetrator	German	1545	64.2
Severity of the damage	Damage from 50 €	264	8.9
	Injury with medical treatment	231	7.9
Happened after offense	Clarifying conversation	945	39.5
	Damage repaired	444	19.5
	Perpetrators have apologized	1046	43.5
	Avenged	312	13.6
	Perpetrators received punishment	289	12.7
Report behavior	Police was informed	393	13.3
	Perpetrators were caught by the police	158	7.0

In 13.3 % of the cases, the police were informed after the offense. In addition, 7.0 % of the adolescents stated that the perpetrator was caught by the police. Since the reporting behavior in relation to the most recently experienced violent crime is of great interest, the reporting rate is shown in Figure 9 as a being dependent on the type of crime, the acquaintance of the perpetrator, the perpetrator/victim constellation of origin, and the financial and physical consequences of the crime. If the students stated that the police were informed about the crime or that they told a police officer about the crime and/or that the perpetrator was caught by the police, it is assumed that the crime was reported.

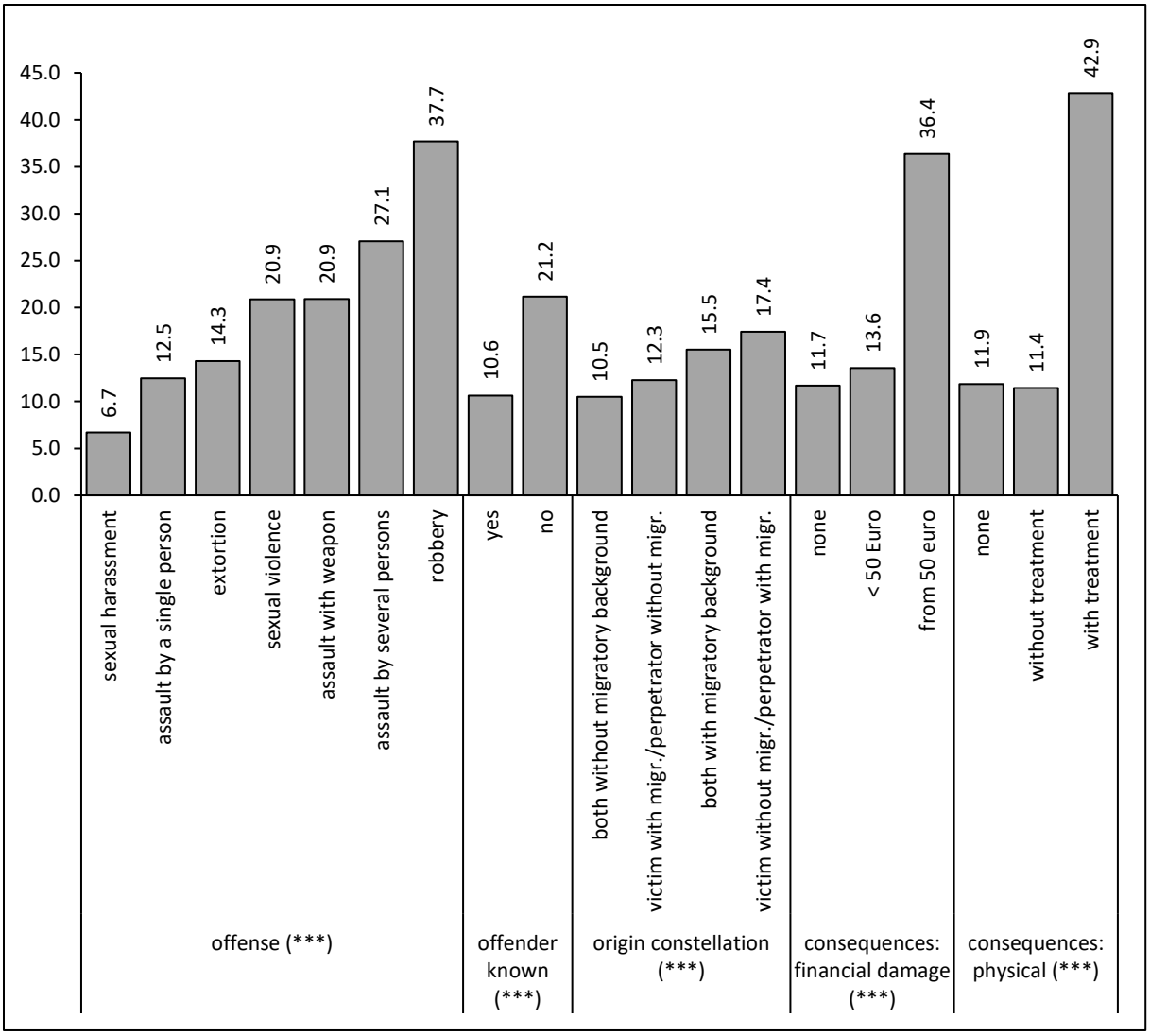

Figure 9. Reporting rates of the last violent crime experienced by selected variables in 2019, migr. = migration background (in %; weighted data; difference significant at $^{**}p < .01$, $^{***}p < .001$).

When considering whether there are different rates of reporting by offense type, we find a significant substantial correlation ($\chi^2(6) = 189.16$, $p < .001$, $V = 0.25$). The most common offense reported was robbery: of the adolescents who were victims of robbery, 37.7 % did so. If an assault by more than one person was experienced, more adolescents reported it (27.1 %) than for an assault with a weapon (20.9 %) and for an assault by a single person (12.5 %). Extortion was reported by 14.3 % of students. Sexual harassment was the least frequently reported (6.7 %), while sexual violence was the third most reported offense (20.9 %).

The reporting rate being dependent on the acquaintance with the perpetrator is also significant ($\chi^2(1) = 58.62$, $p < .001$, $\varphi = -0.14$). The interviewed adolescents were significantly less likely to report the perpetrator(s) if they were familiar to them (10.6 %) than if this was not the case (21.2 %).

The analysis of the configuration of the victims' and perpetrators' origin shows that there is a significant correlation with the reporting rate ($\chi^2(3) = 16.00$, $p = .001$, $V = 0.08$). Descriptively, it is possible to see that a violent crime was reported least often when both victim and perpetrator were of German origin (10.5 %). The crime was most frequently reported when the victim was of German origin and the perpetrator(s) had a migration background (17.4 %). Victims with a migration

background also reported perpetrators with a migration background more often (15.5 %) than perpetrators without a migration background (12.3 %).

Regarding the consequences of the crime, there are significant, substantial correlations between the reporting rate and the financial damage ($\chi^2(2) = 119.42$, $p < .001$, $V = 0.20$) and the physical consequences of the crime ($\chi^2(2) = 169.28$, $p < .001$, $V = 0.24$). Violent offenses were reported significantly more often when there was financial damage of 50 € or more (36.4 %) than offenses with less financial damage (13.6 %) or when there was no financial damage at all (11.7 %). If the concerned adolescents had to seek medical treatment after the victimization experience, the crime was reported significantly more often (42.9 %) than if they had been physically injured but did not have to seek medical treatment (11.4 %) or had not been physically injured at all (11.9 %).

3.2.2 Perpetration

Analogous to the victimhood, the perpetration of these violent crimes was surveyed. Table 23 shows the lifetime and 12-month prevalence and the average age of the first offense of the violent crimes. As in previous years (Bergmann et al., 2019, p. 41), the prevalence rates are significantly lower than those for victimhood. As with victimization experiences, lifetime prevalence is highest for sole assault. For example, 13.7 % of the adolescents have hit, kicked, choked, or otherwise assaulted someone alone at some point in their lives; 4.3 % have done this together with several persons. In the third most common response (2.3 %), the students said that they had already robbed someone in their lives. 1.7 % of the adolescents are responsible for an assault with a weapon. One in 100 adolescents has already extorted someone in their life. Regarding sexual offenses, 1.1 % of the respondents have already sexually harassed someone and 0.4 % have already sexually assaulted someone.

The same pattern emerges when looking at the 12-month prevalence. Here, too, the prevalence rate is highest for sole assault (6.0 %), followed by assault with several persons (1.9 %) and perpetration of a robbery (1.0 %). In the past 12 months, 0.7 % of the adolescents have injured someone with a weapon and 0.4 % have extorted someone. The 12-month prevalence of sexual harassment is 0.7 % and of sexual violence it is 0.1 %.

As for victimhood, an overall index was also formed for perpetration. "Total violence" in Table 23 is made up of the adolescents who stated that they had committed at least one of the listed offenses at least once in their lives or in the last twelve months. Almost every sixth adolescent in Lower Saxony has carried out one of the listed violent offenses at least once in their life. In the last twelve months, 7.5 % of adolescents have done so.

Table 23 also shows the 12-month prevalence of multiple violent offenders. If the adolescents stated that they had committed one of the violent crimes in the last twelve months, they were asked about the frequency for the last twelve months. Multiple violent offenders are persons who have committed five or more violent offenses. No distinction is made between the types of offenses. If, for example, an adolescent has stated that they have robbed someone twice and extorted someone three times in the last twelve months, this person is a multiple violent offender. Thus, 1.8 % of the adolescents can be identified as multiple violent offenders.

On average, the adolescents were 12 years old when they committed one of the violent crimes for the first time in their lives. With an average age of 13.77 and 13.49 years, the age of the first offense is the highest for committing sexual assault and violence. On average, adolescents commit assault the earliest without a weapon and other accomplices (11.98 years).

Table 23. Violent offenses in 2017 and 2019 (%; weighted data).

	Lifetime prevalence		12-month prevalence		Age of first perpetration	
	2017 (*n* = 8 462-8 499) [a]	**2019** (*n* = 11 989-12 016) [a]	**2017** (*n* = 8 433-8 496) [a]	**2019** (*n* = 11 932-12 011) [a]	**2019**	
					M	***SD***
Robbery	**1.6**	**2.3**	0.7	1.0	12.60	2.56
Extortion	**0.6**	**1.0**	0.3	0.4	12.84	2.57
Assault with a weapon	1.5	1.7	0.7	0.7	13.13	2.42
Assault with several persons	**3.6**	**4.3**	1.5	1.9	12.64	2.59
Sole assault	**15.7**	**13.7**	6.4	6.0	11.98	2.70
Sexual harassment	-	1.1	-	0.7	13.77	1.94
Sexual violence	-	0.4	-	0.1	13.49	2.51
Total violence [b]	17.7c	16.2	7.7	7.5	12.00	2.73
Total violence (at least 5 acts) [b]	-	-	1.3	1.8		

Note. *M* = mean, *SD* = standard deviation

Bold: difference 2017/2019 significant at $p < .05$, underlined: strength of difference at $\varphi \geq 0.1$.

[a] Sample size varies due to missing values.

[b] No test for statistical significance.

[c] The common item sexual harassment/violence was used in the calculation.

In contrast to victimhood, the prevalence rates of sexual harassment and sexual violence cannot be compared with the previous surveys in the case of perpetration[58], as since this survey the two offenses have no longer been surveyed with a common item, but with two individual items. Consequently, although violence as a whole can be[59] presented, it cannot be reliably compared with one other. Slightly more adolescents reported having been a perpetrator of a robbery ($\chi^2(1) = 13.92$, $p < .001$, $\varphi = 0.03$), an extortion ($\chi^2(1) = 7.97$, $p = .014$, $\varphi = 0.02$), and of an assault involving multiple persons ($\chi^2(1) = 6.43$, $p = .034$, $\varphi = 0.02$), compared to adolescents from 2017. However, compared to 2017, adolescents were less likely to have physically injured someone on their own ($\chi^2(1) = 16.39$, $p < .001$, $\varphi = -0.03$). There is no significant difference from the pre-survey in terms of assault with a weapon. For the 12-month prevalence, no comparison to 2017 reaches statistical significance. This represents a difference to the figures in the police crime statistics, according to which there has been an increase in violent crime and minor assault. It can thus be assumed that crimes that would not appear in the police crime statistics in 2017 were registered more frequently by the police in 2019. Figure 10 and Figure 11 also show the chronological trend of lifetime as well as 12-month prevalence of perpetration of robbery, extortion, assault with a weapon, with multiple persons as well as by oneself, and violence overall over time. Due to the mentioned change in the recording of sexual assault and sexual violence, the change in violence in total is not tested for statistical significance. The lifetime prevalence (see Figure 10) of perpetration of a robbery and extortion increased not only compared to 2017 but also increased slightly to 2015 (robbery: $\chi^2(1) = 44.08$, $p < .001$, $\varphi = 0.04$; extortion: $\chi^2(1) = 20.44$, $p < .001$, $\varphi = 0.03$) and 2013 (robbery: $\chi^2(1) = 35.53$, $p < .001$, $\varphi = 0.04$; extortion: $\chi^2(1) = 26.82$, $p < .001$, $\varphi = 0.04$). The prevalence rate of assault with a weapon is at the same level as 2017 and 2013, but slightly higher than 2015 ($\chi^2(1) = 6.30$, $p = .036$, $\varphi = 0.02$). Assault with multiple people has become more common again since 2015 ($\chi^2(1) = 15.83$, $p < .001$, $\varphi = 0.03$). The prevalence rate is now back at

[58] According to Bonferroni corrected for three pairwise comparisons (2019 vs. 2017, 2019 vs. 2015, 2019 vs. 2013).

[59] For 2013, 2015, and 2017, the common sexual harassment/violence item is used for the calculation.

the 2013 level. Perpetration of assault by oneself has decreased compared to 2017 but is still slightly higher than in 2015 ($\chi^2(1) = 7.24$, $p = .021$, $\varphi = 0.02$). It is now back at the 2013 level.

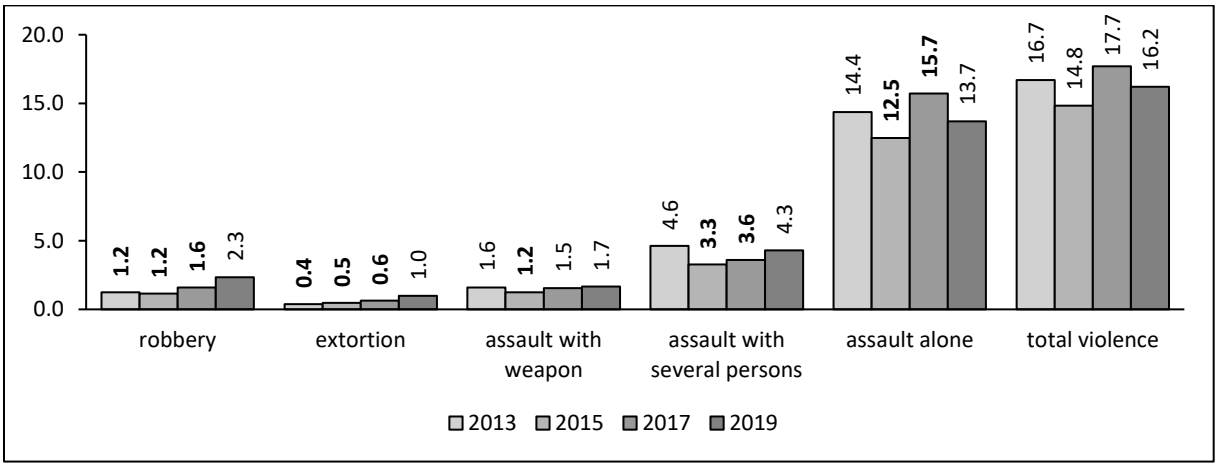

Figure 10. Lifetime prevalence of violent offending compared over time, no test for statistical significance possible for violence overall (in %; weighted data; bold: difference from 2019 significant at $p < .05$).

There were no significant changes in 12-month prevalence (Figure 10) compared with 2017, but the comparison with 2015 and 2013 is somewhat different.[60] The 12-month prevalence of a robbery and extortion both increased slightly compared to 2015 (robbery: $\chi^2(1) = 16.45$, $p < .001$, $\varphi = 0.03$; extortion: $\chi^2(1) = 6.15$, $p = .039$, $\varphi = 0.02$) as well as to 2013 (robbery: $\chi^2(1) = 8.35$, $p = .012$, $\varphi = 0.02$; extortion: $\chi^2(1) = 10.36$, $p = .004$, $\varphi = 0.02$). Compared to 2015, this also applies for assault with multiple persons ($\chi^2(1) = 8.20$, $p = .013$, $\varphi = 0.02$) and assault by oneself ($\chi^2(1) = 11.94$, $p = .002$, $\varphi = 0.02$). However, the prevalence rates of these two offenses did not differ significantly from 2013. In addition to the comparison to 2017, the 12-month prevalence of the perpetration of an assault with a weapon did not change from 2015 and 2013. The descriptive analysis of multiple violent offenders[61] over time (not shown) confirms the increasing trend from the previous year (Bergmann et al., 2019, p. 41f.). However, the methodologically different survey of sexual harassment and sexual violence compared to previous years must be considered here, so it is not tested for significance. Descriptively, it turns out that with a total of 1.8 %, more adolescents are among the multiple violent offenders in the Lower Saxony Survey 2019 than in 2017 (1.3 %) and 2015 (1.1 %). In 2013, it was 1.6 % of the surveyed students. If one compares the 12-month prevalence from the Lower Saxony Survey with those from the Germany-wide student survey conducted by the KFN in 2007/2008 (Baier et al., 2009), it can be stated that the adolescents in Lower Saxony in 2019 were significantly less likely to have committed violent crimes. For example, the Germany-wide survey found a 12-month prevalence of 2.5 % for robbery, 1.2 % for extortion, and 11.7 % for assault (Baier et al., 2009, p. 64).

[60] Corrected according to Bonferroni for three pairwise comparisons (2019 vs. 2017, 2019 vs. 2015, 2019 vs. 2013).

[61] The prevalence rates for multiple violent offenders differ from those reported in Bergmann et al. (2019, p. 41) because individuals in the previous report were not classified as multiple violent offenders until they committed at least one single type of offense five or more times and different offenses were not added together.

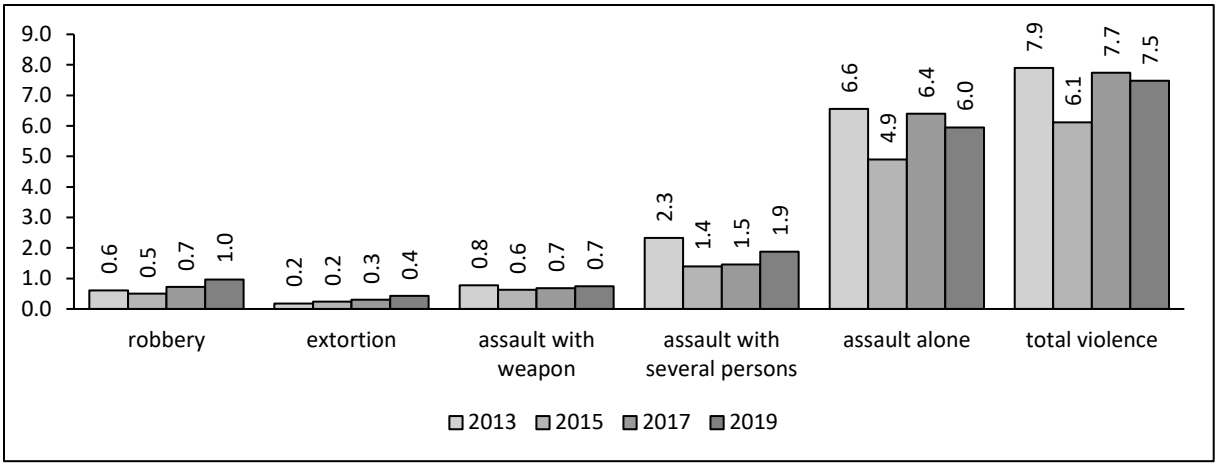

Figure 11. 12-month prevalence of violent offenses compared over time, no test for statistical significance possible for violence overall (%; weighted data; bold: difference from 2019 significant at $p < .05$).

Table 24 shows the lifetime and 12-month prevalence of violent offenses grouped by gender and school type. In terms of gender, the pattern is consistent. Both over the entire lifetime and in the last twelve months, the prevalence of all violent offenses queried is significantly higher for male adolescents than for female adolescents.[62] The gender differences are most pronounced for lifetime prevalence of assault by a single person or with multiple persons and violence overall. In terms of 12-month prevalence, the most substantial gender differences are for assault by a single person and violence overall.

There are also significant correlations between school type and lifetime prevalence of perpetration of robbery ($\chi^2(2) = 29.36$, $p < .001$, $V = 0.05$), extortion ($\chi^2(2) = 33.24$, $p < .001$, $V = 0.05$), assault with a weapon ($\chi^2(2) = 48.73$, $p < .001$, $V = 0.06$), assault by a single person($\chi^2(2) = 114.56$, $p < .001$, $V = 0.10$), and with multiple persons ($\chi^2(2) = 95.66$, $p < .001$, $V = 0.09$), sexual assault ($\chi^2(2) = 16.25$, $p < .001$, $V = 0.04$), and perpetration of violence in total ($\chi^2(2) = 145$, $p < .001$, $V = 0.11$). There is no significant correlation with the school type for lifetime prevalence of sexual harassment. The descriptive observation shows that the prevalence rates of the offenses are lowest for students at a higher school type and highest for students at lower school types. Pairwise comparisons show that the difference between these school forms for perpetration of an assault with a weapon ($\chi^2(1) = 50.38$, $p < .001$, $\varphi = -0.10$), with multiple persons ($\chi^2(1) = 85.71$, $p < .001$, $\varphi = -0.13$), and alone ($\chi^2(1) = 99.53$, $p < .001$, $\varphi = -0.14$), and perpetration of violence in total ($\chi^2(1) = 129.06$, $p < .001$, $\varphi = -0.16$) is most substantial.

Except for perpetration of a robbery, where there is no significant difference, the pattern is the same for 12-month prevalence. There is no difference between school types in terms of 12-month prevalence of sexual harassment. However, 12-month prevalence differs significantly by school type

[62] Lifetime prevalence: robbery: $\chi^2(1) = 66.52$, $p < .001$, $\varphi = -0.07$; extortion: $\chi^2(1) = 29.86$, $p < .001$, $\varphi = -0.05$; assault with weapon: $\chi^2(1) = 74.95$, $p < .001$, $\varphi = -0.08$; assault with multiple persons: $\chi^2(1) = 181.54$, $p < .001$, $\varphi = -0.12$; Assault by a single person: $\chi^2(1) = 520.80$, $p < .001$, $\varphi = -0.21$; Sexual assault: $\chi^2(1) = 39.38$, $p < .001$, $\varphi = -0.06$; Sexual violence: $\chi^2(1) = 22.46$, $p < .001$, $\varphi = -0.04$; Total violence: $\chi^2(1) = 526.54$, $p < .001$, $\varphi = -0.21$;12-month prevalence: robbery: $\chi^2(1) = 28.01$, $p < .001$, $\varphi = -0.05$; extortion: $\chi^2(1) = 15.29$, $p < .001$, $\varphi = -0.04$; assault with weapon: $\chi^2(1) = 42.63$, $p < .001$, $\varphi = -0.06$; assault with multiple persons: $\chi^2(1) = 74.99$, $p < .001$, $\varphi = -0.08$; Assault by a single person: $\chi^2(1) = 232.37$, $p < .001$, $\varphi = -0.14$; Sexual assault: $\chi^2(1) = 34.54$, $p < .001$, $\varphi = -0.05$; Sexual violence: $\chi^2(1) = 10.98$, $p < .001$, $\varphi = -0.03$; Total violence: $\chi^2(1) = 251.31$, $p < .001$, $\varphi = -0.15$

for perpetration of extortion ($\chi^2(2) = 10.41$, $p = .005$, $V = 0.05$), assault with weapon ($\chi^2(2) = 19.62$, $p < .001$, $V = 0.04$), with multiple persons ($\chi^2(2) = 38.69$, $p < .001$, $V = 0.06$) or alone ($\chi2(2) = 62.68$, $p < .001$, $V = 0.07$), of sexual violence ($\chi^2(2) = 12.07$, $p = .002$, $V = 0.03$), and of all listed violent offenses overall ($\chi^2(2) = 67.82$, $p < .001$, $V = 0.08$). As with lifetime prevalence, descriptive consideration of the 12-month prevalence of these offenses shows that students in lower school types are most likely to be perpetrators of a violent offense. Except for sexual violence, where students of intermediate and higher school types have the same prevalence rate, adolescents attending a higher school type are the least likely to have been perpetrators of these violent crimes in the last twelve months. The most significant difference between school types is between lower and higher school types for assault by a single person ($\chi^2(1) = 56.73$, $p < .001$, $\varphi = -0.11$) and violence overall ($\chi^2(1) = 54.51$, $p < .001$, $\varphi = -0.11$).

Table 24. Perpetration of violence by gender and type of school in 2019 (%; weighted data).

	Lifetime prevalence					**12-month prevalence**				
	Gender (n = 11 878-11 906) [a]		**Type of school** (n = 11 989-12 061) [a]			**Gender** (n = 11 825-11 902) [a]		**Type of school** (n = 11 932-12 011) [a]		
	M	W	Lower	Medium	Higher	M	W	Lower	Medium	Higher
Robbery	**3.4**	**1.2**	**4.6**	**2.6**	**1.5**	**1.5**	**0.5**	1.0	1.1	0.7
Extortion	**1.5**	**0.5**	**2.3**	**1.2**	**0.4**	**0.7**	**0.2**	**1.0**	**0.5**	**0.2**
Assault with weapon	**2.6**	**0.6**	**3.9**	**2.0**	**0.7**	**1.3**	**0.2**	**1.5**	**1.0**	**0.3**
Assault with multiple persons	**6.7**	**1.7**	**8.9**	**5.2**	**2.1**	**2.9**	**0.8**	**3.8**	**2.3**	**0.9**
Assault by a single person	**20.7**	**6.4**	**23.8**	**15.1**	**9.9**	**9.2**	**2.6**	**11.1**	**6.6**	**4.0**
Sexual harassment	**1.7**	**0.5**	1.8	1.2	0.9	**1.1**	**0.2**	0.8	0.7	0.7
Sexual violence	**0.7**	**0.1**	**1.3**	**0.5**	**0.2**	**0.2**	**0.0**	**0.7**	**0.1**	**0.1**
Total violence	**23.8**	**8.3**	**28.8**	**17.8**	**11.8**	**11.2**	**3.6**	**12.8**	**8.4**	**5.1**

Note. M = male, W = female

Bold: difference significant at $p < .05$, underlined: strength of difference at φ or Cramer's V ≥ 0.1.

[a] Sample size varies due to missing values.

As with the perpetration of property and cybercrime offenses, the lifetime and 12-month prevalence of violent offenses can be differentiated according to regional criteria. For this purpose, a distinction is made between urban-rural divisions based on the number of inhabitants (rural = less than 10,000 inhabitants, small town = between 10,000 and 20,000 inhabitants, urban = between 20,000 and 50,000 inhabitants, big city= between 50,000 and 150,000 inhabitants, metropolitan = more than 150,000 inhabitants) and the region based on the municipality (Region West, Central-North Region, North-East Region, Hanover Region, Region East, and Region South).[63]

Differentiating the lifetime and 12-month prevalence of perpetration of violence based on the urban/rural classification - both for the individual offenses and for perpetration of violence overall - shows only one significant difference. Lifetime prevalence of perpetration of sexual violence differs statistically significantly depending on the population size ($\chi^2(4) = 12.23$, $p = .016$, $V = 0.03$). In the survey, 0.3 % of the students from a rural and small-town place of residence (or school location, respectively) reported having committed sexual violence at some time in their lives. Of the students who live (or go to school) in an urban area or big city, 0.5 and 0.6 %, respectively, have done so. At 0.9 %, adolescents from a metropolitan area are the most likely to have committed sexual violence at least once in their lives.

[80]See chapter 2.1.3 for the allocation of the municipalities

Depending on the municipal affiliation to the police departments in Lower Saxony, the lifetime prevalence of violent offenses differs significantly overall ($\chi^2(5) = 11.10$, $p = .049$, $V = 0.03$). Adolescents from the region East were most likely to have committed at least one of the queried violent offenses in their lifetime (17.8 %). They are followed by students from the Hanover Region and Region South with 17.0 and 16.9 %, respectively. Every sixth student from the Central-North Region stated that they had already committed a violent crime once in their life. Of the students who live (or go to school) in a municipality in the North-East Region, 15.2 % have done so. Surveyed adolescents from Region West were the least likely to report having committed a violent act in their lifetime, at 14.5 %. Looking at the individual offenses, there are significant differences for perpetration of assault with a weapon ($\chi^2(5) = 12.93$, $p = .024$, $V = 0.03$)[64], assault by a single person ($\chi^2(5) = 11.56$, $p = .041$, $V = 0.03$)[65], and sexual assault ($\chi^2(5) = 12.58$, $p = .028$, $V = 0.03$).[66] In terms of 12-month prevalence, there is only a significant difference for sole perpetration of assault ($\chi^2(5) = 12.43$, $p = .029$, $V = 0.03$).[67]

[64] West: 1.7 %, Central-North: 1.2 %, North-East: 1.3 %, Hanover Region: 2.5 %, East: 1.5 %, South: 2.0 %

[65] West: 11.9 %, Central-North: 14.2 %, North-East: 12.9 %, Hanover Region: 14.2 %, East: 15.1 %, South: 14.1 %

[66] West: 0.4 %, Central-North: 0.4 %, North-East: 0.2 %, Hanover Region: 1.0 %, East: 0.5 %, South: 0.3 %

[67] West: 5.3 %, Central-North: 6.0 %, North-East: 4.9 %, Hanover Region: 5.7 %, East: 7.2 %, South: 6.8 %

Summary

More than one in three adolescents has already experienced violence in their life. The comparison of the lifetime prevalence of victimhood of all surveyed violent offenses together has shown that at no previous survey time so many adolescents have had to experience victimhood of violence in their lives as the adolescents of the Lower Saxony Survey 2019. The most significant increase is recorded for assault by a single person and sexual harassment. The 12-month prevalence of sexual harassment and sexual violence has been at its highest level since 2013. Victimization of extortion, assault with a weapon or by a single person, and violence victimization in total in the past 12 months is at 2017 levels, but slightly higher than in 2015 and 2013. The 12-month prevalence of robbery and assault by multiple persons has remained stable over the years.

Female students are significantly more likely to be victims of sexual offenses, and male students are more likely to experience assault and robbery. Lifetime prevalence of all violence victimization experiences is lowest for students attending higher school types and highest for adolescents attending lower school types. For 12-month prevalence, this is also true for all violent offenses except sexual harassment, for which there is no significant group difference, and sexual violence, for which students from intermediate school types have the highest prevalence rate.

There are also substantial correlations between the reporting rate and the type of crime, the familiarity of the perpetrators, the financial damage, and the physical consequences of the crime. Robbery is the most frequently reported crime. Sexual harassment, on the other hand, is reported least frequently. Victims are more likely to report a violent crime if they do not know the perpetrators, the crime caused financial damage of more than 50 € and they had to seek medical treatment after the crime.

On the perpetrator side, every sixth adolescent has already committed a violent crime. The lifetime prevalence of perpetration of robbery and extortion is slightly higher than at the three previous survey points. The prevalence rate of assault with a weapon has only slightly increased compared to 2015 and is therefore at the same level as in 2013 and 2017. Assault with multiple persons is back at the same level as in 2013 after an increase since 2015. After a decrease compared to 2017, the lifetime prevalence of assault alone is also back at the same level as in 2013. Regarding the 12-month prevalence, there are no differences compared to 2017. Compared to the first two survey dates of the Lower Saxony Survey, adolescents were more often perpetrators of a robbery and extortion (2013/2015) as well as assault with multiple persons and alone (2015) in the last twelve months.

Male students are more likely to have perpetrated violence both in their lifetime and in the past twelve months than female students. Students attending a higher school type have the lowest lifetime prevalence for perpetrating a robbery, extortion, assault with a weapon, alone as well as with multiple people, sexual violence, and for perpetrating violence in total. Adolescents who attend a lower school type have done so most often in their lifetime. The 12-month prevalence of a robbery does not differ depending on school type. In the other cases, the differences in lifetime prevalence carry over to 12-month prevalence.

3.3 Bullying at school and cyberbullying

3.3.1 Victimhood

Bullying is a widespread form of violence that occurs primarily in the school environment, where children and adolescents spend a significant part of the day. Olweus (1993, 1996, 2009) defines

bullying as negative or aggressive behavior toward students that occurs repeatedly and over a long period of time. In addition, bullying involves a (perceived) imbalance of power between the victim and the perpetrator such that the victim cannot easily defend themselves. These aggressive behaviors include physical, verbal, as well as relational actions (Olweus, 2012). With the spread of the Internet, bullying is no longer limited to the school context, but also takes place outside of school via the Internet and smartphones - often initiated by classmates or schoolmates. In addition to the three traditional forms of bullying, these acts form a fourth form, so-called cyberbullying (Olweus, 2012; Smith et al., 2008). Unlike bullying, which takes place in school, cyberbullying is characterized by transcending the temporal, social and spatial limitations. The removal of spatial limitations occurs because it encompasses other areas of life besides the school context (Dooley et al., 2009). It is not socially confined because people other than classmates can participate in the behavior; temporal limitations are removed because degradations on the Internet cannot be easily deleted and thus it can be recalled even years later (Baier et al., 2016).

To assess bullying, a translated and adapted version of the Revised Olweus Bullying Questionnaire (Olweus, 1996) was used for the first time in the 2019 Lower Saxony Survey. The OBQ-R is one of the most used self-report instruments to capture victimization and perpetration of bullying and has good psychometric properties (Vessey et al., 2014).

Before students were asked about each form of bullying, they were presented with the following definition of bullying: *When we talk about bullying, these things happen repeatedly and it is difficult for the student who is being bullied to defend themselves (for example, because the others are much stronger or outnumber you or you don't know exactly who is involved). We also call it bullying when a student is repeatedly teased in a mean and hurtful way.* Next, students were asked to indicate whether they had been bullied or had bullied another student in the last twelve months. Each of the nine different acts can be assigned to verbal, physical, relational, and cyberbullying using six different response options (1 - "never," 2 - "on 1 or 2 days," 3 - "several times a month," 4 - "about once a week," 5 - "several times a week," and 6 - "daily"). For the prevalence rate, students who report experiencing or performing the acts at least several times per month are classified as victims or perpetrators (Solberg & Olweus, 2003). For group differences in the frequency of the experienced or performed acts, the variables are not dichotomized beforehand.

Verbal bullying, which also includes sexual and racial harassment, was questioned using the following items[68]: "teased me, made fun of me, or said mean things to me," "insulted me with comments about my origin or skin color," and "made sexual innuendos, sexual insults, or sexual gestures" (McDonald's ωs = .58 (victimhood) and .64 (perpetration)). *Physical bullying* was also captured with three items: "intentionally hit, kicked, pushed, or locked me up," "took money or other things from me or intentionally broke my things," and "threatened or forced me to do things I did not want to do" (McDonald's ωs = .79 (victimhood) and .84 (perpetration)). *Relational bullying* was measured with the items "intentionally marginalized me, excluded me from their circle of friends, or treated me like air" and "spread lies or false rumors about me and tried to turn others against me" (r_s = .52 (victimhood) and .36 (perpetration)). *Cyberbullying* is captured in the OBQ-R using a single item: "sent mean or hurtful messages or photos or made mean phone calls over the Internet or smartphone."

All adolescents surveyed - regardless of whether they had ever been a perpetrator or victim of bullying were asked how often their teachers and classmates intervene when students are bullied at their

[68] The reported items capture victimization of bullying, perpetration was asked in the same way.

school (see Table 25). Overall, 46.7 % of students reported that teachers at their schools often or almost always intervene when bullying occurs. However, 11.3 % and 18.3 %, respectively, also indicated that they almost never or only occasionally intervene. There is no gender difference in this assessment. However, it differs depending on the type of school attended ($\chi^2(2) = 27.32$, $p < .001$). Pairwise comparisons show that, according to the students' assessment, teachers at lower school types intervene slightly more frequently than at medium ($U = 1150544.00$, $p < .001$, $r = -.06$) as well as higher school types ($U = 697265.00$, $p < .001$, $r = -.08$).

According to the students, teachers intervene in bullying significantly and substantially more often than classmates ($z = -39.78$, $p < .001$, $r = -.37$). Thus, only 26.1 % of respondents indicated that their classmates often or almost always intervene. 40.4 %[69] of the classmates intervene almost never or only occasionally. The assessment differs depending on gender ($U = 16811199.50$, $p < .001$, $r = .04$) and type of school attended ($\chi^2(2) = 30.32$, $p < .001$). Female students were slightly more likely than male students to report that their classmates intervened when bullying occurred. Pairwise comparisons also showed that, according to adolescents, classmates at higher school types intervened slightly more often than at intermediate school types ($U = 15325543.50$, $p < .001$, $r = .05$), which represents a difference from teacher intervention.

Table 25. Adolescents' assessment of bullying intervention by teachers and classmates (weighted data; %).

		Almost never	Only occasionally	Sometimes	Often	Almost always
Intervention by teachers		**11.3**	**18.3**	**23.7**	**30.0**	**16.7**
Gender	Male	12.0	18.0	22.0	30.7	17.3
	Female	10.2	18.6	25.6	29.5	16.1
School type	Lower	10.2	9.4	22.0	34.7	23.7
	Intermediate	11.6	18.1	23.3	30.5	16.5
	Higher	10.9	19.6	24.6	28.6	16.3
Intervention by students		**17.2**	**23.1**	**33.6**	**20.7**	**5.4**
Gender	Male	18.3	23.9	32.6	20.1	5.2
	Female	15.9	22.4	34.8	21.3	5.6
School type	Lower	16.0	26.3	31.7	19.0	7.1
	Intermediate	18.7	22.9	33.9	19.3	5.2
	Higher	14.9	23.3	33.2	23.2	5.5

Bullying was experienced by 18.8 % of adolescents overall in the past 12 months. Table 26 shows the 12-month prevalence rates of victimization of the types of bullying. Students were most likely to be victims of verbal and relational bullying. About one in eight students (12.9 and 13.1 %, resp.) experienced this in the past twelve months. Physical and cyberbullying were experienced less frequently by the surveyed students than the other two forms of bullying, with 3.1 % and 3.5 %, respectively.

In 52.6 % of the cases, the students experienced only one form of bullying. However, the individual forms of bullying can also occur together. Thus, two forms were experienced by 28.4 % of the adolescents. Another 12.7 % and 6.4 % even experienced three or all of the queried forms of bullying, respectively. There is no gender difference in the number of forms experienced.

[69] Due to rounding, there is a slight discrepancy in the totals compared with the figures in e number of forms experienced.

Table 26. 12-month prevalence of bullying victimization (weighted data; %).

	Total (n = 11 795 - 11 852) [a]	**Gender**	
		Male (n = 5 873 - 5 908) [a]	**Female** (n = 5 814 - 5 839) [a]
Verbal bullying [b] (McDonald's ω = .58).	**12.9**	**10.2**	**15.3**
Teasing or making fun [c]	10.2	8.0	12.3
Comments/insults about origin/skin color [c]	2.9	2.8	2.9
Sexual innuendos, insults, or gestures [c]	3.3	2.4	4.2
Physical bullying [b] (McDonald's ω = .79).	**3.1**	**3.5**	**2.7**
Intentionally hit, kicked, or pushed [c]	2.1	2.5	1.7
Money/things taken away, things damaged [c]	1.5	1.7	1.2
Threatened or forced to do things [c]	1.4	1.5	1.3
Relational bullying [b] (r_s = .52).	**13.1**	**8.5**	**17.6**
Excluded or treated like air [c]	7.2	4.7	9.7
Spreading rumors or turning others against one [c]	10.4	6.9	14.0
Cyberbullying	**3.5**	**2.2**	**4.9**
Mean/hurtful messages/calls, sent photos [c]			
Total (**McDonald's** ω = .86)	**18.8**	**13.9**	**23.7**

Note. [a] Sample size varies due to missing values.
[b] Percentage of students who have experienced at least one of the actions on the scale more than once a month.
[c] Percentage of students who experienced this action at least several times a month.

When all acts of bullying are combined into one scale (McDonald's ω = .86), female students are significantly more likely to experience bullying than male students (U = 20524435.50, p < .001, r = - 0.17). This can also be seen in the prevalence rates from Table 26. Thus, 13.9 % of male adolescents can be categorized as bullying victims, compared to nearly 10 percentage points more for female adolescents (23.7 %). Looking at the individual forms of bullying as a function of gender (see Table 26), all differences remain significant for victimization by bullying.[70] Female students experienced verbal, relational, and cyberbullying substantially more often than male students in the past twelve months. In contrast, male students experienced physical bullying slightly more often than female students.

Figure 12 shows the 12-month prevalence of bullying victimhood separately for each school type. With 24.1 %, students from lower school types can be categorized most frequently as victims of bullying. Of the adolescents who attend an intermediate school type, the figure is 19.5 %. With 16.9 %, students attending higher school types are comparatively the least likely to be victims of bullying. For the individual forms of bullying, the same pattern emerges at different levels.

[70] verbal bullying: U = 19376017.00, p < .001, r = .12; physical bullying: U = 16963694.00, p = .003, r = -.03; relational bullying: U = 20540869.50, p < .001, r = .19; cyberbullying: U = 18280202.00, p < .001, r = .12

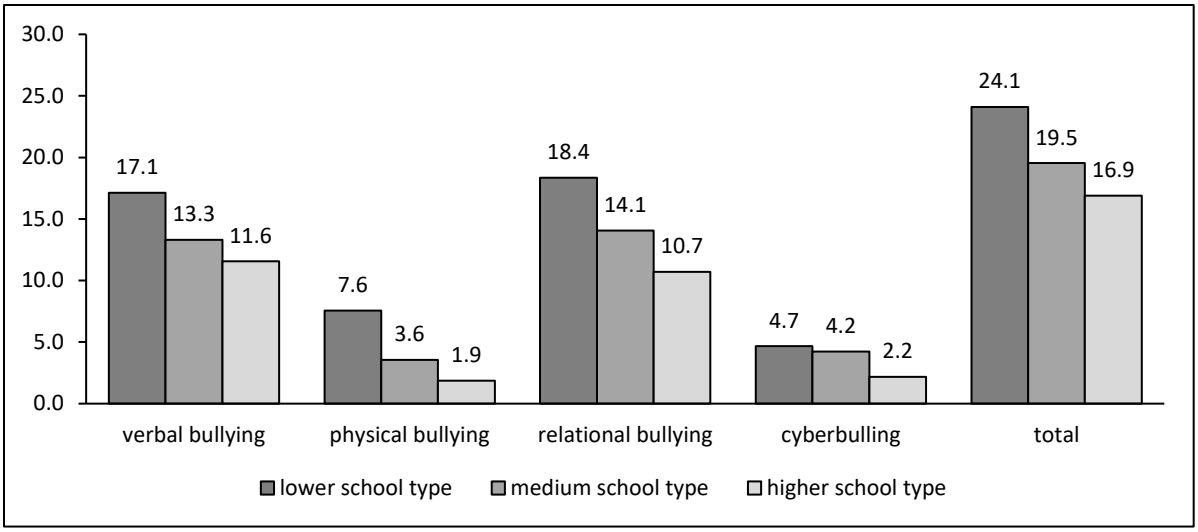

Figure 12. 12-month prevalence of bullying victimization grouped by type of school (%; weighted data; proportion of students who experienced at least one of the acts associated with the scale more than once in the month).

When the frequency of victimization experiences is taken into account, Kruskal-Wallis tests show significant differences between the type of school attended and bullying overall ($\chi^2(2) = 16.07$, $p < .001$) as well as verbal ($\chi^2(2) = 6.91$, $p = .032$), physical ($\chi^2(2) = 64.11$, $p < .001$), relational ($\chi^2(2) = 20.31$, $p < .001$), and cyberbullying ($\chi^2(2) = 32.95$, $p < .001$). Regarding the overall scale, pairwise comparisons show that students at a lower school type are slightly more likely to be bullied than students of an intermediate ($U = 1752403.50$, $p = .015$, $r = -0.03$) as well as a higher school type ($U = 1075088.00$, $p < .001$, $r = -0.05$). Adolescents who had been bullied in the past twelve months were asked to indicate, using a ten-point scale ranging from 1 - "not at all" to 10 - "very much," how much they had suffered from the bullying and how much the bullying had affected their academic performance. Table 27 lists the means as well as standard deviations for the overall scale and the individual forms. Comparing the individual forms of bullying, descriptively it can be seen that adolescents suffer the most from cyberbullying. [71] This also has the greatest impact on academic performance.

Overall, students reported suffering moderately from bullying (ranging from 5.13 for bullying overall to 6.73 for cyberbullying). When looking at the scores separately by gender, large differences between male and female students emerge. Female adolescents suffer significantly and substantially more from bullying, both overall ($t(1\ 750) = -9.03$. $p < .001$, $d = -0.40$) and separately in terms of the individual forms of bullying[72], than male adolescents. The same picture emerges for the effects on school grades. Although the levels here are somewhat lower than for the question of how much the students suffer from bullying (overall between 4.21 for bullying and 5.92 for cyberbullying), there are also significant, substantial correlations between gender and the effects on academic performance can be found. This again relates to the total bullying scale ($t(1\ 776) = -6.48$, $p < .001$, $d = -0.28$) as well as to the individual

[71] It should be noted, however, that students who have experienced cyberbullying may have experienced other forms of bullying at the same time.

[72] verbal bullying: $t(1\ 452) = -7.79$, $p < .001$, $d = -0.42$; physical bullying: $t(341) = -5.24$, $p < .001$, $d = -0.57$; relational bullying: $t(1\ 482) = -6.98$, $p < .001$, $d = -0.39$; cyberbullying: $t(193) = -6.31$, $p < .001$, $d = -0.74$

forms of bullying.[73] If female students are bullied, this has a greater impact on their academic performance than in the case of male students being bullied.

Table 27. Consequences of bullying (weighted data; mean values (standard deviation)).

		Verbal bullying	Physical bullying	Relational bullying	Cyberbullying	Bullying total
Suffered from bullying		5.53 (3.07)	5.78 (3.35)	5.63 (3.07)	6.73 (3.13)	5.13 (3.05)
Gender	Male	**4.77 (2.94)**	**5.01 (3.24)**	**4.84 (2.93)**	**5.23 (3.36)**	**4.37 (2.86)**
	Female	**6.03 (3.05)**	**6.85 (3.21)**	**6.00 (3.06)**	**7.42 (2.74)**	**5.56 (3.06)**
Impact on academic performance		4.50 (3.21)	5.04 (3.46)	4.72 (3.21)	5.92 (3.31)	4.21 (3.14)
Gender	Male	**3.95 (3.06)**	**4.30 (3.28)**	**4.11 (3.08)**	**4.66 (3.44)**	**3.64 (2.94)**
	Female	**4.88 (3.27)**	**6.07 (3.45)**	**5.02 (3.24)**	**6.49 (3.08)**	**4.53 (3.22)**

Note. Bold: difference significant at $p < .05$, underlined: strength of difference at $d \geq 0.2$.

As reported earlier, about half of the victims of bullying have experienced several forms of bullying at the same time. Therefore, in the following we will look at the consequences of bullying depending on the number of forms experienced. This is represented graphically in Figure 13.

This relationship differs significantly for male and female victims (z = -2.50, p = .012). For female students, the relationship is stronger (r_s = .43, p < .001) than for male students (r_s = .34, p < .001). However, significant and substantial relationships remain for both genders. Mean values separated by gender are also shown in Figure 13.

In addition to the extent to which adolescents suffered from bullying, there is also a significant and substantial relationship between the number of bullying forms experienced and the impact on academic performance (r_s = .35, p < .001). The more forms of bullying experienced, the stronger the estimated impact on academic performance. There is also a significant gender difference for this relationship (z = -2.86, p = .004). The relationship between the number of forms experienced and the impact on school performance is stronger for female victims (r_s = .41, p < .001) than for male victims (r_s = .29, p < .001). However, the significant relationship remains for both genders. The mean values can be seen in Figure 13.

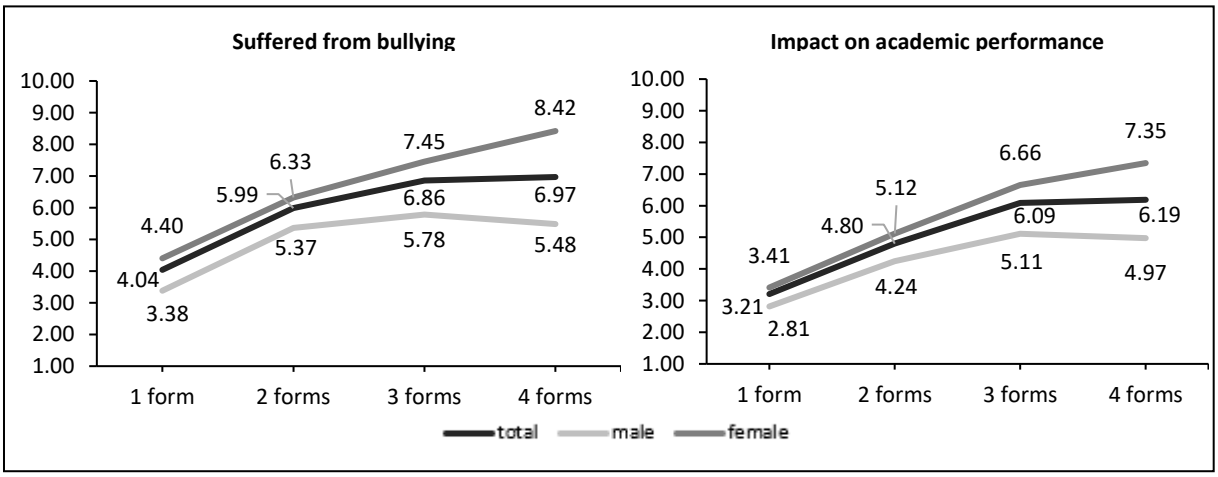

Figure 13. Consequences of bullying as a function of the number of forms experienced (mean values; weighted data).

[73] verbal bullying: t(1 300) = -5.52, p < .001, d = -0.29; physical bullying: t(340) = -4.84, p < .001, d = -0.53; relational bullying: t(1 001) = -5.28, p < .001, d = -0.29; cyberbullying: t(206) = -5.02, p < .001, d = -0.57

When looking at the period in which the adolescents were bullied, 60.7 % of bullying victims indicated that they were bullied for one month or less. Just under a quarter of adolescents (24.1 %) were bullied between six and twelve months. Another 15.2 % have even experienced bullying for several years. The period during which the bullying occurred is significantly longer for female victims than for male victims (U = 554672.00, p < .001, r = .10).

55.5 % of the students told someone about the bullying. At 63.0 %, female victims did so significantly more often than male victims at 42.6 % ($\chi^2(1) = 82.53$, p < .001, $\varphi = 0.20$). This corresponds to a small correlation. If the adolescents told someone about the bullying, it was most often friends at 71.8 %. Parents were the second most likely to be told (62.2 %), followed by class teachers (32.7 %) and siblings (27.4 %). In addition, 16.8 % of the victims who told someone talked to other adults at school (e.g., another teacher or school psychologist).

Furthermore, the bullying victims stated how many students they were usually bullied by. Just under a quarter (23.9 %) were bullied by one student. Most often, there were two to three perpetrators (40.4 %). About a fifth of the bullying victims stated that they were bullied by four to nine students (20.7 %). Only a few (5.4 %) were bullied by more than nine students. For the remaining 9.6 %, there were several individual perpetrators.

3.3.2 Perpetration

8.7 % of the students have bullied someone in the last twelve months. The prevalence rates can be seen in Table 28. When comparing the individual forms, the same pattern emerges as on the victim side, but at a lower level. Thus, 6.3 and 5.0 % of the adolescents have verbally and relationally bullied classmates, respectively, in the last twelve months. In addition, 1.9 % of students reported physical bullying and 1.1 % reported bullying on the Internet or with a smartphone.

Table 28. 12-month prevalence of bullying perpetration (weighted data; %).

	Total (n = 11 710 - 11 791) [a]	**Gender**	
		Male (n = 5 830 - 8 877) [a]	**Female** (n = 5 774 - 5 805) [a]
Verbal bullying [b] (McDonald's ω = .64).	**6.3**	**8.5**	**3.9**
Teasing or making fun [c]	5.2	7.0	3.4
Comments/insults about origin/skin color [c]	1.7	2.8	0.6
Sexual innuendos, insults or gestures [c]	1.3	2.1	0.5
Physical bullying [b] (McDonald's ω = .84).	**1.9**	**2.9**	**0.8**
Intentionally hit, kicked or pushed [c]	1.6	2.5	0.6
Money/things taken away, things damaged [c]	0.8	1.3	0.2
Threatened or forced to do things [c]	0.9	1.3	0.3
Relational bullying [b] (rs = .36).	**5.0**	**5.9**	**4.1**
Excluded or treated like air [c]	4.4	5.1	3.6
Spreading rumors or turning others against one [c]	1.5	2.0	1.0
Cyberbullying	**1.1**	**1.4**	**0.7**
Mean/injurious messages/calls, photos sent [c]			
Total (McDonald's ω = .85)	**8.7**	**10.9**	**6.4**

Note. [a] Sample size varies due to missing values.
[b] Percentage of students who performed at least one of the actions on the scale more than once a month.
[c] Percentage of students who performed this action at least several times a month.

Approximately three out of five perpetrators (58.6 %) stated that they had only carried out one type of bullying. Almost a quarter (24.8 %) have used two forms of bullying. In addition, 9.6 % and 7.0 % have performed three and all queried forms of bullying, respectively. When all acts of bullying are combined into one scale (McDonald's ω = .86), male students are slightly more likely than female students to be perpetrators of bullying (U = 15998047.00, p < .001, r = -0.07). Looking at each form of bullying as a function of gender (see Table 28), all differences remain significant for perpetration of bullying.[74] Male adolescents perpetrate all forms more often than female adolescents, with the difference most significant for verbal and physical bullying. Perpetrators also engaged in multiple forms of bullying more often than female perpetrators (U = 105120.50, p < .001, r = -.11).

Figure 14 shows the 12-month prevalence of bullying perpetration separately for each school type. Of the students who attended a lower school type, 13.2 % of the adolescents reported having bullied someone in the last twelve months. Students from medium (8.6 %) and higher (8.2 %) school types can be classified less frequently as perpetrators. This picture is also confirmed for the individual forms of bullying.

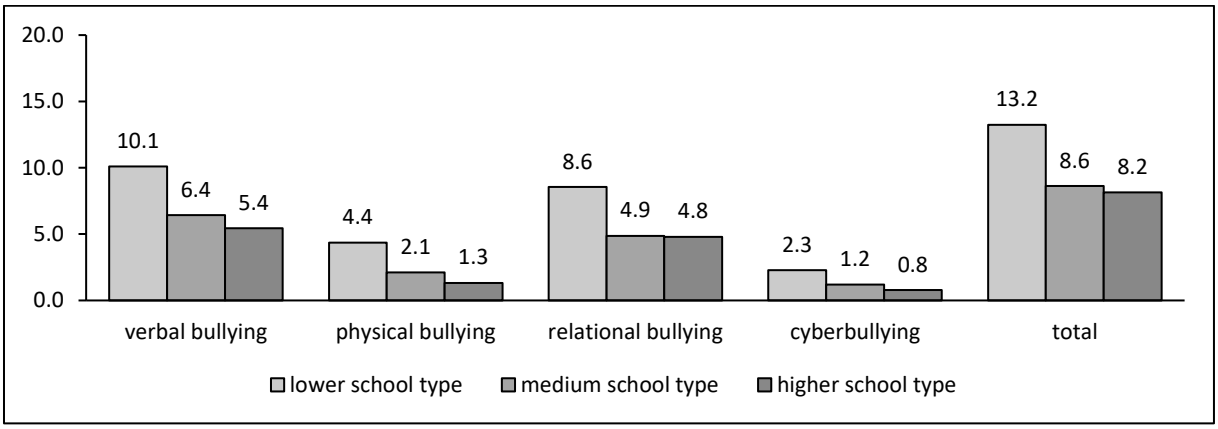

Figure 14. 12-month prevalence of bullying perpetration grouped by type of school (%; weighted data; proportion of students who engaged in at least one of the acts associated with the scale more than once a month).

Regarding the frequency with which bullying acts are carried out, Kruskal-Wallis tests for the perpetration of verbal, physical and cyberbullying reveal significant differences depending on the type of school.[75] For example, lower school types perform the most acts of bullying, followed by intermediate and finally higher school types. Like the victims, the perpetrators were also asked how long they had been bullying fellow students. Most perpetrators (78.3 %) reported bullying for one month or less. Another 14.6 % have bullied for six to twelve months and 7.1 % have bullied for several years. Female and male students do not differ.

[74] verbal bullying: U = 15548137.00, p < .001, r = -.11; physical bullying: U = 16108723.00, p < .001, r = -.12; relational bullying: U = 16780638.00, p = .043, r = -.02; cyberbullying: U = 16723168.00, p < .001, r = -.03

[75] verbal bullying: $\chi^2(2) = 7.59$, p = .022; physical bullying: $\chi^2(2) = 43.68$, p < .001; cyberbullying: $\chi^2(2) = 15.91$, p < .001

Table 29. Perpetrators' responses on being approached by teachers and parents due to bullying (weighted data; %).

		No	Yes, once	Yes, several times
Addressed by teachers		**75.9**	**18.3**	**5.8**
Gender	Male	74.8	19.0	6.2
	Female	77.9	17.1	5.0
School type	Lower	64.8	27.8	7.4
	Intermediate	71.0	22.3	6.8
	Higher	86.4	9.9	3.6
Addressed by parents		**81.9**	**14.2**	**4.0**
Gender	Male	82.0	14.0	4.0
	Female	81.2	14.7	4.1
School type	Lower	84.9	11.3	3.8
	Intermediate	80.8	15.2	4.0
	Higher	83.1	13.0	3.9

The perpetrators of bullying also indicated whether they had been approached by teachers and parents about the bullying in the last twelve months (see Table 29). 75.9 and 81.9 % respectively stated that they had not been approached by teachers or parents about bullying. Another 18.3 and 14.2 %, respectively, were approached about it once and 5.8 and 4.0 %, respectively, were approached about it more than once. There are no gender differences in this regard. However, there is a correlation between the type of school attended and the extent to which teachers address perpetrators ($\chi^2(4) = 31.80$, $p < .001$, $V = 0.13$). Perpetrators of higher school types were significantly and substantially less likely to be approached about bullying one or more times than perpetrators attending an intermediate ($\chi^2(2) = 28.35$, $p < .001$, $V = 0.18$) or lower school type ($\chi^2(2) = 16.10$, $p < .001$, $V = 0.20$).

Summary

Bullying at school and on the Internet is a prevalent problem. About one in five students stated that they had been bullied in the last twelve months. Almost half of the victims have experienced at least two forms of bullying. In addition, 8.7 % of the young people stated that they had bullied others. Approximately 40 % have been bullied in at least two ways. Usually, male perpetrators have carried out more forms of bullying than female perpetrators. On both the victim and perpetrator side, verbal and relational bullying occur most frequently.

Male students are more likely to be perpetrators of physical and verbal bullying than female. Female students are more often bullied online, verbally, and relationally than male students. They, in turn, are more likely to be victims of physical bullying than female students. Female victims were also bullied longer than male victims. In addition, bullying has a stronger impact on female victims than on male victims. First, they indicated that they suffer more from bullying and second, that bullying has a stronger impact on their academic performance than it does for male victims. Moreover, as the number of experienced forms of bullying increases, so does the extent to which they suffer from it and their academic performance. This relationship is even stronger for female victims than for male victims but is present for both genders.

Regarding the types of school, students attending lower types of school are the most frequent victims of bullying and students attending a higher type of school are the least frequent. This also applies to perpetration. The extent of the difference depends on the form of bullying being observed for both victims and perpetrators. Perpetrators who attend a higher school form are less likely to be approached by teachers about bullying than perpetrators who attend a lower or intermediate school form. If all students are interviewed - regardless of whether they are victims or perpetrators of bullying - it becomes apparent that teachers intervene in bullying more often than fellow students.

3.4 Physical and verbal assaults on parents

Violent acts committed by children and adolescents against their own parents still represent a comparatively under-researched subarea of intra-family violence, which has only received increasing attention in recent years. While other forms of intra-family violence - in particular violence perpetrated by parents against their children or intra-partner violence - have been the subject of considerable scientific and public interest for many decades, there have only been a few studies on national and international level that have devoted more attention to the phenomenon of violence against parents (also known as *child-to-parent violence (*CPV), see e.g., Cottrell, 2001).

Since 2013, the Lower Saxony Survey has repeatedly surveyed the 12-month prevalence of violent acts by adolescents against their parents regarding two forms of violence: physical and verbal violence. Various findings indicate that especially verbal violence against parents (e.g., name-calling, insults, threats) is a relatively widespread behavior among adolescents. Both forms of violence have also been repeatedly linked to violence experienced at the hands of parents (Beckmann et al., 2017; Calvete et al., 2013; Calvete et al., 2014; Calvete et al., 2015).

In the Lower Saxony Survey 2013, 2015 and 2017, the questions on physical and verbal assaults on parents were only presented to every third student for answering due to the modular structure of the questionnaire. In the 2019 survey, the item set was expanded to a total of 11 items and presented to all students for the first time. The adolescents were asked to report, with regard to the last twelve months, the exercise of various verbal and physical behaviors by their mother and father, separately.

For the 2019 survey, two moderately correlated factors were extracted by factor analysis based on 10 of the 11 items, one capturing "physical violence" and the other "verbal violence" toward parents. Table 30 provides an overview of the used items.

Table 30. Items used to measure physical and verbal violence against parents in the past twelve months.

Form of violence	Item	
Physical Violence	(1)	Spat at
	(2)	Threatened to beat or hurt them.
	(3)	Grabbed or pushed hard
	(4)	Punched or kicked with the hand/fist
	(5)	Struck with an object
Verbal violence	(6)	Insulted
	(7)	Threatened with words (2019: threatened)
	(8)	Yelled or screamed at
	(9)	Exposed in front of others (e.g., in front of friends or acquaintances)
	(10)	Intentionally treated like air

Note. Rows highlighted in gray: new items 2019 (form the expanded scale together with the items highlighted in white).

In the following, for reasons of comparability with previous years, item (6) and item (7) are first combined into an index of verbal violence (Cronbach's $\alpha_{2019\ mother} = 0.64$; Cronbach's $\alpha_{2019\ father} = 0.65$), while items (3), (4) and (5) are included in an index of physical violence (Cronbach's $\alpha_{2019\ mother} = 0.83$; Cronbach's $\alpha_{2019\ father} = 0.85$). For each respondent, the answers regarding mother and father were combined into a maximum value index separately for each form of violence. As soon as the adolescents stated, for example, that they had carried out at least one of the three verbally aggressive behaviors against their own parents in the last twelve months, they were classified as perpetrators of verbal violence against parents.

In addition, with regard to the 12-month prevalence of parental violence surveyed in 2019, a second, extended scale of "physical violence" (Cronbach's $\alpha_{2019\ mother} = 0.76$; Cronbach's $\alpha_{2019\ father} = 0.76$) and "verbal violence" (Cronbach's $\alpha_{2019\ mother} = 0.86$; Cronbach's $\alpha_{2019\ father} = 0.89$) is formed in an analogous way using all items presented in Table 30. Note that the response categories differ between the first three surveys of the Lower Saxony Survey and the 2019 survey: Whereas in 2013, 2015, and 2017, the adolescents were asked to grade the frequency of exercising violence against parents on a five-point scale ("1 - *never*", "2 - *1 or 2 times", "*3 - *3 to 5 times*", "4 - *6 to 10 times*", "5 - *over 10 times*"), responses in the 2019 survey were on a six-point scale ("1 - *never", "*2 - *1 or 2 times*", "3 - *3 to 12 times", "*4 - *several times a month", "*5 - *once a week", "*6 - *several times a week"*). Nevertheless, to ensure the comparability of the 12-month prevalence of aggressive behavior toward parents across the survey years and because physically violent behavior in particular is rather rarely carried out, the following only distinguishes between adolescents who have behaved violently toward their parents at least once and those who never report such incidents in the last twelve months.

Table 31 shows the 12-month prevalence of physical and verbal violence against parents for the survey year 2019 as a function of the various scales, distinguishing in each case between violence against the mother, violence against the father, and violence against parents overall. The figure illustrates that verbal violence toward parents is a more common form of aggression among adolescents. If we first look at the prevalence rates in relation to the short scale also used in the previous surveys, we see that

36.3 % of respondents have been verbally aggressive toward their mother and 27.2 % toward their father within the last twelve months. In contrast, only 3.1 % (against the mother) and 2.8 % (against the father) of the adolescents had used physical violence.

Table 31. Violent behavior toward parents in 2019 (%; weighted data).

		Short scale	Extended scale
Violence toward **mother**	**Verbal** (N [a] = 12 158/12 184)	36.3	68.6
	Physical (*n* = 12 164/12 181)	3.1	4.1
Violence toward **father**	**Verbal** (*n* = 11 894/11 927)	27.2	52.6
	Physical (*n* = 11 900/11 927)	2.8	3.6
Violence against **parents in total** [b]	**Verbal** (*n* = 12 214/12 236)	41.1	72.2
	Physical (*n* = 12 213/12 232)	4.7	6.1

[a] Sample sizes vary due to missing values.
[b] at least one (verbal or physical) act of violence against the mother and/or father.

The reported values based on the expanded scale for measuring physical and verbal violence against parents are higher, as expected, with significant increases in prevalence in all cases: Thus, the reported prevalence of verbal violence against the mother increases to 68.6 % and that of verbal violence against the father to 52.6 %. Comparable increases can be observed regarding verbal and physical assaults against parents overall (verbal: 72.2 %, physical: 6.1 %).

Supplementary analyses on the significance of adolescents' gender, based on the 2019 expanded scale, show that there are statistically significant associations between gender and the exercise of violent behaviors toward parents (see Figure 15). Based on engaging in violent behavior toward parents at least once in the past 12 months, girls are substantially more likely than boys to engage in verbally aggressive behavior toward their mothers (78.0 % vs. 59.7 %, $\chi^2(1) = 468.35$, $p < .001$, $\varphi = 0.20$) and toward their fathers (60.6 % vs. 45.1 %, $\chi^2(1) = 282.37$, $p < .001$, $\varphi = 0.16$). In contrast, boys are slightly more likely than girls to use physical violence against their father (4.1 % vs. 2.9 %, $\chi^2(1) = 12.12$, $p < .001$, $\varphi = -0.03$). No significant gender differences are shown for physical violence against the mother. Also, overall, girls are significantly more likely than boys to engage in verbal violence against their parents (81.0 % vs. 63.9 %, $\chi^2(1) = 443.75$, $p < .001$, $\varphi = 0.19$). For physical violence against parents, no significant gender difference can be found.

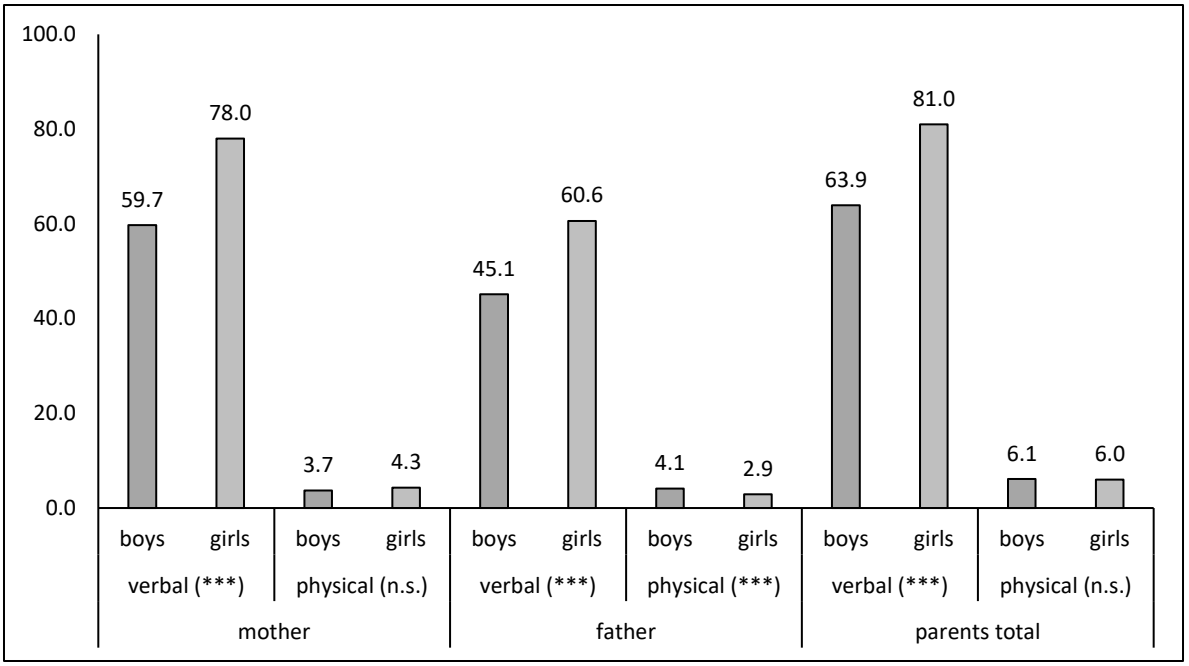

Figure 15. Violent behavior toward parents in the past 12 months by gender in 2019 (%; weighted data; difference between groups significant at ***$p < .001$ with n.s. = non-significant difference; underlined: strength of difference at $\varphi \geq 0.1$).

Depending on the type of school (see Figure 16), the frequency of verbal aggression against the mother[76], father[77] and parents[78] differs significantly between school types. Adolescents at higher school types are more likely to be verbally aggressive toward their parents than those at intermediate and lower school types. A pairwise comparison of higher and lower school types reveals a substantial effect for verbal violence against the mother[79], father[80] and parents overall.[81]

For physical violence, the results seem contrary. The significant differences in school types indicate that adolescents of lower school types are slightly more likely to commit physical violence against their mother ($\chi^2(2) = 7.39$, $p = .025$, $V = 0.03$) and father ($\chi^2(2) = 13.90$, $p < .001$, $V = 0.03$) than adolescents attending a higher or intermediate school type. This picture is again evident with respect to physical violence against parents overall ($\chi^2(2) = 16.07$, $p < .001$, $V = 0.04$).

[76] $\chi^2(2) = 81.64$, $p < .001$, $V = 0.08$
[77] $\chi^2(2) = 97.72$, $p < .001$, $V = 0.09$
[78] $\chi^2(2) = 82.75$, $p < .001$, $V = 0.08$
[79] $\chi^2(1) = 50.76$, $p < .001$, $\varphi = 0.10$
[80] $\chi^2(1) = 58.01$, $p < .001$, $\varphi = 0.11$
[81] $\chi^2(1) = 50.47$, $p < .001$, $\varphi = 0.10$

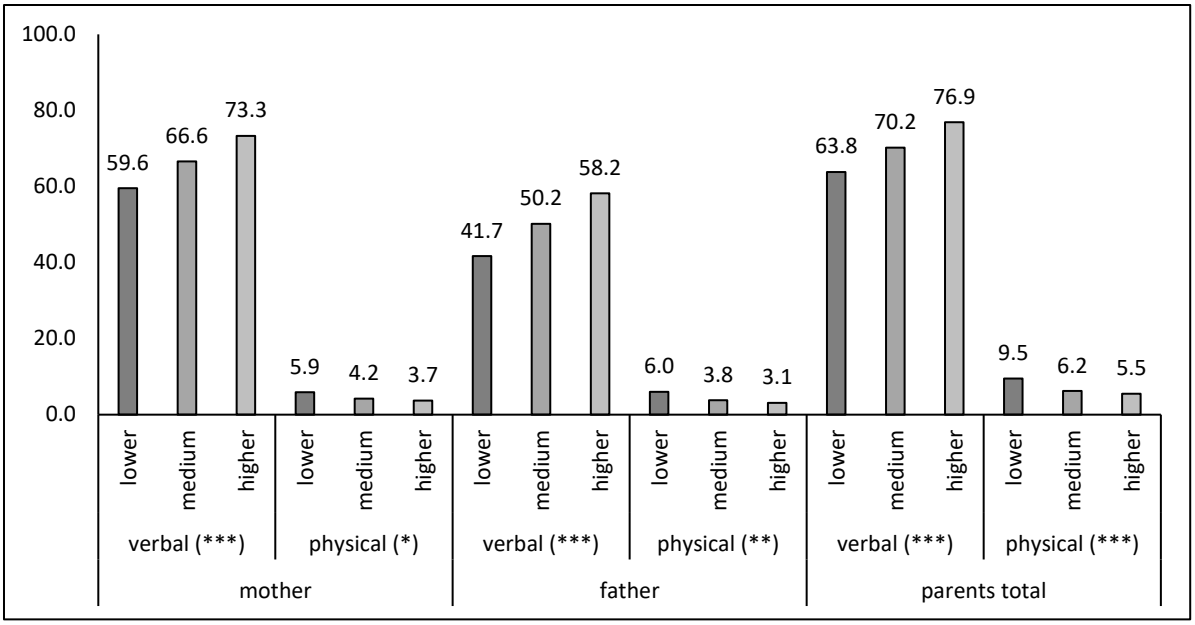

Figure 16. Violent behavior toward parents in the past 12 months by type of school attended in 2019 (%; weighted data; difference between groups significant at ***$p < .001$).

Figure 17 shows the 12-month prevalence of physical and verbal violence against parents depending on the different survey years of the Lower Saxony Survey. For better comparability, the values refer only to the short scales of violence against parents as described above. Comparing the two survey dates 2017 and 2019, there are no significant differences for verbal violence against parents. While there were still significant decreases between the years 2013 and 2017 regarding the exercise of verbal violence against parents overall, it is currently shown that 41.1 % of the surveyed students in Lower Saxony have insulted, offended, or threatened a parent at least once in the last twelve months - in 2013, 47.4 % of young people did this in comparison.

In contrast, the 12-month prevalence of physical violence against parents is also about the same as in 2017 (2019: 4.7 %; 2017: 5.5 %). Looking specifically at acts of violence perpetrated against the mother by adolescents in the past twelve months, there is a slight, statistically significant decrease in physical aggression when comparing the two survey years of 2017 and 2019 (2017: 3.9 %; 2019: 3.1 %; $\chi^2(1) = 4.90$, $p = .027$, $\varphi = -0.02$). Compared to 2015, there is only a significant difference for verbal violence against fathers. Adolescents are slightly more likely to engage in verbally aggressive behaviors against their fathers in 2015 (2017: 29.8 %; 2019: 27.2 %; $\chi^2(1) = 8.48$, $p = .004$, $\varphi = -0.02$). Comparing the prevalence rates of 2019 with 2013, significant decreases can be observed for both verbal and physical behaviors against both parents (verbal violence against parents: $\chi^2(1) = 41.70$, $p < .001$, $\varphi = - 0.05$; physical violence against parents: $\chi^2(1) = 40.50$, $p < .001$, $\varphi = -0.05$).

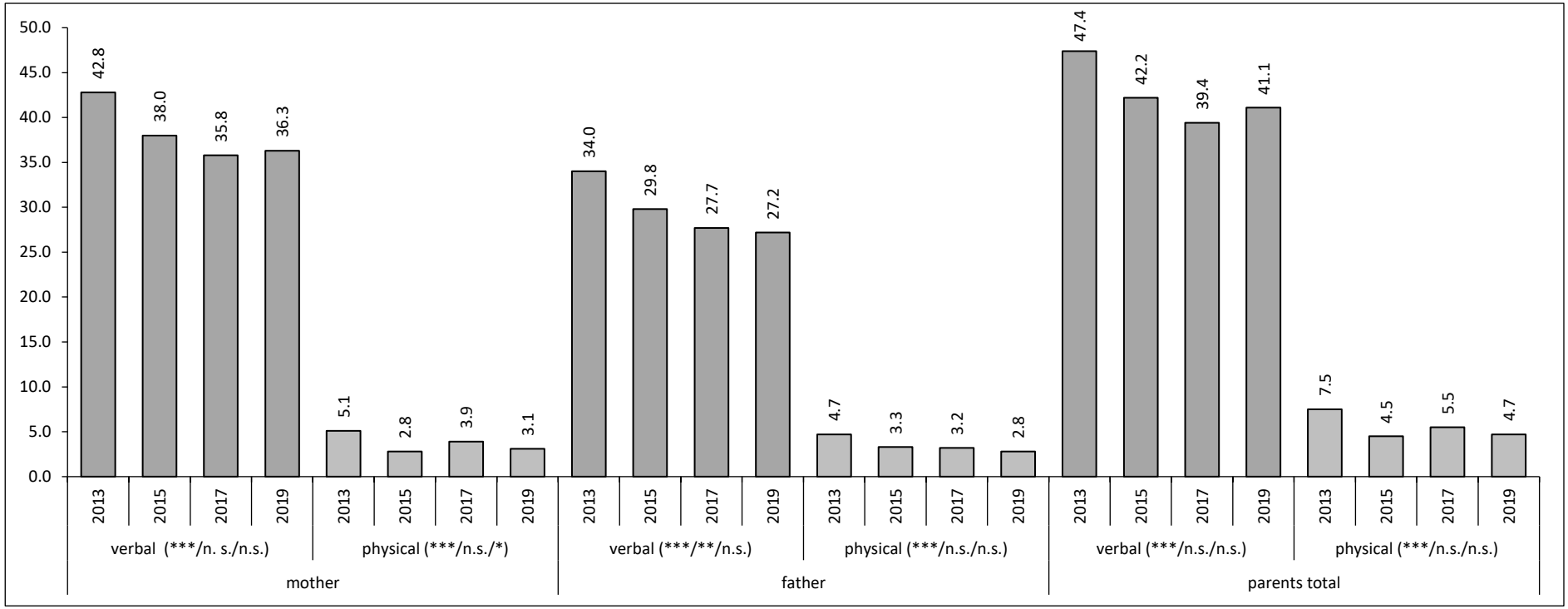

Figure 17. Violent behavior toward parents in the past 12 months compared over time (%; weighted data; left comparison: 2013/2019; medium 2015/2019; right comparison: 2017/2019 at *p < .05, **p < .01, ***p < .001 with n.s. = non-significant difference).

Summary

The evaluations of physical and verbal assaults by adolescents against their parents show that the 12-month prevalence of verbal and physical violence against parents is roughly at the same level when comparing the survey years 2017 and 2019. A decreasing trend is only seen regarding physical violence directed at the mother. Thus, the proportion of adolescents who have been verbally aggressive toward their parents at least once in the last twelve months in 2019 is 41.1 %. For physical violence, the prevalence is 4.7 %. Compared to 2013, decreasing trends for all behaviors in violence against parents can be found.

Physical and verbal violence against parents is a phenomenon that affects boys as well as girls and adolescents of all school types. The known gender differences, according to which boys show particularly more physical violence than girls, can only be observed for physical violence against the father. However, girls report significantly more verbal forms of aggression than boys. Adolescents attending a higher form of school also tend to behave more often verbally aggressively toward their parents than adolescents attending a lower form of school. The opposite pattern is seen regarding physical violence against parents: In this regard, adolescents attending a lower school type tend to have higher prevalence rates than adolescents attending a medium or higher school type.

3.5 Conditional factors of criminality

Three logistic regression models are used to empirically test which factors influencing crime are correlated with property crime, violent crime, and cybercrime. First, these include sociodemographic factors such as gender, age, type of school, receipt of welfare aids, migration background and religious affiliation. The other included variables have already been related to delinquency in numerous empirical studies (see, e.g., Barnes et al., 2002; Beckmann, 2019; Beckmann & Bergmann, 2017; Fagan et al., 2011; Najman et al., 2019; Rabold & Baier, 2007; Schulz et al., 2011). For an overview of the theoretical derivation of the relationships, see, e.g., Rabold and Baier (2007). It must be noted that these analyses are based on cross-sectional data and therefore only correlations, but not causal relationships, can be presented. Thus, no conclusions can be drawn on cause-effect relationships.

The proportion of variance that the considered correlates explain out of the total variance of the variable is represented by the coefficient of determination R2. The higher R2, the higher is also the statistical explanatory power of the correlates on this variable. In addition, the *average marginal effects* on the prediction of delinquency are given. These express the number of percentage points by which a dependent variable changes if the respective predictor increases by one unit. The higher the coefficients, the more influential a given independent variable is in explaining delinquency.

Regarding the commission of at least one property crime, the strongest correlations can be observed for the number of delinquent friends (see Table 32). Adolescents who have more than five delinquent friends are 22.0 percentage points more likely to have committed a property crime than students without delinquent friends. If the adolescents have one to five delinquent friends, the probability increases by 13.0 percentage points. Truancy is almost as relevant. Adolescents who have played truant several times are 20.0 percentage points more likely to have already committed a property crime when compared to students who never play truant. Even occasional truancy increases this probability by 11.0 percentage points. Other significant associations with property crime are found for severe physical violence, but also for mild and psychological violence by parents. The more violence adolescents have experienced, the more likely they have been a perpetrator of a property crime.

Likewise, risk seeking, norms of masculinity that legitimize violence, poor grades in school, and problematic alcohol consumption increase this likelihood. Empathy and parental affection, on the other hand, are associated with a lower probability of committing a property crime. In terms of religion, it appears that belonging to Islam, another religion, and the Catholic as well as Protestant faith is associated with a lower likelihood of property crime compared to no religious affiliation. In addition, lower as well as intermediate school types increases the likelihood of a property crime compared to higher school forms. Other sociodemographic variables that increase the probability of a property crime to a small extent are male gender (reference: female) and second-generation migration background (reference: no migration background). The explained variance achieved by the included variables for the explanation of committing at least one property crime is 34 %.

For the model of perpetration of at least one violent offense, practically the same influencing factors correlate with perpetration (see Table 33). Here also, adolescents who have more than five delinquent friends are 14.0 percentage points more likely to have committed a violent offense than students without delinquent friends (one to five delinquent friends 7.0 percentage points). Thus, as with property offenses, male gender (reference: female), mild and severe physical violence and psychological violence by parents, problematic alcohol consumption, truancy, lower and intermediate school type (reference higher school type), violence-legitimizing masculinity norms, second-generation migration background, and risk seeking increased the likelihood of a property offense. Belonging to the Protestant and Catholic religions compared to no religious affiliation, as well as having high empathy, decreases the likelihood of committing a violent offense.

Differences from the property crime model emerge with respect to Jewish religious affiliation (reference: no religious affiliation), affinity for violence, and age. While these factors are not significantly related to property crime, violent affinity and older age increase the likelihood of committing a violent crime. Jewish religious affiliation is associated with a decreased likelihood of committing a violent offense compared to no religious affiliation. The explained variance achieved by the included variables for explaining the commission of at least one violent offense is 31 %.

Table 32. Binary logistic regression models for predicting perpetration of property crimes (weighted data).

	AV: Perpetration of property crimes (not done vs. done). *n* = 10 822 **Model 2 (Pseudo R^2: .34)**		
	B (SE)	AME	95 % CI
Male gender (reference: female)	**0.24 (0.06)**	**0.04**	0.02, 0.05
Age	0.07 (0.04)	0.01	-0.00, 0.02
Type of school (reference: higher)			
Lower	**0.38 (0.14)**	**0.06**	0.01, 0.11
Intermediate	**0.11 (0.06)**	**0.02**	0.00, 0.03
Migration background (reference: none)			
First generation	0.04 (0.12)	0.01	-0.03, 0.04
Second generation	**0.24 (0.06)**	**0.04**	0.02, 0.06
Receipt of welfare aids (reference: none)	0.16 (0.09)	0.03	-0.00, 0.05
Religion (Reference: None)			
Catholic	**-0.22 (0.08)**	**-0.03**	-0.06, -0.01
Protestant	**-0.15 (0.07)**	**-0.02**	-0.04, -0.00
Evangelical free church	-0.19 (0.22)	-0.03	-0.10, 0.04
Muslim	**-0.58 (0.12)**	**-0.08**	-0.12, -0.05
Jewish	-0.10 (0.61)	-0.02	-0.20, 0.17
Other	**-0.36 (0.15)**	**-0.06**	-0.10, -0.01
Delinquent friends (reference: none)			
Up to five	**0.82 (0.06)**	**0.13**	0.11, 0.15
More than five	**1.28 (0.09)**	**0.22**	0.18, 0.25
Playing truant (reference: not truant)			
Occasional truancy	**0.67 (0.06)**	**0.11**	0.00, 0.09
Multiple truancy	**1.17 (0.09)**	**0.20**	0.00, 0.17
Parental control	-0.06 (0.04)	-0.01	-0.02, 0.00
Parental attention	**-0.16 (0.05)**	**-0.03**	-0.04, -0.01
Physical violence by parents (reference: none)			
Mild violence	**0.37 (0.06)**	**0.06**	0.04, 0.08
Severe violence	**0.60 (0.08)**	**0.10**	0.07, 0.12
Psychological violence by parents (reference: none)	**0.39 (0.10)**	**0.06**	0.03, 0.08
Empathy	**-0.17 (0.04)**	**-0.03**	-0.04, -0.01
Risk Seeking	**0.57 (0.04)**	**0.09**	0.07, 0.10
Violence-legitimizing norms of masculinity	0.07 (0.05)	0.01	-0.01, 0.03
Norms of masculinity legitimizing violence	**0.14 (0.04)**	**0.02**	0.01, 0.03
Problematic alcohol consumption (reference: no problematic consumption)	**0.47 (0.06)**	**0.07**	0.06, 0.09
Average grade [a]	**0.11 (0.04)**	**0.02**	0.01, 0.03

Notes. Bold = significant at min. $p < .05$

Pseudo R^2 = Nagelkerke's R square

[a] includes the following school subjects: German, mathematics, biology, English.

Table 33. Binary logistic regression models for predicting perpetration of violent crimes (weighted data).

	AV: Perpetration of violent crime (not done vs. done). *n* = 10 964 **Model 2 (Pseudo R^2: .31)**		
	B (SE)	AME	95 % CI
Male gender (reference: female)	**0.90 (0.08)**	**0.09**	0.08, 0.10
Age	**0.14 (0.05)**	**0.01**	0.01, 0.02
Type of school (reference: higher)			
Lower	**0.38 (0.16)**	**0.04**	0.01, 0.07
Intermediate	**0.18 (0.07)**	**0.02**	0.00, 0.03
Migration background (reference: none)			
First generation	-0.08 (0.14)	-0.01	-0.04, 0.02
Second generation	**0.176 (0.08)**	**0.02**	0.00, 0.03
Receipt of welfare aids (reference: none)	0.05 (0.10)	0.01	-0.02, 0.03
Religion (Reference: None)			
Catholic	**-0.26 (0.10)**	**-0.03**	-0.05, -0.01
Protestant	**-0.20 (0.08)**	**-0.02**	-0.04, -0.00
Evangelical free church	-0.45 (0.31)	-0.04	-0.10, 0.01
Muslim	0.09 (0.14)	0.01	-0.02, 0.04
Jewish	**-1.48 (0.74)**	**-0.11**	-0.18, -0.04
Other	0.05 (0.17)	0.01	-0.03, 0.04
Delinquent friends (reference: none)			
Up to five	**0.67 (0.07)**	**0.07**	0.05, 0.08
More than five	**1.24 (0.10)**	**0.14**	0.11, 0.17
Playing truant (reference: not truant)			
Occasional truancy	**0.26 (0.07)**	**0.03**	0.01, 0.04
Multiple truancy	**0.43 (0.10)**	**0.05**	0.02, 0.07
Parental control	-0.08 (0.05)	-0.01	-0.02, 0.00
Parental attention	-0.03 (0.06)	-0.00	-0.01, 0.01
Physical violence by parents (reference: none)			
Mild Violence	**0.57 (0.07)**	**0.06**	0.04, 0.08
Severe violence	**0.78 (0.09)**	**0.09**	0.06, 0.11
Psychological violence by parents (reference: none)	**0.61 (0.14)**	**0.05**	0.03, 0.08
Empathy	**-0.17 (0.05)**	**-0.02**	-0.03, -0.01
Risk Seeking	**0.14 (0.05)**	**0.01**	0.00, 0.02
Affinity for violence	**0.47 (0.06)**	**0.05**	0.04, 0.06
Violence-legitimizing norms of masculinity	**0.32 (0.05)**	**0.03**	0.02, 0.04
Problematic alcohol consumption (reference: no problematic consumption)	**0.47 (0.07)**	**0.05**	0.03, 0.06
Average grade [a]	0.09 (0.05)	0.01	0.00, 0.02

Notes. Bold = significant at min. $p < .05$

Pseudo R^2 = Nagelkerke's R square

[a] includes the following school subjects: German, mathematics, biology, English.

Table 34. Binary logistic regression models for predicting cybercrime perpetration (weighted data).

	AV: Perpetration of cybercrime (not done vs. done). *n* = 10 821 **Model 2 (Pseudo R^2: .22)**		
	B (SE)	AME	95 % CI
Male gender (reference: female)	**0.21 (0.05)**	**0.04**	0.02, 0.06
Age	0.04 (0.03)	0.01	-0.01, 0.02
Type of school (reference: higher)			
Lower	**-0.78 (0.12)**	**-0.16**	-0.21, -0.11
Medium	**-0.38 (0.05)**	**-0.08**	-0.10, -0.06
Migration background (reference: none)			
First generation	0.00 (0.10)	0.00	-0.04, 0.04
Second generation	**0.33 (0.06)**	**0.07**	0.05, 0.09
Receipt of welfare aids (reference: none)	-0.05 (0.08)	-0.01	-0.04, 0.02
Religion (Reference: None)			
Catholic	-0.01 (0.07)	0.00	-0.03, 0.02)
Protestant	**-0.23 (0.06)**	**-0.05**	-0.07, -0.02
Evangelical free church	-0.31 (0.18)	-0.07	-0.14, 0.01
Muslim	-0.10 (0.11)	-0.02	-0.07, 0.02
Jewish	-0.75 (0.49)	-0.15	-0.34, 0.03
Other	0.02 (0.12)	0.01	-0.05, 0.06
Delinquent friends (reference: none)			
Up to five	**0.49 (0.05)**	**0.11**	0.09, 0.13
More than five	**0.51 (0.09)**	**0.11**	0.07, 0.15
Playing truant (reference: not truant)			
Occasional truancy	**0.78 (0.05)**	**0.17**	0.15, 0.19
Multiple truancy	**0.87 (0.09)**	**0.19**	0.15, 0.23
Parental control	**-0.09 (0.04)**	**-0.02**	-0.03, 0.00
Parental attention	**-0.13 (0.04)**	**-0.03**	-0.04, -0.01
Physical violence by parents (reference: none)			
Mild violence	**0.32 (0.05)**	**0.07**	0.04, 0.09
Severe violence	**0.44 (0.07)**	**0.09**	0.06, 0.12
Psychological violence by parents (reference: none)	**0.45 (0.07)**	**0.09**	0.07, 0.12
Empathy	**-0.16 (0.04)**	**-0.03**	-0.05, -0.02
Risk Seeking	**0.30 (0.03)**	**0.06**	0.05, 0.08
Affinity for violence	0.02 (0.05)	0.00	-0.01, 0.02
Violence-legitimizing norms of masculinity	**0.09 (0.04)**	**0.02**	0.00, 0.03
Problematic alcohol consumption (reference: no problematic consumption)	**0.39 (0.05)**	**0.08**	**0.06, 0.10**
Average grade [a]	**-0.16 (0.03)**	**-0.03**	-0.05, -0.02

Notes. Bold = significant at min. $p < .05$

Pseudo R^2 = Nagelkerke's R square

[a] includes the following school subjects: German, mathematics, biology, English.

The strongest correlation with cybercrime is seen for truancy (see Table 34). Adolescents who have played truant several times are 19.0 percentage points more likely to have committed a cybercrime compared to students who never play truant. Occasional truancy also increases this probability by 17.0 percentage points. As in the two previous models, the number of delinquent friends, psychological and

physical parental violence, problematic alcohol consumption, second-generation migration background, risk seeking, male gender (reference: female) and violence-legitimizing masculinity norms increase the probability of committing a cyber offense. Protestant religion (reference: no religious affiliation), as well as empathy and parental attention, decrease this likelihood. In contrast to the previous two forms of crime, lower and intermediate school type compared to higher types of school are associated with a lower probability of cybercrime, just like poor grades. Similarly, parental control proves to be significantly related to committing a cybercrime, while it could not be related to property crimes and violent crimes. Parental control reduces the likelihood of committing a cyber offense. The explained variance achieved by the included variables for explaining the commission of at least one cyber offense is 22 %.

Summary

Some significant correlations emerge for the explanation of property crime, violent crime, and cybercrime. Across all offenses, the number of delinquent friends, truancy, physical and psychological parental violence, problematic alcohol consumption, risk seeking, violence-legitimizing masculinity norms, second-generation migration background, and male gender increase the probability of committing these offenses. In addition, for all offenses, high empathy and different religious affiliations are shown to decrease the likelihood of committing the offenses.

Furthermore, cybercrime is more likely to be carried out by individuals with low parental control, good grades and at higher types of school compared to lower and Intermediate types of school. In contrast, the opposite emerges for violent and property crime: violent and property crimes are more likely to be committed at lower and Intermediate school types (reference: higher school type); property crimes are more likely to be committed by students with poor grades. Furthermore, the risk of committing a violent crime increases with age and increased affinity for violence. Parental attention reduces the likelihood of property and cybercrimes.

4 Risk attitudes and behavior

According to Raithel (2011, p. 26), risk behavior can be understood as "an unsafe behavior that can lead to harm and thus jeopardizes productive development in relation to the developmental goals of individuation and integration." In the following section, information is provided on behavior that is associated with a health-related physical harm perspective (e.g., alcohol and drug use as well as suicidal acts and self-harmful behaviors) or with a legal norm-related harm perspective (carrying weapons, delinquent peer affiliation). Furthermore, attitudes (risk seeking, affinity for violence and masculine norms) and behavior (truancy) that can be associated with one's own violent behavior or risk behavior are also discussed.

4.1 Alcohol and drug use

Alcohol and drug consumption was repeatedly measured as part of the Lower Saxony-wide student survey. The young people were asked whether they had ever used the following substances and, if so, how old they were when they first used them (age of first use) or how often they had used them in the last twelve months: Beer, wine/sparkling wine, liquor, cigarettes, hashish/marijuana/grass (hereinafter: cannabis), ecstasy/speed/cocaine, LSD/angel's trumpet/magical mushrooms or medical drugs.[82] Figure 18 shows the data on the age of first use. Alcoholic beverages and hard drugs (ecstasy/speed/cocaine, LSD/angel's trumpet/magical mushrooms, crystal meth) are combined into an index in the following analyses. In each case, the lowest age of first use (or the highest frequency of use; see below) is included in this index.[83] A special evaluation of adolescent consumption behavior and the use of addiction prevention services in Lower Saxony can be found in Rehbein and Oschwald (2020), using data from the Lower Saxony Survey.

Figure 18 shows the various ages of first use, provided that the respondents have ever used the drug in question. This means that persons who potentially consume the respective drug at a later point in time than at the survey date are not included in the first use statistic. As before, among the various alcoholic beverages, beer is consumed earliest with an average age of 13.30 years, while liquor is consumed latest with an average age of 13.99 years. Cigarettes are smoked for the first time at an average age of 13.63 years, while drugs for intoxication are taken for the first time at 13.89 years. On average, illicit drugs are used for the first time after the age of 14.

[82] The exact description in the questionnaire was "tried drugs to get intoxicated, sedated, or hyped up."

[83] Thus, if an adolescent drank beer for the first time at the age of twelve, and liquor for the first time at the age of 14, the answer about beer consumption determines the value of the age of first consumption.

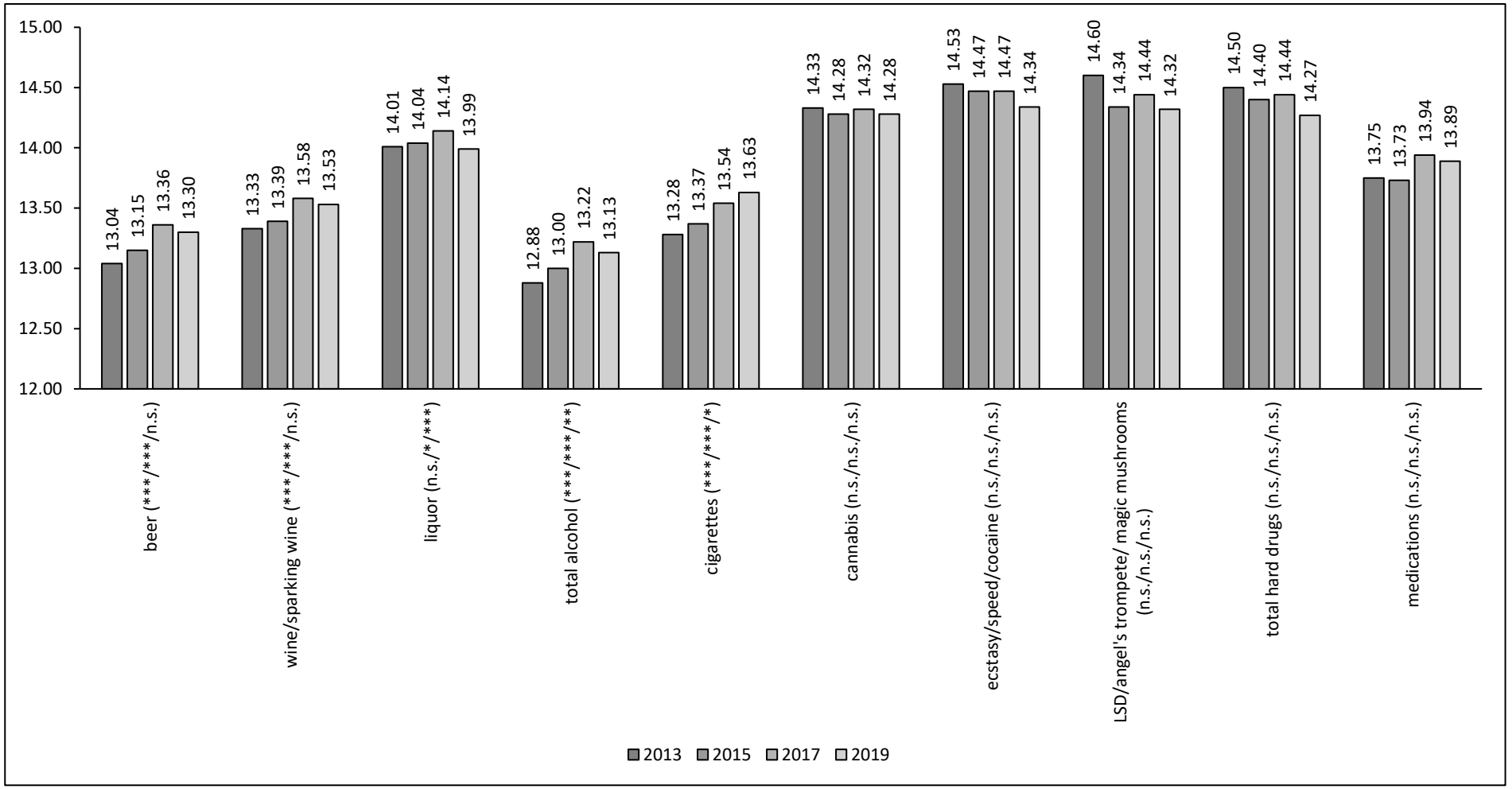

Figure 18. Age of first use of different drugs compared over time (means; weighted data; left comparison: 2013/2019; middle 2015/2019; right comparison: 2017/2019 significant at *$p < .05$, **$p < .01$, ***$p < .001$ with n.s. = non-significant difference).

Comparing the overall age of first use of alcohol, the age of first use decreased slightly from 13.22 to 13.13 compared to the previous survey in 2017 (t(16 427) = 3.38, p = .001, d = -0.05) (see Figure 18). However, it still tends to be higher than in 2013[84] and 2015.[85] While in 2013, the overall age of first use of alcoholic beverages was 12.88 years, in 2019 it increased to 13.13 years.[86] For cigarette use, there has been a significant increase in the age of first use compared to all survey years: for example, adolescents smoked for the first time in 2013 at 13.28 years, while in 2019 at 13.63 years. For all illicit drugs and medications for intoxication, no significant changes were found in the comparison over the years.[87]

The frequency with which the various substances were consumed in the last twelve months for the year 2019 is shown in Table 35. A comparison of the various alcoholic beverages shows that beer and wine/ sparkling wine were consumed significantly more frequently than liquor. The overall index of alcoholic beverages contains the highest frequency of consumption for the various alcoholic beverages. This shows that 46.9 % of the adolescents drank alcohol one to twelve times in the last twelve months, while 19.2 % did it several times a month, 12.8 % once or several times a week and 0.6 % daily. Problematic alcohol use (at least once a week) was recorded for 13.4 % of nine graders. Cigarettes were consumed significantly less often than alcohol. The daily consumption, which corresponds to 5.6 % of the adolescents, can be categorized as problematic. For cannabis, it can be stated that 10.3 % of the students have used it one to twelve times in the last twelve months, while 1.9 % have smoked it several times a month, 2.1 % once or several times a week and 0.9 % daily. Cannabis is considered problematic when used several times a month. Thus, 4.9 % of the adolescents can be categorized as problematic cannabis users.

Table 35. Consumption in the past twelve months 2019 (in %; weighted data).

	1 - 12 times	Several times a month	Once / several times per week	Daily
	(n = 11 766 - 11 941) [a]			
Beer	42.8	16.6	11.6	0.6
Wine/sparkling wine	52.4	9.3	3.5	0.2
Liquor	32.6	13	7.0	0.2
Total alcohol	46.9	19.2	12.8	0.6
Cigarettes	15.1	3.0	3.0	5.6
Cannabis	10.3	1.9	2.1	0.9
Ecstasy/speed/cocaine	2.0	0.3	0.2	0.1
LSD/angel's trumpet/ magic mushrooms	1.1	0.1	0.1	0.1
Total hard drugs	2.3	0.3	0.2	0.2
Medical drugs	4.5	0.6	0.4	0.4

Note. Adolescents who have never used the substances are not shown in the Table, that is why the corresponding values do not add up to 100 %.
[a] Sample size varies due to missing values.

[84] t(16 193) = -8.59, p < .001, d = 0.13

[85] t(18 260) = -4.58, p < .001, d = 0.07

[86] The age of first consumption in 2013 and 2017 for alcoholic beverages differ from Bergmann et al. (2019), as the consumption of alcopops was no longer assessed in 2019, as these are hardly known by adolescents anymore. This alcoholic beverage is therefore no longer included in the calculation of the age of first consumption.

[87] t(6 476) = -8.12, p < .001, d = 0.20

In contrast, hard drugs were used much less frequently. In a comparison of drugs, amphetamines (ecstasy/speed) and cocaine are used slightly more frequently than psychedelic drugs (LSD/angel trumpet/magic mushrooms). Overall, 2.3 % of adolescents have already used hard drugs one to twelve times, while 0.3 % use them several times a month, 0.2 % once or several times a week and 0.2 % daily. Even one-time use of these drugs during adolescence is considered problematic. Thus, 3.0 % of the adolescents show a problematic use. In the case of drugs, 5.9 % of adolescents have already used them at least once for intoxication (= problematic use).

Trends in the frequency of use of the various substances is shown in Table 36. The frequency of problematic consumption, which is presented in the following, is of particular interest when considering the development of the trend. Over the years, problematic alcohol consumption has tended to increase slightly.[88] For example, in 2019, 13.4 % of adolescents consumed alcohol to a problematic degree, compared to 9.9 % in 2017 (2015: 8.7 %; 2013: 11.4 %)[89]. Problematic use of cigarettes has been constant since 2017 but tends to decrease compared to 2013 and 2015.[90] Compared to 2013[91], 2015[92] and 2017[93], the proportion of problematic cannabis users has slightly but significantly increased.

Problematic use of hard drugs was at the same level in 2019 as in 2017, but there is a small and significant increase compared to 2013 and 2015.[94] In the case of medication use, there is also a continuous small significant increase comparing 2019 to previous years: In the 2013, 2.3 % of the adolescents reported using medications for intoxication at least once in the past twelve months. For 2019, 5.9 % reported the same, in 2015 2.6 % and in 2017 3.9 %.[95]

According to the results, alcohol consumption is the most frequent form of substance use in adolescence. Binge drinking can be regarded as a particularly problematic form of this consumption. Binge drinking is understood as a form of consumption in which several alcoholic beverages are consumed in quick succession within a defined period. In Germany, binge drinking has been defined as the consumption of at least five glasses of alcohol at one drinking occasion (Bundeszentrale für gesundheitliche Aufklärung, 2020). This consumption pattern was recorded in the Lower Saxony Survey not in relation to the last twelve months, but in relation to the last 30 days. Compared to previous surveys, the proportion of adolescents practicing binge drinking is marginally and significantly lower (26.2 %) compared to 2017 (28.7 %) and 2013 (31.5 %). Compared to 2015 (27.1 %), the 12-month prevalence does not significantly differ.

[88] 2017/2019: $\chi^2(1) = 57.64$, $p < .001$, $\varphi = 0.05$; 2015/2019: $\chi^2(1) = 124.21$, $p < .001$, $\varphi = 0.08$; 2013/2019: $\chi^2(1) = 19.64$, $p < .001$, $\varphi = 0.03$

[89] The numbers for problematic consumption reported in text and table partly differ in the range of decimal places due to different rounding.

[90] 2017/2019: $\chi^2(1) = 59.61$, $p < .001$, $\varphi = -0.05$; 2015/2019: $\chi^2(1) = 55.52$, $p < .001$, $\varphi = -0.05$

[91] $\chi^2(1) = 29.17$, $p < .001$, $\varphi = 0.04$

[92] $\chi^2(1) = 7.57$, $p = .006$, $\varphi = 0.02$

[93] $\chi^2(1) = 7.60$, $p = .006$, $\varphi = 0.02$

[94] 2013/2019: $\chi^2(1) = 17.24$, $p < .001$, $\varphi = 0.03$; 2015/2019: $\chi^2(1) = 23.57$, $p < .001$, $\varphi = 0.03$

[95] 2013/2019: $\chi^2(1) = 163.2$, $p < .001$, $\varphi = 0.09$; 2015/2019: $\chi^2(1) = 140.53$, $p < .001$, $\varphi = 0.08$; 2017/2019: $\chi^2(1) = 41.03$, $p < .001$, $\varphi = 0.05$

Table 36. Consumption in the past twelve months over time (in %; weighted data) [a].

2013: *n* = 9 195 – 9 309 2015: *n* = 10 158 – 10 348 2017: *n* = 8 320 – 8 414 2019: *n* = 11 767 – 11 940		**1 - 12 times**	**Several times a month**	**Once / several times per week**	**Daily**
Beer	2013***	46.8	15.7	10.2	0.3
	2015***	49.0	13.1	7.5	0.2
	2017***	45.5	13.6	8.7	0.3
	2019	42.8	16.6	11.6	0.6
Wine/sparkling wine	2013***	57	6.7	2.3	0.1
	2015***	55.6	5.7	1.6	0.1
	2017***	52.7	6.9	1.9	0.0
	2019	52.4	9.3	3.5	0.2
Liquor	2013***	30.9	8.1	4.6	0.2
	2015***	30.3	7.6	3.3	0.1
	2017***	29.5	8.9	4.4	0.1
	2019	32.6	13.0	7.0	0.2
Total alcohol	2013***	53.5	17.3	11	0.4
	2015***	56.9	14.7	8.4	0.2
	2017***	52.0	15.7	9.5	0.4
	2019	46.9	19.2	12.8	0.6
Cigarettes	2013***	14.9	3.7	4.4	8.2
	2015***	14.8	3.1	3.3	8.1
	2017	13.2	2.6	2.9	6.1
	2019	15.1	3.0	3.0	5.6
Cannabis	2013***	8.7	1.6	1.4	0.4
	2015**	9.1	1.7	1.6	0.8
	2017**	8.8	1.7	1.8	0.6
	2019	10.3	1.9	2.1	0.9
Ecstasy/speed/cocaine	2013***	1.4	0.2	0.1	0.1
	2015***	1.3	0.2	0.2	0.1
	2017	1.6	0.3	0.3	0.0
	2019	2.0	0.3	0.2	0.1
LSD/angel's trumpet/ magic mushrooms	2013*	0.8	0.1	0.1	0.1
	2015**	0.8	0.1	0.1	0
	2017	1.0	0.2	0.1	0
	2019	1.1	0.1	0.1	0.1
Total hard drugs	2013***	1.6	0.2	0.2	0.1
	2015***	1.5	0.2	0.2	0.1
	2017	1.9	0.4	0.3	0.0
	2019	2.3	0.3	0.2	0.2
Medications	2013***	1.7	0.2	0.2	0.2
	2015***	1.9	0.3	0.3	0.1
	2017***	3.0	0.4	0.3	0.1
	2019	4.5	0.6	0.4	0.4

Note. gray background: problematic consumption

Bold: variables included in analyses below: Problematic use between 2019 with corresponding year significant at *p < .05, **p < .01, ***p < .001 with n.s. = non-significant difference.

[a] Adolescents who have never consumes the substance are not shown in the table, that is why the corresponding values do not add up to 100 %.

Table 37 shows the evolution of the proportions of students who practiced these problematic alcohol consumption patterns for different respondent groups. For 2019, problematic alcohol consumption (consumed alcohol at least weekly) is substantially lower among girls than among boys ($\chi^2(1) = 178.01$, $p < .001$, $\varphi = -0.12$). The consumption rates also differ significantly in terms of school types[96] and the number of inhabitants.[97] There is a tendency for higher school types and more urban areas to consume alcohol at a problematic level less frequently than medium and lower school types and more rural areas. Compared to 2017, there are significant increases in problematic alcohol use for all subgroups except for respondents in lower school types.

A significant but small gender effect is found for binge drinking in the past 30 days ($\chi^2(1) = 18.23$, $p < .001$, $\varphi = -0.04$). Boys tend to practice binge drinking slightly more often than girls. In addition, higher and intermediate school types are slightly more likely to practice binge drinking than lower school types ($\chi^2(2) = 7.92$, $p = .019$, $V = 0.03$). Furthermore, a significant effect of the urban-rural division can be observed: with increasing number of inhabitants, lower prevalence can be found ($\chi^2(4) = 194.37$, $p < .001$, $V = 0.13$). In general, the significant differences for all subgroups, except for respondents from higher school types and adolescents from small and big cities and metropolitan areas, indicate significantly lower prevalence in 2019 compared to 2017.

Table 37. Problematic drinking by respondent group over time (%; weighted data).

		Alcohol consumption: min. once a week				**Intoxicated drinking: min. once in last 30 days**			
		2013	**2015**	**2017**	**2019**	**2013**	**2015**	**2017**	**2019**
		(*n* = 9 289 – 9 309)	(*n* = 10 329 – 10 347)	(*n* = 8 399 – 8 415)	(*n* = 11 773 – 11 882)	(*n* = 9 068 – 9 089)	(*n* = 9 751 – 9 767)	(*n* = 8 172 – 8 187)	(*n* = 11 611 – 11 716)
Gender	Male	16.1	**12.3**	**13.9**	17.5	**34.6**	28.0	**30.2**	27.9
	Female	**6.5*****	**5.1*****	**6.1*****	9.1***	**28.4*****	**26.3**	**27.4****	24.4***
School type	Lower	12.9	11.6	12.4	14.3	**32.8**	**30.8**	**27.9**	21.3
	Intermediate	13.1	**9.7**	**11.7**	14.3	**34.8**	**29.7**	**30.8**	26.6
	Higher	**8.0*****	**6.2*****	**6.3*****	11.7***	25.9***	**22.0*****	25.5***	26.1*
City/Country	Rural	**12.1**	**10.4**	**12.5**	16.2	**36.1**	32.3	**36.0**	32.4
	Small-town	**11.8**	**9.4**	**11.1**	15.7	**33.8**	29.6	31.2	29.5
	Urban	10.7	**7.6**	**9.3**	12.5	**29.4**	24.2	**27.4**	24.0
	Big city	10.5	**6.4**	**6.7**	8.8	**26.8**	20.8	19.6	19.2
	Metropolitan	10.7	7.5***	**5.5*****	8.6***	**23.8*****	**21.7*****	18.5***	16.2***

Note. Bold: Difference of respective year to 2019 significant at $p < .05$.
Group differences at each measurement time point (gender, school type, origin) significant at *$p < .05$, **$p < .01$, ***$p < .001$, underlined: strength of association between subgroups at $\varphi/V \geq 0.1$*).*

Regarding daily cigarette consumption, girls[98] tend to smoke slightly less often than boys. In addition, adolescents in higher school types smoke significantly less often on a daily basis than students in lower and intermediate school types ($\chi^2(2) = 324.5$, $p < .001$, $V = 0.17$; see Table 38). Thus, about every fifth adolescent at lower school types (18.2 %) consumes cigarettes daily, while among students from higher

[96] $\chi^2(2) = 16.76$, $p < .001$, $V = 0.04$
[97] $\chi^2(4) = 91.10$, $p < .001$, $V = 0.09$
[98] $\chi^2(1) = 8.63$, $p = .003$, $\varphi = -0.03$

school types only 1.6 % consume cigarettes daily (intermediate school type: 6.9 %). In addition, cigarette use differs slightly but significantly by urban-rural classification ($\chi^2(4) = 13.27$, $p = .010$, $V = 0.03$). Compared to 2017, there are significant differences only for respondents of higher school types and girls. In the trend, girls again smoke slightly less, while adolescents of higher school types smoke slightly more. Compared to 2013 and 2015, smoking tends to become less popular for all subgroups.

Girls[99] and respondents from higher school types[100] use cannabis slightly less often than boys and students from medium and lower school types. An increase in problematic cannabis use since 2017 can be observed for female adolescents and respondents from higher school types and urban areas.

Table 38. Problematic substance use over time by respondent group (%; weighted data).

		Cigarette consumption: daily				**Cannabis use: at least several times per month**			
		2013	**2015**	**2017**	**2019**	**2013**	**2015**	**2017**	**2019**
		(*n* = 9 245 – 9 265)	(*n* = 10 271 – 10 289)	(*n* = 8 361 – 8 377)	(*n* = 11 744 – 11 850)	(n = 9 238 – 9 257)	(*n* = 10 270 – 10 287)	(*n* = 8 342 – 8 356)	(*n* = 11 770 – 11 876)
Gender	Male	**8.9**	**8.2**	6.1	6.2	**4.5**	5.4	5.2	5.9
	Female	**7.5***	**7.9**	**6.0**	4.9**	**2.2*****	**2.8*****	**3*****	3.8***
School type	Lower	20.9	**22.7**	19.5	18.2	**6.1**	9.5	7.2	9.3
	Intermediate	**9.8**	**9.8**	7.8	6.9	**3.9**	**4.6**	5.0	5.9
	Higher	1.9***	1.8***	**0.8*****	1.6***	**1.7*****	2.0***	**1.8*****	2.6***
City/Country	Rural	**8.4**	**8.1**	6.6	6.3	**3.0**	**3.6**	**3.5**	4.7
	Small-town	**7.5**	**7.3**	6.7	5.8	**2.8**	**3.2**	4.2	4.4
	Urban	**7.9**	**8.3**	5.3	5.5	**3.6**	3.8	**3.7**	4.8
	Big city	**11.2**	**9.2**	6.3	5.1	**3.7**	5.9	5.5	5.8
	Metropolitan	**6.8****	**7.0**	5.1	3.6*	4.8*	5.7***	4.5*	5.4

Note. Bold: Difference of respective year to 2019 significant at $p < .05$.
Group differences at each measurement time point (gender, school type, origin) significant at *$p < .05$, **$p < .01$, ***$p < .001$, underlined: strength of association between subgroups statistically significant ($\varphi/V \geq 0.1$).

To obtain further information about adolescents' alcohol consumption, the *Alcohol Use Disorder Identification Test* (AUDIT; Babor et al., 2001), consisting of ten questions, was used. This test was developed by WHO in a multinational project to identify risky alcohol use and covers a wide range of alcohol-associated problems. The use of the AUDIT is also supported by the fact that it can be used to survey a younger population (Knight et al., 2003; Rumpf et al., 2013). Table 39 lists the various questions and the scoring.

[99] $\chi^2(1) = 27.08$, $p < .001$, $\varphi = -0.05$
[100] $\chi^2(2) = 88.31$, $p < .001$, $V = 0.09$

Table 39. Alcohol Use Disorder Identification Test (AUDIT), all 2019 respondents (%; weighted data).

	Never	**Monthly or less**	**2-4 times a month**	**2-3 times a week**	**4 or more times a week**
	(0)	(1)	(2)	(3)	(4)
How often have you had a drink containing alcohol in the past 12 months? (*n* = 11 740)	24.0	32.1	33.2	8.4	2.3
	1-2	**3-4**	**5-6**	**7-9**	**10 or more**
	(0)	(1)	(2)	(3)	(4)
If you had alcoholic beverages in the last 12 months, how much did you usually drink in a day? (*n* = 8 356)	49.1	20.7	13.1	7.8	9.3
	Never	**Less often than 1 time per month**	**1 time a month**	**1 time per week**	**Daily or almost daily**
	(0)	(1)	(2)	(3)	(4)
How many times have you had 6 or more glasses of alcohol on one occasion? (*n* = 8 746)	45.4	25.4	19.6	8.9	0.6
How often have you found that you were not able to stop drinking once you had started? (*n* = 8 730)	85.9	7.9	4.2	1.4	0.5
How often during the last year have you failed to do what was normally expected of you because of drinking? (*n* = 8 719)	79.4	13.5	5.3	1.5	0.3
How many times have you needed a first drink in the morning to get yourself going after a heavy drinking session? (*n* = 8 710)	93.7	3.6	1.6	0.8	0.3
How often have you had a feeling of gilt, or remorse after drinking? (*n* = 8 711)	83.3	11.3	3.7	1.2	0.5
How often during the last year have you been unable to remember what happened the night before because of your drinking? (*n* = 8 699)	72.7	17.9	6.7	1.6	1.1

	No	**Yes, but not in the last twelve months**	**Yes, in the last twelve months**
	(0)	(2)	(4)
Have you or someone else been injured because of your drinking? (*n* = 8 723)	86.7	3.7	9.6
Has a relative, friend, doctor or other health care worker been concerned about your drinking or suggested a cut down? (*n* = 8 709)	92.5	1.7	5.7
Risky alcohol consumption (*n* = 11 741)	**29.1**		

The scores given for the individual questions are added together to a total score. Originally, the limit recommended for determining problematic consumption was eight points. However, this value can vary depending on the age population and country. For German adolescents, a cut-off value of six or seven points is recommended (Rumpf et al., 2013), which is why this study also speaks of risky alcohol consumption from a value of six.

According to this categorization, 29.1 % of adolescents consume alcohol to a risky degree. Boys do this with 31.1 % slightly more often than girls with 26.9 %[101]. At lower (32.0 %) and intermediate (30.4 %) school, this occurs slightly more often than at higher school types (26.5 %).[102] Furthermore, a substantial effect is found for urban/rural differences ($\chi^2(4) = 161.85$, $p < .001$, $V = 0.12$). Risky alcohol consumption decreases with increasing number of inhabitants (rural: 34.1 %; small town: 33.0 %; urban: 27.8 %; big city: 21.6 %; metropolitan: 19.4 %).

Summary

There is a rising trend over the years for a higher age of first-time alcohol consumption. Although this has been falling slightly again since 2017, the difference compared with 2017 is marginal. Over the years, cigarettes are consumed at an older age by adolescents. The age of first use of illicit drugs has remained constant over time.

Alcohol continues to be the most prevalent substance used among adolescents: At least once a week, 13.4 % of adolescents drink, while 26.2 % of students have engaged in binge drinking in the past 30 days. There are slight tendencies towards an increase in alcohol consumption, although the specific form of binge drinking tends to decrease. Alcohol consumption is still more widespread among boys than among girls. In addition, problematic drinking tends to be more prevalent in more rural areas than in urban areas. According to the *Alcohol Use Disorder Identification Test,* 29.1 % of adolescents have a risky alcohol consumption, which decreases with increasing population and is more prevalent among boys and lower school type students than among girls and medium and higher school type students.

Cigarettes were smoked daily by 5.6 % of adolescents in 2019, with a decreasing trend among Lower Saxony's students. Adolescents from higher school types are less likely to be daily smokers than adolescents from lower school types. In addition, the use of cannabis and hard drugs as well as medical drugs for intoxication tends to increase slightly; about every 20th student uses cannabis several times per month in 2019.

4.2 Weapon Carrying

The carrying of weapons defined in terms of the German Gun Law as well as equivalent objects (e.g. blank guns, irritant and signal weapons), gas sprayers, slash and strike weapons as well as weapon-like objects such as butcher knives, kitchen knives or pocket knives, pepper sprays and laser pointers are generally prohibited within the school or on the school grounds in Lower Saxony (weapons decree: "Prohibition of bringing weapons, ammunition and comparable objects as well as chemicals into schools", 06.08.2014). The ban also applies to adult students who are in possession of a permit to carry

[101] $\chi^2(1) = 24.96$, $p < .001$, $\varphi = -0.05$

[102] $\chi^2(2) = 22.27$, $p < .001$, $V = 0.04$

weapons (weapons license and small arms license) or are allowed to acquire weapons without a permit.

Since 2013, students have been asked the following questions on this topic at the respective interview times: "How often do you carry the following items with you when you a) go to school and b) go outside in your free time?" These questions could be answered on a five-point response scale ("1 - never" to "5 - always"). Until 2017, a total of four weapons or means of defense: "knife," "brass knuckles," "baton," and "tear gas or pepper spray" were asked. For 2019, the categories "airsoft weapon," "mechanical weapon (slingshot)," "gas pistol" and "real firearm" were added. As at the last measurement points, a "total weapon" meta-index is reported. This takes into account the highest frequency mentioned with regard to the categories "knife", "brass knuckles" and "baton". For example, a respondent who always carries a knife but never a pair of brass knuckles or a baton is assigned the answer "always" in this index. To ensure comparability with the previous measurement points, the categories "airsoft weapon," "mechanical weapon (slingshot)," "gas pistol," and "real firearm" are not included in this index variable. For ease of presentation, the "rarely" and "sometimes" responses are combined into the "rarely" category in the following Tables, while the "frequently" and "always" responses are combined into the "frequently" category. The category "total" results from a dichotomization of the answer categories ("0 - never", "1 - rarely to always"). In the following tables and figures, this categorization is used to statistically test for any differences between the survey years or between different subgroups.

The results presented in Table 40 do not indicate any statistically significant change in weapon carrying in the social space of schools when comparing the survey data of 2017 (7.8 %) and 2019 (7.5 %). Accordingly, in 2019, nearly 8 % of students continue to carry a potential assault weapon at least occasionally. In contrast, for the category tear gas/pepper spray, a trend significant decrease from 3.4 % to now 2.1 % can be found ($\chi^2(1) = 31.12$, $p < .001$, $\varphi = -0.04$). The determined prevalence rate for the observation year 2019 (2.1 %) is thereby only marginally higher than the corresponding prevalence rates for the observation years 2015 (1.8 %, $\chi^2(1) = 3.50$, $p = .061$, $\varphi = 0.01$) and 2013 (1.7 %, $\chi^2(1) = 5.05$, $p = .025$, $\varphi = 0.02$).

Table 40. Weapon carrying in the social space of school compared over time (%; weighted data).

2013: *n* = 9 370 – 9 408 2015: *n* = 10 373 – 10 404 2017: *n* = 8 414 – 8 459 2019: *n* = 12 258 – 12 289		**Rare**	**Frequent**	**Total**	**φ (Total)**
Knife	2013	3.4	1.7	5.1	0.04***
	2015	3.8	1.8	5.6	0.03***
	2017	5.0	2.4	7.3	0.00
	2019	5.1	2.1	7.1	
Brass Knuckles	2013	1.0	0.8	1.8	-0.02*
	2015	0.7	0.4	1.2	0.01
	2017	0.9	0.5	1.4	0.00
	2019	0.8	0.5	1.3	
Baton	2013	0.5	0.5	1.0	0.00
	2015	0.5	0.3	0.8	0.01
	2017	0.6	0.4	1.0	0.00
	2019	0.5	0.5	1.0	
Weapon total (Knife, brass knuckles, baton)	**2013**	**3.6**	**2.1**	**5.7**	**0.04*** **
	2015	**3.9**	**2.0**	**5.9**	**0.03*** **
	2017	**5.2**	**2.6**	**7.8**	**-0.01**
	2019	**5.3**	**2.2**	**7.5**	
Tear gas, pepper spray	2013	0.9	0.8	1.7	0.02*
	2015	0.9	0.8	1.8	0.01
	2017	2.1	1.3	3.4	-0.04***
	2019	1.3	0.8	2.1	
Airsoft gun	2019	0.6	0.4	0.9	-
Mechanical weapon (slingshot)	2019	0.5	0.4	0.8	-
Gas gun	2019	0.2	0.4	0.6	-
Real firearm	2019	0.3	0.5	0.8	-

Note. Significant at *$p < .05$, **$p < .01$, ***$p < .001$.

For leisure time (see Table 41), a tendentious but statistically significant decrease can be stated for the weapon categories knife ($\chi^2(1) = 7.18$, $p = .007$, $\varphi = -0.02$) and brass knuckles ($\chi^2(1) = 10.42$, $p = .001$, $\varphi = -0.02$) as well as for the meta-index "weapon total" ($\chi^2(1) = 8.24$, $p = .004$, $\varphi = - 0.02$). Thereby, the calculated prevalence rates of the index "weapon total" for the observation year 2019 (20.1 %) remain at a high level and exceed the data of the survey years 2015 (18.7 %, $\chi^2(1) = 6.95$, $p = .008$, $\varphi = 0.02$) and 2013 (18.1 %, $\chi^2(1) = 14.11$, $p < .001$, $\varphi = 0.03$). Accordingly, in 2019, nearly one in five students (20.1 %) carries a potential assault weapon at least occasionally during their free time. For the category tear gas/pepper spray, however, there is a decrease from 10.4 % in 2017 to 6.6 % in 2019 ($\chi^2(1) = 97.80$, $p < .001$, $\varphi = -0.07$).

Table 41. Weapon carrying during leisure time compared over time (%; weighted data).

2013: *n* = 9 204 - 9270 2015: *n* = 10 128 – 10 214 2017: *n* = 8 055 – 8 149 2019: *n* = 12 064 – 12 102		**Rare**	**Frequent**	**Total**	**φ (Total)**
Knife	2013	11.8	5.0	16.8	0.03***
	2015	12.6	5.3	17.9	0.02**
	2017	13.9	6.9	20.8	-0.02**
	2019	13.7	5.6	19.3	
Brass Knuckles	2013	2.8	1.3	4.2	-0.03***
	2015	1.9	1.1	3.0	0.00
	2017	2.3	1.4	3.7	-0.02**
	2019	1.9	1.0	2.9	
Baton	2013	2.0	1.0	3.1	-0.02***
	2015	1.5	0.9	2.4	0.00
	2017	1.6	1.0	2.6	-0.01
	2019	1.6	0.7	2.3	
Weapon total (Knife, brass knuckles, baton)	**2013**	**12.4**	**5.6**	**18.1**	**0.03*** **
	2015	**12.9**	**5.8**	**18.7**	**0.02****
	2017	**14.2**	**7.5**	**21.8**	**-0.02****
	2019	**14.2**	**5.9**	**20.1**	
Tear gas, pepper spray	2013	4.2	1.8	5.9	0.01
	2015	3.9	2.0	5.9	0.01*
	2017	7.1	3.3	10.4	-0.07***
	2019	4.7	1.9	6.6	
Airsoft gun	2019	3.6	0.7	4.3	-
Mechanical weapon (slingshot)	2019	1.3	0.5	1.8	-
Gas gun	2019	0.7	0.5	1.2	-
Real firearm	2019	1.1	0.7	1.8	-

Note. Significant at *$p < .05$, **$p < .01$, ***$p < .001$.

Figure 19 shows the development of weapon carrying separately for different respondent groups. For this illustration, the meta-index "Weapon total" was dichotomized ("0 - never", "1 - "rarely to always"). On the one hand, male adolescents continue to carry weapons significantly more often than female adolescents at school ($\chi^2(1) = 242.66$, *p < .001,* $\varphi = -0.14$) as well as during leisure time ($\chi^2(1) = 899.68$, $p < .001$, $\varphi = -0.27$). On the other hand, it can be noted that the decreasing trend between the 2017 and 2019 survey years is predominantly due to male adolescents (school: decrease from 13.3 % in 2017 to 11.0 % in 2019[103]; leisure: decrease from 34.5 % in 2017 to now 30.7 % in 2019[104]), while the comparable rates for girls over the 2017 and 2019 survey years decrease only slightly in recreation (decrease from 9.8 % in 2017 to 8.8 % in 2019[105]) and even increase slightly, but statistically significant, for the environment school (increase from 2.7 % in 2017 to 3.6 % in 2019[106]).

[103] $\chi^2(1) = 12.74$, $p < .001$, $\varphi = -0.04$

[104] $\chi^2(1) = 15.37$, $p < .001$, $\varphi = -0.04$

[105] $\chi^2(1) = 2.99$, $p = .084$, $\varphi = -0.02$

[106] $\chi^2(1) = 7.30$, $p = .007$, $\varphi = 0.03$

Regarding the analyzed school types, there is a tendency for the prevalence rates to decrease for the intermediate school type (9.0 % in 2017 to 7.8 % in 2019[107]). But, for the lower and higher school type, a small increase in rates can be observed, which, however, can only be evaluated as statistically significant for the higher school type (5.2 % in 2017 to 6.4 % in 2019[108]). Looking at the leisure behavior of adolescents, a non-significant decrease in prevalence rates can be observed for students at the lower school types (28.9 % in 2017 to 24.3 % in 2019) and a significant decrease for the intermediate school types (24.5 % in 2017 to 20.8 % in 2019[109]), while a slight increase can be observed for students at the higher school types (16.1 % in 2017 to 18.3 % in 2019[110]).

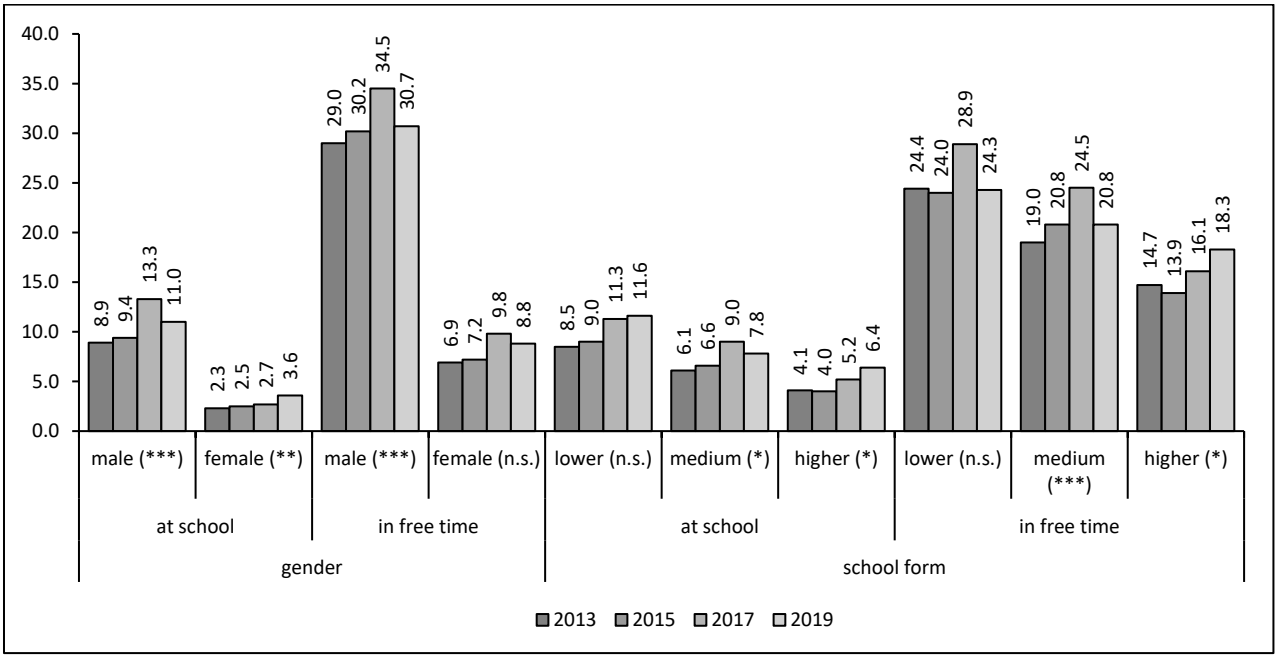

Figure 19. Carrying weapons ("total weapon") compared over time by respondent group (%; weighted data; comparison 2017 vs. 2019 significant at *$p < .05$, **$p < .01$, ***$p < .001$ with n.s. = non-significant difference).

Regarding the carrying of pepper spray/tear gas, a decrease can be seen across school types and genders both in the context of leisure time and within the school environment (see Figure 20). In terms of gender, the decrease (15.4 % in 2017 to 10.1 % in 2019[111]) for female respondents in recreation appears particularly notable. Despite this decrease, however, the prevalence rate found for 2019 (10.1 %) is still slightly higher than those found at the 2013 (7.9 %; $\chi^2(1) = 15.05$, $p < .001$, $\varphi = 0.04$) and 2015 (8.0 %; $\chi^2(1) = 14.03$, $p < .001$, $\varphi = 0.04$).

[107] $\chi^2(1) = 6.18$, $p = .013$, $\varphi = -0.02$
[108] $\chi^2(1) = 5.25$, $p = .022$, $\varphi = 0.03$
[109] $\chi^2(1) = 223.02$, $p < .001$, $\varphi = -0.04$
[110] $\chi^2(1) = 6.29$, $p < .012$, $\varphi = 0.03$
[111] $\chi^2(1) = 63.47$, $p < .001$, $\phi = -0.08$

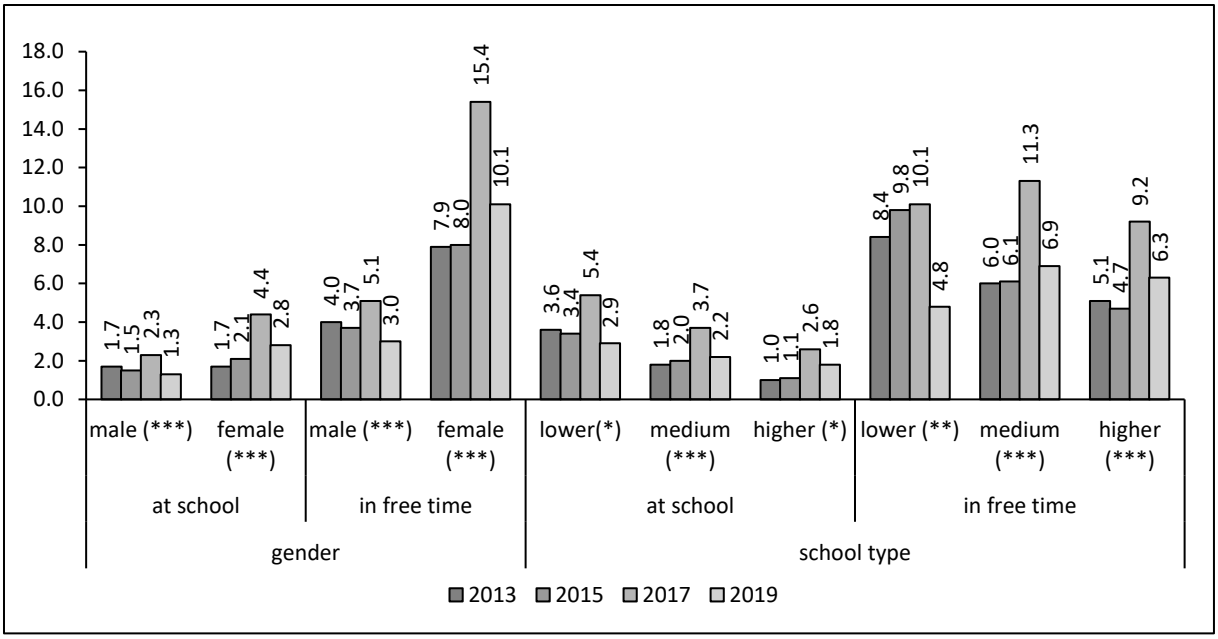

Figure 20. Carrying pepper spray/tear gas compared over time by respondent group (%; weighted data; comparison 2017 vs. 2019 significant at *$p < .05$, **$p < .01$, ***$p < .001$ with n.s. = non-significant difference).

Figure 21 shows prevalence rates for the weapon categories recorded only in 2019, separated by gender and school type (dichotomized: "0 - never", 1 - "rarely to always"). Across categories, this results in significantly lower rates for female respondents (leisure: φ = -0.09 [gas gun/firearm] to φ = 0.18 [airsoft]; school: φ = -0.05 [gas gun/firearm] to φ = -0.08 [airsoft]). In particular, the data on the "real firearms" category for the school environment (2.1 % lower school type, 0.9 % intermediate school type, and 0.4 % higher school type) appear worrying. These new categories should therefore be kept in focus in future surveys.

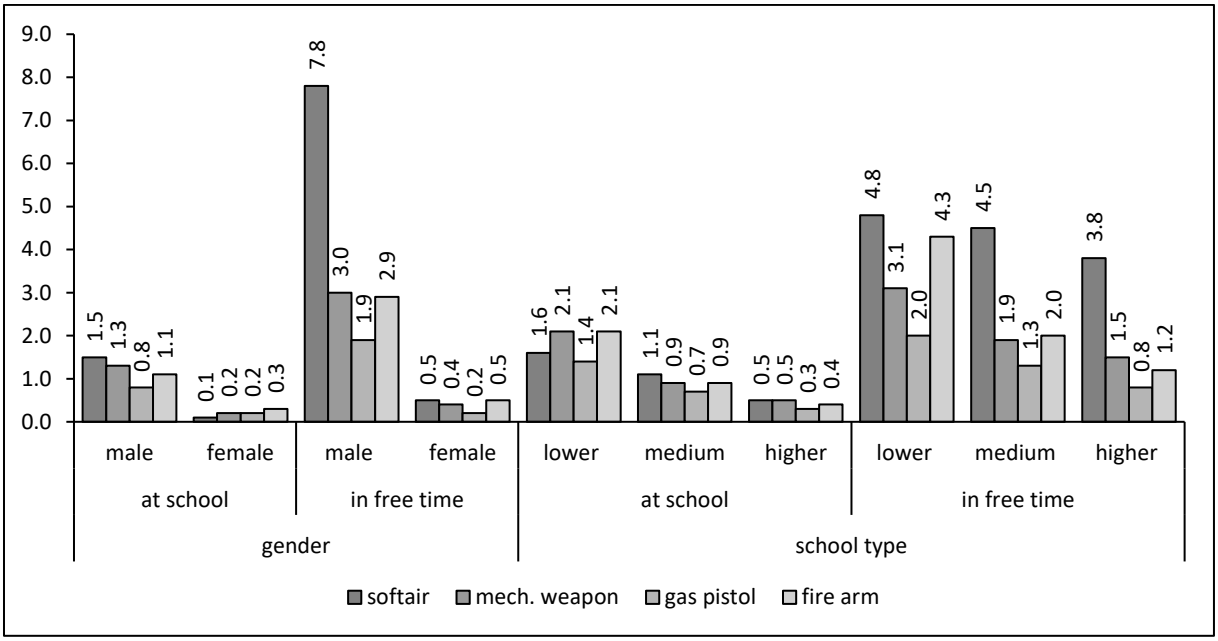

Figure 21. Carrying airsoft weapon, mechanical weapon (slingshot), gas pistol, and real firearm by respondent group (%; weighted data).

Summary

Regarding the weapon carrying in the comparison of the survey years 2017 and 2019, overall stable prevalence rates can be reported for the school environment and a tendency of decreasing prevalence rates for leisure time. The carrying of tear gas or pepper spray has been declining since 2017.

About one in three male adolescents still carries a potential assault weapon from time to time in his free time; at school, this applies to about one in ten. Based on the introduction of new weapon categories, an assessment of "real" firearms could be made for the first time this year. According to this, 0.8 % of the students carry these weapons at least occasionally at school; 1.8 % of the respondents carry them in their free time.

4.3 Risk seeking, affinity for violence and norms of masculinity

Increased risk seeking and affinity for violence, as well as a high degree of internalized norms of masculinity legitimizing violence, are further risk factors for the social, emotional, and psychological development of adolescents. The relationship between risk attitudes and delinquent behavior can be explained with the help of Gottfredson and Hirschi's (1990) self-control theory. According to the theory, individuals with low self-control are less likely to assess the consequences of their actions; they are more present-oriented and underestimate the costs that delinquent behavior may entail in the long run, even though it may provide short-term benefits. Individuals with low self-control are therefore more likely to take risks. Across the four survey years, risk seeking as a dimension of low self-control was measured using four items that identify the extent of risk and sensation seeking behavior. The scale used (see Table 42) is a German translation of the self-control scale by Grasmick et al. (1993). The statements could be answered from "1 - not true" to "4 - very true". High scale values represent a high willingness to take risks, i.e., low self-control. Table 42 shows descriptive statistics for the four risk seeking items in 2019. A Cronbach's α-value of 0.84 shows that the risk seeking scale is a reliable scale, just as in the three previous surveys (see Bergmann et al., 2017, p. 110; Bergmann et al., 2019, p. 64). Table 42 shows the mean values of the risk seeking scale on the four-point scale for all respondents. A low mean indicates rather low agreement, while a high mean indicates stronger agreement. On average, the adolescents achieved a value of 2.17 on this scale.

Like a high willingness to take risks, it is also assumed that an affinity for violence increases the willingness to act violently. An affinity for violence was measured by means of four statements (see Table 42), which could be rated from "1 -not true" to "4 – very true". High values represent a high affinity for violence. The scale analysis shows that the four statements also represent a reliable scale in 2019 (Cronbach's $\alpha = 0.73$). On the four-point overall scale, the adolescents show an average value of 1.70.

In addition, the so-called violence-legitimizing norms of masculinity (VLNM) were surveyed, which, according to criminological research literature on the importance of violent norms for one's own violent behavior, showed that a strong internalization of these norms is related to one's own violent behavior (Enzmann & Wetzels, 2003). To test this relationship in the present study, violence-legitimizing norms of masculinity were recorded by means of four statements (see Table 42), to which could be agreed to on a scale from "1 - not true" to "4 – very true." A Cronbach's $\alpha = 0.75$ indicates a reliable scale. Table 42 shows the mean values for 2019. For the overall scale and three of the four statements, the mean values range from 1.44 to 1.86. However, for the statement "A man should be ready to defend his wife and children by using force," the mean value is slightly higher at 2.64.

Table 42. Scales for risk seeking, violence affinity, and violence legitimizing norms of masculinity by survey year 2017 and 2019 (weighted data).

		2017		2019		Δ Significance
		M	*SD*	*M*	*SD*	
		n = 8 547 – 8 993		*n* = 11 880 – 12 420		
Risk seeking	I like to test myself every now and then by doing something a little risky.	2.20	0.93	1.99	0.93	***
	Sometimes I find it exciting to do things for which I might get into trouble.	2.04	1.00	2.17	0.96	***
	Excitement and adventure are more important to me than safety.	2.29	0.95	2.20	0.86	***
	Sometimes I will take a risk just for the fun of it.	2.43	0.99	2.33	0.94	***
	Scale (Cronbach's α_{2017} = 0.87; α_{2019} = 0.84).	2.24	0.82	2.17	0.76	***
Violence - Affinity	A little bit of violence is just part of having fun.	1.68	0.84	1.66	0.84	n. s.
	If I had to show what I'm made of, I would also use violence.	1.51	0.77	1.62	0.83	***
	The strongest must prevail, otherwise there is no progress.	1.64	0.82	1.94	0.90	***
	Without violence everything would be much more boring.	1.49	0.75	1.57	0.80	***
	Scale (Cronbach's α_{2017} = 0.80; α_{2019} = 0.73).	1.58	0.63	1.70	**0.63**	***
VLNM	A man should be ready to defend his wife and children by using force.	2.69	1.00	2.64	1.04	**
	A man who is not ready to defend himself by force against injuries is a wimp.	1.46	0.76	1.52	0.79	***
	As a father, a man is the head of the family and may assert himself forcibly, if necessary.	1.28	0.64	1.44	0.80	***
	A real man is ready to assert himself forcibly against someone who speaks badly about his family.	1.78	0.95	1.82	0.98	**
	Scale (Cronbach's α_{2017} = 0.69; α_{2019} = 0.75).	1.80	0.62	1.86	**0.69**	***

Note. VLNM = Violence Legitimizing Norms of Masculinity; *M* = mean, *SD* = standard deviation.
Differences 2017 vs. 2019 significant at *p < .05, **p < .01, ***p < ·001 with n.s. = non-significant difference.

The comparison over time of these three scales is also shown in Table 42. With regard to risk seeking, it can be seen that, with one exception, agreement with the individual statements is significantly slightly lower in 2019 than in 2017 (scale: t(17 720) = 6.21, p < .001, d = -0.09). This is most evident for the statement "I like to test myself every now and then by doing something a little risky." The increase in risk seeking, which was found in the previous survey, seems to level off (Bergmann et al., 2019, p. 63).

Regarding affinity for violence, a significant increase can be noted for three of the four statements compared to 2017, continuing the trend toward a more violence-affine youth from the previous survey (Bergmann et al., 2019, p. 63). In 2017, the mean score was 1.58, whereas in 2019 it increased to 1.70 (t(20 932) = -12.99, p < .001, d = 0.19). The increase is especially evident in the statement "The

strongest must prevail or there will be no progress." Compared to 2015 and 2013 (scale mean: 2015: 1.42; 2013: 1.46), the difference for the total scale value is significantly higher than in previous years.[112]

Agreement with these violence-legitimizing norms of masculinity tends to increase significantly for all statements except "A man should be prepared to defend his wife and children by using force." Substantially, the item "As a father, a man is the head of the family and may assert himself forcibly, if necessary" differs between the years 2017 and 2019 (t(20 309) = -15.72; $p < .001$; d = 0.22). Compared to 2015[113] and 2013[114], the mean value of the total scale of 2019 is significant and substantially higher. Thus, the internalization of norms of masculinity legitimizing violence continues to increase.

If we compare the mean values of the risk-seeking scale as a function of gender (see Table 43), we find a statistically significant correlation (t(12 290) = 22.00, $p < .001$, d = 0.39). Thus, boys are significantly more willing to take risks than girls. In addition, adolescents of different school types differ significantly, but only slightly, in their risk taking (2019: F (2, 12 417) = 11.38, $p < .001$, partial Eta² = 0.00). A post-hoc test after Bonferroni correction indicates that the significant differences are evident between all school types except lower and intermediate school types. It also shows that the significant decrease in risk-seeking attitudes can be found in girls and boys and in respondents of medium and higher school types.

Comparing the data on affinity to violence and on norms of masculinity that legitimize violence: boys are perceived as having a significantly higher affinity for violence than girls and more often agree with norms of masculinity that legitimize violence.[115] Furthermore, adolescents from lower school types have a higher affinity to violence than respondents from intermediate school types. The latter, in turn, show a higher degree of violence-affinity attitudes than adolescents from higher school types.[116] The same applies to the violence-legitimizing norms of masculinity.[117] For both constructs, all differences between school types remain significant after Bonferroni correction. The significant increase in violent attitudes is evident for all respondent groups except for students at lower school types. This increase is especially evident for girls and students at higher school types. The violence-legitimizing norms of masculinity increase significantly for girls[118] at intermediate[119] and higher school types.[120]

[112] 2015/2019: t(21 898) = -33.42; $p < .001$; d = 0.46; 2013/2019: t(19 594) = -27.52; $p < .001$; d = 0.39

[113] t(22 025) = -22.67; $p < .001$; d = 0.30

[114] t(21 099) = -17.66; $p < .001$; d = 0.25

[115] Affinity for violence: t(11 583) = 35.74, $p < .001$, d = 0.64; VLNM: t(11 641) = 27.41, $p < .001$, d = 0.49.

[116] F (2, 12 295) = 99.85, $p < .001$, partial Eta² = 0.02.

[117] F(2, 119) = 131.59, $p < .001$, partial Eta² = 0.02

[118] t(10 211) = -6.54; $p < .001$; d = 0.14

[119] t(12 078) = -3.92; $p < .001$; d = 0.07

[120] t(7 003) = -5.58; $p < .001$; d = 0.12

Table 43. Risk seeking, affinity for violence, and violence legitimizing norms of masculinity over time comparison by respondent group (weighted data).

			2017		2019		Δ
			M	*SD*	*M*	*SD*	Significance
Risk Seeking 2017: *n* = 8 684 – 8 702 2019: *n* = 12 298 – 12 420	Gender	male	2.40	0.84	2.31	0.76	***
		female	2.09	0.77	2.02	0.72	***
	School type	lower	2.33	0.86	2.24	0.76	n. s.
		intermediate	2.26	0.84	2.19	0.76	***
		higher	2.21	0.79	2.13	0.74	***
Affinity for violence 2017: *n* = 8 626 – 8 645 2019: *n* = 12 170 – 12 290	Gender	male	1.79	0.69	1.88	0.67	***
		female	1.38	0.48	1.50	0.51	***
	School type	lower	1.89	0.77	1.91	0.70	n. s.
		intermediate	1.64	0.66	1.74	0.64	***
		higher	1.45	0.53	1.60	0.59	***
VLNM 2017: *n* = 8 673 – 8 694 2019: *n* = 11 829 – 11 939	Gender	male	2.00	0.65	2.02	0.72	n. s.
		female	1.61	0.52	1.69	0.62	***
	School type	lower	2.08	0.74	2.13	0.77	n. s.
		intermediate	1.86	0.63	1.91	0.71	***
		higher	1.66	0.54	1.73	0.63	***

Note. VLNM = violence-legitimizing masculinity norms.

Δ Difference 2017 vs. 2019 significant at *p < .05, **p < .01, ***p < .001; n. s. = not significant.

Risk seeking, affinity for violence, and the extent of internalization of violence-legitimizing masculinity norms are not independent. The correlation between risk seeking and having an affinity for violence is r = 0.50 (p < .001), indicating a strong relationship. Risk seeking correlates moderately strongly with violence-legitimating norms of masculinity (r = 0.34, p <. 001). Violence-legitimizing masculinity norms and violence affinity are also strongly correlated, r = 0.51 (p < .001).

For a more visual presentation, respondents were divided into two groups based on the scale means: Adolescents who had lower and medium agreement scores on each scale (mean scores ranging from 1.00 to 2.99) and adolescents who strongly agreed with the statements on average (mean scores ranging from 3.00 to 4.00). To look at the relationship between the three attitudinal constructs and perpetration of violence, the violent perpetration rates between strongly agreeing adolescents and those who do not strongly agree with these attitudes are shown separately by gender for 2019 in Figure 22. Strong risk-seeking attitudes are significantly related to violent offending. Thus, boys who do not strongly agree with the risk-seeking attitudes become violent 8.4 % of the time in the past 12 months, whereas 26.6 % of boys who do strongly agree with these attitudes become violent offenders ($\chi^2(1) = 260.17$, p < .001, φ = 0.21). Girls who do not strongly agree with the risk-seeking attitudes become violent offenders 2.8 % of the time in the past 12 months, whereas girls who do strongly agree with these attitudes become violent 12.1 % of the time ($\chi^2(1) = 107.91$, p < .001, φ = 0.14). Similar correlations can also be identified for violent affinity and violence-legitimizing attitudes with violent perpetration for both boys and girls. Thus, adolescents who strongly agree with violence-affirming and violence-legitimizing masculinity norms are significantly more likely to become violent than adolescents who do not strongly agree with these attitudes.

In addition, Figure 22 shows whether there is a gender difference between the rates of violent offending when the three attitudinal constructs are strongly agreed with. For risk seeking and VLNM,

a substantial, significant gender difference can be confirmed. For example, girls are found to be significantly less likely to engage in violence when they strongly share risk-seeking attitudes, at 12.1 %, than boys, at 26.6 % ($\chi^2(1) = 38.57$, $p < .001$, $\varphi = -0.17$). In addition, girls who strongly agree with violence-legitimizing norms of masculinity are significantly less likely to be perpetrators of violence (9.4 %) than boys who strongly agree with these norms (30.9 %) ($\chi^2(1) = 32.20$, $p < .001$, $\varphi = -0.23$). When girls have a strong affinity for violence, they are less likely to become violent (25.0 %) than boys (35.0 %) who have a strong affinity for violence, but this difference is not statistically significant.

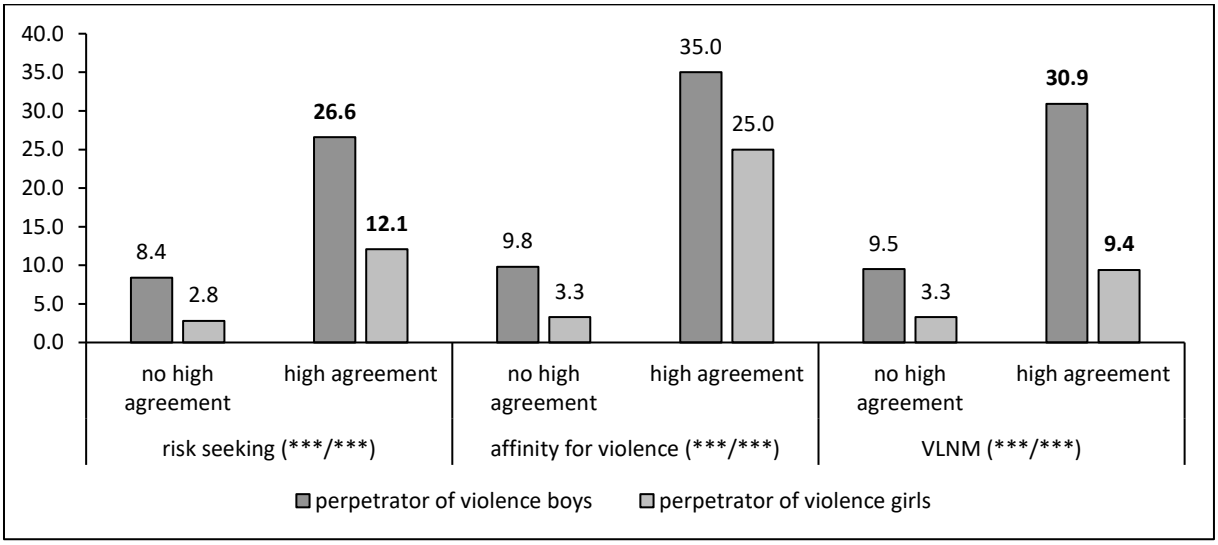

Figure 22. Violent behavior in the past twelve months by agreement with risk seeking, affinity for violence, and violence-legitimating norms of masculinity (VLNM) in 2019 (%; weighted data; bold: gender difference in high agreement significant at $p < .05$; association between agreement and perpetration of violence significant at ***$p < 0.001$).

Figure 23 shows the violent offender rate by survey year for boys and girls with strong agreement on risk seeking, affinity for violence, and violence-legitimizing norms of masculinity. This figure allows the examination whether the relationship between the attitudinal constructs and violent offending differs significantly between the two survey years. For all subgroups, the relationship between perpetration of violence and strong approval of the three attitudes is similar for 2017 and 2019 and does not differ significantly by survey year. Thus, respondents who strongly agree with violence and students who strongly agree with risk seeking and violence-legitimizing masculinity norms are about as likely to become violent in the past 12 months in 2019 as in 2017.

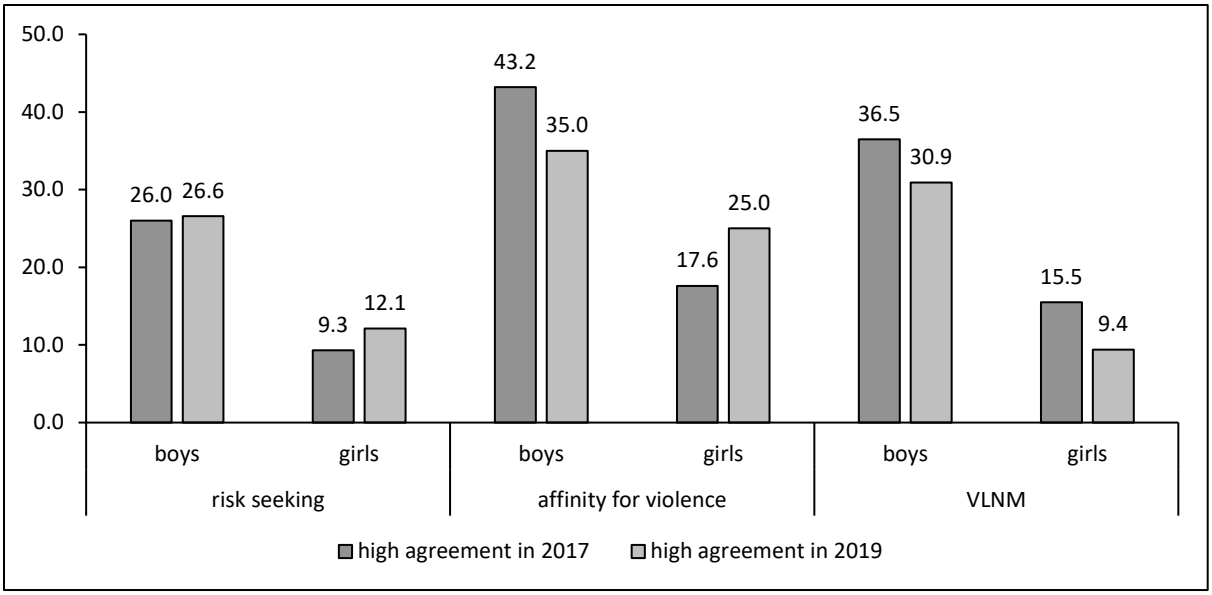

Figure 23. Violence perpetration rate by gender and survey year with strong agreement on risk seeking, affinity for violence, and violence-legitimizing norms of masculinity (VNM) (%; weighted data).

Summary

The increase in risk-seeking attitudes seen in recent years is slightly levelling off again. However, the trend toward adolescents with a greater affinity for violence continues. Norms of masculinity that legitimize violence are also shared more frequently in 2019 than in previous years.

Differentiating the extent of these three attitude constructs according to different subgroups shows higher agreement among boys and students at lower school types. In addition, adolescents who strongly agree with these attitudes are more likely to have been violent at the same time in the past twelve months than adolescents who do not strongly agree with these attitudes. Similarly, boys who strongly agree with risk-seeking attitudes and violence-legitimizing norms of masculinity are significantly more likely to have become violent than girls who share these attitudes to a strong degree.

4.4 Suicidality and self-harming behavior

According to Wolfersdorf (2008), suicidality can be understood as "*the sum of all thought, behavior, and experience patterns of people who strive for their own death in thought, by active behavior or passive omission, or by letting themselves be acted upon, or by accepting it as a possible result of an action*" (p. 1321). Suicidality is often thought to move along a continuum from suicidal ideation to risk behavior to suicide attempt and suicide (Fawcett et al., 1990; Wolfersdorf, 2008). External and/or internal circumstances may cause individuals to move along this continuum over time and depending on different (critical) life events. Suicidal ideation can be assessed as the main risk factor for a suicide attempt, along with past suicide attempts (Kliem & Brähler, 2015). Thus, in the first year after the onset of suicidal thoughts there is an approximately 170-fold increased risk of attempting suicide for affected individuals (Nock et al., 2008). Although the age distribution of completed suicides in the Federal Republic of Germany corresponds to the so-called "Hungarian pattern" (i.e., the risk of suicide increases significantly with age) and suicide rates are therefore significantly lower for the 15- to 20-year-old age group than for other age groups, completed suicide as a cause of death in adolescence should not be downplayed. After traffic accidents, it is the second most common cause of death among young people in Germany (Ellsäßer, 2014).

In the Lower Saxony Surveys 2013, 2015 and 2017, adolescents were repeatedly asked about their own suicidal thoughts (wording: Have you ever had suicidal thoughts?) and past suicide attempts (wording: Have you ever seriously tried to kill yourself?). These questions were proofread for the 2019 survey period. Accordingly, there is no comparison with previous years. An item from the *Suicide Behaviors Questionnaire Revised* (Glaesmer et al., 2018) is now used, which has been shown to be a solid screener for current suicide risk in various research (Osman et al., 2001). This item asks whether the respondent has thought about or attempted suicide in the past twelve months. The associated response options and the calculated relative frequencies for each response category are presented in Table 44.

Table 44. Suicidal ideation, suicide plans, and suicide attempts in the past 12 months in 2019 (%; weighted data).

In the last 12 months, have you thought or attempted to kill yourself? *n* = 12 213		
Never	(1)	68.5 %
It was only a brief, passing thought	(2)	17.7 %
I have had at least once the plan to kill myself, but I did not try to do it.	(3a)	7.7 %
I have had at least once the plan to kill myself and really wanted to die	(3b)	3.2 %
I have attempted to kill myself but did not want to die	(4a)	1.2 %
I have attempted to kill myself and was really hoped to die	(4b)	1.7 %

In order to provide a statement on the frequency of suicidal adolescents, this item was also dichotomized into the two categories *non-suicidal* (response categories: "never" and "it was only a brief, passing thought") and *suicidal* (response categories: “I have had at least once the plan to kill myself, but I did not try to do it.”; “I have had at least once the plan to kill myself and really wanted to die.”; “I have attempted to kill myself but did not want to die.”; “I have attempted to kill myself and was really hoped to die.”). In a study of non-clinical high school students, Osman et al. (2001) thereby demonstrated very convincing sensitivity and specificity values with respect to these dichotomized items.

Figure 24 represents the data on the adolescents listed separately according to gender and school type. Regarding the overall samples, it can be noted that 13.8 % of the respondents fall into the category of being at risk. Regarding gender, there are significantly higher rates for female respondents (7.4 % of boys vs. 20.1 % of girls, $\chi^2(1) = 411.73$, $p < .001$, $\varphi = 0.19$). Thus, about one in five girls in Lower Saxony falls into the *suicide risk* category. Regarding school types, the highest prevalence rates are found for students at the lower school type (18.6 %), followed by students of the medium (14.4 %) and higher school type (12.0 %; $\chi^2(2) = 26.80$, $p < .001$, $V = 0.05$).

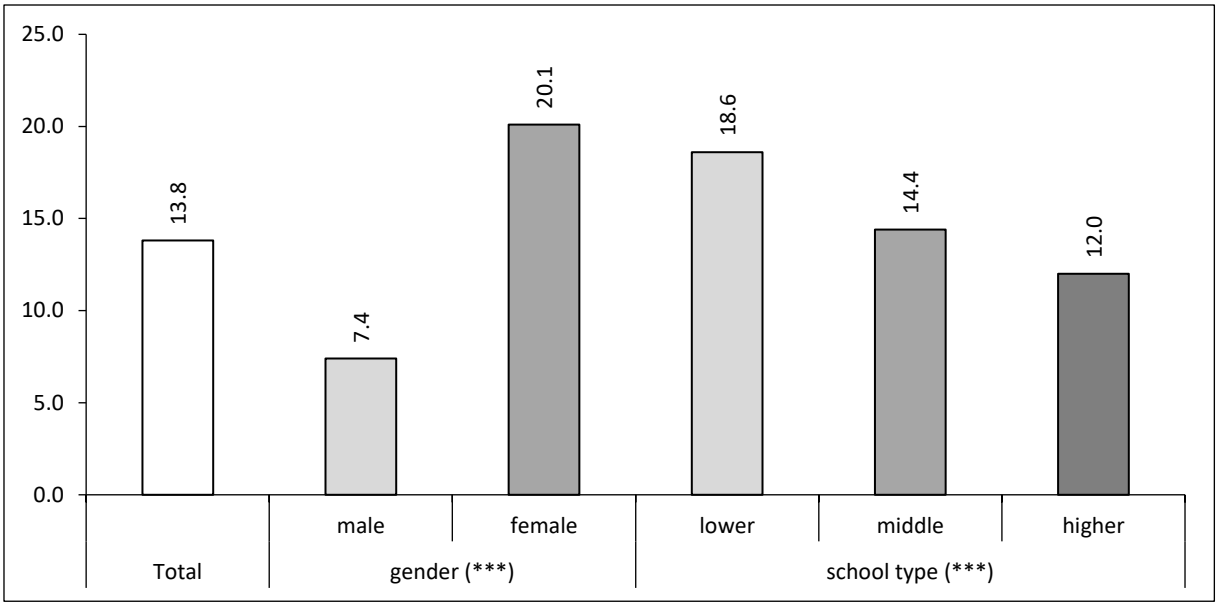

Figure 24. Proportion of suicidal adolescents by respondent group for the 2019 survey year (%; weighted data; significant at ****p* < .001).

Summary

Regarding suicide risk, no comparisons can be made between years due to changes in the questions used. For the observation year 2019, the prevalence rate of suicidal adolescents is 13.8 %. Clear gender effects in form of a higher rate in female respondents become apparent. According to this, about every fifth girl in Lower Saxony is suicidal.

4.5 Delinquent peers

A significant developmental task in the adolescent phase is the formation of one's own identity. In this process, adolescents increasingly detach themselves from their parents, who, especially during the early life phases, represent the most important agent of socialization. The process of detachment is accompanied by a growing importance of peer relationships; adolescents seek independence from their parents, spend more time with friends outside of home, and are increasingly integrated into peer networks. Integration into friend groups or cliques with peers is an important step in forming personal identity distinct from the environment (Bergmann et al., 2017).

Criminological research on the determinants of delinquent behavior in adolescence recognized the importance of peers early on. The theory of differential association (Sutherland, 1968), for example, postulates that every form of behavior, including delinquent behavior, is learned through interaction with others. For example, if a young person observes other people behaving delinquently and this behavior is successful, this increases his or her own willingness to behave accordingly. The finding that acquaintance and interaction with delinquent peers demonstrably increase one's own willingness to commit delinquency is now one of the best corroborated findings in empirical research (Baier & Wetzels, 2006).

In the 2019 Lower Saxony Survey, analogous to previous survey years, adolescents were asked how many of their friends have engaged in delinquent behavior in various ways in the past 12 months (wording: *How many friends do you have who have done the following in the past 12 months?)*.

Responses could be given on a scale of "1 - Zero friends," "2 - One friend," "3 - Two friends," "4 - Three to five friends," "5 - Six to ten friends," and "10 - Over ten friends." For a clear representation, Table 45 summarizes each offense surveyed and the respective number of delinquent peers in three categories (none, 1 to 5, more than 5). For year and gender comparisons, the original scales are used. The highest proportion of delinquent friends have become delinquent because of assault. Thus, 24.8 % of the adolescents have one to five friends who have become delinquent in this way, while 2.6 % of the adolescents even have more than five delinquent friends in this area. The lowest percentage of friends have taken something from someone by force. Thus, 13.3 % of adolescents have one to five friends who have become delinquent in this way, while 1.2 % have more than five such friends.

Comparing the proportion of delinquent friends in 2019 with 2017, there are significant differences in the number of delinquent friends in the areas of theft[121], assault[122] and vandalism.[123] While the trend for theft is towards more delinquent peers, the trend for assault and vandalism shows slightly fewer delinquent friends.

Table 45. Number of delinquent peers (%, weighted data).

In the last 12 months: number of peers that have...	Number of delinquent peers					
	0	1-5	> 5	0	1-5	> 5
	2017			2019		
Stolen something in the store.	76.9	19.2	3.9	74.9	21.6	3.6
Taken something from someone by force.	84.7	14.4	0.9	85.5	13.3	1.2
Hit and injured another person.	70.6	27.2	2.1	72.6	24.8	2.6
Intentionally damaged windows, telephone boxes, streetlamps, or similar things.	79.6	18.4	2.0	80.7	17.0	2.4
Sold drugs to others.	76.2	20.6	3.2	76.9	19.2	3.9

For a simplified presentation, a maximum value index was formed from the number of delinquent friends for the following evaluations. If, for example, the respondents state that none of their friends have shoplifted in the last twelve months, but two peers have sold drugs to others, the number of drug-dealing peers is included in the overall index. Slightly more than half of the respondents (50.5 %) report that none of their friends have engaged in delinquent behavior in the last twelve months. For 41.0 % of adolescents, at least one to five friends have been delinquent in some way. Accordingly, 8.5 % of adolescents have more than five friends with delinquent individuals.

Comparing the overall percentage of delinquent friends with the previous surveys, there are significant differences to 2017[124] with a tendency towards fewer delinquent friends. However, there are still more respondents identified as having delinquent friends in 2019 than in 2015[125] and 2013.[126]

Figure 25 shows the proportion of delinquent friends differentiated by gender and school type. Boys are about twice as likely as girls to have more than five delinquent friends in 2019 (girls: 5.8 %; boys: 11.0 %). In addition, boys are slightly more likely to have one to five friendships with delinquent peers (girls: 39.4 %; boys: 42.5 %). Accordingly, the proportion of girls who have no delinquent friends at all

[121] U = 53319801.00, p = .005, r = 0.02
[122] U = 51875663.00, p = .003, r = -0.02
[123] U = 52256033.50, p = .040, r = -0.01
[124] U = 52201898.00, p = .004; r = -0.02
[125] U = 67141802.50, p < .001, r = 0.05
[126] U = 59587310.50, p < .001, r = 0.03

is higher than the proportion of boys (girls: 54.8 %; boys: 46.5 %). The difference is substantial and statistically significant (U = 16408112.00, p < .001, r = -0.10). Differentiated according to school type, students at lower school types (17.1 %) have more frequent contact with more than five delinquent friends than students from intermediate school types (10.0 %) and higher school types (4.8 %). Approximately the same number of adolescents at lower (39.9 %), medium (41.7 %) and higher school forms (40.0 %) have between one and five delinquent friends. However, 55.3 % of adolescents in higher schools are friends with no delinquent peers; more often than those in medium (48.3 %) and lower school types (42.9 %). The difference between school types shows statistical significance for all pairwise comparisons, with a significant difference between lower and higher school types (U = 1037853.00, p < .001; r = -0.12).

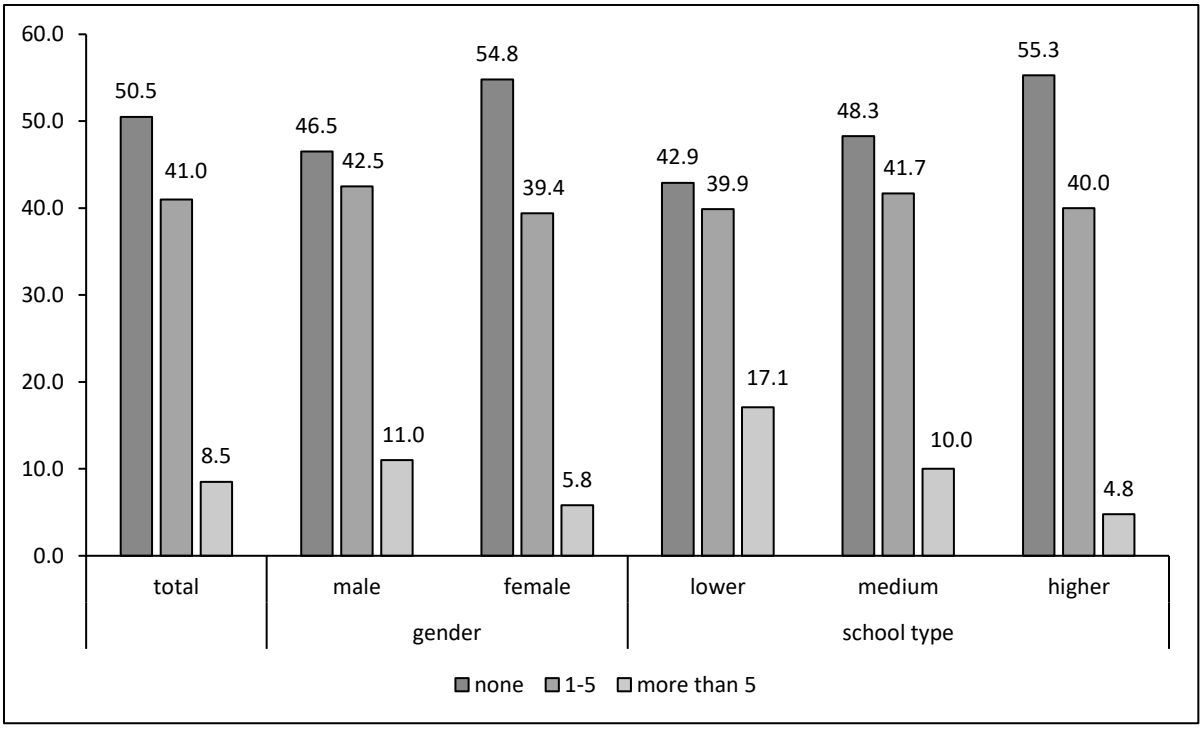

Figure 25. Proportion of delinquent friends by gender and type of school in 2019 (%; weighted data).

Figure 26 shows that a high level of involvement in delinquent peer networks is related to a person's own delinquency. The correlation is statistically significant for all offense types and is substantial. Respondents who maintain friendships with delinquent peers are significantly more often involved in corresponding offenses across all offense types. For example, the rate of violent offenses in the past twelve months is 15 times higher among students with more than five delinquent friends compared to respondents without delinquent friends (2.0 % vs. 30.1 %).[127] Adolescents with delinquent friends are also significantly more likely to engage in vandalism[128] and theft[129], as well as bullying[130], and in fare evasion.[131] The difference between adolescents without and with high involvement in delinquent peer groups is particularly present with regard to the sale of drugs (no delinquent friends: 0.1 %; one to five

[127] Violence: $\chi^2(2) = 1032.20$, $p < .001$, $V = 0.29$

[128] Vandalism: $\chi^2(2) = 960.99$, $p < .001$, $V = 0.28$

[129] Theft: $\chi^2(2) = 437.56$, $p < .001$, $V = 0.19$

[130] Bullying: $\chi^2(2) = 424.05$; $p < .001$; $V = 0.19$

[131] Fare evasion: $\chi^2(2) = 505.43$, $p < .001$, $V = 0.21$

delinquent friends: 2.7 %; more than five delinquent friends: 20.7 %).[132] Overall, this confirms the assumption that young people with a high level of involvement in delinquent peer networks are significantly more likely to be delinquent themselves.

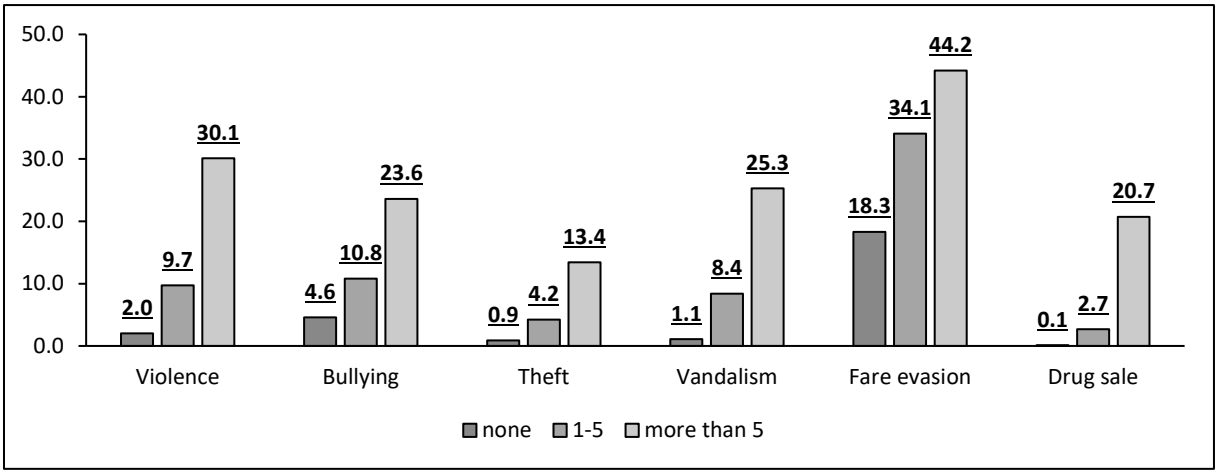

Figure 26. Delinquent behavior by friendship with delinquent peers in 2019 (in %; weighted data; bold: group differences significant at $p < .05$; underlined: strength of association with $V \geq 0.1$).

Summary

Overall, contact with delinquent peers has tended to decline since 2017, although not back to the level of 2013 and 2015. Differentiated according to the form of delinquency, a tendency towards more delinquent friends can be observed for theft compared to 2017, while the proportion of delinquent contacts for assault and vandalism tends to decline slightly. Only about half of the respondents have no friendships with delinquent peers.

A subgroup comparison shows that boys have more delinquent contacts than girls. In addition, more adolescents at lower school types have friendships with delinquent persons than at medium and higher school types. Finally, the finding that acquaintance with delinquent friends is related to one's own delinquency is confirmed. Respondents who have more than five delinquent friends are significantly more likely to engage in delinquent behavior themselves. This finding is most pronounced for selling drugs.

4.6 Truancy

Truancy, or the unauthorized absence from school despite compulsory school attendance, has received increased attention over the past decades in both public debate and criminological research (Baier et al., 2009; Baier et al., 2010; Beckmann & Bergmann, 2017; Fuchs et al., 2005). Skipping individual classes or entire school days is a relatively common behavior in adolescence. Following a criminological-sociological perspective, truancy can be understood as a distinct form of deviant behavior. This applies in so far as unauthorized absence from school violates the norm of regular school attendance or compulsory school attendance in an education-oriented society. Moreover, truancy is considered a general risk factor for deviant behavior: Those who skip school, according to the results of past student surveys, have a higher risk of also committing other delinquent behaviors (cf. Bergmann

[132] Drug sales: $\chi^2(2) = 1300.29$, $p < .001$, $V = 0.33$

et al., 2017; Baier et al., 2006; Wilmers et al., 2002; Farrington & Loeber, 2001; Rabold et al., 2008). Severe truancy is associated with the perpetration of violent crime and other offenses. In addition, intensive forms of truancy in particular can (in the long term) impair adolescent's educational and career opportunities.

To assess truancy - like previous surveys - the adolescents were first asked whether they had skipped individual lessons or entire school days in the last school year. If so, they were then asked to indicate how many whole school days and how many individual lessons - apart from whole school days - they had skipped. The questionnaire was open format, i.e., the respondents could enter the number of days or hours themselves. For the following analyses, both questions were used to calculate the number of truant days. For this purpose, the hours were divided by five (assumed average number of school hours per school day) and added to the number of truant days.

Overall, 33.4 % of the students surveyed were truant at least once in the last school semester. In comparison with previous years, there is a statistically significant increase in truancy compared with 2013[133], 2015[134] and 2017[135] , which is most clearly for the comparison with data from 2013 and 2015. Thus, in 2013, only 24.1 % and in 2015, 22.2 % of students were truant, while in 2017 it has been 26.3 %.[136]

In 2017, 7.6 % of the students surveyed can be classified as a repeat truant (i.e., truanting five or more days in the last school semester). In comparison with the previous surveys, statistically significant changes were also found (2019/2017: $\chi^2(1) = 34.51$, $p < .001$, $\varphi = 0.04$). For example, in 2017 there were fewer multiple truants (5.5 %). Also, in comparison with 2015[137] and 2013[138] , in which 3.9 % and 4.6 % of adolescents could be categorized as a repeat truant, there is an increasing trend for repeat truancy. Figure 27 shows the proportion of adolescents who were truant or were truant multiple times by gender and school type for all respondents in 2019. The overall prevalence of truancy turns out to be significant and slightly higher in the group of girls (35.1 %) than in the group of boys (31.7 %) ($\chi^2(1) = 15.09$, $p < .001$, $\varphi = 0.04$). This finding confirms the results of the two surveys of the Lower Saxony Survey. In contrast, there are no significant differences regarding severe truancy: about one in 14 girls (7.2 %) and one in 13 boys (8.0 %) reports having been absent from school without permission for more than five days in the last school semester.

Differentiated between school types, it is shown that lower school type students are not significantly more likely to be truant overall than students in medium and higher school types. However, significant differences emerge when looking at the prevalence of multiple truancy ($\chi^2(2) = 52.55$, $p < .001$, $V = 0.07$). In the pairwise comparison of school types, the difference between higher school and lower school types is especially substantial ($\chi^2(1) = 50.58$; $p < .001$; $\varphi = -0.10$). Higher school type students are least likely to be absent from school without permission for five or more days (5.9 %). The highest rate of multiple truancy is found among adolescents with a lower school level: One in seven students (13.7 %) at a lower school type has skipped school at least five days in the last school semester. This proportion is more than twice as high as the proportion of multiple truants at higher school forms. At

[133] $\chi^2(1) = 220.14$, $p < .001$, $\varphi = 0.10$

[134] $\chi^2(1) = 350.66$, $p < .001$, $\varphi = 0.13$

[135] $\chi^2(1) = 117.75$, $p < .001$, $\varphi = 0.08$

[136] The prevalence differs from Bergmann et al. (2019) due to a different calculation method.

[137] $\chi^2(1) = 139.99$, $p < .001$, $\varphi = 0.08$

[138] $\chi^2(1) = 76.52$, $p < .001$, $\varphi = 0.06$

intermediate school types 8.1 % of the adolescents had been absent from school for this reason for more than five days.

Comparing the development of truancy in the different subgroups between the years 2017 and 2019 (not shown), it is noticeable that the increased frequency of truancy overall as well as multiple truancies can be observed for both boys and girls as well as at all school types. The differences between years are significant for all subgroups. The trend towards an increase in students who skip school continues, which was already noted in the 2017 survey compared to previous surveys (Bergmann et al., 2019, p. 75). In 2019, adolescents were truant more than in any of the previous survey years.

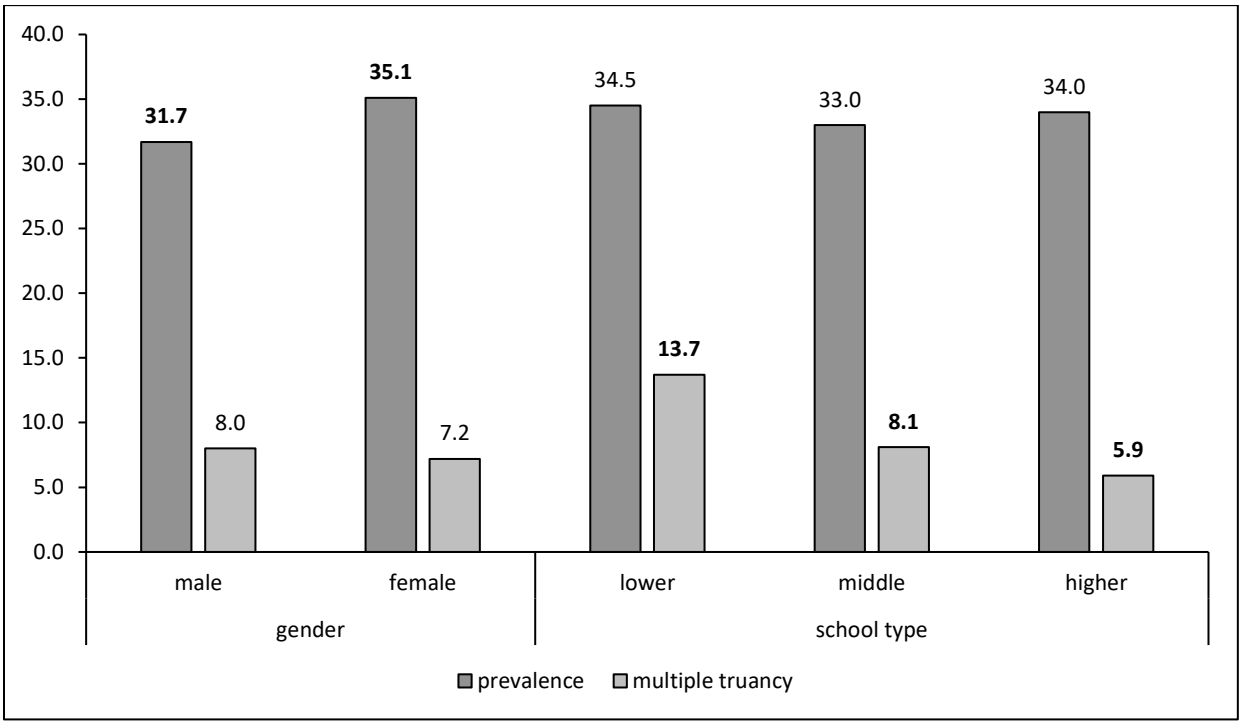

Figure 27. Truancy by gender and type of school in 2019 (%; weighted data; bold: differences significant at $p < .05$).

Severe forms of truancy have been associated with delinquent behavior in several studies (Baier et al., 2006; Loeber & Farrington, 2001; Rabold et al., 2008; Wilmers et al., 2002). Two main interpretations exist for this: The first view is based on assumptions of the routine activity approach (see Cohen & Felson, 1979; Felson & Boba, 2010; Osgood et al., 1996), which emphasizes the concept of opportunity as being the central mechanism between truancy and delinquent behavior. The approach is based on the premise that delinquent behavior frequently occurs as an unintended consequence of everyday actions (Felson & Boba, 2010; Beier, 2016). Delinquency is considered likely to occur when, due to routine activities, motivated perpetrators are present alongside the absence of so-called *capable guardians* (Cohen & Felson, 1979), i.e., individuals who can specifically or non-specifically prevent delinquent behavior through their presence. Juvenile delinquency is thus more likely to occur during unstructured and unsupervised leisure activities (Osgood et al., 1996; Osgood & Anderson, 2004; Beier, 2016). If the presence of peers additionally increases motivation to engage in delinquent behavior, time spent with peers provides more opportunities for delinquency, regardless of whether the peer group is engaged in delinquent behavior (Osgood et al., 1996). Regarding truancy, in line with such an "enabling hypothesis" (Baier et al., 2006; Bergmann et al., 2017), more opportunities for deviant behavior appear for truanting adolescents. Since adolescents usually cannot stay at home, they spend time alone or together with peers in places that are not subject to adult control (e.g., parks, shopping

malls, or department stores), which also increases opportunities for deviant behavior, such as committing shoplifting, vandalism, or graffiti spraying (Bergmann et al., 2019).

The personality-based interpretation complements this consideration because not all adolescents are equally exposed to the risk of truancy. Rather, truancy is seen as an expression of an overall deviant lifestyle. Truants are less compliant with central social norms because of confrontation with family violence, involvement in subcultural peer networks or growing up in neighborhoods with little social control and little social cohesion. The violation of norms in the form of truancy is accompanied by other violations of norms, e.g., the perpetration of violence against people (Bergmann et al., 2017).

Figure 28 shows the relationship between truancy and the commission of various offenses. The proportion of students who have committed various offenses in the last twelve months is shown below, depending on the frequency of truancy (no truancy in the last six months, truancy for up to five days in the last six months and truancy for five or more days in the last six months). Adolescents who are occasionally or frequently truant are more likely to have carried out violent offenses in the past twelve months than adolescents who are never truant ($\chi^2(2) = 376.51$, $p < .001$, $V = 0.18$). The relationship is shown to be statistically significant. While an increased prevalence of delinquency can already be observed for infrequent truancy, particularly high delinquency rates can be observed among multiple truants: The proportion of violent offenders in this group is almost five times as high as in the group of students who were never truant in the last school semester (4.9 % compared to 22.0 %). Furthermore, it is evident that truancy is also related to other forms of delinquent behavior: the proportion of adolescents who have committed shoplifting in the past year is more than seven times higher in the group of multiple truants (19.3 %) than in the group of adolescents who have never been truant in the past school semester (2.6 %) ($\chi^2(2) = 524.85$, $p < .001$, $V = 0.21$). Similar results apply with respect to fare evasion[139] and graffiti spraying.[140] All correlations between truancy and delinquency show statistical significance. Further analyses of past student surveys show that truancy remains significant even when controlling for other factors influencing delinquent behavior, such as family socialization factors, delinquent peers, and personality factors (Beckmann & Bergmann, 2017).

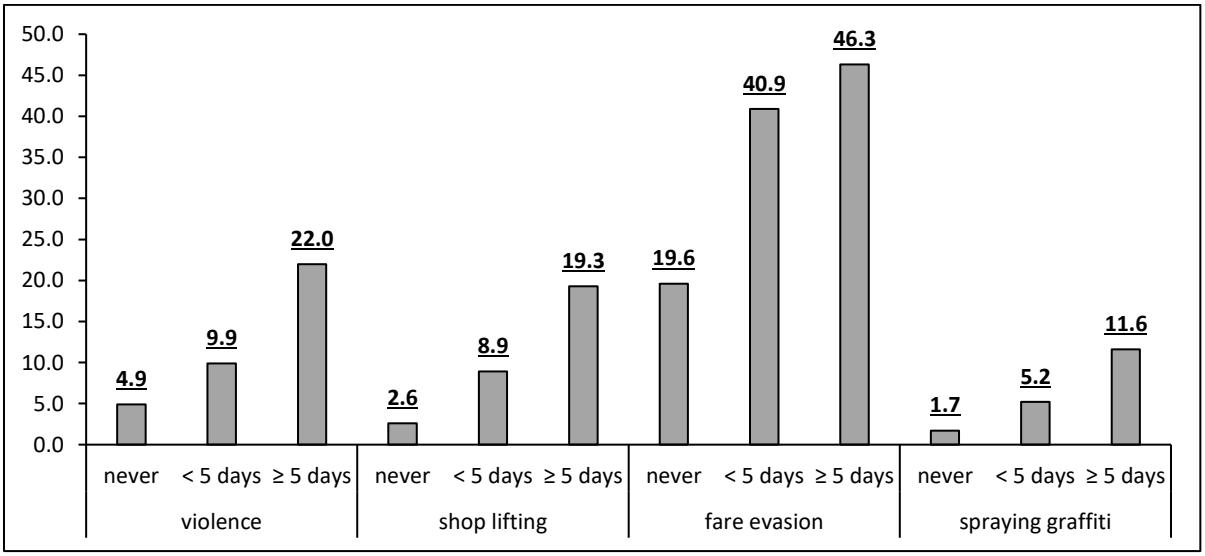

Figure 28. Delinquent behavior by truancy frequency in 2019 (in %; weighted data; bold: group differences significant at $p < .001$, underlined: strength of association at $V \geq 0.1$).

[139] $\chi^2(2) = 673.48$, $p < .001$, $V = 0.24$

[140] $\chi^2(2) = 291.12$, $p < .001$, $V = 0.16$

Summary

About one third of the ninth graders in Lower Saxony were truant at least once during the last school semester. More than five days per school year were played truant by 7.6 % of the students. In 2019, truancy was thus more frequent than in all previous survey years. This is true for overall truancy as well as multiple truancies. The trend towards more and more students skipping school, which was already noted in the 2017 survey compared to the previous surveys, continues, and is observed for both boys and girls and for all school types.

Girls skip school slightly more often than boys. However, there are no significant gender differences regarding frequent truancy. When differentiated by school type, significant differences are only found regarding multiple truancy. For example, truancy is more frequent for more than five days at lower school types, followed by medium and higher school types.

Even rare truancy is associated with increased delinquency. Particularly high delinquency rates can be observed among repeat truants: For example, the proportion of violent offenders in this group is almost five times higher than in the group of students who were never truant in the past year.

5 Right-wing extremism

The time spent in secondary schools is a particularly important phase for the political socialization of young people. At the age of 15, adolescents are old enough to understand politics, but still so young that they have had few political experiences so far (Niemi & Hepburn, 2010, p. 11). Torney-Purta (2004) states that adolescents can already be understood as members of the political culture, and they understand fundamental democratic ideals and processes. A consideration of adolescents in terms of their political attitudes is relevant because early and medium adolescence represents a developmental phase in which increased engagement with sociopolitical issues takes place and during which political socialization begins. Since personality is still malleable in adolescence and adolescents at this age are still strongly influenced by their family and peers, they can be instrumentalized by extremist purposes (Maresch & Bliesener, 2015, p. 42). Political attitudes formed during adolescence, and especially ideological, racial, and certain moral attitudes, are developed early in life and are stable into adulthood (Sears, 1983, 1990). Thus, a consideration of extremist attitudes among adolescents seems relevant since they are likely to remain constant through voting age. This report focuses on the prevalence of right-wing extremism among adolescents in Lower Saxony. For an evaluation of the Lower Saxony Survey on left-wing extremism, see Treskow and Baier (2020).

The annual publication of the Federal Ministry of the Interior on the number of politically motivated crimes (PMC) in the overall population has recorded a significant increase in right-wing extremist-motivated crimes since 2015 and reports a 9.4 % increase in the number of cases in 2019 compared to 2018, with 22,342 cases (Bundesministerium des Innern, für Bau und Heimat, 2020). In Lower Saxony, the number of cases of right-wing politically motivated crime also increased by 13.8 % from 1 434 in 2018 to 1 632 crimes in 2019 (Niedersächsisches Ministerium für Inneres und Sport, 2020).

However, it must be assumed that not all offenses are reported and registered, so that studies on the dark figure of crime can provide more differentiated results on the actual extent of right-wing extremism. In addition, it must be noted that the execution of a right-wing politically motivated crime is preceded by the development of right-wing attitude patterns (Stöss, 2010). To be able to fully map the prevalence of right-wing extremism among ninth graders in Lower Saxony, right-wing attitudes will

therefore be examined as the first indicator of right-wing extremist ideas, in addition to data on right-wing extremist-oriented behavior.

In the questionnaire, the students were therefore asked to express their agreement or disagreement with various Right-wing extremist attitudes and attitudes of Group-Focused Enmity. In addition, low-level right-wing behavior was recorded, including listening to certain music groups, and wearing certain brands of clothing. Discriminatory acts and crimes based on a particular group affiliation were also queried for the first time in 2019. Likewise, the execution of other right-wing extremist crimes was also asked. Since 2019, the subject of right-wing extremism has been no longer presented only to adolescents without a migration background. However, since most of the right-wing and attitudes of Group-Focused Enmity in previous years were only filled out by adolescents without a migration background, only students without a migration background are compared over time.

5.1 Right-wing extremist attitudes and Group-Focused Enmity

To measure right-wing extremist attitudes, we focus on the six attitudinal dimensions of right-wing extremism from the Mitte studies (see e.g. Decker & Brähler, 2018). The dimensions considered are *xenophobia, anti-Semitism, chauvinism, support of a right-wing authoritarian dictatorship, social Darwinism,* and the *trivialization of National Socialism*. Moreover, additional dimensions of Group-Focused Enmity (Heitmeyer, 2002) are considered. *Attitudes informed by Group-Focused Enmity towards people with disabilities, Hartz IV recipients, Muslims, homosexuals,* and *homeless people* are discussed. The adolescents had the opportunity to rate their answers on a seven-point scale from "1 – strongly disagree" to "7 – strongly agree". Values 5 through 7 are coded as agreement, so high values indicate agreement. A mean scale is formed from each of the items. If students agreed with these items on average (≥ 5), they are categorized as agreeing. If a person only agreed with one statement with a score of 6 or 7, but disagreed with others, they are not defined as agreeing.

Six dimensions of right-wing extremist attitudes

An elementary component of right-wing extremist orientations is *xenophobia.* For this purpose, the established measurement instrument of the Mitte study was used (e.g., Decker & Brähler, 2018) as well as two items from the measurement instrument of Terwey and Baltzer (2011). It should be noted that hostile attitudes are directed against individuals who, from the hostile person's perspective, have a migration background, but the victims may in fact be German as well. It should also be noted that such attitudes refer to *non-white* persons, i.e., BIPoC, and are influenced by racist attitudes. The term *xenophobia* will nevertheless continue to be used in this study, as the Mitte Studies scale was developed under this name.

Table 46. Scale of xenophobia 2019 (weighted data).

	M	*SD*	**Consent in %**
			n = 11 330 -11 612[a]
If jobs become scarce, foreigners living in Germany should be sent back to their home countries.	2.58	1.89	17.2
Foreigners living in Germany should be banned from any political activity.	2.19	1.67	10.6
Most foreigners are criminals.	2.65	1.78	16.9
The foreigners only come here to take advantage of our welfare state.	2.54	1.82	16.0
The Federal Republic is in danger of become non-German due to the many foreigners.[141]	2.69	1.87	18.5
Scale	2.53	1.59	10.1
Cronbach's α	0.93	-	-

Note. *M* = mean, *SD* = standard deviation
[a] Sample size varies due to missing values.

Table 46 shows the mean values of these attitudes and the proportion of adolescents who agree with these statements. Cronbach's α is used as a measure of the internal consistency of the scale. A value of 0.93 indicates that the six items represent a reliable scale. The statement most agreed with was that "The Federal Republic is in danger to become non-German through to the many foreigners." Thus, 18.5 % of the adolescents agreed with this statement. The statement that "foreigners living in Germany should be banned from any political activity" received the lowest level of agreement. Slightly more than one in ten adolescents confirmed this statement. Overall, the scale has a mean value of 2.53; about one in ten students can be classified as *xenophobic.*

Since only adolescents without a migration background were asked about their *xenophobic attitudes* in the previous surveys, only these adolescents are considered in Table 47. For the overall scale, there are no significant differences in the mean values when comparing 2019 and 2017. However, when looking at the proportion of agreeing adolescents instead of the mean value, slightly fewer students tend to agree with these attitudes in 2019 ($\chi2(1) = 4.53$, $p = .033$, $\varphi = -0.02$).

[141] This is more of an analogous translation because the German wording of the item doesn't quite translate to English.

Table 47. Xenophobic attitudes over time, only respondents without migration background (weighted data).

	Mean value				Consent in %	
	2017		2019		2017	2019
	M	*SD*	*M*	*SD*	*n* = 3 446 – 5 836[a]	*n* = 7903-8077[a]
If jobs become scarce, foreigners living in Germany should be sent back to their home countries.	2.72	1.97	2.75	1.92	19.1	19.5
Foreigners living in Germany should be banned from any political activity.	**2.51**	1.70	**2.30**	1.71	11.3	11.9
Most foreigners are criminals.	2.75	1.81	2.74	1.80	17.4	18.3
The foreigners only come here to take advantage of our welfare state.	**2.76**	1.85	**2.66**	1.84	18.3	17.6
The Federal Republic is in danger to become non-German through to the many foreigners.	**2.60**	1.81	**2.82**	1.90	**16.2**	**20.4**
Scale	2.69	1.68	2.66	1.63	**12.4**	**11.2**
Cronbach's α	0.88		0.93		-	-

Note. *M* = mean, *SD* = standard deviation
Bold: difference 2017 to 2019 significant at $p < .05$
[a] The sample size varies due to the modular structure of the questionnaire and missing values.

When differentiated by the individual items, two of the statements are shown to have less agreement on average in 2019. For example, the mean value for "foreigners living in Germany should be banned from any political activity"[142] and for "foreigners only come here to take advantage of our welfare state" are slightly but significantly reduced.[143] At the same time, however, the statement that "The Federal Republic is in danger to become non-German through to the many foreigners" tended to be agreed with more strongly[144] and more frequently in 2019.[145] In 2019, more than one in five adolescents without a migration background agreed with this statement.

The first three items of the table can also be compared with the years 2015 and 2013. For most items, these attitudes tend to be less strongly agreed with in 2019 than in 2015 and 2013 (see Bergmann et al., 2019, p. 92). Overall, therefore, despite the increasing agreement with one item, a downward trend in *xenophobic* adolescents without a migration background in Lower Saxony can be identified.

The dimension of *anti-Semitism* was also considered, which was surveyed based on scales from the two Mitte studies (Decker & Brähler, 2018; Zick et al., 2019). The Cronbach's α value of 0.82 (2019) indicates that the scale of classical *anti-Semitism* is a reliable (see Table 48). Thus, for the anti-Semitic statements, agreement values range from 5.0 % ("Jews have too much influence in the world") to 6.3 % ("Many Jews try to take advantage of the past of the Third Reich today"). Overall, 3.0 % of the adolescents can be categorized as having *anti-Semitic attitudes.*

Compared to 2017, the average level of agreement with *anti-Semitic attitudes* was significantly slightly lower in 2019 than in 2017.[146] The proportion of students agreeing also decreases significantly from 3.5 to 3.0 %.[147] The last two items can likewise be compared with 2013 and 2015 (not shown), but in

[142] $t(7\,398) = 6.14$, $p < .001$, $d = -0.12$
[143] $t(6\,530) = 2.66$, $p = .008$, $d = -0.05$
[144] $t(6\,850) = -5.87$, $p < .001$, $d = 0.12$
[145] $\chi^2(1) = 27.98$, $p < .001$, $\varphi = 0.05$
[146] $t(15\,484) = 7.79$, $p < .001$, $d = -0.11$
[147] $\chi^2(1) = 4.50$, $p = .034$, $\varphi = -0.02$

those survey years the items were presented only to youth without a migration background, so only this subsample can be used for comparison. Also, in comparison to these two survey years, agreement with *anti-Semitic attitudes* tends to decline (see Bergmann et al., 2019, p. 94).

Table 48. Anti-Semitism scale over time (weighted data).

	Mean value				Consent in %	
	2017		2019		2017	2019
	M	*SD*	*M*	*SD*	*n* = 7 484 - 7 734[a]	*n* = 10 424 – 10 956
Many Jews try to take advantage of the past of the Third Reich today.	**2.14**	1.56	**2.05**	1.44	**7.2**	**6.3**
Jews have too much influence in the world.	**1.91**	1.43	**1.76**	1.35	4.4	5.0
Due to their behavior, Jews are not entirely innocent of their persecutions.	**1.96**	1.48	**1.74**	1.36	5.4	5.3
Scale	**2.00**	1.33	**1.86**	1.20	**3.5**	**3.0**
Cronbach's α	0.87		0.82		-	-

Note. *M* = mean, *SD* = standard deviation
Bold: difference 2017 to 2019 significant at $p < .05$
[a] Sample size varies due to missing values.

In addition to *classical anti-Semitism, Israel-related anti-Semitism* is also considered (see Table 49; Heyder et al., 2005; Zick & Küpper, 2005). For *Israel-related anti-Semitism* a Cronbach's α = 0.66 can be observed. The lower Cronbach's α value can be explained by the small number of items. 14.1 % of the adolescents who supported the statement that "what the state of Israel is doing to the Palestinians today is basically no different than what the Nazis did to the Jews in the Third Reich." About one in 17 students agreed that "Regarding the politics of Israel, I can understand why people have something against Jews." Both statements are agreed with in 5.0 % of the cases on average.

Table 49. Israel-related anti-Semitism scale 2019 (weighted data).

	Mean value		Consent in %
	M	*SD*	*n* = 9 352 - 10 392[a]
Regarding the politics of Israel, I can understand why people have something against Jews.	1.83	2.60	5.9
What the state of Israel is doing to the Palestinians today is in principle no different than what the Nazis did to the Jews in the Third Reich.	2.60	1.75	14.1
Scale	2.16	1.38	5.0
Cronbach's α	0.66		-

Notes. *M* = mean, *SD* = standard deviation
[a] Sample size varies due to missing value.

Table 50 shows the mean values and percentages of agreement for the additional four dimensions of extreme right-wing attitudes, each of which was surveyed with three items (Decker & Brähler, 2018). All scales show acceptable to good internal consistency (Cronbach's α between 0.72 and 0.81), indicating reliable scales.

Thus, 2.2 % of the adolescents surveyed can be categorized as *in support of a right-wing authoritarian dictatorship.* However, individual statements were agreed with more often. For example, 6.6 % of the

students believed "Germany needs a single strong party that embodies the national community as a whole". *Social Darwinist attitudes* were shared by 3.2 % of the adolescents. Almost every tenth adolescent agreed with the statement that there is "worthy and unworthy life". 3.6 % of the ninth graders can be classified as *chauvinistic.* The statement that "we should finally have the courage to have a strong national feeling again" received the most agreement in this dimension (12.3 %). The last dimension of *trivializing National Socialism* is represented by 3.2 % of the adolescents. However, the individual items were agreed with more frequently. Thus, approximately every thirteenth to fourteenth adolescent believed that "without the extermination of the Jews, Hitler would be considered a great statesman today" and that "National Socialism also had its good sides".

Table 50. Extreme right attitudes scale 2019 (weighted data).

	Mean value		Consent in %
	M	***SD***	*n* = 2 403 - 2 557a
Support of a right-wing authoritarian dictatorship			
In the national interest, a dictatorship is the better form of government under certain circumstances.	1.69	1.30	4.4
Germany needs only one strong party that embodies the national community as a whole.	1.83	1.47	6.6
We should have a leader who rules Germany with a strong hand for the good of everyone.	1.51	1.22	3.9
Scale	1.68	1.14	2.2
Cronbach's α	0.81		-
Social Darwinism			
As in nature, in society the strongest should always prevail.	1.99	1.49	6.7
Actually, Germans are inherently superior to other peoples.	1.79	1.36	4.9
There is worthy and unworthy life.	1.95	1.68	9.6
Scale	1.92	1.23	3.2
Cronbach's α	0.72		-
Chauvinism			
We must be tough and forceful in asserting German interests vis-à-vis other countries.	1.97	1.51	7.6
The primary goal of German policy should be to give Germany the power and authority it deserves.	1.65	1.27	3.9
We should finally have the courage to have a strong national feeling again.	2.27	1.76	12.3
Scale	1.96	1.29	3.6
Cronbach's α	0.80		-
Trivialization of National Socialism			
Without the extermination of Jews, Hitler would be considered a great statesman today.	1.88	1.52	7.0
The crimes of National Socialism have been widely exaggerated in historiography.	1.67	1.34	4.5
National Socialism also had its good sides.	1.91	1.52	7.6
Scale	1.83	1.24	3.2
Cronbach's α	0.79		-

Notes. *M* = mean, *SD* = standard deviation.
[a] Sample size varies due to missing values.

Table 51 shows these attitudes over time. In 2017, the items were only presented to adolescents without a migration background, which is why the table of comparison refers only to this subsample.

A comparison of means shows that agreement with *attitudes in favor of dictatorship* is slightly lower in 2019 than in 2017 for two of the three items as well as for the overall scale ($t(3\,720) = 6.65$, $p < .001$, $d = -0.19$). However, the proportion of agreeing students changes slightly but significantly over the years only for the item "Germany needs only one strong party that embodies the national community as a whole" ($\chi^2(1) = 4.95$, $p = .026$, $\varphi = -0.03$). This contradictory finding that the *support of a right-wing authoritarian dictatorship* is lower in the mean comparison, but the proportion of agreeing adolescents is not, could be explained by the fact that those adolescents who tended to reject these attitudes rejected them more strongly than in 2017 or that the students who supported a *dictatorship* agreed less strongly. The last two items can likewise be compared to the previous surveys from 2013 and 2015 (not shown). At this point, there is also a trend toward a decrease in *attitudes in favor of dictatorship*. Thus, while a slight upward trend in these attitudes was still observed in the comparison of 2015 and 2017 (Bergmann et al., 2019, p. 95), these attitudes appear to decline again in 2019.

Table 51. Scale of extreme right-wing attitudes over time, only respondents without a migration background (weighted data).

	Mean value				Consent in %	
	2017		2019		2017	2019
	M	*SD*	*M*	*SD*	*n* = 3 363 - 3 686a	*n* = 1 700-1 797 [a]
Support of a right-wing authoritarian dictatorship						
In the national interest, a dictatorship is the better form of government under certain circumstances.	**1.82**	1.40	**1.71**	1.31	4.8	4.6
Germany needs only one strong party that embodies the national community as a whole.	**2.21**	1.59	**1.81**	1.45	**8.2**	**6.4**
We should have a leader who rules Germany with a strong hand for the good of everyone.	**1.70**	1.37	**1.52**	1.23	4.9	4.2
Scale	**1.91**	1.22	**1.68**	1.14	2.5	2.3
Cronbach's α	0.78		0.82		-	-
Social Darwinism						
As in nature, in society the strongest should always prevail.	**2.33**	1.63	**1.95**	1.43	**9.3**	**5.9**
Actually, Germans are inherently superior to other peoples.	**2.38**	1.68	**1.81**	1.39	**10.8**	**5.4**
There is worthy and unworthy life.	**2.16**	1.78	**1.88**	1.62	**11.1**	**8.8**
Scale	**2.30**	1.40	**1.89**	1.22	**5.7**	**3.0**
Cronbach's α	0.76		0.74		-	-
Chauvinism						
We must be tough and forceful in asserting German interests vis-à-vis other countries.	**2.53**	1.71	**2.02**	1.55	**12.8**	**8.7**
The primary goal of German policy should be to give Germany the power and authority it deserves.	**2.03**	1.48	**1.68**	1.30	**6.3**	**4.3**
We should finally have the courage to have a strong national feeling again.	**2.87**	1.88	**2.34**	1.79	**18.9**	**13.4**
Scale	**2.47**	1.42	**2.01**	1.34	**6.3**	**4.2**
Cronbach's α	0.78		0.82		-	-
Trivialization of National Socialism						
Without the extermination of Jews, Hitler would be considered a great statesman today.	**2.12**	1.64	**1.92**	1.54	**9.8**	**7.7**
The crimes of National Socialism have been widely exaggerated in historiography.	**1.99**	1.50	**1.67**	1.31	**5.9**	**4.3**
National Socialism also had its good sides.	**2.13**	1.61	**1.93**	1.53	9.0	7.7
Scale	**2.08**	1.34	**1.84**	1.25	4.1	3.2
Cronbach's α	0.80		0.80		-	-

Notes. *M* = mean, *SD* = standard deviation
Bold: difference 2017 to 2019 significant at $p < .05$
[a] The sample size varies due to the modular structure of the questionnaire and missing values.

Comparing the mean values and approval percentages of *Social Darwinism* with 2017, it is noticeable that the approval of these statements decreases significantly ($t(4\,055) = 11.07$, $p < .001$, $d = -0.31$; see Table 51). Whereas in 2017, 5.7 % of adolescents on average approved of *Social Darwinist* statements, in 2019, there are significantly fewer adolescents at 3.0 %.[148] In the survey years 2013 and 2015, these items were not yet included in the questionnaire.

With respect to *chauvinism,* there is a significant decrease in these attitudes ($t(3\,680) = 11.55$, $p < .001$, $d = -0.33$). All mean differences between the two years of comparison are shown to be significant. The

[148] $\chi^2(1) = 19.42$, $p < .001$, $\varphi = -0.06$

proportion of agreeing adolescents is significantly lower in 2019 than in 2017 regarding all statements.[149] Compared to 2015 and 2013, a decreasing trend can also be observed for the *chauvinistic* ones (see Krieg & Kliem, 2019).

Compared to 2017, attitudes *trivializing National Socialism* were agreed with significantly slightly less strongly in 2019 than in 2017 ($t(3\,705) = 6.25$, $p < .001$, $d = -0.18$). The proportion of agreeing adolescents is similarly lower in 2019 than in 2017 for each item, although the differences are significant only for the first two items. Since the items of the dimension of trivialization of National Socialism were only included in the questionnaire in 2017, no comparison can be made with the years 2013 and 2015.

Figure 29 shows the percentages of agreement with the extreme right-wing attitudes for 2019, broken down by gender. Boys agreed with these attitudes more frequently than girls in all dimensions. For example, at 7.7 %, significantly fewer girls shared *xenophobic attitudes* than boys at 12.3 %.[150] Girls also show significantly lower prevalence of *anti-Semitism*[151] and *support for a right-wing authoritarian dictatorship.*[152] However, the gender difference is particularly striking for *chauvinism*[153] and the *trivialization of National Socialism*[154], which boys also agree with more frequently. The difference in the prevalence of *Social Darwinism* for girls and boys is not found to be statistically significant.

[149] $\chi^2(1) = 10.12$, $p = .001$, $\varphi = -0.04$
[150] $\chi^2(1) = 68.06$, $p < .001$, $\varphi = -0.08$
[151] $\chi^2(1) = 80.97$, $p < .001$, $\varphi = -0.09$
[152] $\chi^2(1) = 11.77$, $p = .001$, $\varphi = -0.07$
[153] $\chi^2(1) = 26.91$, $p < .001$, $\varphi = -0.11$
[154] $\chi^2(1) = 28.64$, $p < .001$, $\varphi = -0.11$

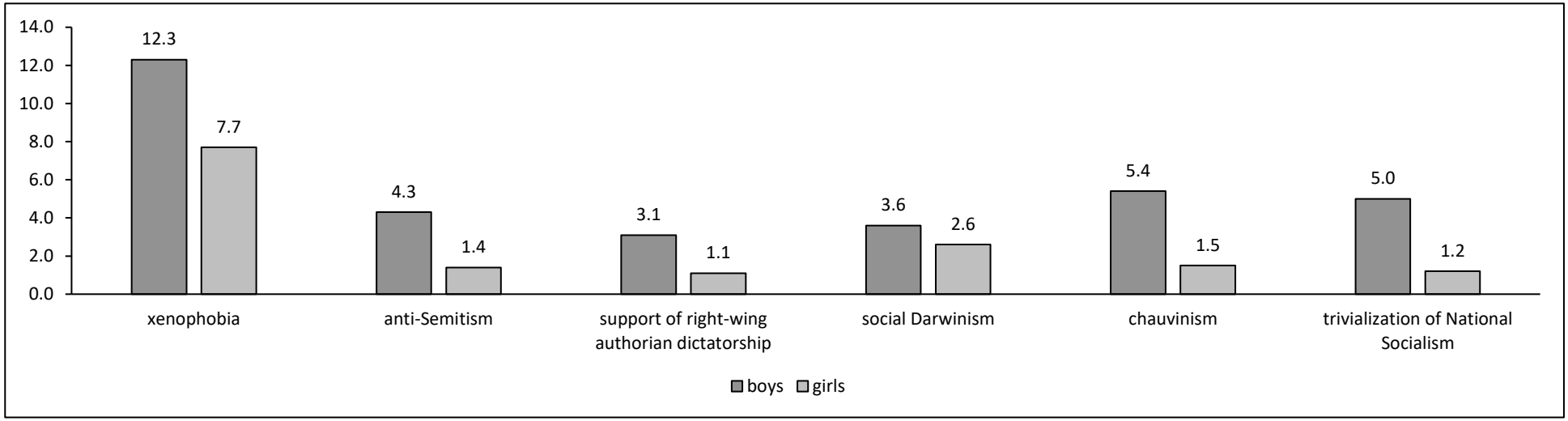

Figure 29. Approval of extreme-right attitudes in 2019 by gender (weighted data; bold: difference significant; underlined: strength of association at φ ≥ 0.1).

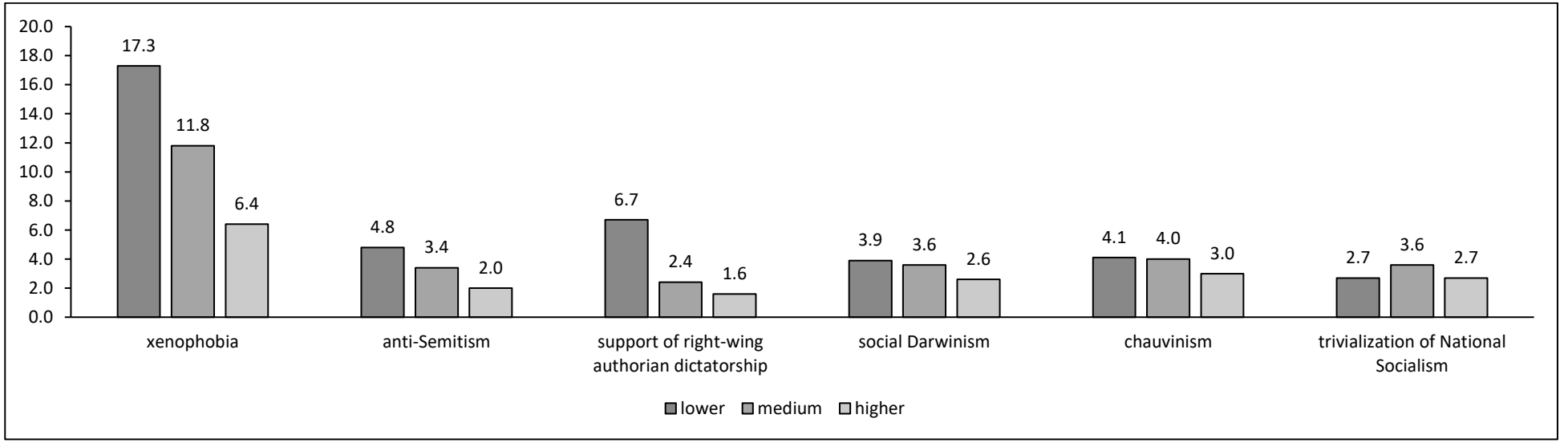

Figure 30. Approval of extreme-right attitudes in 2019 by school type (weighted data; bold: difference significant; underlined: strength of association at V ≥ 0.1).

Divided by school type, some right-wing attitudes are more prevalent at lower school types than at higher school types (see Figure 30). For the dimension of *xenophobia,* school type are found to have an effect. While 17.3 % of the students at lower school types have such attitudes, fewer adolescents have xenophobic attitudes at intermediate school types with 11.8 % and at higher school types with 6.4 % ($\chi^2(2) = 115.79$, $p < .001$, $V = 0.10$). *Anti-Semitic* attitudes were also shared more frequently at lower types of schools (4.8 %) than at medium (3.4 %) and higher types of schools (2.0 %).[155] A statistically significant difference by school type can also be shown for *support of a right-wing authoritarian dictatorship.*[156] While 6.7 % of adolescents at lower school types supported a right-wing authoritarian dictatorship, fewer adolescents at intermediate school types (2.4 %) and higher school types (1.6 %) did so. No significant differences by school type can be found for *social Darwinism, chauvinism,* and the *trivialization of National Socialism.*

Group-Focused Enmity

Islamophobia is another form of *Group-Focused Enmity*. Table 52 shows the prevalence rates and mean values of *anti-Muslim attitudes.* These attitudes were examined in 2019 using five items that have also been used in previous KFN student surveys (Baier & Rabold, 2012) and are based on Leibold and Kühnel's (2003) proposal and Heitmeyer*'s (*2002) scale of *Group-Focused Enmity*. The internal consistency of the scale is Cronbach's $\alpha = 0.78$.

Table 52. Islamophobia scale 2019 (weighted data).

	Mean value		**Consent in %**
	M	***SD***	*n* = 11 587 - 11 760[a]
The many Muslims here sometimes make me feel like a stranger in my own country.	2.81	2.03	23.3
Muslims should be prohibited from immigrating to Germany.	2.22	1.76	12.6
Muslims should be prohibited from practicing any form of religion in Germany.	1.89	1.59	8.7
I would have problems moving to an area where there are many Muslims.	2.89	2.11	25.2
I would have no problem being taught by a Muslim woman wearing a headscarf. (-)	3.43	2.57	37.3
Scale	2.65	1.49	9.6
Cronbach's α	0.78		-

Note. *M* = mean, *SD* = standard deviation
Bold: difference 2017 to 2019 significant at $p < .05$
(-) = reversed item; the associated mean refers to the recoded item.
[a] Sample size varies due to missing values.

The statement "I would have no problem being taught by a Muslim woman wearing a headscarf" is shown in Table 52 in the original wording from the questionnaire. For the analysis, this positively worded item is recoded so that high values stand for high *Islamophobia.* Thus, in 2019, 37.3 % of students in Lower Saxony would have had a problem with a teacher wearing a headscarf. Similarly, more than a quarter of adolescents "would have had a problem moving to an area where many Muslims live" (25.2 %). Almost as many students "sometimes felt like a stranger in their own country because of the many Muslims." The statements "prohibit Muslims from practicing any form of religion in Germany" (8.7 %) and "prohibit Muslims from immigrating to Germany" (12.6 %) received less

[155] $\chi^2(2) = 22.20$, $p < .001$, $V = 0.05$
[156] $\chi^2(2) = 8.83$, $p = .012$, $V = 0.06$

agreement. Table 53 shows those items that were also surveyed in the same way and with the same scaling in 2017. The level of agreement with the statement "sometimes feeling like a stranger in my own country because of the many Muslims here" decreased significantly and slightly in 2019 compared with 2017.[157] Regarding the overall scale, a significant, slight decrease in *anti-Muslim attitudes* is found with respect to the agreement proportions[158] of the mean comparison ($t(16\,035) = 3.95$, $p < .001$, $d = -0.06$). With that the decreasing trend in *anti-Muslim attitudes* continues (Bergmann et al., 2019, p. 93).

Table 53. Islamophobia scale over time (weighted data).

	Mean value				Consent in %	
	2017		2019		2017	2019
	M	***SD***	***M***	***SD***	*n* = 7 673 - 7 724a	*n* = 11 659 - 11 732a
The many Muslims here sometimes make me feel like a stranger in my own country.	**2.99**	2.14	**2.81**	2.03	**26.8**	**23.3**
Muslims should be prohibited from immigrating to Germany.	2.24	1.78	2.22	1.76	11.8	12.6
Scale	**2.62**	1.83	**2.51**	1.76	**14.6**	**13.5**
Cronbach's α	0.84		0.83		-	

Note. Bold: difference 2017 to 2019 significant at $p < .05$.
[a] Sample size varies due to missing values.

In 2019, for the first time, additional forms of *Group-Focused Enmity* (Heitmeyer, 2002) towards *Hartz-IV recipients* (based on Heitmeyer & Endrikat, 2008), *homeless* (Heyder et al., 2005) and *homosexual people (based* on Heyder et al., 2005), *people with disabilities* (based on Heyder et al., 2005 and *refugees* (Zick et al., 2016) were included in the questionnaire. Means and agreement proportions for abasement are shown in Table 54. All scales indicate at least acceptable internal consistency with a Cronbach's α of at least 0.70.

Hartz IV recipients experience the most rejection. Thus, 32.0 % of the adolescents shared hostile attitudes toward this group of people. Likewise, almost one fifth of the students can be categorized as *hostile towards refugees* (19.2 %). It is particularly striking that 36.7 % of the students believed "Germany cares more about refugees than about Germans in need of help". About one in ten adolescents shared *derogatory attitudes towards homeless people* (9.6 %) and *homosexual people* (9.5 %). However, the individual statements were agreed with much more frequently in some cases. For example, almost one in five adolescents did *not* think it was "good that marriages between two men or two women are now allowed" (19.4 %). *People with disabilities* were devaluated by 3.7 % of the interviewees. However, the statement that "many demands of people with disabilities are exaggerated" was shared by 10.8 % of the adolescents.

[157] $\chi^2(1) = 30.01$, $p < .001$, $\varphi = -0.04$
[158] $\chi^2(1) = 4.76$, $p = .029$, $\varphi = -0.02$

Table 54. Group-Focused Enmity scale 2019 (weighted data).

	Mean value		Consent in %
	M	***SD***	*n* = 11 411 - 11 704[a]
Abasement of Hartz IV recipients			
Hartz-IV recipients make a comfortable life for themselves at the expense of working people.	3.84	1.97	37.5
Most Hartz-IV recipients are not really interested in finding a job.	3.91	1.90	38.5
Scale	3.87	1.75	32.0
Cronbach's α	0.78		-
Abasement of homeless people			
Most homeless people are work shy.	2.69	1.67	14.5
Begging homeless people should be removed from pedestrian areas.	2.56	1.75	14.5
Scale	2.63	1.51	9.6
Cronbach's α	0.70		-
Abasement of people with disabilities			
I find many of the demands of people with disabilities to be excessive.	2.24	1.63	10.8
People with disabilities receive too many benefits.	1.81	1.30	4.9
Scale	2.02	1.29	3.7
Cronbach's α	0.70		-
Abasement of homosexual people			
It is disgusting when homosexuals kiss in public.	2.33	1.98	16.4
I think it is good that marriages between two men or two women are now allowed. (-)	2.52	2.14	19.4
Homosexuality is something bad.	1.89	1.70	9.5
Scale	2.25	1.65	9.5
Cronbach's α	0.80		-
Abasement of refugees			
Most refugees commit crimes in Germany.	3.16	1.82	23.2
Refugees come to Germany only to get money from the German state.	2.87	1.86	19.9
Germany cares more for refugees than for Germans in need of help.	3.75	2.04	36.7
Scale	3.26	1.69	19.2
Cronbach's α	0.86		-

Note. [a] Sample size varies due to missing values.

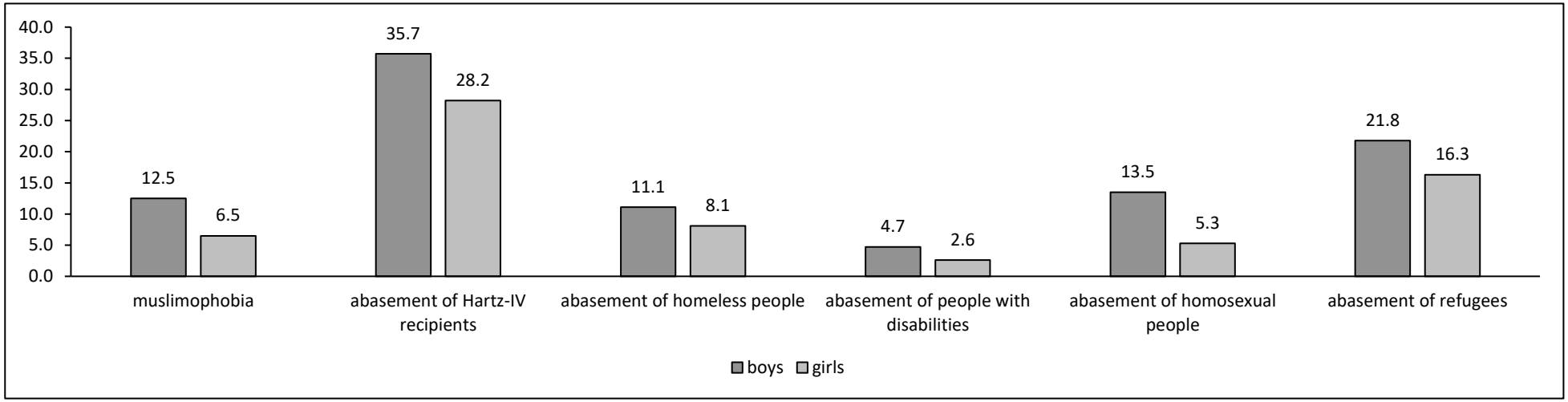

Figure 31. Approval of Group-Focused Enmity in 2019 by gender (weighted data; bold: difference significant; underlined: strength of association at φ ≥ 0.1).

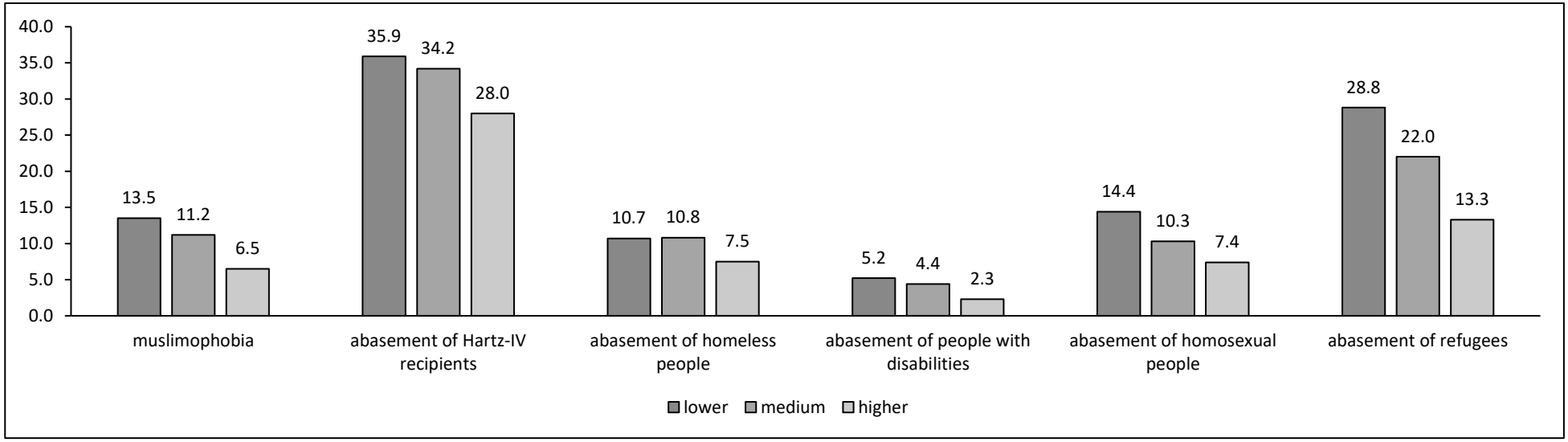

Figure 32. Approval of Group-Focused Enmity in 2019 by school type (weighted data; bold: difference significant underlined: strength of association at V ≥ 0.1).

Figure 31 shows the different forms of *Group-Focused Enmity* by gender. For all *attitudes of Group-Focused Enmity,* significantly and slightly higher prevalence can be found for boys. The greatest difference can be found in the *debasement of homosexual people.* Thus, at 5.3 %, significantly fewer girls have such attitudes than boys at 13.5 % ($\chi^2(1) = 228.57$, $p < .001$, $\varphi = -0.14$).

If we look at the prevalence of *Group-Focused Enmity* by school type (see Figure 32) we also find significant differences for all dimensions. The highest prevalence of *Group-Focused Enmity* is found in lower school types, while the second-highest prevalence of *Group-Focused Enmity* is found in intermediate school types and the lowest prevalence in higher school forms. The *debasement of homeless people* is an exception here, as it is about the same at lower and intermediate school types (10.7 vs. 10.8 %). At higher school types, 7.5 % of the adolescents still share these attitudes. Particularly striking is the difference in school type for *debasement of refugees* ($\chi^2(2) = 159.39$, $p < .001$, $V = 0.12$). At lower school types, these attitudes caused by Group-Focused Enmity occur more frequently than at intermediate and higher school types.

5.2 Right-wing behaviors

5.2.1 Low-threshold right-wing behavior

In addition to the examination of right-wing attitudes, the study of right-wing behavior is also of interest. A distinction can be made between low-threshold right-wing behavior and right-wing extremist crimes. Low-threshold behavior refers to actions that are right-wing oriented but not punishable by law. The inhibition threshold for performing these acts is thus lower than for committing a crime. First, the students were asked to indicate whether they had done any of the following things in the last twelve months (see Table 55): listening to right-wing music groups, participating in right-wing demonstrations or memorial marches, wearing stickers/buttons with right-wing motifs on clothing or school bags, visiting homepages with right-wing content, and wearing right-wing clothing brands. Young people could indicate the frequency on a scale from "1 - never" to "5 - very often". For simpler presentation, the categories "2 - rarely" and "3 - sometimes" as well as "4 - often" and "5 - very often" are combined in Table 55. The original scale is used for the annual comparisons.

The most common of these behaviors was listening to music by right-wing bands: 6.5 % of adolescents did this rarely or sometimes, while 1.8 % of adolescents did this often or very often. Adolescents were second most likely to have visited homepages with right-wing content in the past twelve months. 6.1 % of adolescents did this at least rarely. The prevalence of other right-wing behaviors can be taken from the Table 55. A maximum value index is formed from all statements, in which the highest value of the respective statement is included. For example, if a student often listened to right-wing music but did not wear right-wing clothing, the first (i.e., the highest) value is included in the index. It can be stated that in the 2019 survey, approximately one in nine young people stated that they had rarely or sometimes engaged in low-threshold right-wing behavior (11.3 %). 3.1 % of the ninth graders have done this often or very often.

Table 55. Low-threshold right-wing extremist behavior in 2019 (%; weighted data).

	Rarely/ sometimes done	Often/ very often done
	(n = 2 639 - 2 661)[a]	
I've heard music of at least one of the following groups: Endstufe, Kraftschlag, Landser/Die Lunikoff Verschwörung, Stahlgewitter, Sleipnir, Moshpit, Kategorie C, Absurd, Faustrecht, Frontalkraft, Gigi und die braunen Stadtmusikanten, n'Socialist Soundsystem/Enessess, Path of Resistance.	6.5	1.8
I participated in a demonstration, or a memorial march organized by right-wingers.	4.5	0.5
I wore stickers or buttons on my school bag or clothes to show that I was right-wing.	2.1	0.4
I have visited homepages with right-wing content on the Internet.	4.9	1.2
I have worn clothes of certain brands like Consdaple, Masterrace, Walhall Germany, Thor Steinar, Rizist, Troublemaker, Erik and Sons, Sportfrei or the like.	2.3	0.8
Low-threshold behavior	11.3	3.1

Note. [a] Sample size varies due to missing values.

To look at low-threshold right-wing behaviors over time, only adolescents without a migration background are examined, as in previous years only this group was asked the corresponding questions (not shown). Compared to 2017, there are significant differences in the frequency of attending right-wing demonstrations (U = 3361602.50, p = .033, r = 0.03). Thus, attendance at right-wing demonstrations tends to increase in 2019. Thus, in 2017, 2.6 % of students without a migration background rarely or sometimes went to such demonstration whilst 0.3 % did so often or very often (2019: 3.7 % rarely/often; 0.4 % often/very often).

Compared to 2015, there is also a tendency for slightly less right-wing music to be listened to in 2019. The difference is statistically significant.[159] In 2015, right-wing bands were still listened to by 6.9 % rarely or sometimes and 2.4 % often or very often by students without a migration background (2019: 6.4 % rarely/sometimes; 1.2 % often/very often). Compared to 2013, there is likewise a slight but significant reduction.[160] At that time, 7.7 % of young people without a migration background rarely or sometimes listened to right-wing music, while 2.8 % of students often or very often did. It should be noted in this comparison, however, that from the year 2017 for the monitoring of more current trends, the bands "Nordwind", "Störkraft", "Noie Werte" were removed due to their group disbanding, but the bands "Absurd", "Frontalkraft", "Gigi und die braunen Stadtmusikanten", "n'Socialist Soundsystem/Enessess", "Path of Resistance", "Landser/Die Lunikoff Verschwörung" and "Faustrecht" were added.

There is also a small but significant decrease in wearing right-wing clothing brands compared to 2013,[161] when 3.0 % of adolescents rarely or sometimes wore right-wing clothing brands and 0.8 % of adolescents without a migration background often or very often wore right-wing clothing brands (2019: 2.0 % rarely/sometimes; 0.4 % often/very often). However, this comparison should also be interpreted with caution, as the list of right-wing clothing brands was expanded from 2017 to include "Rizist", "Troublemaker", "Erik and Sons", and "Sportfrei". Since this change is only an expansion, the lower prevalence in 2019 is not due to this change. The overall index also shows a slight decrease in low-threshold right-wing behaviors compared to 2013 (U = 4205610.50, p = .041, r = -0.03). In 2013,

[159] U = 4440163.00, p = .024, r = -0.03

[160] U = 4114307.00, p < .001, r = -0.04

[161] U = 4189698.50, p = .006, r = -0.03

11.4 % of adolescents rarely or sometimes and 3.7 % of students often or very often performed at least one of the behaviors (2019: 11.1 % rarely/sometimes; 2.2 % often/very often).

5.2.2 Discriminatory offenses and behavior

For the first time in 2019, the questionnaire included the execution of discriminatory behavior and crimes from the perpetrator's perspective. The question was introduced with "In the last twelve months, have you done the following things to a person solely because they have a disability, are homosexual, homeless, have a different political opinion, or are of foreign origin? ". Adolescents were asked whether they had due to their group affiliation (1) insulted a person, (2) intentionally damage their property, (3) punched or kicked them, (4) threatened them with words, or (5) threatened them with a weapon (e.g., knife). The group affiliations queried were (A) people with disabilities, (B) homosexual people, (C) homeless people, (D) foreigners, (E) Jews, and (F) Muslims. Table 56 shows the respective prevalence of each behavior and act toward each group of people. In addition, an overall variable of "at least one of the acts" and the overall variable of "at least one of these groups" are shown.

As expected, the less serious offenses were committed more frequently than the serious offenses (see Table 56). Thus, 9.5 % of the adolescents have already insulted at least one person in at least one of the listed groups, about 4.1 % have threatened someone with words because of their group membership and 3.5 % have committed damage to property. In addition, 3.5 % of students intentionally punched or kicked at least one person in at least one of these groups and 2.9 % threatened a person with a weapon. Taking all these behaviors together, it appears that slightly more than one in ten adolescents has committed at least one act against at least one of these groups (10.1 %).

Most acts and behaviors were directed against foreign people. Thus, 4.2 % of the young people had already committed a discriminatory act or offense based on this group membership. The second most frequently affected were homosexual people (3.8 %), followed by people with disabilities (2.7 %) and Muslims (1.9 %). An act or behavior against homeless people was committed by 1.6 % of students in the last twelve months, while an act or behavior against Jews was committed by 1.2 % of students. When comparing these prevalence rates, however, it is important to keep in mind that opportunity structures also play a role here. For example, young people are significantly more likely to encounter foreign people than homeless people.

Table 56. Discriminatory behaviors and crimes based on group membership in the last 12 months of 2019 (weighted data).

Acts towards ...	People with disabilities	Homosexual persons	Homeless people	Foreign people	Jews	Muslims	At least one of these groups
	***n* (%)**	***n* (%)**	***n* (%)**	***n* (%)**	***n* (%)**	***n* (%)**	***n* (%)**
Insult	297 (2.4)	400 (3.2)	120 (1.0)	469 (3.8)	118 (1.0)	198 (1.6)	1 188 (9.5)
Damage to property	160 (1.3)	109 (0.9)	69 (0.6)	96 (0.8)	29 (0.2)	62 (0.5)	438 (3.5)
Threat with words	159 (1.3)	127 (1.0)	78 (0.6)	154 (1.2)	52 (0.4)	85 (0.7)	511 (4.1)
Assault (hitting, kicking)	155 (1.2)	89 (0.7)	72 (0.6)	115 (0.9)	39 (0.3)	57 (0.5)	442 (3.5)
Threat with a weapon (e.g. knife)	145 (1.2)	71 (0.6)	57 (0.5)	77 (0.6)	37 (0.3)	48 (0.4)	362 (2.9)
At least one of the behaviors	339 (2.7)	476 (3.8)	203 (1.6)	524 (4.2)	146 (1.2)	236 (1.9)	1 258 (10.1)

5.2.3 Right-wing extremist crimes

To be able to make a comparison with previous years with regard to right-wing extremist crimes, the old survey form for these crimes is also presented here. A right-wing extremist motive is assumed if the crime is explicitly directed against foreigners or left-wing persons. In contrast to Table 56, the questions focus on lifetime prevalence. Table 57 shows the various right-wing extremist crimes and their prevalence. The most frequently carried out right-wing crime represented painting or spraying swastikas or slogans such as "foreigners out" on a house wall or a public toilet. Thus, 5.8 % of adolescents surveyed had done this at least once. The other crimes were carried out by fewer young people. The second most common crime was hitting and injuring someone because they were "left-wing" (1.2 %). Property and house damage against left-wing persons was carried out by 0.8 and 0.9 % of the adolescents, resp. Violence against foreigners was used by 1.1 % of students on the level of bodily harm and damage to property. In addition, 0.7 % of the students damaged a house inhabited by foreigners. At least one of the crimes was committed by 7.0 % of the ninth graders.

Table 57. Right-wing extremist crimes in 2019 (%; weighted data).

	2019
	(*n* = 9 494 - 9 519) [a]
Painted or sprayed a swastika or a slogan such as "Foreigners out" on a wall of a house or a public toilet.	5.8
Intentionally hit and hurt someone because they were a foreigner	1.1
Deliberately damaged things because they belonged to foreigners	1.1
Intentionally damaged a house inhabited by foreigners	0.7
Hit and hurt someone because they were left-wing.	1.2
Damaged property because it belonged to leftist	0.8
Damaged a house/youth club inhabited by leftist	0.9
At least one act	7.0

Note. [a] Sample size varies due to missing values.

In previous years, these questions were only asked of young people without a migration background, which is why the Table 58 also focuses only on this subsample. Compared with 2017, significant changes in right-wing extremist crimes over time can be seen in relation to bodily harm against (alleged) leftists[162] and damage to a house or youth club inhabited by leftists, which has tended to increase.[163] Compared to the year 2015 and 2013, right-wing vandalism (first row in Table 58) has significantly increased slightly[164] , which was also already evident in 2017 (Bergmann et al., 2019, 98f.). In addition, compared to 2013, assault[165] and damage to houses/youth clubs[166] by left-wing individuals has significantly and tendentially increased. Regarding the overall index of right-wing crimes, the trend shows a significant increase in right-wing crimes compared to 2013 (4.1 %; $\chi^2(1) = 14.18$, $p < .001$, $\varphi = 0.05$) and 2015 (4.4 %; $\chi^2(1) = 10.29$, $p = .001$, $\varphi = 0.04$).

Table 58. Right-wing extremist crimes over time, only respondents without a migration background (in %; weighted data).

	2015	**2017**	**2019**
	(*n* = 4 788 – 5 001) [a]	(*n* = 3 640 – 3 934) [a]	(*n* =2 018 – 2 041) [a]
Painted or sprayed a swastika or a slogan such as "Foreigners out" on a wall of a house or a public toilet.	**3.1**	4.5	5.4
Intentionally hit and hurt someone because they were a foreigner	0.8	0.7	0.8
Deliberately damaged things because they belonged to foreigners	0.6	0.7	1.0
Intentionally damaged a house inhabited by foreigners	0.3	0.2	0.5
Hit and hurt someone because they were left-wing.	1.1	**0.2**	0.8
Damaged property because it belonged to leftist	**0.1**	0.2	0.4
Damaged a house/youth club inhabited by leftists	**0.2**	**0.1**	0.5
at least one act	**4.4**	5.2	6.2

Note. [a] Sample size varies due to missing values.

[162] $\chi^2(1) = 11.48$, $p = .001$, $\varphi = 0.05$

[163] $\chi^2(1) = 7.58$, $p = .006$, $\varphi = 0.04$

[164] 2013/2019: $\chi^2(1) = 21.23$, $p < .001$, $\varphi = 0.06$; 2015/2019: $\chi^2(1) = 21.91$, $p < .001$, $\varphi = 0.06$

[165] $\chi^2(1) = 7.72$, $p = .005$, $\varphi = 0.04$

[166] $\chi^2(1) = 5.23$, $p = .022$, $\varphi = 0.03$

Summary

Even in 2019, right-wing extremist attitudes are not uncommon among adolescents in Lower Saxony. For example, more than one in ten students share *xenophobic attitudes* (10.1 %). *Chauvinist attitudes* are shared by 3.6 % of adolescents, while 3.2 % of students can be classified as Social Darwinist or as *trivializing National Socialism.* Still, 3.0 % of the ninth graders are *anti-Semitic* and 2.2 % *support a right-wing authoritarian dictatorship*. These prevalence rates can also be compared with previous years, at least for adolescents without a migration background. Significant decreases in right-wing extremist attitudes can be observed for *Social Darwinism* and *chauvinism.* The remaining extreme right-wing attitudes also decrease significantly in 2019 compared to 2017, although the differences between the years are smaller. Differentiated by gender, significantly higher prevalence rates for boys than for girls can be seen (especially *chauvinism* and *trivialization of National Socialism*). In addition, *xenophobia*, *anti-Semitism,* and *support for a right-wing authoritarian dictatorship* are more prevalent in lower forms of school than in higher forms.

When looking at *Group-Focused Enmity,* the highest prevalence is found for the *debasement of Hartz-IV recipients*: Almost every third adolescent shares such an attitude (32.0 %). In addition, almost one fifth (19.2 %) of the students can be classified as *derogatory towards refugees.* Furthermore*,* 9.6 % of students can be categorized as *islamophobic* and *derogatory towards homeless people.* Furthermore, 9.5 % of the adolescents have a derogatory attitude towards *homosexual people. People with disabilities* are debased by 3.7 % of the ninth graders. The greatest gender differences are found in the *devaluation of homosexual people*, which is more prevalent among boys than among girls, while the greatest difference in school type is found in the *devaluation of refugees*, which occurs more frequently in lower school types than in medium and higher school types.

On the behavioral level, it can be seen regarding low-threshold right-wing behavior that about every seventh student has already carried out at least one of the questioned behaviors. In addition, more than one in ten ninth graders (10.1 %) have committed at least one discriminatory act or offense against people with disabilities, homosexual people, homeless people, foreigners, Jews or Muslims. When looking at right-wing extremist crimes in the overall index, there are no changes in 2019 compared to 2017.

6 Lifeworld and everyday experiences of adolescents

Everyday life of children and adolescents is decisively shaped by the extracurricular spheres of family and leisure time (Busse & Helsper, 2007). In addition, individual assessments of one's own life situation (e.g., life satisfaction and satisfaction with school, friendships, and health status) provide information about the life and emotional world of adolescents. The extent of trust in other people and in the police are core areas of adolescents' lifeworld, which can have a decisive influence on problematic and prosocial behavior. Regarding family experiences, various aspects of parental education are considered, including, above all, deficient parenting behavior. These include the use of parental violence of a verbal and physical nature, overly protective parenting behaviors, and strict parental control behaviors. The general quality of family relationships was also surveyed based on their conflictual nature and the extent of intra-family cohesion. In connection with growing up in the family, religious affiliation and concrete religious practice also represent an essential part of young people's lifeworld. In the following, these aspects of the lifeworld and everyday life of young people will be examined in more detail, one after the other. In particular, the lifeworld of young people with a migration history will also be considered.

6.1 Life satisfaction

Life satisfaction data for 2013 and 2015 are based on a subsample that does not differ in sociodemographics from the main sample. In 2017 and 2019, life satisfaction questions were asked of all respondents. Students were asked about their satisfaction with various aspects of their lives. They were asked to indicate how satisfied, on a scale of "1 – very dissatisfied" to "4 - very satisfied," they were with the areas of success in school, friendships, financial opportunities, health, and life overall.

A mean value scale was formed from the five satisfaction areas (Cronbach's α 2019 = 0.73) to depict average satisfaction. On the four-point scale, young people in 2019 have an average value of 3.20 and are thus rather satisfied (see Table 59). Comparing the satisfaction of the surveyed girls and boys, it is noticeable that boys are more satisfied than girls (t(12 075) = 12.62, p < .001, d = 0.24). It also appears that adolescents at higher school forms are more satisfied than adolescents at intermediate and lower school types. The difference between lower and intermediate school types also turns out to be significant. The difference between lower and higher school types occurs to be the largest (t(766) = - 6.01, p < .001, d = -0.29).

Table 59. Satisfaction by respondent group in 2019 (weighted data).

		2019	
		(n = 12 206 – 12 326)	
		M	***SD***
All		3.20	0.54
Gender	Male	**3.27**	0.52
	Female	**3.14**	0.56
School type	Lower	**3.10**	0.62
	Intermediate	**3.19**	0.55
	Higher	**3.25**	0.51

Note. M = mean, SD = standard deviation
Bold: group differences at p < .01, underlined: strength of association at d ≥ 0.2.

To obtain a clearer presentation, the respondents were divided into two groups: Respondents who indicated values 1 and 2 were classified as dissatisfied. Respondents who indicated values 3 and 4 were

classified as satisfied. Overall, most respondents in the various survey periods are shown to be rather and very satisfied (see Figure 33). Significant differences in youth life satisfaction emerge across years. Compared with 2017, youth in 2019 are slightly more satisfied with their success in school, their financial opportunities, and their health.[167] Adolescents are slightly less satisfied in 2019 with their friendships compared to 2017.[168]

In all years, Lower Saxony's students are most satisfied with their friendships and least satisfied with their success at school. For health and financial opportunities, the highest satisfaction value is recorded in 2019.

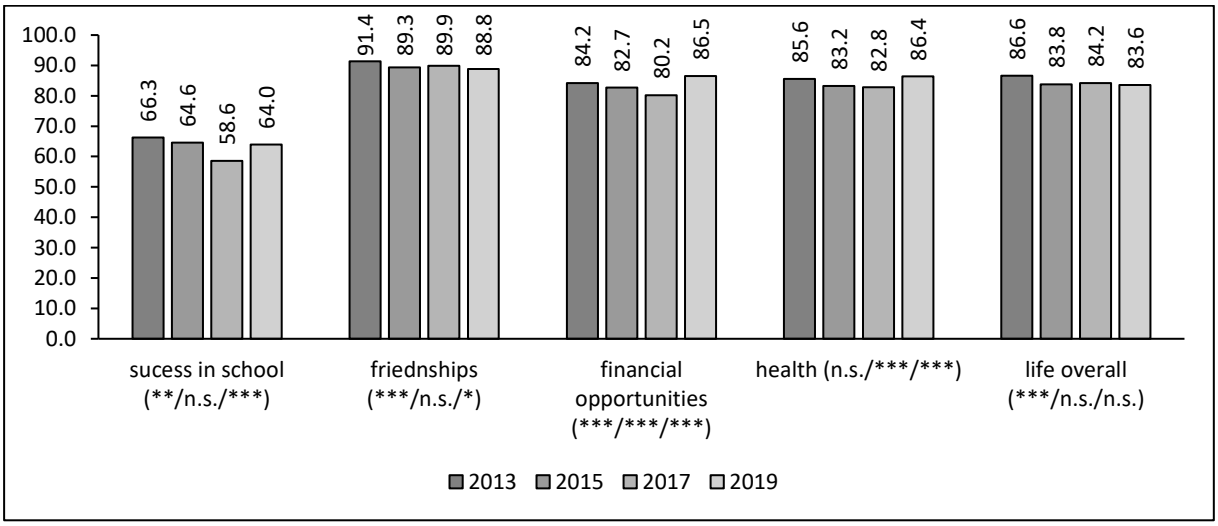

Figure 33. Life satisfaction compared over time (%; weighted data; comparison left: 2013/2019; mid-2015/2019; right: 2017/2019 significant at *p < .05, **p < .01, ***p < .001, n.s. = non-significant difference).

Summary

The evaluations show that most adolescents in Lower Saxony are rather as well as very satisfied, with satisfaction with friendships being the highest and satisfaction with success at school the lowest. Over the years, there are only minor changes in life satisfaction. Boys are more satisfied overall than girls. In addition, satisfaction is higher at higher than at lower school types.

6.2 Life world of adolescents with a migration background

As already described in chapter 2.2, almost every third ninth grader in Lower Saxony (31.1 %) has a migration background. Considering the generation of migration, 24.9 % are children of immigrants (second generation) and 6.2 % migrated to Germany themselves (first generation). Accordingly, 68.9 % of adolescents have no migration background. Table 11 (chapter 2.2) shows the countries of origin of the students with a migration background. Adolescents with a first-generation migration background were on average 8.32 years old (*SD* = 4.89) when they came to Germany. The parents of adolescents with a second-generation migration background were on average 25.30 years old (*SD* = 8.68).

[167] School: $\chi^2(1) = 63.17$, $p < .001$, $\varphi = 0.06$; financial opportunity: $\chi^2(1) = 153.48$, $p < .001$, $\varphi = 0.09$; health: $\chi^2(1) = 50.71$, $p < .001$, $\varphi = 0.05$

[168] Friendships: $\chi^2(1) = 6.06$, $p = 0.014$, $\varphi = -0.02$

Table 60 lists the sociodemographic characteristics of adolescents as a function of migration background. A univariate ANOVA showed that the average age of the three groups described differs significantly from each other ($F(2, 12\,144) = 257.82$, $p < .001$). First-generation immigrant adolescents are on average the oldest, while students without a migration background are the youngest. Pairwise comparisons show that all three groups differ significantly from each other, with the differences between the first generation immigrants and the other two groups being the largest (to the second generation: $t(938) = 12.63$, $p < .001$, $d = 0.63$; to adolescents without a migration background: $t(808) = 15.93$, $p < .001$, $d = 0.86$).[169] Gender distribution, however, does not differ between students without a migration background, children of immigrants, and self-migrated adolescents. Furthermore, there is no significant correlation between the migration background and whether the interviewed adolescents do or do not live with both biological parents.

In contrast, there is a significant, clear correlation between the migration background and the dependence on welfare aid ($\chi^2(2) = 517.17$, $p < .001$, $V = 0.21$). The families of first-generation immigrants are the most likely to receive welfare aid (31.2 %). Among families of adolescents with a second-generation migration background, only half as many do so (14.7 %). Among families without a migration background, however, only 6.8 % depend on welfare aid. There are also, as expected, significant, large correlations between the migration background and the young people's possession of German citizenship ($\chi^2(2) = 5425.61$, $p < .001$, $V = 0.67$) and at least one German parent ($\chi^2(2) = 6755.43$, $p < .001$, $V = 0.75$). Since this applies to 100 % of students without a migration background in both cases, only adolescents with a migration background are considered in the following analysis. There remains a large correlation between the generation of migration background and the possession of German citizenship ($\chi^2(1) = 1301.85$, $p < .001$, $\varphi = 0.59$). As expected, with 90.8 %, significantly more second-generation immigrants possess German citizenship than adolescent who immigrated to Germany themselves. However, even among these, almost a third (30.5 %) have German citizenship. As expected, first-generation immigrant students are significantly less likely to have a German parent (17.5 %) than adolescents with a second-generation migration background (41.8 %; $\chi^2(1) = 149.82$, $p < .001$, $\varphi = 0.20$).

Table 60. Sample description by migration background (in % or mean values; weighted data).

	First-generation migration background (n = 725 - 750) [a]	**Second-generation migration background** (n = 3 007 - 3 034) [a]	**Without migration background** (n = 8 311 - 8 367) [a]
Age: Mean value	**15.55[1]**	**15.08[2]**	**14.98[2]**
Gender: Proportion male	52.2	49.0	51.1
Not living with both biological parents	34.6	30.8	31.0
Dependent on welfare aid	**31.2[1]**	**14.7[2]**	**6.8[3]**
German citizenship	**30.5[1]**	**90.8[2]**	**100.0[3]**
One parent German	**17.5[1]**	**41.8[2]**	**100.0[3]**

Note. Bold: difference significant at $p < .05$

[1,2,3] different superscripts show differences in d ≥ 0.2, Cramer's V ≥ 0.1.

[a] Sample size varies due to missing values.

When considering the lifeworld of adolescents with a migration background, two aspects must be considered. During life, people pass through different stages (childhood, adolescence, adulthood), which according to Havighurst (1948) are characterized by certain developmental tasks. Successful

[169] Difference between second-generation immigrants and students without a migration background: $t(5\,091) = 7.16$, $p < .001$, $d = 0.16$)

accomplishment of these tasks has a great influence on satisfaction and successful accomplishment of later tasks. Failure to cope, on the other hand, can lead to dissatisfaction and social disapproval (Havighurst, 1948, 1953).

Developmental tasks in adolescence formulated by Havighurst (1948) include, for example, establishing new and mature relationships with peers of one's own and the opposite sex, accepting one's own body and using it effectively, becoming detached and emotionally independent from parents and other adults, developing socially responsible behavior, and acquiring values and an ethical system to guide one's behavior. Developmental tasks are linked to social expectations, and thus some of the developmental tasks formulated by Havighurst (e.g., preparation for marriage and family life) seem outdated. Most of these tasks, however, are still seen as generally accepted goals for adolescents (Lohaus, 2018). While developmental tasks may also differ across cultures, these developmental tasks seem to apply at least in Western individualistic countries. These tasks are part of the normative development of adolescents, and this is true for both adolescents without and with a migration background (Jugert & Titzmann, 2020).

In addition to the normative developmental tasks, adolescents with a migration background must cope with acculturation-related tasks resulting from the encounter of two cultures. These tasks involve sociocultural and psychological adjustment and include, for example, coping with cultural differences, learning a new language, acquiring culturally appropriate values, beliefs, skills, and behaviors, and developing ethnic and national identities (Oppedal, 2006; Phinney et al., 2001; Ward et al., 2001). In addition, individuals with migration backgrounds often face acculturation-related stressors such as discrimination and language problems (Titzmann et al., 2011). Due to these additional developmental tasks of immigrant adolescents, higher levels of stress can be expected for them across a range of experiences. Therefore, this chapter will compare life satisfaction, experiences of discrimination, language, sense of safety, and burden of delinquency from perpetrator and victim perspectives between adolescents without a migration history and adolescents with a first- and second-generation migration background.

Life satisfaction

Since the failure to cope with normative developmental tasks as well as acculturation-related tasks and acculturation-related stress factors can influence adolescents' satisfaction (Havighurst, 1948, 1953; Ullman & Tatar, 2001), this is compared between adolescents with and without a migration background. Adolescents were asked about their satisfaction with various aspects of their lives (success in school, friendships, financial opportunities, health, and life overall). They were asked to indicate how satisfied they were on a scale from "1 – very dissatisfied" to "4 - very satisfied" (see also chapter 6.1).

Combining these aspects of satisfaction into a mean value scale (Cronbach's $\alpha = .73$), the mean value for adolescents without a migration background is 3.24 ($SD = 0.52$). Adolescents with a second-generation migration background present a mean of 3.13 ($SD = 0.56$) and first-generation immigrants have a mean of 3.14 ($SD = 0.60$). There is a significant group difference (F (2, 12114) = 56.81, $p < .001$). As pairwise comparisons show, adolescents without a migration background are significantly more satisfied on average than adolescent immigrants (first generation: $t(837) = -4.24$, $p < .001$, $d = -0.19$; second generation: t(4 996) = -9.86, $p < .001$, $d = -0.22$).

Table 61 shows the individual areas of life satisfaction that form the mean scale. Kruskal-Wallis tests show significant differences between the considered groups with respect to satisfaction with life

overall ($\chi^2(2) = 46.56$, $p < .001$), success in school ($\chi^2(2) = 82.13$, $p < .001$), friendships ($\chi^2(2) = 39.48$, $p < .001$), and financial opportunities ($\chi^2(2) = 112.60$, $p < .001$). There is no significant difference regarding satisfaction with health status.

Pairwise comparisons show that young people without a migration background are significantly more satisfied than students with a migration background in the first four areas mentioned (see last column of Table 61), although they do not differ with first-generation immigrants in terms of satisfaction with life overall and success at school. There is only one significant difference between the first and second generation of immigrants: first-generation immigrants are significantly more satisfied with success at school than second-generation students (see last column of Table 61.

Table 61. Satisfaction by migration background (%; weighted data).

	First-generation migration background (*n* = 726 - 737) [a]				**Second-generation migration background** (*n* = 2 993 - 3 013) [a]				**Without a migration background** (*n* = 8 290 - 8 339) [a]				**Significant pairwise comparisons**
	1	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	
Total life (***)	5.3	14.1	40.4	40.1	4.0	16.1	45.1	34.8	2.8	11.8	45.6	39.8	without > 2.
Success at school (***)	8.6	28.7	44.5	18.2	8.2	33.8	43.9	14.1	5.5	28.0	47.7	18.7	without, 1. > 2.
Friendships (***)	3.9	8.4	39.3	48.4	2.5	11.4	36.4	49.6	1.7	8.3	35.8	54.2	without > 1., 2.
Financial opportunities (***)	4.8	13.6	43.7	37.9	3.5	14.2	40.0	42.3	2.1	9.3	39.1	49.6	without > 1., 2
Health status	4.6	8.3	31.1	56.0	3.6	12.0	29.8	54.7	2.7	10.2	30.9	56.2	-

Note. Significance data for Kruskal-Wallis test across all three groups with *** $p < .001$.
1 = very dissatisfied, 2 = rather dissatisfied, 3 = rather satisfied, 4 = very satisfied
without = without migration background, 1. = first generation migration background, 2. = second generation migration background
[a] Sample size varies due to missing values.
[b] Result of pairwise Mann-Whitney U test with significant Kruskal-Wallis test; group(s) to the right of ">" are significantly more satisfied than group(s) to the left of ">".

Discrimination and language

The acculturation-related stress factors, such as discrimination and language (Titzmann et al., 2011), to which young people with a migration background may be exposed, will be examined in more detail in the following.

All adolescents were asked whether they had experienced the following things in the last twelve months solely because of *their nationality, origin, language or skin color* [170]: "I was called names," "My belongings were broken on purpose," "I was hit or kicked," "I was threatened with words," "I was threatened with a weapon (e.g., knife)," "I was treated as if I were not here, ignored or excluded on purpose," and "I was not served in a shop, was not allowed into a club, bar or the like, I was refused other kinds of service." The prevalence rates for these experiences are shown separately for first- and second-generation immigrant adolescents and youth without a migration background in Table 62.

Of all students, 5.4 % have experienced at least one of these discriminations. Looking at the individual groups, 18.4 % of first-generation immigrants have had at least one of these experiences in the last

[170] If respondents believe there were multiple reasons why they had experienced the relevant discrimination, they should select the most decisive reason.

twelve months. Among young people with a second-generation migration background, 13.1 % have experienced this. Not surprisingly, youth without a migration background have experienced this type of discrimination significantly less often, although again 1.8 % of adolescents have stated they have experienced at least one of the listed acts. Comparing the different experiences of discrimination between young people without a migration background and first- and second-generation students, there are significantly higher prevalence for young people with a migration background for all experiences.

Comparing the two groups of immigrant youth, the first generation experienced all discrimination experiences more frequently than the second generation. Refusal of services, for which the prevalence rates are identical, is an exception. The differences are statistically significant only for verbal abuse and damage to property and the overall scale (see last column in Table 62).

In addition, Table 62 experiences of discrimination were most frequently reported. With 15.1 and 10.3 % resp., adolescents with a migration background most frequently experienced verbal abuse based on their *nationality, origin, language, or skin color.* Second most often, they were threatened with words (4.4 and 3.2 %, resp.). They were least often threatened with a weapon such as a knife, however, this was still experienced by 0.8 and 0.5 % resp.

Table 62. 12-month prevalence of experiences of discrimination based on nationality, origin, language, or skin color (%; weighted data).

	First-generation migration background (*n* = 607 - 625) [a]	**Second generation migration background** (*n* = 2 726 - 2 793) [a]	**Without a migration background** (*n* = 7 877 - 7 997) [a]	**Significant pairwise comparisons**
Insulted (***)	15.1	10.3	1.4	1st[1] > 2nd[1] > without2
Damage to property (***)	2.0	0.7	0.1	1st > 2nd > without
Beaten or kicked (***)	1.6	0.7	0.2	1st, 2nd > without
Threatened with words (***)	4.4	3.2	0.5	1st[1], 2nd[1] > without2
Threatened with weapon (e.g., knife) (***)	0.8	0.5	0.0	1st., 2nd > without
Treated if they were not there, excluded (***)	3.3	2.2	0.2	1st[1], 2nd[1] > without[2]
Service denied (***)	1.3	1.3	0.1	1st, 2nd > without
Total (***)	**18.4**	**13.1**	**1.8**	**1st[1] < 2nd[1] < without[2]**

Note. Significance for χ^2-test across all three groups with*** $p < .001$.
without = without migration background, 1st = first-generation migration background, 2nd = second-generation migration background.
[a] Sample size varies due to missing values.
[b] Result of pairwise χ^2-test with significant overall χ^2-test; group(s) to the left of ">" were significantly more likely to have experienced discrimination than group(s) to the right of ">."
[1,2] different superscripts show differences at $\varphi > 0.1$.

If the adolescents indicated in the questionnaire that either they themselves or at least one of their parents was/are not born in Germany or has a nationality other than German, they were asked which

language they mostly use in everyday life. They were able to indicate the language they used for the following questions, with the possibility of multiple responses:

- In which language do you mostly talk to your parents at home?
- In which language do your parents usually talk to each other at home?
- In which language does your family mostly watch TV in at home?
- In which language do you mostly watch TV at home?
- In which language do you mostly talk to your friends?
- In which language do you mostly read newspapers, magazines, or books?

As it can be seen in Table 63, first- and second-generation immigrants differ significantly and clearly in the distribution of the language used in all situations surveyed.[171] The majority of young people who immigrated to Germany themselves communicate with their parents in a language other than German (74.1 %). About the same number of these adolescents (77.2 %) stated that their parents do not communicate with each other in German. For young people with a second-generation migration background, this is only 30.5 and 53.6 %, resp. Although the distribution of the used language also differs when watching TV (themselves), talking to friends, and reading, German is still the most used language in both groups (53.5, 79.5 and 73.0 % for the first generation and 83.0, 93.7 and 89.7 % for the second generation). Thus, the German language plays a major role in everyday life for both first-generation and second-generation youth.

Findings from studies have shown that adolescents with a migration background establish friendships primarily with peers with the same migration background (McPherson et al., 2001; Titzmann, 2014). For example, 65.4 and 59.4 % of adolescents with a first- and second-generation migration background, resp, estimated that at least half of their friendship circle was of foreign origin. In comparison, only 16.6 % of the young people without a migration background stated this. Considering the above, it should be emphasized that the majority of young people with a migration background stated that they mostly talk to their friends in German (79.5 and 93.7 %, resp.), although it is not possible to judge whether the friends have the same migration background as themselves.

Table 63. Language use by migration background (%; weighted data).

	First-generation migration background (*n* = 681 - 722) [a]			**Second-generation migration background** (*n* = 2 918 - 2 987) [a]		
	German	**German and others**	**Other language**	**German**	**German and others**	**Other language**
Talking with parents at home (***)	21.5	4.4	74.1	60.5	9.0	30.5
Parents with each other (***)	21.5	1.3	77.2	43.6	2.8	53.6
At home television (family) (***)	42.9	2.8	54.3	61.8	3.4	34.9
At home television (self) (***)	53.5	4.8	41.7	83.0	3.0	14.0
Talking with friends (***)	79.5	6.9	13.6	93.7	3.0	3.4
Reading (***)	73.0	5.3	21.7	89.7	3.0	7.2

Note. Significance for χ^2-test with *** $p < .001$, all differences V ≥ 0.1.
[a] Sample size varies due to missing values.

[171] Talking at home with parents: $\chi^2(2) = 465.97$, $p < .001$, $V = 0.35$; Parents with each other: $\chi^2(2) = 130.07$, $p < .001$, $V = 0.19$; Watching television at home (family): $\chi^2(2) = 88.83$, $p < .001$, $V = 0.16$; Watching TV at home (self): $\chi^2(2) = 288.65$, $p < .001$, $V = 0.28$; Talking with friends: $\chi^2(2) = 150.58$, $p < .001$, $V = 0.20$; Reading: $\chi^2(2) = 145.66$, $p < .001, V = 0.20$

Delinquency

In the following, the lifetime and 12-month prevalence of the surveyed forms of delinquency (see chapter 3) are considered from the perspective of the perpetrator and victim depending on their migration background. The respective overall scale is taken into account, i.e., for example, a person who is considered a victim of a property crime has experienced at least one form of the surveyed property crimes from Chapter 3.1[172] The respective prevalence rates can be taken from Table 64.

Adolescents with a migration background are significantly more likely to have been victims of property and violent crimes both in their lifetime and in the past 12 months than adolescents without a migration background. For example, depending on the offense, students with a migration background have a lifetime prevalence that is 6.7 to 8.1 percentage points higher and a 12-month prevalence that is 3.7 to 4.7 percentage points higher. The differences between adolescents without a migration background and students with a second-generation migration history are significant for all offenses. A comparison between adolescents without a migration background and respondents with a first-generation migration background also becomes significant for all offenses except for the 12-month prevalence of being a victim of a property offense (see last column, Table 64). Adolescents with first- and second-generation migration backgrounds do not differ significantly from each other for either property or violent offenses, and thus are victims of these offenses about equally often (both over their entire lives and in the past 12 months).

Table 64. Lifetime and 12-month prevalence of victimhood and perpetration of the surveyed offenses by migration background (%; weighted data).

		First-generation migration background (*n* = 709 - 746) [a]	**Second-generation migration background** (*n* = 2 970 - 3 023) [a]	**Without migration background** (*n* = 8 229 - 8 358) [a]	**Significant pairwise comparisons**
Victimhood					
Lifetime prevalence	Property crime (***)	60.3	59.9	53.2	without < 1st, 2nd
	Violent crime (***)	44.2	43.8	36.1	without < 1st, 2nd
12-month prevalence	Property crime (***)	25.5	26.1	22.4	without < 2nd
	Violent crime (***)	21.6	22.6	17.9	without < 1st, 2nd
Perpetration					
Lifetime prevalence	Property crime (***)	32.1	36.0	26.7	without < 1st, 2nd
	Violent crime (***)	22.3	21.9	13.6	without[1] < 1st, 2nd[2]
	Cybercrime (***)	49.5	58.2	46.5	without[1], 1st < 2nd[2]
12-month prevalence	Property crime (***)	13.3	16.4	12.5	without < 2nd
	Violent crime (***)	11.4	10.7	6.0	without < 1st, 2nd
	Cybercrime (***)	31.1	38.9	30.8	without, 1st < 2nd

Note. Significance for χ^2-test with *** $p < .001$.
without = without migration background, 1st = migration background 1st generation, 2nd = migration background 2nd generation.
[a] Sample size varies due to missing values.
[b] Result of pairwise χ^2-test with significant overall χ^2-test; group(s) to the left of ">" were significantly more likely to have experienced discrimination than group(s) to the right of ">."
[1, 2] different superscripts show differences in $\varphi \geq 0.1$

[172] For a listing of related offenses, see chapter 3.1.

On the one hand, the prevalence rates show that adolescents are victims of property and violent crime significantly more often than adolescents without a migration background. On the other hand, they also appear more frequently as perpetrators of these crimes (see Table 64). Adolescents with a migration background have a 5.4 to 9.3 percentage points higher lifetime prevalence and a 3.9 to 5.4 percentage points higher 12-month prevalence of perpetration of property and violent crimes. Here, youth without a migration background differ significantly from second-generation youth with a migration history in property and violent offenses. As in the case of victimhood, the differences between adolescents without a migration history and adolescents with a first-generation migration background are significant for all offenses except for the 12-month prevalence of property offenses (see last column of Table 64).

On the perpetration side, the self-reported prevalence of cybercrime was also surveyed. In this case, the picture is different from the previous forms as adolescents with a first- and second-generation migration background also differ significantly from each other. Adolescents with a second-generation migration background have more often been involved in cybercrime than adolescents with a first-generation migration background and adolescents without a migration background, both in their previous lives and in the last twelve months. They show a lifetime prevalence increased by 8.7 and 11.7 percentage points resp., as well as a 12-month prevalence increased by 7.8 and 8.1 percentage points resp.

The difference between the groups is particularly clear for the lifetime prevalence of property crimes ($\chi^2(2) = 93.98$, $p < .001$, $V = 0.09$), violent crimes ($\chi^2(2) = 131.63$, $p < .001$, $V = 0.11$), and cybercrimes ($\chi^2(2) = 120.96$, $p < .001$, $V = 0.10$). Subsequent pairwise comparisons showed that this was mainly due to the difference between students with no migration background and a second-generation migration background (property crimes: $\chi^2(2) = 91.55$, $p < .001$, $\varphi = -0.09$; violent crimes: $\chi^2(2) = 113.03$, $p < .001$, $\varphi = -0.10$; cybercrimes: $\chi^2(2) = 120.95$, $p < .001$, $\varphi = -0.10$). Since there are significant differences between second-generation immigrants and adolescents without a migration background regarding the perpetration of these offenses (lifetime prevalence), the relationship between the perpetration of these offenses and migration background is now examined in a second step in multivariate binary-logistic regression models. First, the migration background serves as the sole predictor for the probability of having committed a crime (property crime, violent crime, or cybercrime) (see Table 65). Subsequently, the same relationship is examined (the models are mapped in Table 32, Table 33 and Table 34 in chapter 3.5) considering sociodemographic factors as well as risk factors related to delinquency (Barnes et al., 2002; Beckmann, 2019; Beckmann & Bergmann, 2017; Cottle et al., 2001; Fagan et al., 2011; Hoeve et al., 2009; Hubbard & Pratt, 2002; Murray & Farrington, 2010; Najman et al., 2019; Rabold & Baier, 2007; Schulz et al., 2011).

The average marginal effects (AME; see Table 65) show that adolescents with a first-generation migration background are 7.0 percentage points more likely to have committed a property crime than students without a migration background, without taking control variables into account. Second-generation immigrants are 9.0 percentage points more likely to have committed a property crime than adolescents without a migration background. However, when the sociodemographic characteristics and risk factors are taken into account (see Table 32), adolescents without a migration background and the first generation no longer differ significantly from one another. The second generation is 4.0 percentage points more likely to have committed a property crime. In the model with the additional predictors, this difference has thus decreased by 5.0 percentage points. Furthermore, if we compare the strength of all the predictors used from the lifetime prevalence of a property crime, the number

of delinquent friends, occasional or multiple truancy, mild and severe physical as well as psychological parental violence before the age of twelve, the degree of risk-taking, problematic alcohol consumption, attendance of a lower school type compared to a higher school type, and no religious affiliation compared to a Muslim or other[173] religion are stronger predictors than second-generation migration background (see Chapter 3.5).

This is also evident for the probability of being a perpetrator of a violent crime. Without taking control variables into account, the first and second generation of immigrants are 7.0 and 8.0 percentage points more likely to have committed a violent crime than adolescents without a migration background. Considering the above-mentioned additional predictors (see Table 33), no significant difference remains for the first migration generation and only a small, strongly attenuated, but nevertheless significant difference remains for the second migration generation. In figures, this means that young people with a second-generation migration background are 2.0 percentage points more likely to be the perpetrator of a violent crime. More decisive than the second-generation migration background, however, seems to be the number of delinquent friends, occasional or multiple truancy, mild and severe physical and psychological parental violence before the age of twelve, the level of affinity for violence and violence-legitimizing norms of masculinity, problematic alcohol consumption, male gender, attendance of a lower school type compared to a higher school type and no religious affiliation compared to a Catholic or Jewish religion (see chapter 3.5).

Table 65. Binary logistic regression models for predicting perpetration of property crime, violent crime, and cybercrime (weighted data).

	B (SE)	AME	95 % AI
AV: Perpetration of property crimes (not done vs. done); *n* = 10,822; **pseudo R^2: .01.**			
Migration background (reference: none)			
First generation	**0.34 (0.09)**	**0.07**	**0.03, 0.11**
Second generation	**0.43 (0.05)**	**0.09**	**0.07, 0.11**
AV: Perpetration of violent offenses (not done vs. done); *n* = 10,694; **pseudo R^2: .02.**			
Migration background (reference: none)			
First generation	**0.51 (0.11)**	**0.07**	**0.04, 0.10**
Second generation	**0.56 (0.06)**	**0.08**	**0.06, 0.10**
AV: Perpetration of cybercrime (not done vs. done); *n* = 10,821; **pseudo R^2: .01.**			
Migration background (reference: none)			
First generation	0.17 (0.09)	0.04	-0.00, 0.09
Second generation	**0.48 (0.05)**	**0.12**	**0.10, 0.14**

Note. Bold = significant at min. $p < .05$; pseudo R^2 = Nagelkerke's R-squared.

Regarding the probability of being a perpetrator of a cybercrime offense, the second generation of immigrants is 12.0 percentage points more likely than adolescents without a migration background. The first migration generation does not differ significantly from youth without migration history. Considering sociodemographic characteristics and risk factors (see Table 34), the non-significant difference between these two groups remains. For adolescents with a second-generation migration background, a 5.0 percentage point attenuated but significant difference remains compared to youth without a migration background. The probability of committing a cyber offense is still 7.0 percentage points higher for second-generation immigrants than for adolescents without a migration background, considering the other predictors. However, if we compare the strength of the included predictors of cybercrime, we again see that the number of delinquent friends, occasional or repeat truancy, severe

[173] A religious community other than Catholic, Protestant, Evangelical Free Church, Muslim, or Jewish.

physical and psychological parental violence before the age of twelve, problematic alcohol consumption and a higher type of school compared to a lower and medium type of school are stronger predictors of cybercrime than the migration background of the second generation (see section 3.5).

The results confirm the findings of the descriptive examination of the correlation, which showed a substantial difference between adolescents without a migration background and the second migration generation. The first migration generation, however, no longer differs from the adolescents without migration history after having token the control variables into account.

Summary

Just under a quarter (24.9 %) of the young people surveyed have a second-generation migration background, i.e., are the children of immigrants. Another 6.2 % migrated to Germany themselves (first generation). On average, young people with a first-generation migration background are the oldest, while young people without a migration background are the youngest. The families of first-generation immigrants are the most likely to receive welfare aids (31.2 %). Among families of young people with a second-generation migration background, only half as many do so (14.7 %). In comparison, only 6.8 % of families without a migration background receive these benefits.

Compared to young people with a migration background, adolescents without a migration background are more satisfied with their success at school, friendships, financial opportunities, and their lives. There is only one significant difference between the first and second generation of immigrants: first-generation immigrants are more satisfied with their success in school than second-generation youth.

18.4 % of the first generation and 13.1 % of the second generation have experienced at least one discrimination based on their nationality, origin, language, or skin color in the last twelve months. The first migration generation has experienced discrimination more frequently than the second generation. The differences are statistically significant for verbal abuse and damage to property as well as the overall scale. Most often the immigrants were insulted and threatened with words. They were least often threatened with a weapon such as a knife, although this was still experienced by 0.8 % and 0.5 % resp.

Adolescents with a migration background are significantly more likely to be victims of property and violent crimes than young people without a migration background, both throughout their lives and in the last twelve months. First- and second-generation immigrants are about equally likely to be victims of property and violent crimes. However, young immigrants also appear more frequently as perpetrators of these crimes. An exception - both in terms of victimhood and perpetration - is the 12-month prevalence of property crimes. In this case, there is no difference between young people without a migration background and those of the first migration generation. Young people with a second-generation migration background are also more likely to be perpetrators of cybercrime than young people with a first-generation migration background and young people without a migration background.

Further analyses that consider other predictors related to delinquency conclude that the first migration generation no longer differs from adolescents without a migration history. For the second generation, the differences remain, but in a weakened form. Furthermore, it was shown that the number of delinquent friends, occasional or multiple truancy, the experience of physical and psychological parental violence before the age of twelve, problematic alcohol consumption and other risk factors have a greater influence on the likelihood of having committed one of these crimes than the migration background of the second generation.

6.3 Crime-related attitudes

A measure of trust in police, a scale to record the lack of law-abidingness, and items to measure attitudes towards punishment were used as other attitudes which relate to criminality. In addition, questions were asked about adolescents' feelings of safety and fear of crime. In addition, for the first time in 2019, students were asked to assess the change in frequency of certain offenses.

6.3.1 Trust in police, lack of law abiding and attitudes towards punishment

To measure trust in the police, four different statements were included in the questionnaire in the Lower Saxony-wide student surveys, which are shown in the Table 66. The adolescents could rate their opinion on these statements on a scale from "1 – strongly disagree" to "4 – strongly agree". The second statement in the Table is an inverse item in which high agreement represents low police trust. To interpret it in the same way as the other statements, it was recoded for the analyses. Reliability can be considered acceptable with Cronbach's α = 0.76. As in previous years, trust in the police is relatively high. On average, the young people tend to agree with the statements (mean: 3.05).

Comparison of the means with 2017 (see Table 66) shows significant differences for three of the four statements, which are likewise evident in the overall scale (t(17 337) = 5.16, p < .001, d = - 0.08). There is a tendency for the young people to show a lower level of trust in the police in 2019. Only the statement "The police provide security in our country." tends to show higher approval ratings in 2019 than in the previous survey (t(20 566) = -5.00, p < .001, d = 0.07). Overall police confidence is back at the same level as in 2015 and is slightly higher than in 2013 (t(19 471) = - 3.99; p < .001; d = 0.06; not shown).

Table 66. Mean values of the items recording trust in the police over time (weighted data).

	Mean value			
	2017 *n* = 8 287 - 8 403[a]		**2019** *n* = 12 012 - 12 278 [a]	
	M	***SD***	***M***	***SD***
The police provide security in our country.	**3.09**	0.85	**3.15**	0.81
One is treated unfairly by the policemen. (-)	**3.27**	0.82	**3.13**	0.83
I have great confidence in the police.	**2.87**	0.92	**2.81**	0.90
Police officers try to also help victims of crime.	**3.17**	0.85	**3.11**	0.81
Scale	**3.10**	0.68	**3.05**	0.64

Note. (-) = Reverse item, the associated mean value refers to the recoded item.
Bold: mean differences of years with 2019 significant at p < .05.
[a] Sample size varies due to missing values.

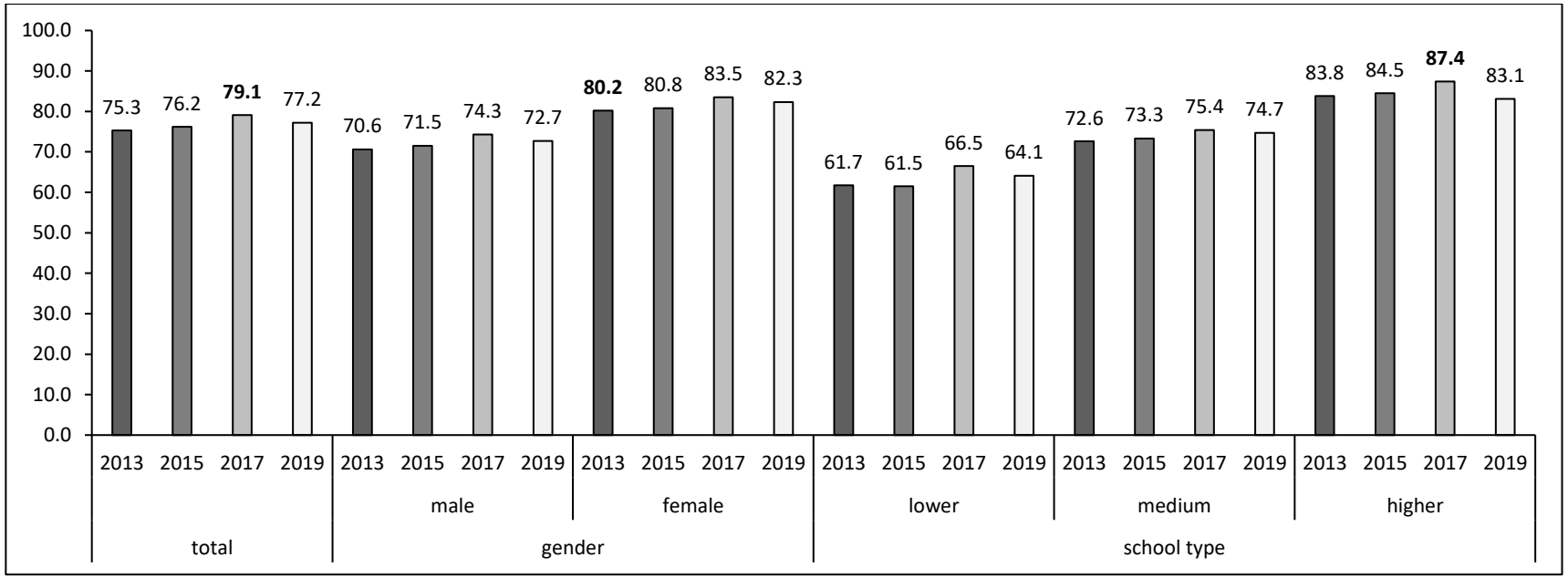

Figure 34. High trust in police by respondent group compared over time (%; weighted data; bold: comparison of years with 2019 significant at $p < .05$).

To make the results more visual, the adolescents were grouped into two groups according to their scale mean: "low trust" represents students with mean scores up to 2.5; "high trust" respondents with scores above 2.5. Of all respondents, 77.2 % show high trust in the police in the 2019 survey period. Among girls, there are significantly more students who trust the police with 82.3 %, than among boys, with 72.7 % ($\chi^2(1) = 158.75$, $p < .001$, $\varphi = 0.11$). At lower school types, the police are least trusted at 64.1 %, followed by 74.7 % at intermediate and 83.1 % at higher school types. The difference in school types is statistically significant ($\chi^2(2) = 165.35$, $p < .001$, $V = 0.12$).

Comparing the proportion of students who trust the police in 2019 with 2017 reveals statistically significant differences for the overall sample[174] and for respondents from higher school types[175] (see Figure 34). There tends to be fewer respondents among these students who trust the police. However, the proportion of young people who trust the police does not decrease significantly below the levels of 2013 and 2015.

Lack of law abiding was measured using the four items in Table 67. The students stated their opinion on a four-point scale from "1 - strongly disagree" to "4 - strongly agree". The first item is again a reversed item, where high scores indicate strong law abiding. To allow an equal interpretation, the scale was recoded for analysis. Reliability can be rated as good with Cronbach's $\alpha = 0.72$. Overall, the adolescents of Lower Saxony are more likely to be law-abiding. With a mean value of 2.06, they tend to disagree with the statements about a lack of law abiding.

Comparing the statements with 2017 (see Table 67), adolescents tended to be slightly more law-abiding again since 2017 ($t(20\,858) = 4.43$, $p < .001$, $d = -0.06$). Overall, however, they do not reach the values from 2013 and 2015, when adolescents were even less willing to deviate from norms (not shown).

Table 67. Mean values of items on lack of law abiding over time (weighted data).

	Mean value			
	2017 *n* = 8 544 – 8 644		**2019** *n* = 12 084 – 12 216	
	M	***SD***	***M***	***SD***
It is our duty to follow the laws. (-)	1.76	0.74	1.76	0.81
You don't have to be so strict with the law.	**2.35**	0.94	**2.27**	0.94
Breaking laws is part of life.	**1.90**	0.96	**1.80**	0.93
If you want to get something out of life, you can't follow everything the law demands.	**2.38**	0.96	**2.41**	0.94
Scale	**2.10**	0.68	**2.06**	0.67

Note. (-) = Reverse item, the associated mean value refers to the recoded item.
Bold: mean differences of years with 2019 significant at $p < .05$.

[174] $\chi^2(1) = 10.44$; $p = .001$; $\varphi = -0.02$
[175] $\chi^2(1) = 24.41$; $p < .001$; $\varphi = -0.06$

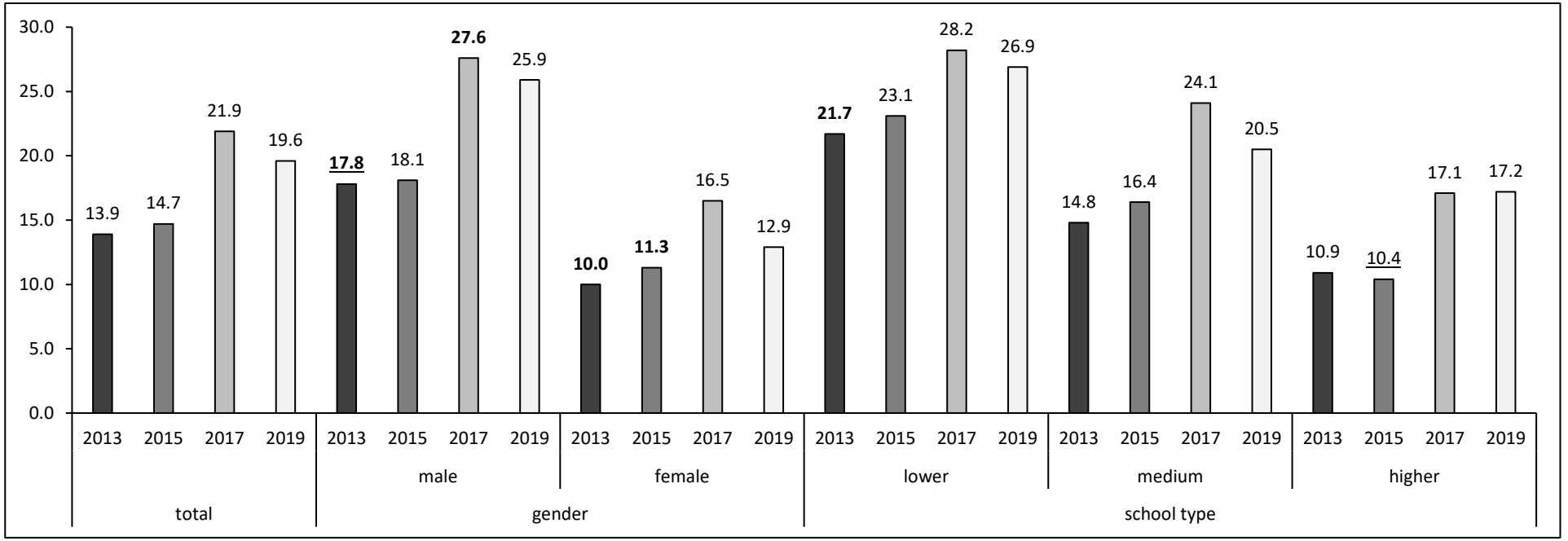

Figure 35. Lack of law abiding by respondent group compared over time (%; weighted data; bold: comparison of years with 2019 significant at $p < .05$).

To make the results even more illustrative, the students who tend to agree with the various statements of lack of law-abiding and thus have a value of at least 2.51 on the scale and the young people who are below this value are divided into two groups. In total, 19.6 % of the adolescents can be classified as rather not law-abiding in 2019. At lower school types, this occurs slightly more frequently (26.9 %) than at intermediate (20.5 %) and higher school types (17.2 %) ($\chi^2(2) = 36.38$, $p < .001$, $V = 0.06$). There is also a significant effect across gender: while 25.9 % of boys fall into the non-law-abiding category, only 12.9 % of girls do ($\chi^2(1) = 324.37$, $p < .001$, $\varphi = -0.16$).

In time comparison (see Figure 35), the results of the mean comparison can be confirmed. In 2019, adolescents tend to be more law-abiding than in 2017 ($\chi^2(1) = 15.97$; $p < .001$; $\varphi = -0.03$). This difference turns out to be statistically significant for all subgroups except for lower and higher school students. However, compared to 2013 and 2015, there are slightly more adolescents willing to deviate from norms in 2019. This difference is particularly strong for boys compared to 2013[176] and for respondents from higher schools compared to 2015.[177]

Contact with police officers can be a possible factor influencing police trust and law-abiding. For this reason, the question was asked whether the respondents had ever had contact with the police because they had done something illegal. It can be assumed that such contact is negatively associated with police trust and law-abiding, either because the adolescents already have negative attitudes towards the police and have therefore encountered them, or because negative framing as a suspect influences the perception of the police.

Table 68. Most common reasons for contact with police (weighted data).

Offenses	Frequency
Traffic offenses	401
Theft	235
Assault	184
Damage to property	178
Offenses against the BtMG[a]	124
Trespassing on land, places, monuments, etc.	123
Alcohol abuse	86
Breach of the peace/noise disturbance	59
Still outside after 10 pm	42
Weapons (possession)	27
Burglary	25
Bullying/insult	23
Crimes related to the police in total	23
Play with fire	22
Tobacco use	22
Fare evasion	17

Note. [a]BtmG = Betäubungsmittelgesetz, Narcotics Law

Contact with the police because of prohibited acts was reported by 17.1 % of adolescents. Table 68 shows the most frequently mentioned reasons for contact with the police. The most frequently

[176] $\chi^2(1) = 96.52$; $p < .001$; $\varphi = 0.10$

[177] $\chi^2(1) = 72.25$; $p < .001$; $\varphi = 0.10$

mentioned ones were traffic offenses (endangering road traffic, vehicle not roadworthy, driving without a license, etc.), theft, assault, damage to property, violations of the Narcotics Law and trespassing. It can be seen that the proportion of respondents who had contact with the police increased slightly but significantly since 2017 ($\chi^2(1) = 7.50$, $p = .006$, $\varphi = 0.02$; see Figure 36). There are no significant differences compared to 2013 and 2015.

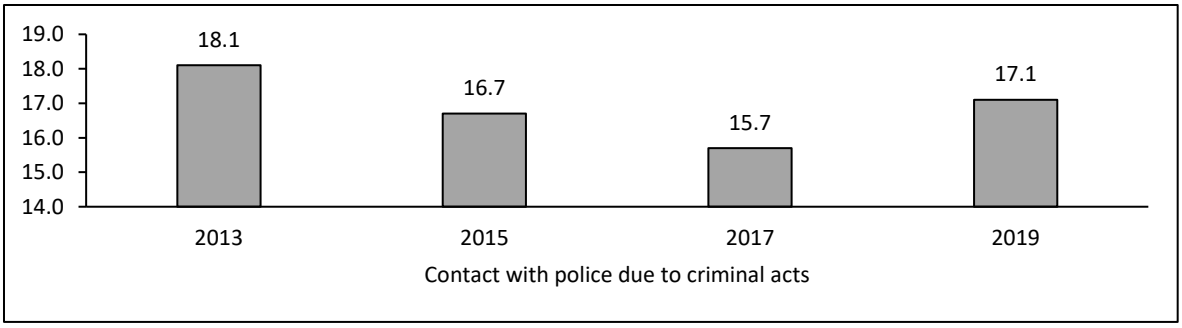

Figure 36. Contact with police due to criminal acts over time (%; weighted data; bold: comparison of years with 2019 significant at $p < .05$).

To test whether those adolescents who have already had contact with the police because of prohibited acts have less trust in police and are less law-abiding, conditional prevalence are reported. Thus, significantly and clearly more students (82.1 %) who have not yet had contact with the police, exhibit a high level of trust in police than do those adolescents who have already had contact (54.3 %; $\chi^2(1) = 753.01$, $p < .001$, $\varphi = -0.25$). In addition, 15.8 % of adolescents who have not yet had contact with the police can be classified as rather not law-abiding, while among the students who have already had contact with the police, the figure is significantly and substantially higher at 37.3 % ($\chi^2(1) = 500.24$, $p < .001$, $\varphi = 0.20$).

In the questionnaire, attitudes towards the topic of punishment were also recorded. Based on a survey among adults (Baier et al., 2011), four statements regarding attitudes towards punishment were recorded in the student questionnaire, which are listed in Table 69. The scale originally consisting of eight items was measured in 2019 with only four items that can be assigned to the dimension "severity of punishment" (Bergmann et al., 2017, p. 98). Here, the adolescents could give their answers between "1 – strongly disagree" to "6 – strongly agree". The reliability can be classified as good with Cronbach's $\alpha = 0.88$. In 2015 and 2017, these questions were asked only about one-third of respondents due to the modular structure of the questionnaire; in 2019, only one-fourth of respondents were asked these items. Since only respondents from the Hanover region were asked about their attitudes toward punishment in 2013, a comparison with 2013 is not made (see Bergmann et al., 2017, p. 97). The highest level of agreement among young people is for the statement that harsh punishments are necessary to deter others from committing crimes; the lowest level of agreement is for the statement that prisoners should be treated more harshly. The overall scale has a mean of 3.44. A comparison over time (see Table 69) with 2017 shows nearly unchanged attitudes toward punitive severity for the overall scale. Comparing the total scale score with 2015, a significant decrease in punitive attitudes can be noted ($t(4\,951) = 5.22$; $p < .001$; $d = -0.15$; not shown).

Table 69. Mean scores of items assessing severity of punishment compared over time (weighted data).

	Mean value			
	2017 *n* = 2 382 – 2 448		2019 *n* = 2 419 – 2 454	
	M	***SD***	***M***	***SD***
For many offenders, the only way to prevent re-offending is to deter it with harsh punishments.	**3.60**	1.63	**3.49**	1.62
Many crimes should be responded to with harsher punishments than at present.	3.75	1.60	3.69	1.66
Tough punishments are necessary to deter others from committing crimes.	**3.88**	1.60	**3.77**	1.66
Prisons should be tougher with inmates.	**2.66**	1.46	**2.81**	1.57
Scale severity of punishment	3.47	1.23	3.44	1.39

Annotation. Bold: mean difference of years with 2019 significant at $p < .05$.

For a more visual presentation, respondents were divided into groups: Individuals with scores between 1.0 and 3.5 are classified as "low" severe towards punishment, while those with scores above 3.5 to 6 are classified as "high" severe towards punishment (not shown). Thus, overall, 45.9 % of youth can be detected as having a severe punitive attitude in 2019. This proportion does not differ significantly across school types or gender. Comparing the proportion of attitudes towards punishment to previous years, there is no significant difference from 2017 (47.1 %). However, slightly fewer students tend to be punitive in 2019 than in 2015 (52.1 %).[178] Regarding gender and school type subgroups over time, significant differences emerge for boys and girls when comparing 2015 and 2019 over time. In 2019, boys and girls shared severe punitive attitudes at 47.3 % and 44.3 %, compared to 53.2 % and 51.0 % in 2015.[179] Similarly, slightly fewer students at intermediate school types shared punitive attitudes in 2019 than in 2015 (52.9 %).[180]

Summary

Overall, adolescents in Lower Saxony show a high level of trust in the police: almost 80 % of students trust the police. Girls and adolescents of higher school types show a higher level of trust than boys and respondents of lower school types. The level of trust in the police tends to decline slightly and is thus back at the same level as in 2015.

In addition, Lower Saxony's young people tend to be more law-abiding, with only around one-fifth of respondents willing to deviate from norms. The proportion of law-abiding young people in 2019 is even slightly higher than in 2017, but less comparing to 2013 and 2015. In a gender comparison, girls are slightly more law-abiding than boys.

Contact with the police due to a prohibited act was experienced by almost one in six adolescents in 2019. These contact experiences have increased slightly since 2017. When students have had this form of police contact, they are less law-abiding and less likely to trust the police. In addition, attitudes toward punishment severity have remained nearly unchanged since 2017, while there has been a declining trend in severe punitive attitudes compared to 2015.

[178] $\chi^2(1) = 21.30$, $p < .001$, $\varphi = -0.06$

[179] Boys: $\chi^2(1) = 9.45$, $p = .002$, $\varphi = -0.06$; Girls: $\chi^2(1) = 12.46$; $p < .001$; $\varphi = -0.07$.

[180] $\chi^2(1) = 16.64$; $p < .001$; $\varphi = -0.07$

6.3.2 Sense of safety, fear of crime and assessment of crime development

Sense of safety, fear of crime, and assessments of crime development express people's subjective perceptions of their personal safety in their immediate environment (e.g., their neighborhood) and their fear of becoming a victim of crime. While these perceptions may differ from the actual risk of crime (Skogan, 1986), they still influence people's personal well-being and politics. Thus, fear of crime affects people's quality of life. Higher fear of crime is associated with lower life satisfaction (Moore, 2006) and increased avoidance and protection behaviors in Europe and Germany (Boers, 1991; Hanslmaier, 2013). Increased fear of becoming a victim of delinquent acts can likewise be linked to poorer mental and physical health (Pearson & Breetzke, 2014). Furthermore, safety concerns are repeatedly addressed in public-political discourse.

Criminological research has identified several factors that influence feelings of safety and fear of crime (Hale, 1996). One important characteristic is gender. Women have a greater fear of becoming a victim of a criminal act than men (Boers, 1991; Hanslmaier, 2013). A person's education and the population density of the place of residence also appear to condition the expression of fear of crime. People with lower levels of education and people who live in places with higher population density have a slightly higher fear of becoming a victim of criminal acts (Hanslmaier, 2013). The results of the German Victimization Survey show that the population's sense of safety decreased and the fear of crimes, such as robbery, burglary, and sexual harassment, increased when comparing 2012 and 2017 (Birkel et al., 2020). To further monitor the development of these relations among the young population, instruments measuring the sense of safety, fear of crime, and assessment of crime development were included.

The adolescents’ personal sense of safety was surveyed in relation to various places relevant to their lives (during breaks on school premises, during the day in their own neighborhood or district, in the evening or at night in their own neighborhood or district, on the way to school, on public transport (buses, subways, suburban trains, etc.) and at home in their apartment. For each of these places, the students could indicate on a four-point scale whether they felt "very unsafe," "unsafe," "safe," or "very safe”.

Figure 37 shows the proportion of young people who feel "safe" or "very safe" in the various places (high personal sense of safety). The young people in Lower Saxony feel safest at home in their own apartment. Thus, 97.7 % of the students feel safe or very safe in this place. The second safest place is the way to school, where 96.0 % of respondents feel very safe. In addition, a high level of safety is reported regarding school premises (93.8 %) and their own neighborhood during the day (93.3 %). A significantly lower sense of safety can be observed for public transportation and the nighttime neighborhood. Here, only 75.6 % and 64.3 % resp. feel safe or very safe.

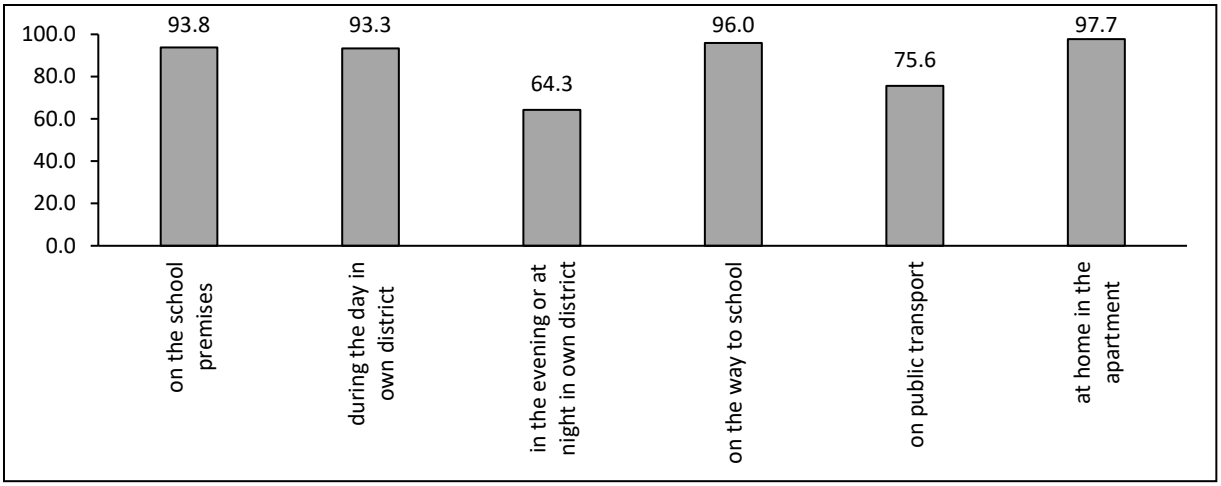

Figure 37. Proportion of respondents with high personal perception of safety in 2019 (%; weighted data).

Comparing the proportion of boys and girls with a high sense of safety (see Figure 38), a statistically significant higher sense of safety is found for boys for all locations. This difference is particularly evident for the feeling of safety in the evening or at night in one's own neighborhood ($\chi^2(1) = 1148.68$, $p < .001$, $\varphi = -0.31$) as well as in public transportation ($\chi^2(1) = 505.67$, $p < .001$, $\varphi = -0.21$).

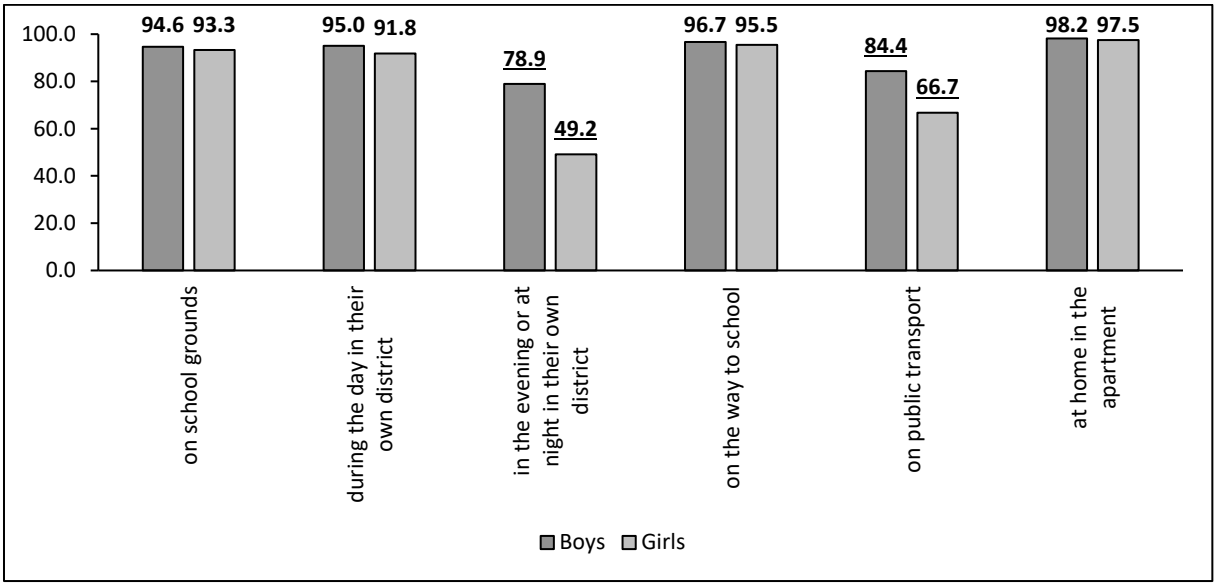

Figure 38. Proportion of respondents with high perceptions of personal safety by gender, all respondents in 2019 (%; weighted data; bold: differences significant at $p < .05$; underlined: strength of difference at $\varphi \geq 0.1$).

If the personal sense of safety on school premises and on the way to and from school is differentiated according to school type (see Table 70), it is noticeable that students at higher school types feel safer than those at intermediate and lower school types. Thus, 96.9 % of young people at higher school types feel safe or very safe on the school grounds, while the figure is 92.4 % at intermediate school types and 88.1 % at lower school types (way to school: higher 97.9 %; medium 95.3 %; lower school types 89.3 %). The differences are statistically significant in both cases.[181]

Comparing the sense of safety in the neighborhoods (during the day and at night) and in public transportation according to the different areas of Lower Saxony, young people feel about the same

[181] School premises: $\chi^2(2) = 122.61$, $p < .001$, $V = 0.10$; way to school: $\chi^2(2) = 104.98$, $p < .001$, $V = 0.09$

level of safety in their neighborhoods in the different areas (during the day and at night). Significant differences emerge for public transportation. The proportion of students who feel safe or very safe on public transport is highest in the Hannover region (78.8 %) and lowest in the North-East region (73.9 %).[182]

A comparison of the same locations according to the urban-rural division also reveals significant differences. The proportion of adolescents who feel safe or very safe in their own neighborhood during the day is highest in rural and metropolitan areas (94.5 % in both cases). This proportion is lowest in big city areas (90.7 %).[183] For the perception of safety at night, rural (67.7 %) and metropolitan (65.8 %) also have the highest proportion of young people who feel safe, whereas big city areas (61.2 %) are the least safe.[184] For public transportation, it can be stated that the largest percentage of adolescents feeling safe or very safe is in metropolitan areas (81.1 %); the smallest percentage lives in rural or urban areas (both 74.7 %).[185]

Table 70. Percentage of respondents with high personal safety perceptions by school type, area, and urban-rural division in 2019 (%; weighted data).

	Type of school (*n* = 11 351 - 11 600)					
	Lower		**Medium**		**Higher**	
On the school premises	**88.1**		**92.4**		**96.9**	
On the way to school	**89.3**		**95.3**		**97.9**	
	Areas (*n* = 11 962 - 12 022)					
	West	**Center-North**	**North-East**	**Hanover region**	**East**	**South**
During the day in your own district	93.4	93.8	93.6	93.8	92.4	92.6
In the evening or at night in your own district	64.4	61.9	66.0	65.8	64.8	64.3
In public transport	**75.4**	**74.4**	**73.9**	**78.8**	**76.3**	**76.2**
	Urban-rural division (*n* = 12 023 - 12 084).					
	Rural	**Small town**	**Urban**	**Big City**	**Metropolitan**	
During the day in your own district	**94.5**	**93.3**	**93.1**	**90.7**	**94.5**	
In the evening or at night in your own district	**67.7**	**63.6**	**62.0**	**61.2**	**65.8**	
In public transport	**74.7**	**75.1**	**74.7**	**75.8**	**81.1**	

Note. Bold: differences significant at $p < .05$, underlined: strength of association at φ or Cramer's V ≥ 0.1.

If we compare the proportion of students who feel safe at the various locations in 2019 to 2017, a tendency towards an increased sense of safety can be observed for two locations. For example, the proportion of adolescents with a strong sense of safety for their own neighborhood in the evening increases from 61.3 to 64.3 %[186] and for public transportation from 72.7 to 75.6 %.[187]

As a further aspect of subjective safety, the young people's fear of crime was recorded. The questionnaire asked about the affective, i.e., emotionally influenced dimension of fear of becoming a

[182] $\chi^2(5) = 13.70$, $p = .018$, $V = 0.03$
[183] $\chi^2(4) = 29.05$, $p < .001$, $V = 0.05$
[184] $\chi^2(4) = 32.83$, $p < .001$, $V = 0.05$
[185] $\chi^2(4) = 25.04$, $p < .001$, $V = 0.05$
[186] $\chi^2(1) = 18.84$, $p < .001$, $\varphi = 0.03$
[187] $\chi^2(1) = 22.45$, $p < .001$, $\varphi = 0.03$

victim. This topic was introduced by the phrase "Thinking about yourself personally, how often have you had the following fears in the past 12 months?" The question asked whether, in the last twelve months, adolescents had the fear that (1) money or property would be stolen from them, (2) they would be forced to engage in or tolerate sexual acts against their will, (3) something would be taken from them by force or under threat of force (robbery of e.g., money, shoes, jacket, cell phone/smartphone), (4) they become victims of terrorist attacks, and (5) someone physically hurts them (e.g., beats or kicks them up, assault with weapon). Adolescents could indicate whether they "1 - never", "2 - rarely", "3 - sometimes", "4 - often", or "5 - very often" feared being a victim of crime. For ease of presentation in the tables and figures, adolescents who rarely or sometimes had the respective fear were grouped into the "rarely" category and those respondents who often or very often had such a fear were grouped into the "often" category (see Figure 39), the original scales are used for significance testing. These questions were asked in one of the modules of the questionnaire, which is why the following results refer to only one quarter of the respondents in each case.

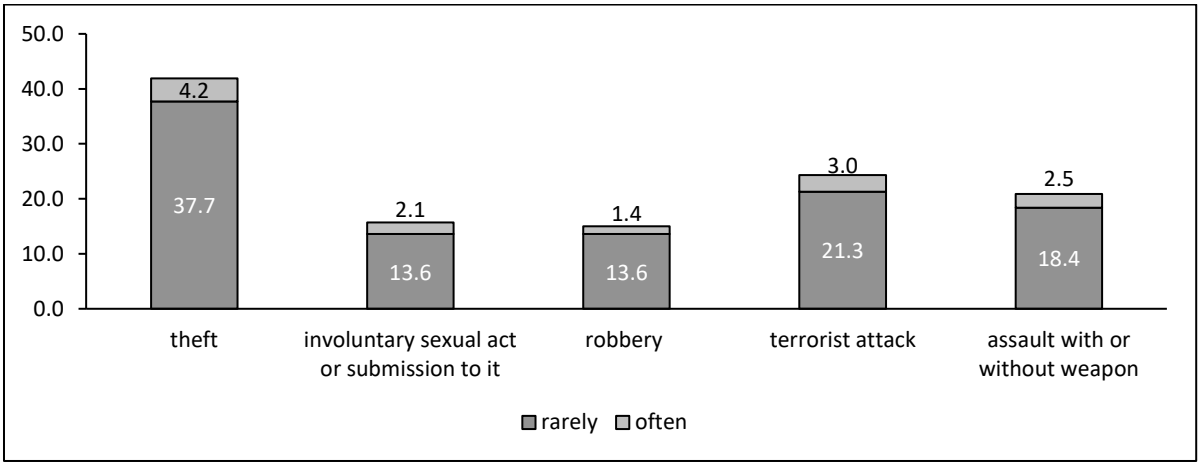

Figure 39. Fear of crime in relation to various offenses in 2019 (%; weighted data).

The most common fear among adolescents is that they will be victims of theft: 37.7 % felt this rarely and 4.2 % often in the past twelve months. The second most frequently reported fear is of becoming a victim of a terrorist attack. Over one-fifth (21.3 %) of ninth graders feared this rarely and 3.0 % feared it often. Assault with or without a weapon was feared by 18.4 % of students rarely and 2.5 % often. Fear of involuntary sexual acts or submission to them was reported rarely by 13.6 % of youth and often by 2.1 %. Regarding robbery, 13.6 % of students reported fear of crime rarely, 1.4 % often in the past twelve months.

Comparing the fear of crime of the five areas within different groups, it is noticeable that there are statistically significant differences between boys and girls. For all offenses, a slightly stronger fear of crime can be observed for girls.[188] This difference is particularly evident for the fear of a sexual act or its submission (U = 1005435.00, p < .001, r = 0.27). Regarding the different types of schools, no significant differences are shown between lower and intermediate school types and between lower and higher school types. Between intermediate and higher school types, significant differences emerge only for theft[189] and terrorist attacks[190]. The fear of becoming a victim of theft or a terrorist attack is

[188] Theft: U = 907140.00, p < .001, r = 0.09; robbery: U = 888393.50, p < .001, r = 0.08; terrorist attack: U = 883192.00, p = .001, r = 0.06; assault with or without a weapon: U = 893730.50, p < .001, r = 0.08

[189] U = 820294.50, p = .003, r = 0.06

[190] U = 833825.00, p < .001, r = 0.09

greater at higher school types than at intermediate school types. In Table 71, fear of crime of the different offenses is shown according to gender and school type using with simplified categorization.

Table 71. Fear of crime related to various offenses by gender and type of school in 2019 (%; weighted data).

	Gender (*n* = 2 581 – 2 588)				**Type of school** (*n* = 2 608 – 2 616)					
	Boys		**Girl**		**Low**		**Medium**		**Higher**	
	Rarely	**Often**	**Rarely**	**Often**	**Rarely**	**Often**	**Rarely**	**Often**	**Rarely**	**Often**
Theft	**33.9**	**4.3**	**41.4**	**4.0**	33.8	5.2	**35.3**	**4.1**	**41.7**	**4.2**
Involuntary sexual act or submission to it	**5.2**	**0.5**	**21.9**	**3.6**	6.5	2.6	13.6	2.3	14.1	1.6
Robbery	**10.8**	**1.2**	**16.2**	**1.5**	11.5	1.3	13.3	1.5	14.1	1.1
Terrorist attack	**19.1**	**2.6**	**23.5**	**3.4**	19.5	3.9	**18.5**	**2.9**	**26.0**	**3.3**
Assault with or without weapon	**15.4**	**2.0**	**21.4**	**2.8**	15.4	2.6	17.3	2.8	20.4	2.1

Notes. Bold: differences significant at $p < .05$, underlined: strength of association at /Cramer's V ≥ 0.1.

To obtain a further assessment of the adolescents regarding their sense of safety and crime, the ninth graders were asked whether they think that (1) serious and dangerous bodily harm, (2) murder and manslaughter, (3) rape, and (4) robbery have become less frequent, remained the same, or become more frequent in Germany in the last five years, i.e., between 2014 and 2019. Here, the adolescents could give their answer on a scale of "1 – very much rarer", 2 - much rarer", "3 – slightly rarer", "4 - remained the same", "5 - slightly more frequent", "6 - much more frequent" to "7 - very much more frequent." Again, these questions were asked in only one of the four modules, so the results presented here refer to only a quarter of the respondents. Figure 40 shows the average responses for the different offenses. Adolescents estimated that the offenses of serious and dangerous bodily harm, rape and robbery have become minimally more frequent on average in recent years. For murder and manslaughter, a minimal decrease is assumed on average. Police crime statistics show higher suspect load figures for serious and dangerous bodily harm, rape, and robbery in 2019 than in 2014. The number of suspects for murder and manslaughter is also higher than five years ago, although this offense is still rarely committed (Bundeskriminalamt, 2020).

Figure 40. Estimates of crime trends for various offenses in 2019 (%; weighted data).

If we compare the assessment of crime development by gender (see Table 72), we see that girls expect a slightly stronger increase than boys for all offenses. The effects are significant for all offenses and are particularly evident for assault[191] and rape.[192] Compared by school type (see Table 72), significant mean differences are found for assault, murder and manslaughter, and rape. The largest increase is estimated by students at higher school types, followed by adolescents of intermediate school types and finally adolescents of lower school types. Post-hoc tests after Bonferroni correction show that the significant mean differences for assault are only found between lower and higher school types, for murder only between medium and higher school types and for rape between all school types. This difference is most apparent for rape (F (2, 2 393) = 12.12, p < .001, $p.$ Eta² = 0.01).

Table 72. Estimates of crime trends for various offenses by gender and type of school in 2019 (%; weighted data).

	Gender (n = 1 179 – 1 194)				**Type of school** (n = 2 393 – 2 399)					
	Boys		**Girl**		**Lower**		**Medium**		**Higher**	
Serious and dangerous bodily injury	**4.04**	1.56	**4.34**	1.34	**3.80**	1.82	4.15	1.54	**4.29**	1.27
Murder and manslaughter	**3.66**	1.51	**3.87**	1.38	3.54	1.89	**3.70**	1.51	**3.87**	1.29
Rape	**4.12**	1.62	**4.58**	1.51	**3.68**	1.95	**4.28**	1.67	**4.51**	1.39
Robbery	**4.16**	1.61	**4.43**	1.41	4.01	1.91	4.31	1.62	4.30	1.32

Notes. Bold: differences significant at p < .05, underlined: strength of association at φ/Cramer's V ≥ 0.1 or partial Eta² ≥ 0.01 resp.

Summary

Regarding the sense of safety among young people in Lower Saxony, around a quarter of students feel unsafe on public transport and almost two thirds of adolescents feel unsafe in their own neighborhoods in the evening and at night. Boys feel safer than girls. A comparison by type of school shows that the highest perception of safety in the areas of getting to and from school and on school grounds is registered at higher types of school, followed by intermediate and finally lower types of school. For public transportation, the highest perception of safety is found in Hanover and metropolitan areas, the lowest in the northeast region and in rural and urban regions. In addition, there are indications that young people's sense of safety has tended to increase in various locations since 2017.

Regarding the young people's fear of crime, more than one third of the young people were at least rarely afraid of becoming victims of theft in the last twelve months, and almost a quarter of the students were afraid of becoming victims of a terrorist attack. In general, the fear of crime among girls is greater than among boys, especially about sexual offenses.

In addition, the students estimate the crime development of the last five years for assault, rape and robbery as minimally increasing, for murder and manslaughter as minimally decreasing.

6.4 Parental upbringing

A central aspect of the living environment of adolescents is living together in the family. Various studies show that many of the most significant risk and protective factors for the development of violent and delinquent behavior can be localized in the family (Lee & Randolph, 2015; Pfeiffer et al., 1999). Parental

[191] t(2 327) = -5.03, p < .001, d = 0.21

[192] t(2 356) = -7.22, p < .001, d = 0.29

education is an important factor influencing the social, psychological, and emotional development of children and adolescents. Positive parenting behaviors, characterized in terms of Baumrind (1991) by high levels of affection and control, are in many cases associated with prosocial behavior (Pastorelli et al., 2016; Zhou et al., 2002), social competence (Altschul et al., 2016; Baier & Rehbein, 2013; Hoeve et al., 2009; Lösel & Farrington, 2012), less delinquent behavior (Laird et al., 2003), and higher educational achievement (Lowe & Dotterer, 2013).

However, inadequate parenting behavior can promote problematic behavior in adolescence. Above all, the direct experience of physical violence by parents or legal guardians is a particularly detrimental experience for children and adolescents. The criminological research literature shows that experiences of family violence in the form of parental violence are by no means rare (Baier et al., 2009; Weiss et al., 2015; Wetzels, 1997). Experiencing early-onset, severe, and persistent parental violence is a key risk factor for emotional, cognitive, and social development and is associated with a wide range of problematic behaviors in adolescence. From the perspective of social learning theory (Bandura, 1979), parents who use violent acts toward their children are behavioral role models who model violent behavior as a legitimate means of conflict resolution. Numerous studies indicate that children and adolescents who experience violence from their parents are at significantly higher risk of later engaging in violence themselves (Lansford et al., 2007; Rabold & Baier, 2007; Tillyer, 2012; Weiss et al., 2015; Yexley et al., 2016). Research further shows that repeated exposure to violence in childhood can lead to impairments in the development of specific brain regions and consequential damage to socio-emotional development (Teicher, 2002). For example, the use of violence negatively influences the development of various personality factors, as Wilmers et al. (2002) were able to show using the example of conflict resolution competence and the empathy skills. In addition to physical violence, a growing number of research studies is addressing the consequences of parental use of psychological or emotional violence. The results of studies indicate that the experience of psychological violence by parents has independent and, in some cases, comparable effects on the later development of adolescents as physical violence by parents.

In addition to physical and emotional acts of violence by parents, experiences of neglect in childhood represent another relevant aspect of adverse family experiences that can negatively impact children's physical and mental health (see, e.g., Elizabeth et al., 2019). Neglect, regardless of its motives, is understood as a form of abuse that means the "persistent or repeated failure by persons responsible for care (parents or other authorized caregivers) to act in a caring manner that would be necessary to ensure the child's physical and psychological care" (see Schone et al., 1997, p. 21). This includes, for example, care, medical care, protection from danger, or the provision of food.

In the questionnaire of the Lower Saxony Survey 2019, adolescents were asked to indicate, with regard to their childhood (i.e., time before reaching the age of 12), how often their father and mother (or male and/or female legal guardian) exhibited both positive-attentive (affection, control) and violent (physical and psychological violence) behaviors and to what extent they were neglected by their parents or legal guardians during their childhood (before the age of 12). In this context, the dimension of neglect was collected for the first time in the 2019 survey. Furthermore, some items on psychological violence by parents were slightly modified in the current survey.

Parental affection and control

Adolescents were asked to respond to a total of nine items on experienced parental affection (six items) and control (three items) before age 12. The items on parenting practices were to be rated on a five-point scale from "1 - never" to "5 - very often." The statements were asked individually for mother and father, but for the following analyses they are combined into the subscales "parental

affection" and "parental control" based on the median score of father and mother. This means that for each statement, the mean value of the response regarding the mother and the response regarding the father was first calculated. Subsequently, the mean value of items belonging to one dimension was calculated, so that for each respondent there is a mean value for parental affection and a mean value for parental control. The corresponding second column in Table 73 shows that the adolescents in Lower Saxony also achieve relatively high average values on the two subscales "affection" and "control" in this survey; on average, parental affection is $M = 4.12$, while parental control is $M = 4.01$ on average. In 2019, the mean value of affection is slightly but significantly higher than the corresponding mean value of the 2017 survey year ($t(19\,147) = -2.77$, $p = .006$, $d = 0.04$). Students also experience the most affection in 2019 when compared to 2015 and 2013. On the other hand, the mean value for parental control in 2019 is slightly lower than the value obtained in 2017 ($t(18\,867) = 3.35$, $p = .001$, $d = -0.05$). Compared to 2015, there is also a significant decrease ($t(22\,767) = 2.94$, $p = .003$, $d = -0.04$). In 2013, parental control was at the same level as in 2019.

Table 73. Items and mean scores of parental affection and control.

	Mean value and standard deviation			
	2017		**2019**	
	M	***SD***	***M***	***SD***
Affection: *My mother/father has...*				
Praised me when I did something well.	4.01	0.82	4.03	0.83
Really took care of me.	4.37	0.77	4.38	0.76
Comforted me when I was sad.	4.18	0.90	4.17	0.92
Calmed me down when I was afraid.	4.05	1.00	4.07	0.99
Hugged me.	4.12	0.97	4.12	0.96
Engaged in activities with me.	3.82	1.01	3.94	0.97
Mean value	**4.09**	**0.72**	**4.12**	**0.75**
Cronbach's α	**0.88**		**0.91**	
Control: *My mother/father has...*				
Known exactly where I am during my free time.	4.13	0.86	4.06	0.85
Paid attention to what time I am home in the evening.	4.40	0.80	4.37	0.80
Inquired about who I was friends with.	3.59	1.10	3.59	1.07
Mean value	**4.04**	**0.74**	**4.01**	**0.75**
Cronbach's α	**0.70**		**0.75**	

For the following evaluations, the answers were grouped for each educational dimension for better presentation as follows: Mean values up to 3.00 represent a low level of the respective parenting behavior, mean values up to 4.50 a medium level, and mean values above 4.50 a high level.

If we look at the proportion of respondents who grew up with a high level of parental affection or control (see Figure 41), we find significant differences depending on gender and school type for the perceived parenting behavior. On the one hand, female respondents report slightly more often to have experienced both high affection ($\chi^2(1) = 9.75$, $p = .002$, $\varphi = 0.03$) and high control ($\chi^2(1) = 48.91$, $p < .001$, $\varphi = 0.06$) by their parents in their childhood. On the other hand, adolescents attending higher school types most frequently report high affection and high control, whereas the proportion of positively affectionate parents is slightly lower among respondents in lower school types. These differences are statistically significant in terms of both parental affection[193] and parental control.[194]

[193] $\chi^2(2) = 57.62$, $p < .001$, $V = 0.07$

[194] $\chi^2(2) = 65.50$, $p < .001$, $V = 0.07$

Pairwise comparisons of school types reveal significant differences between lower and higher school types for parental affection ($\chi^2(1) = 51.77$, $p < .001$, $\varphi = 0.10$) and parental control ($\chi^2(1) = 48.45$, $p < .001$, $\varphi = 0.10$).

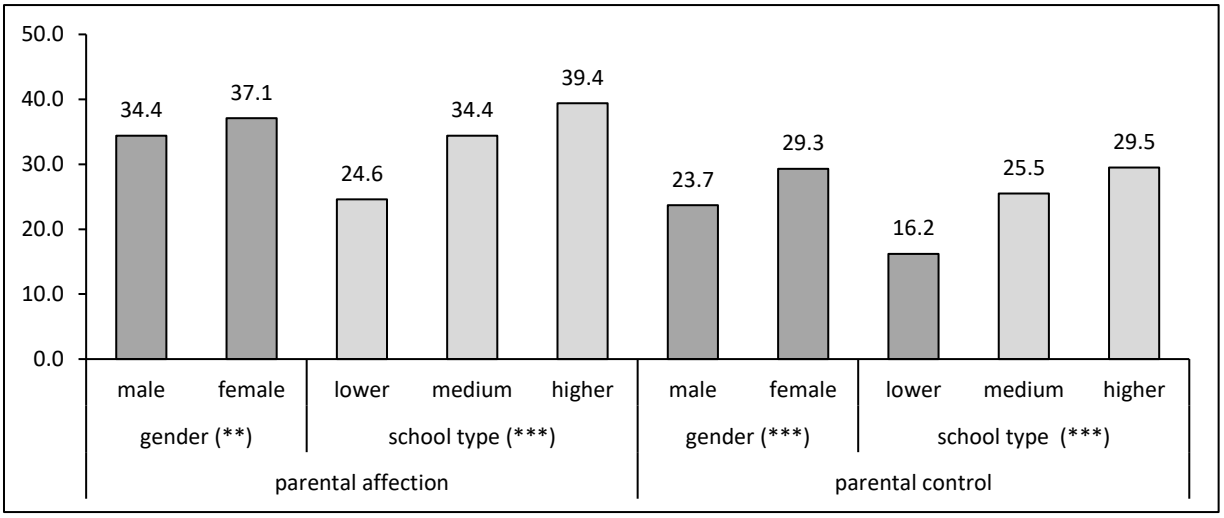

Figure 41. Parental affection and control in childhood by 2019 respondent group (high affection/control only; %; weighted data; significant at *$p < .05$. **$p < .01$, ***$p < .001$).

Physical and psychological parental violence

In a next step, violent parenting practices in the parental home are examined in more detail. In the questionnaire of the Lower Saxony Survey 2019, the frequency with which physical parental violence was experienced before the age of 12 and in the last twelve months was recorded. Furthermore, students were asked how often they had experienced psychological violence by their parents, but only regarding the respondents' childhood ("before you were 12 years old"). The operationalizations of these constructs are each based on the *Conflict Tactics Scales* (CTS); cf. Straus, 1979) however the recording of physical violence is adapted from the survey instrument of an earlier study (Wetzels, 1997) which used an adapted form of the CTS to record victimization experiences by parents. Table 74 first provides an overview of the items used for 2019 and the frequency of the corresponding experiences of violence in terms of experiencing it at least once. Physical parental violence was captured using a total of six items that query different degrees of violent acts by parents towards respondents (mild violence and severe violence). To operationalize psychological violence by parents, the item set was supplemented by additional items and slightly modified in the Lower Saxony Survey 2019, so that a total of five items were used. Since some of these items were already asked in the 2017 survey, comparisons over time can now be made for the first time based on an expanded item set. In the questionnaire, violence was differentiated according to father and mother. For the analyses, the data of both parents were combined. If, for example, a young person has only experienced violence from the father, this information is considered accordingly. The response options for the items used for physical and psychological violence ranged from "1 - *never*" to "6 - *several times a week*".

Table 74. Items and means of the parental affection and control scales 2019 (weighted data).

Physical parental violence in childhood (before age 12).		**Experienced at least once**
My mother/father has...		**%**
Mild violence	Smacked me in the face.	16.3
	Grabbed me hard or pushed me.	23.7
	Threw an object at me.	16.8
Severe violence	Hit me with an object.	10.0
	Hit me with his fist or kicked me.	7.7
	Beat me up	3.5
Physical parental violence in youth (in the past 12 months).		
My mother/father has...		
Mild violence	Smacked me in the face.	8.3
	Grabbed me hard or pushed me.	13.2
	Threw an object at me.	9.0
Severe violence	Hit me with an object.	4.1
	Hit me with his fist or kicked me.	3.9
	Beat me up	1.6
Psychological parental violence in childhood (before the age of 12).		
My mother/father has...		
	Threatened to hit me but didn't actually do it. (2017: threatened to punish me but didn't do it after all).	36.5
	Yelled or screamed at me.	79.8
	Called me a lot of names.	37.7
	Called me stupid, lazy, ugly, fat or the like.	20.9
	Threatened to send me away or throw me out.	64.6

Figure 42 shows how experiences of severe parental violence and frequent psychological violence in childhood vary according to gender and type of school. Regarding the experience of severe physical violence in childhood and adolescence, there is no statistically significant gender effect: Girls and boys are exposed to both forms of violence with about the same frequency (childhood: girls: 13.6 %; boys: 13.0 %; adolescence: girls: 6.5 %, boys: 5.8 %). However, it appears that girls report psychological violence by their parents or guardians before the age of 12 slightly more often than boys (girls: 35.5 %, boys: 31.8 %, $\chi^2(1) = 18.42$, $p < .001$, $\varphi = 0.04$). Differentiated by school type, it appears that adolescents attending lower types of schools experienced severe physical violence in their childhood ($\chi^2(2) = 43.93$, $p < .001$, $V = 0.06$) and adolescence ($\chi^2(2) = 44.82$, $p < .001$, $V = 0.06$) slightly more frequently compared to adolescents from intermediate and higher school types. Statistically significant differences by type of school attended can also be found regarding frequent experience of psychological violence by parents in childhood ($\chi^2(2) = 6.90$, $p = .032$, $V = 0.02$). Likewise, adolescents of lower school forms report such assaults most frequently. In a pairwise comparison of school types, a significant difference between lower and higher school types can be found for severe physical violence in adolescence ($\chi^2(1) = 45.00$, $p < .001$, $\varphi = -0.10$).

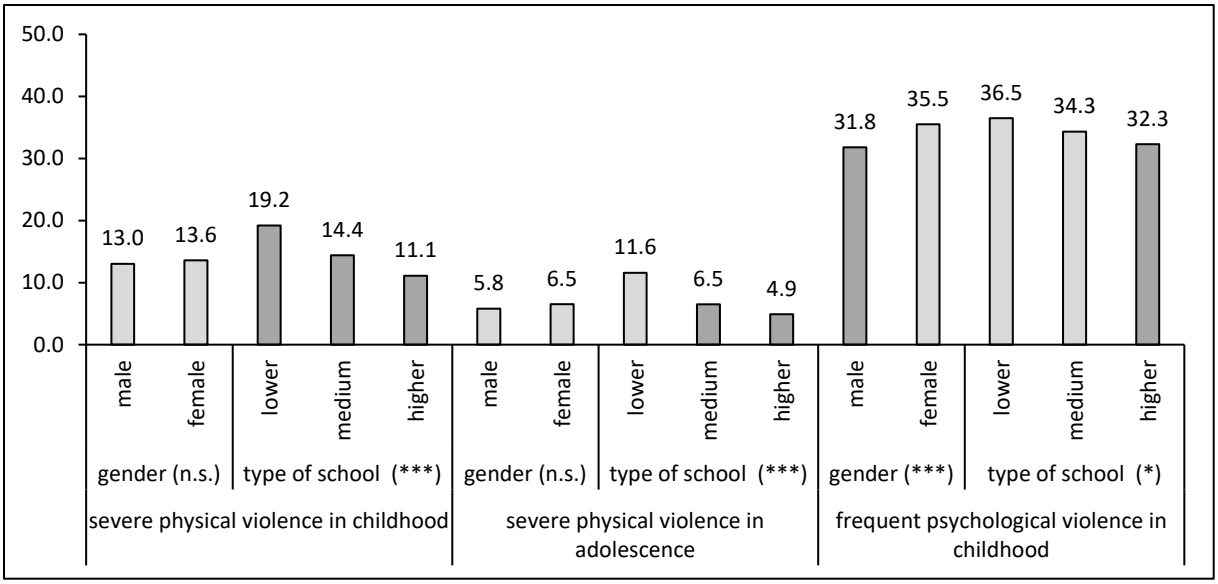

Figure 42. Parental violence by respondent group in 2019 (experienced severe violence only or experienced psychological violence frequently; %; weighted data; significant at *p < .05, **p < .01, ***p < .001 with n.s. = non-significant difference).

Figure 43 shows for better representation, adolescents who report parental assaults of psychological violence between "1 or 2 times" and "3 to 12 times" being classified as victims of infrequent violence, while respondents who experienced psychological parental violence at least "several times per month" being classified in the group of frequently experienced physical or psychological violence. It should be noted regarding psychological violence experiences that in the following, comparisons between 2017 and 2019 are presented for the first time based on an expanded set of five items. Regarding the overall prevalence of psychological violence experienced in childhood, in 2019, a total of 87.3 % of respondents experienced at least one act of psychological violence by their parents or guardians before the age of 12. Of these, 53.6 % experienced infrequent psychological violence and 33.7 % experienced frequent psychological violence, i.e., at least "several times per month." Regarding the experience of psychological violence in childhood, a decreasing, statistically significant trend is shown with respect to the years 2017 and 2019 (from 93.4 % to 87.3 %, $\chi^2(1) = 204.08$, $p < .001$, $\varphi = -0.10$). Differentially, it is mainly the frequent psychological violence experiences that decreased from 44.2 % to 33.7 % ($\chi^2(1) = 236.38$, $p < .001$, $\varphi = -0.11$).

In addition, there has been a significant decrease in the amount of physical violence experienced by parents in comparison to the survey years 2017 and 2019; this applies both to childhood and, to a lesser extent, to adolescence. Whereas in 2017 a total of 46.5 % of the surveyed students reported having experienced mild and/or severe violence by their mother or father at least once in their childhood (before the age of 12), in 2019 the figure is only 35.1 %. In terms of being a victim of violence in the past twelve months, the overall prevalence has decreased from 23.1 % in 2017 to 20.8 % in 2019. These decreases can be shown to be statistically significant (childhood: $\chi^2(1) = 276.95$, $p < .001$, $\varphi = -0.12$; adolescence: $\chi^2(1) = 15.59$, $p < .001$, $\varphi = -0.03$). Looking more closely at trends in the different types of violence between 2017 and 2019, the main decrease can be seen in the proportion of adolescents who reported having experienced mild violence in childhood, from 31.7 % to 21.6 % ($\chi^2(1) = 269.56$, $p < .001$, $\varphi = -0.11$).

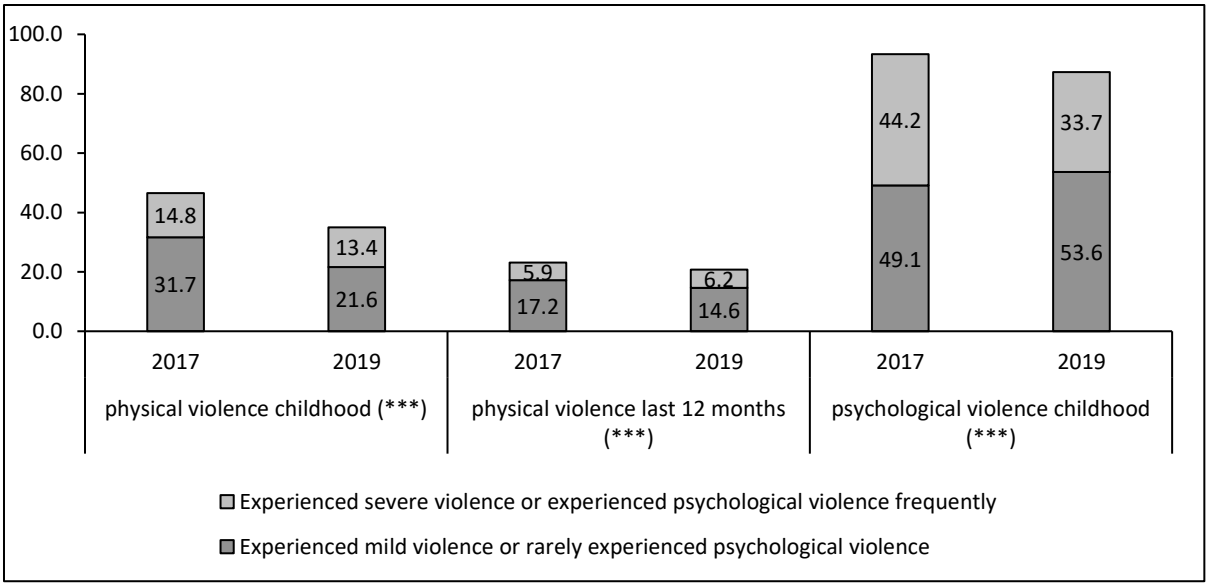

Figure 43. Parental violence over time (%; weighted data; change 2017 vs. 2019 significant at *p < .05, **p < .01, ***p < .001).

Experiences of neglect in childhood

In the Lower Saxony Survey 2019, items on childhood neglect (before age 12) were included for the first time as a key deficit experience in the family. Experiences of childhood neglect have been associated with potentially severe impairments in emotional and physical well-being later in life (see, e.g., Elizabeth et al., 2019). To measure neglect by parents or guardians, adolescents were asked to indicate the frequency with which they experienced various aspects of neglect by their parents or primary caregivers as a child. The answers were to be given separately for mother and father on a six-point scale (from "1 - *never*" to "6 - *several times a week*"). For the evaluation, the answers regarding mother and father were combined into a maximum value index for each respondent.

The following shows both the frequency of neglect in relation to the respondents' entire childhood (experienced at least once before age 12 by mother or father) and the frequency in relation to experiencing it infrequently (between once and 12 times) and frequently (at least "several times per month") (see Table 75). This means that adolescents who report experiencing neglect between "1 or 2 times" and "3 to 12 times" are classified as victims of infrequent neglect, while respondents who experienced such behaviors on the part of their parents or guardians at least "several times per month" are classified in the group of frequently experienced neglect.

Table 75 shows that a total of 45.0 % of adolescents report having experienced at least mild forms of neglect by their mother or father (or by a female and/or male caregiver) at least once during their childhood. The highest childhood prevalence rates result for not showing love and attention due to the caregiver's own problems (28.0 %) and for being left alone at home unsupervised (26.7 %). Rare acts of neglect by their parents or guardians were reported by 29.6 % of the interviewed adolescents, while 15.4 % of the respondents reported frequent acts of neglect.

Table 75. Experience of childhood neglect in 2019 (before age 12; weighted data).

	Experienced at least once	Rarely experienced	Frequently experienced
My mother/father (have)...	%	%	%
Left me home alone when an adult should have been with me.	26.7	19.8	7.0
Were so busy with their own problems that they could not show or tell me that they love me.	28.0	18.4	9.6
Did not give me enough to eat.	5.5	3.4	2.2
Did not take me to a doctor or hospital even though I was very sick or injured.	9.5	7.5	2.0
Was so drunk or so intoxicated that they had trouble taking care of me.	9.6	6.7	2.9
Total [a]	**45.0**	**29.6**	**15.4**

[a] experienced at least one of the behaviors before age 12 by mother or father.

Regarding the question whether the reported frequency of neglect experiences differs according to the gender of the adolescents, the results indicate statistically significant differences (see Figure 44). Thus, girls are slightly more likely than boys to report having experienced neglectful behavior by their parents at least once during childhood (47.8 % vs. 42.2 %, $\chi^2(1) = 39.09$, $p < .001$, $\varphi = 0.06$). Differentiated by the frequency of neglect experiences, the gender difference can only be shown for frequent neglect experiences (17.4 % vs. 13.3 %, $\chi^2(1) = 38.823$, $p < .001$, $\varphi = 0.06$). As a function of the type of school attended, it appears that adolescents attending a lower school type were slightly more likely to have been exposed to neglectful behavior at least once ($\chi^2(2) = 39.62$, $p < .001$, $V = 0.06$) as well as frequently ($\chi^2(2) = 97.99$, $p < .001$, $V = 0.09$) during childhood compared to adolescents attending a higher or intermediate school type. In the pairwise comparison of school types, the difference between lower and higher school types is the largest. At lower school types, 27.0 % of adolescents have frequent neglect experiences, compared to 12.4 % at higher school types ($\chi^2(2) = 95.64$, $p < .001$, $\varphi = -0.14$).

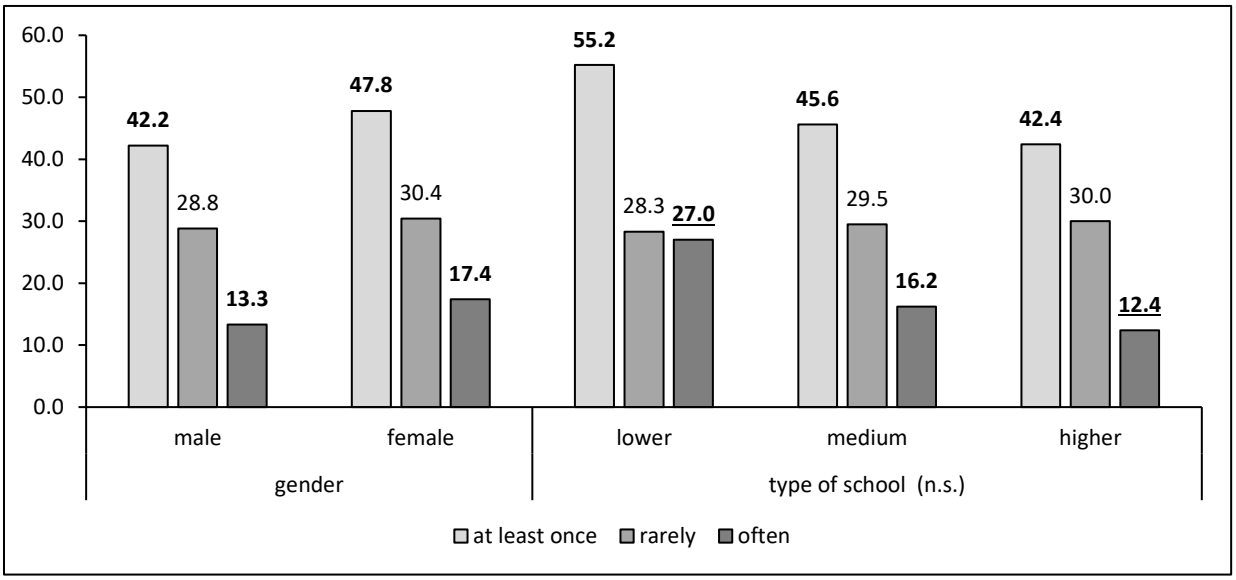

Figure 44. Neglect experiences by respondent group in 2019 (%; weighted data; bold: group difference significant at ***$p < .001$; underlined: strength of association at $\varphi \geq 0.1$).

Observed violence between parents

The influence of the family on problematic and delinquent behavior in adolescence is assumed not only through the targeted influence of parents on the behavior of their children, but also through the quality of relationships among family members. In particular, the interactional behavior of parents or guardians plays a central role in the emotional and physical well-being of children and adolescents. If this is characterized by high levels of conflict and even violence, this represents a potentially significant risk factor for adolescent development (see, e.g., McTavish et al., 2016). In the 2019 Lower Saxony Survey, observed violent interaction behavior among parents in the past twelve months was assessed using two dimensions: verbal violence and physical violence between parents. It should be noted that the operationalization of verbal violence between parents differs from previous surveys, as the item set in the Lower Saxony Survey 2019 was shortened by two items and supplemented by two new items. For this reason, only the items related to physical violence between parents are identical across survey years and directly comparable. Responses could be graded on a scale from "1 - never" to "6 - several times a week." Table 76 provides an overview of the items used for each subscale, showing 12-month prevalence and infrequent and frequent experience. Adolescents who report between "1 or 2 times" and "3 to 12 times" of intra-partnership violence between their parents in the past 12 months fall into the category of infrequent experience, while respondents who observed such behaviors at least "several times per month" were classified in the frequent experience group.

Table 76 shows that a total of 63.2 % of adolescents have witnessed verbal violence between their parents or guardians at least once in the past twelve months, while 4.6 % have witnessed at least one physically violent interaction between their parents in relation to the same period. Rare verbally violent interactions between parents or guardians were reported by 49.0 %, while 3.7 % rarely witnessed physical violence between their parents. Finally, 14.2 % of adolescents observed verbal violence between their parents at least several times per month, while this was true for 0.9 % of adolescents regarding frequent physical intra-partnership violence.

Table 76. Observed verbal and physical violence between parents in 2019 (in the past 12 months; weighted data).

		At least once	Rare	Frequent
		%	%	%
Verbal violence between parents	One parent has threatened the other with separation or divorce (new in 2019).	17.1	13.3	3.8
	My parents insulted each other (new in 2019).	29.7	23.2	6.5
	I witnessed my parents arguing loudly.	58.3	46.1	12.2
	My parents were yelling at each other in front of me.	37.8	29.7	8.1
Total verbal violence [a]		**63.2**	**49.0**	**14.2**
Physical violence between parents	I have witnessed one parent violently pushing or shaking the other around	3.8	3.0	0.8
	I have seen one parent beat the other.	3.0	2.3	0.6
Total physical violence [a]		**4.6**	**3.7**	**0.9**

[a] experienced at least one of the behaviors queried in the past twelve months.

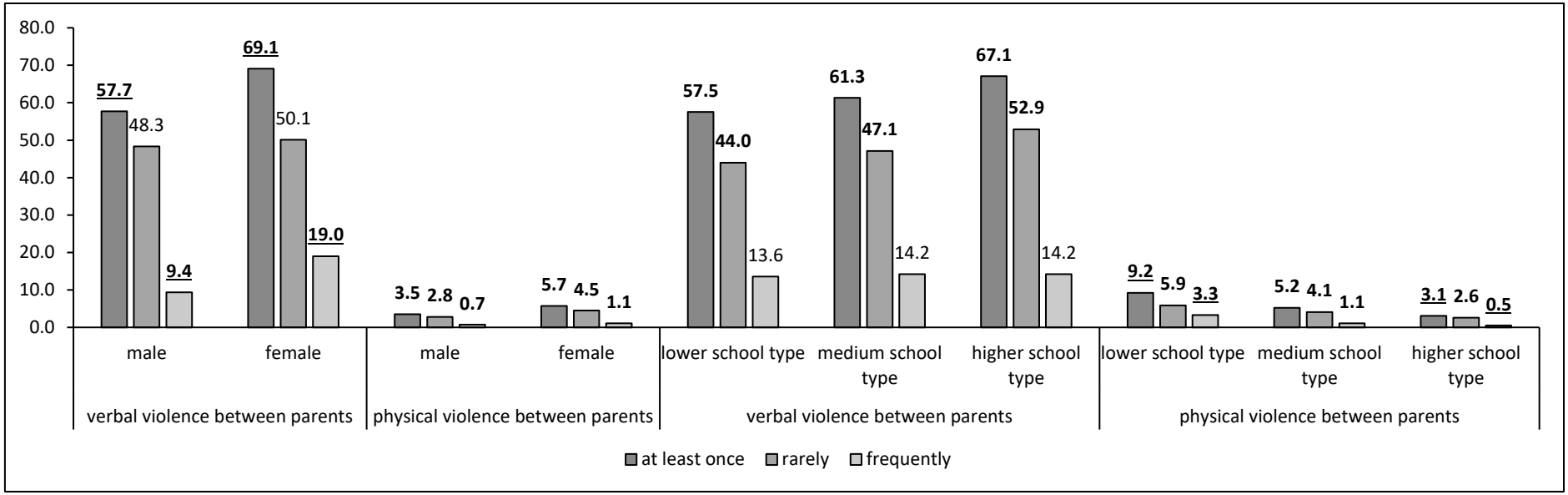

Figure 45. Observed violence between parents in the past 12 months by gender and type of school in 2019 (in %; weighted data; bold: group difference significant at $*p < .05$; underlined: strength of association at $\varphi/V \geq 0.1$).

Figure 45 presents how the prevalence of verbal and physical violence between parents differs by gender and the type of school attended by adolescents, based on the 2019 survey data. It is noticeable that there are small, significant gender effects with respect to observing verbal and physical violence between parents such that girls report such incidents more frequently than boys. Regarding observing physically violent interactions between parents or guardians, these differences are evident both for experiencing them at least once ($\chi^2(1) = 31.77$, $p < .001$, $\varphi = 0.05$) and for experiencing them infrequently[195] and frequently[196] in the past twelve months. Regarding the observed verbal violence between parents, statistically significant differences between girls and boys appear for two frequency forms. Girls observed such behavior significantly more often than boys.[197]

There are also minor, statistically significant differences regarding the type of school attended. There are significant differences between the types of school in which verbal violence is experienced at least once[198] and rarely[199]. This is experienced slightly more frequently at higher school types than at medium and lower school types. The opposite picture emerges for physical violence between parents. Respondents who attend a lower school type tend to experience physically violent interactions between their parents at least once in the past twelve months slightly more often compared to adolescents from medium and higher school types ($\chi^2(2) = 48.48$, $p < .001$, $V = 0.06$). This is also true for the infrequent[200] and frequent[201] experience. The difference in school type for at least once[202] as well as frequent[203] experience of physical violence between parents is clear in the comparison of higher and lower school types.

In a next step, differences in the frequency of observed violence between parents are presented according to the survey year. The comparison over time refers only to the subscale of observed physical violence between parents, since in the 2019 survey the item set for operationalizing verbal violence between parents was modified and expanded. Figure 46 shows that in 2019, the percentage of youth who observed physical violence between their parents at least once in the past twelve months was 5.0 % in 2017 and 4.6 % in 2019. However, this difference is not statistically significant. A slight, statistically significant difference is observed with respect to the proportion of adolescents who frequently observed physically violent interactions between their parents ($\chi^2(1) = 4.20$, $p = .041$, $\varphi = -0.02$). This proportion decreased from 1.3 % to 0.9 %.

[195] $\chi^2(1) = 5.98$, $p = .014$, $\varphi = 0.02$

[196] $\chi^2(1) = 22.28$, $p < .001$, $\varphi = 0.05$

[197] Experiencing at least once: $\chi^2(1) = 162.77$, $p < .001$, $\varphi = 0.12$, experiencing frequently: $\chi^2(1) = 220.34$, $p < .001$, $\varphi = 0.14$

[198] $\chi^2(2) = 40.48$, $p < .001$, $V = 0.06$

[199] $\chi^2(2) = 44.59$, $p < .001$, $V = 0.06$

[200] $\chi^2(2) = 24.04$, $p < .001$, $V = 0.05$

[201] $\chi^2(2) = 37.51$, $p < .001$, $V = 0.06$

[202] $\chi^2(1) = 42.88$, $p < .001$, $\varphi = -0.10$

[203] $\chi^2(1) = 43.13$, $p < .001$, $\varphi = -0.10$

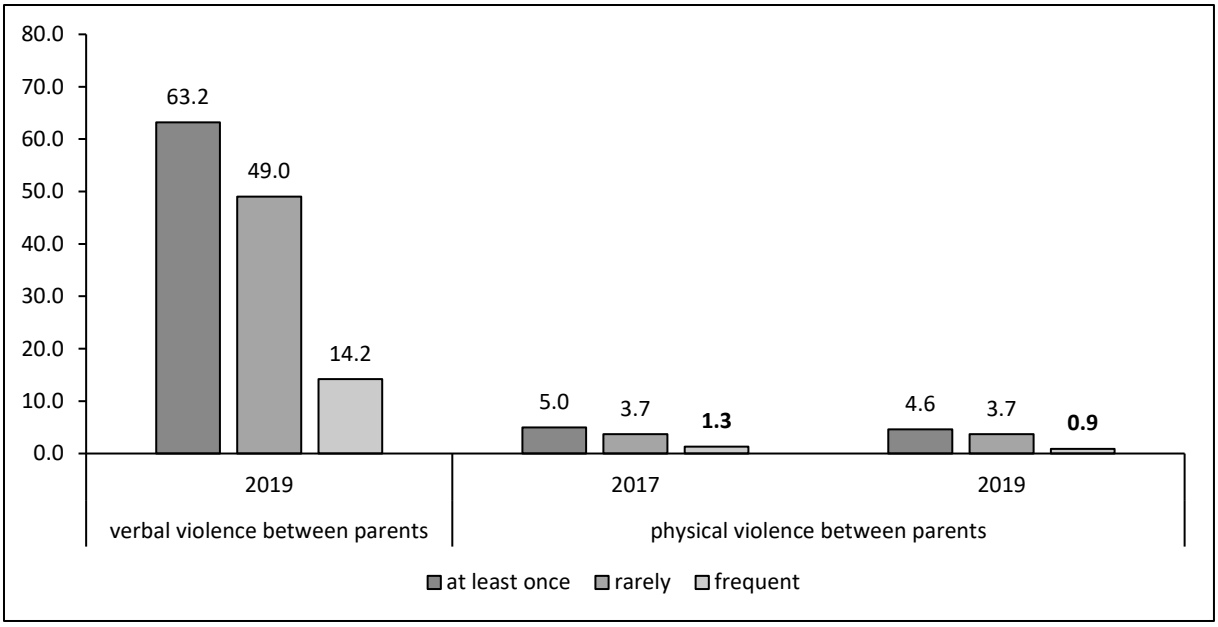

Figure 46. Observed violence between parents in the past 12 months by survey year (%; weighted data; bold: differences 2017 vs. 2019 significant at *$p < .05$).

Summary

Between 2017 and 2019, parenting behavior tended to change slightly in positive aspects. While the experience of high affection by parents before the age of 12 has tended to increase slightly, the proportion of adolescents reporting high parental control has decreased slightly in the comparison of 2017 and 2019. Thus, the slight trend toward greater parental control behavior that was observed previously does not continue.

Regarding parental violent behavior, there has been a significant decrease in the amount of physical violence experienced by parents in comparison to the survey years 2017 and 2019; this applies especially to violence in childhood. Whereas in 2017 a total of 46.5 % of the surveyed students reported having experienced mild and/or severe violence at least once in their childhood (before the age of 12) by their mother or father, in 2019 the figure is only 35.1 %. In terms of being a victim of violence in the past 12 months, the overall prevalence has decreased from 23.1 % in 2017 to 20.8 % in 2019. In terms of experiencing psychological violence by parents in childhood, there has also been a slight decrease. Less frequent psychological violence by parents is reported (2017: 44.2 %, 2019: 33.7 %).

The results also show that experiences of neglect in childhood are a quite prevalent phenomenon: A total of 45.0 % of adolescents report having experienced at least mild forms of neglect at least once during their childhood by their mother or father (or by a caregiver). The highest childhood prevalence rates are found for not showing love and attention due to the parent's own problems (28.0 %) and for being left alone at home without supervision (26.7 %).

Regarding observing violence between parents, it appears that a total of 63.2 % of adolescents have witnessed verbal violence between their parents or guardians at least once in the past twelve months. At least one physically violent interaction was witnessed by 4.6 % between their parents during the same period. Perceptions of violent physical interactions between parents remain at similar levels in 2019 as in 2017 but have tended to decrease slightly in terms of frequent witnessing of physical violence.

Regarding the experience of violence, there are significant gender differences in that girls tend to report more psychological parental violence in their childhood than boys, as well as violent interactions between their parents, especially verbal violence in the last twelve months. Regarding the type of school attended, adolescents from lower school types, compared to adolescents from higher school types, report severe physical violence by parents in their adolescence more often and were more frequently exposed to neglectful behavior in their childhood. In addition, students from lower school types are more likely to have witnessed physically violent interactions between their parents than adolescents from higher school types. In addition, students in lower school types experience less affection and control from their parents than adolescents in higher school types.

6.5 Religion

In the questionnaire of all survey periods of the Lower Saxony Survey, the religious affiliation of the adolescents as well as of their parents was recorded. Regarding their religious affiliation, the students could choose between the most strongly represented religious affiliations in the questionnaire (i.e., Catholic, Protestant, Evangelical Free Church, Shiite, Sunni, Alevi and Jewish). In addition, the students could enter other religious affiliations or check "I do not belong to any religion". If they did not answer the question about their own religious affiliation, the religious affiliation of their mother or father was assigned to them, if this information was given.

For Lower Saxony, as in the previous survey years, most young people and thus slightly less than half of them, belong to the Protestant church (47.0 %). The second most common religion among students is the Catholic Church (20.8 %), and the third most common is no religion at all (19.8 %; not shown). Furthermore, 7.1 % of the young people are Muslim, and another 3.8 % belong to another religion. 1.3 % and 0.2 % of the young people can be categorized as Evangelical Free Church and Jewish resp.

Figure 47 shows the proportion of adolescents who belong to the respective religions over time. It should be noted that the data of students at special-needs schools cannot be considered over time, as they were not asked about their religious affiliation in previous years. Over time, it can be observed that the proportion of students belonging to the Catholic[204] and Protestant[205] churches has decreased slightly but significantly since 2017. There has been a trend toward an increase in the number of Muslim adolescents[206] and adolescents who belong to another religion[207] or no religion at all[208] since 2017.

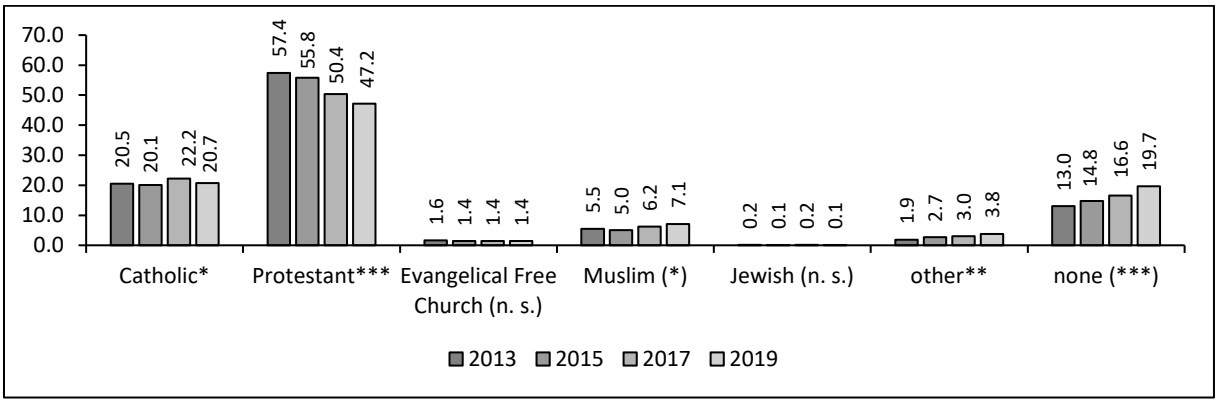

Figure 47. Religious affiliation over time (all respondents excluding special schools; %; weighted data; differences 2017 vs. 2019 significant at *p < .05, **p < .01, ***p < .001 with n.s. = non-significant difference).

[204] $\chi^2(1) = 6.10$; $p = .014$; $\varphi = -0.02$

[205] $\chi^2(1) = 20.22$; $p < .001$; $\varphi = -0.03$

[206] $\chi^2(1) = 6.05$; $p = .014$; $\varphi = 0.02$

[207] $\chi^2(1) = 7.92$; $p = .005$; $\varphi = 0.02$

[208] $\chi^2(1) = 31.50$; $p < .001$; $\varphi = 0.04$

The purely formal affiliation with a religious community provides little information about the actual importance of religion in the lives of adolescents. To determine the extent to which the young people engage in religious practices in everyday life, the frequency of praying and the frequency of visiting a place of worship were also surveyed.[209] The response scales here ranged from "1 - never" to "7 - daily." For ease of presentation, the categories were combined as shown in Figure 48. As there was insufficient data available for Jewish adolescents, the religious practices of Jews cannot be evaluated.

It is noticeable that the religious practice of praying is performed least frequently among Catholic and Protestant adolescents and young people who belong to another religion. Most and thus 42.2 % of the Catholic adolescents have prayed one to twelve times in the past twelve months. Among Protestant adolescents, the figure is 44.9 %, and among students of other religions, 31.0 %. Protestant Free Church and Muslim students pray much more frequently. Most, and thus 43.9 %, of the Protestant Free Church respondents prayed daily. Among Muslim adolescents, around a quarter have prayed daily in the last twelve months.

In terms of visiting a place of worship, most of the Catholic (62.0 %) and Protestant (62.2 %) adolescents have gone to a church only one to twelve times. Muslim adolescents visit a mosque slightly more frequently. Here, only 36.5 % of students have been to a place of worship between one and twelve times. However, slightly more than a quarter of Muslim adolescents have been to a mosque at least once a week (26.3 %). One-fifth have not visited a house of prayer in the past twelve months. Evangelical Free Church adolescents were even slightly more likely to have visited a house of prayer. More than half of these adolescents (56.5 %) have been to a church at least once a week, and a quarter have been there one to twelve times.

[209] Note that these questions were not asked at special-needs schools.

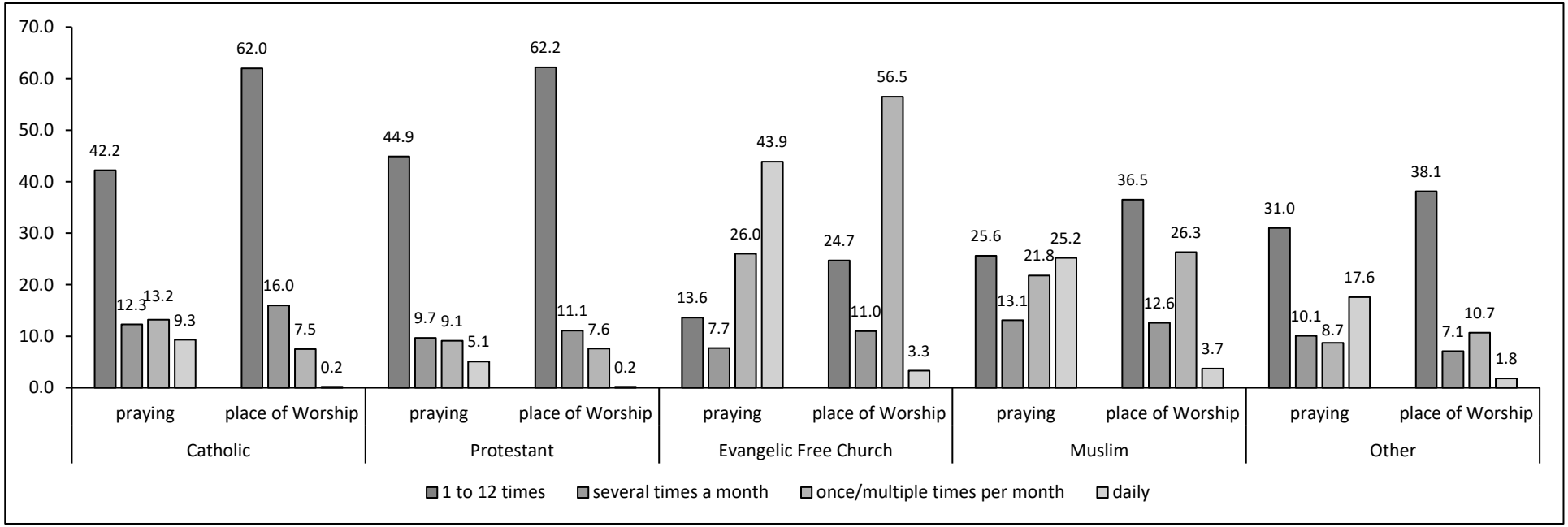

Figure 48. Religious practices by religious affiliation in 2019 (%; weighted data).

Furthermore, adolescents were asked to answer how important their religion is to them (1) personally in their everyday lives, (2) in their education at home, (3) for finding their way in life, (4) as part of their identity, (5) in getting answers to life's big questions and (6) in surviving crises in life. [210] The response categories for each of these items ranged from "1 - completely unimportant" to "4 - very important." They were combined into a mean "religiosity" scale (1-4). A Cronbach's α = 0.95 indicates a reliable scale. Figure 49 shows those adolescents who scored an average value of "3 - rather religious" and "4 - very religious" on this scale according to religious affiliation.

In line with the results of the illustration, religious commitment is most pronounced among Muslim students: 38.7 % of these respondents can be described as very religious. Furthermore, 43.0 % within this group of respondents can be classified as rather religious. Evangelical Free Church students also have a high level of religious commitment: More than a third of them are classified as religious (36.9 %) and another 39.2 % as very religious. By contrast, the proportion of religious young people among Protestant and Catholic young people is much lower. Only 14.6 % of Protestant and 16.5 % of Catholic students can be classified as religious. Only 2.1 % of Protestant and 2.7 % of Catholic adolescents are very religious. Students belonging to other religions are 33.9 % rather religious, while 21.7 % are very religious.

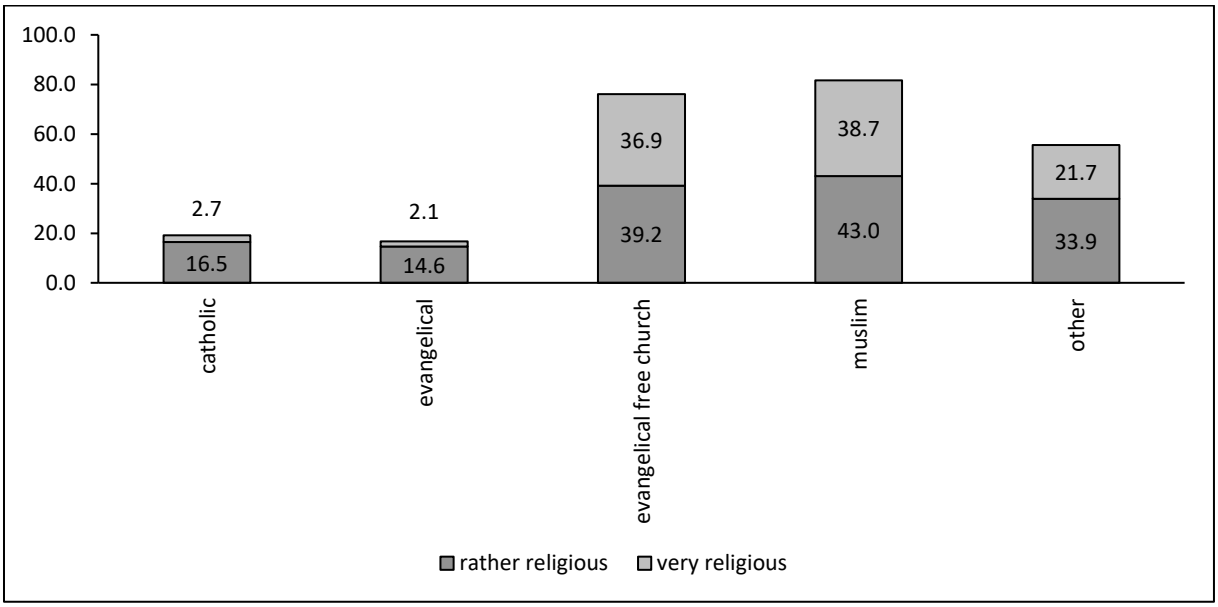

Figure 49. Religiosity by religious group in 2019 (%; weighted data).

Of all six items for religiosity, only the first two were also asked in the previous surveys. For the comparison over time, therefore, only the two items that record the importance of religion in personal everyday life and in education at home can be included. However, these two items also form a reliable scale (2019: Cronbach's α = 0.85; 2017: Cronbach's α = 0.90). The religiosity scale was dichotomized for comparison over time such that adolescents who scored 1 or 2 on the scale were classified as nonreligious, while those who scored 3 or 4 were classified as religious.

There are significant declines in religiosity for all religions except for adherents of other religions (see Figure 50). The decline in religiosity is particularly evident for students of the Evangelical Free Church. Thus, the percentage of religious adolescents who are Evangelical Free Church adherents declines from 80.9 % in 2017 to 68.0 % in 2019.[211] Thus, while the religiosity of these students had increased with

[210] Note that these questions were not asked at special schools.

[211] $\chi^2(1) = 5.55$; $p = .019$; $\varphi = -0.15$

each survey year in previous surveys, in 2019 it is back at the level of 2013 and 2015, from which it does not differ significantly (2013: 67.1 %; 2015: 70.1 %). As a trend, the percentage of religious Catholic students also decreases from 17.5 % in 2017 to 14.1 % in 2019[212] and represents the lowest value of all four survey time points (2015: 17.9 %; 2013: 18.3 %). The religiosity of Protestant adolescents also drops slightly from 10.3 % in 2017 to 9.0 % in 2019.[213] For Muslim adolescents, the percentage of religious adolescents drops from 81.7 % in 2017 to 72.0 % in 2019[214], representing the lowest value of all four survey time points (2015: 80.4 %; 2013: 82.3 %).

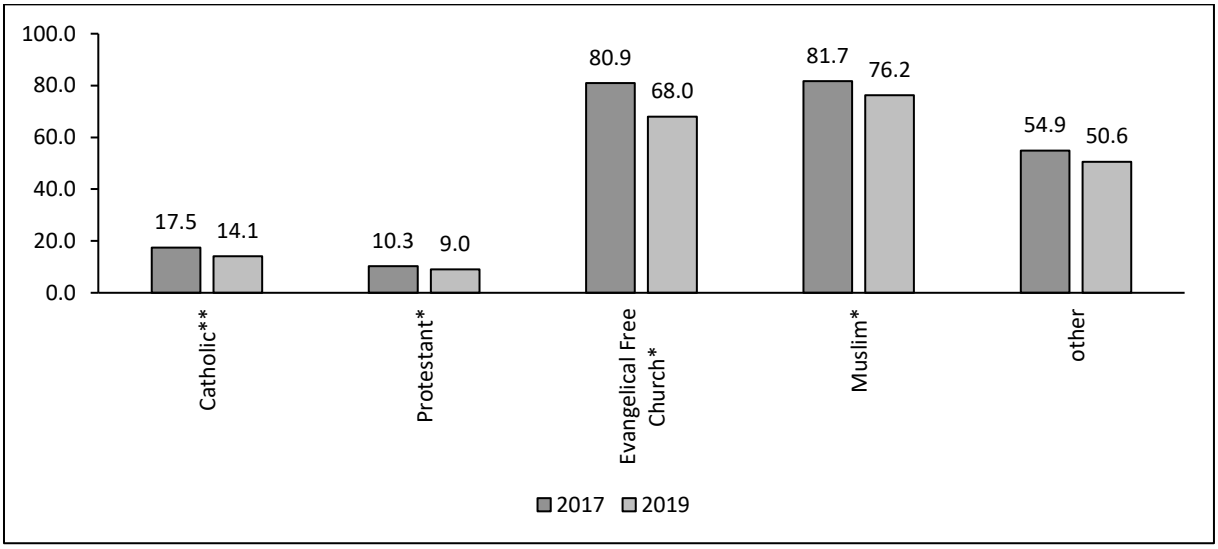

Figure 50. Religiosity by religious group over time (all respondents excluding special schools; %; weighted data; * $p < .05$, ** $p < .01$, *** $p < .001$, n. s. = not significant).

Summary

Almost half of Lower Saxony's adolescents belong to the Protestant church. About one-fifth are Catholic, and another fifth are undenominational. There is a declining trend for the proportion of Catholic and Protestant students compared with 2017, while the proportion of adolescents without a denomination and of Muslim and of other faiths is rising.

Most Catholic and Protestant adolescents have prayed and visited a place of worship between one and twelve times in the past twelve months. Evangelical Free Church and Muslim students do this much more frequently. At the same time, more than three quarters of Muslim and Protestant Free Church students can be classified as religious. Only every fifth Catholic and every sixth Protestant is religious in comparison. Among students of other religions, more than every second person is religious. Religiosity tends to decrease significantly for all religious groups except for other religions. This is particularly evident for students of the Evangelical Free Church.

[212] $\chi^2(1) = 9.36$; $p = .002$; $\varphi = -0.05$

[213] $\chi^2(1) = 4.95$; $p = .026$; $\varphi = -0.02$

[214] $\chi^2(1) = 5.52$; $p = .019$; $\varphi = -0.07$

7 Situation of the teachers

7.1 Teachers as victims

In addition to the students, the class teachers present during the survey were also asked whether they had experienced assaults by students during the last school semester. A detailed sample description can be found in chapter 2.3. Table 77 shows how often the interviewed teachers stated that they had experienced various assaults in or outside of school. Teachers provided responses on a scale of "1 - never," "2 - 1 time," "3 - 2 to 3 times," and "4 - more often." To simplify the presentation of results, a distinction is only made between those respondents who have never experienced the respective assaults and those who have experienced them at least once.

Table 77. Teachers as victims of assault in 2019 (%, weighted data).

	On school premises 2019	**Outside school, e.g., at home 2019**
	n = 661 – 664	*n* = 585 – 589
I have been threatened with violence by one or more students	5.9	0.7
My personal property has been destroyed or damaged by one or more students (e.g., car tire punctured, window broken)	3.6	0.2
I got a threatening letter from one/several students	0.6	0.2
I received an insulting letter or phone call from one or more students	2.1	1.0
I have been threatened with a weapon (e.g., knife) by one or more students.	0.0	0.0
One/several students hit me	0.4	0.0
I have been sexually harassed one/several students	1.7	0.0
I was ridiculed by one/several students	15.6	2.0
I was insulted by one/several students	29.8	2.2
I have been insulted/harassed by one/several students on the Internet (e.g., by showing a photo of me, insults via e-mail).	3.9	1.9
I have been harassed, insulted, or threatened by parents of students	13.8	6.6

The most common forms of teacher victimization are insults and ridicule by students and harassment, insults, or threats by parents. On school premises, 29.8 % of teachers have been insulted by students. In addition, 15.6 % of teachers were ridiculed by students at school. More than one in seven teachers had been harassed, insulted, or threatened by parents at school (13.8 %). The percentage of respondents who have been threatened with violence by students is 5.9 %. Damage to property or harassment via the Internet were experienced by 5.9 and 3.9 % of teachers resp. At 0.4 %, the percentage of those who report having been beaten by students remains relatively low. None of the teachers surveyed stated that they had already been threatened with a weapon. Outside of school, the respective assaults on teachers occur less frequently. Nevertheless, 6.6 % of the respondents have been harassed by parents outside of school. 2.0 and 2.2 % of the teachers have been ridiculed or insulted by students outside of school.

Figure 51 shows the three most frequently experienced forms of assault (being ridiculed by a student; being insulted by a student; harassment, insulting or threatening by parents) differentiated by school type. For this purpose, no distinction is made between assaults inside or outside school. For all three forms of assault, it is shown that upper secondary school teachers are the least frequent victims of assault compared to teachers at other school types. This is particularly evident for verbal abuse by

students ($\chi^2(2) = 47.57$, $p < .001$, $V = 0.27$) and harassment by parents ($\chi^2(2) = 16.18$, $p < .001$, $V = 0.16$). Teachers at higher school types (13.7 %) are less likely to experience harassment from students than teachers at intermediate (34.6 %) and lower school types (55.0 %). Harassment by parents is most frequently experienced by teachers at intermediate school types (20.6 %). This behavior occurs less frequently at lower (11.7 %) and higher school types (8.3 %).

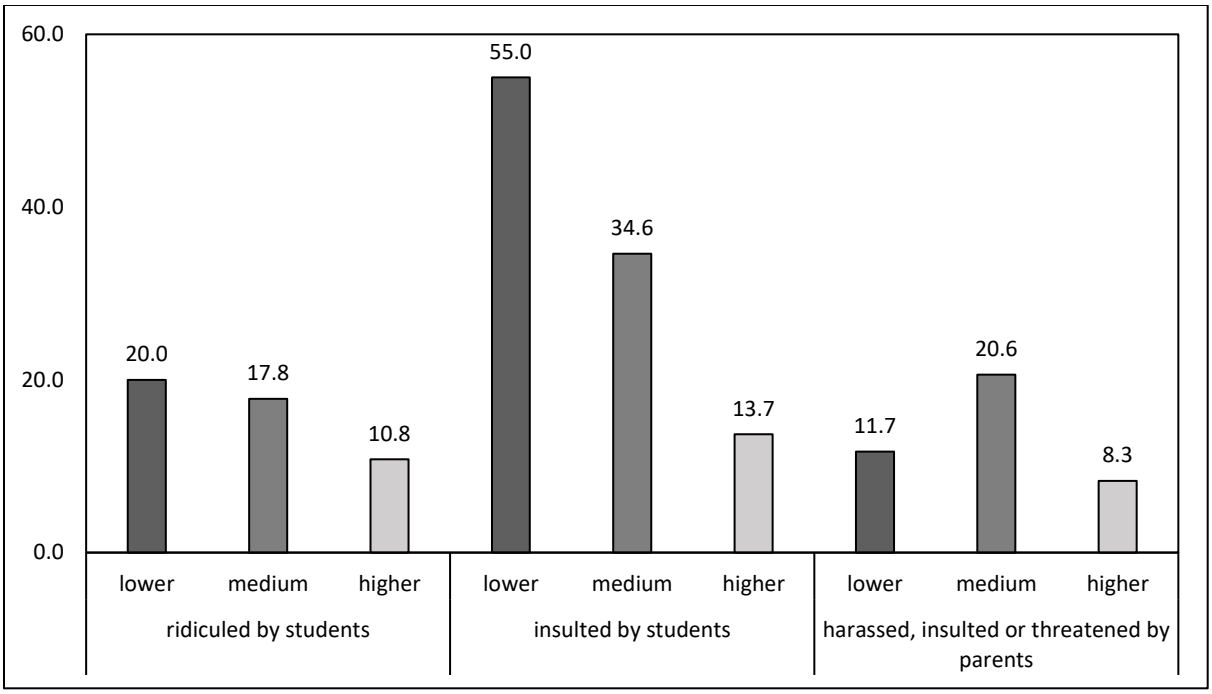

Figure 51. Prevalence of victimization experiences among teachers by school type in 2019 (%; weighted data).

Calculating a maximum value index from the forms of assault of ridiculing and insulting by students in and outside of school, it shows that 35.2 % of the respondents have been a victim of at least one of the forms of assault at least once during the school year (not shown). Looking at the differences in terms of school types, it is noticeable that teachers at lower school types (56.7 %) are significantly more often victims of an assault than teachers of medium (39.8 %) and higher school types (19.6 %). The relationship is significant ($\chi^2(2) = 37.67$, $p < .001$, $V = 0.24$). When the two types of assault are distinguished by gender, no significant differences are found.

7.2 Aggressive behavior at school

In addition, the teachers were asked how often aggressive behavior had occurred at the school in the last six months. Also, they were asked about damage to school property, fights and bullying of others (see Table 78). The respondents had the opportunity to indicate the frequency of the respective behaviors on a scale from "1 - never" to "4 - often".

Table 78. Aggressive behavior at school in 2019 (%; weighted data).

Aggressive behavior	Frequency (n = 627 – 660)			
	Never	Rarely	Sometimes	Often
Damage to or destruction of school property	8.7	42.5	37.9	10.9
Appropriation of property under threat or use of violence	43.7	37.7	16.1	2.4
Scuffles, fights, brawls	14.7	49.4	28.1	7.8
Annoying and Teasing	0.5	14.0	49.3	36.2
Arguments between groups of students ('gangs')	53.5	32.3	12.2	2.0
Violence against girls (also sexual offenses)	57.3	35.7	6.8	0.2
Blackmail or coercion	57.6	34.5	7.6	0.3
Bullying of students	2.9	36.9	47.0	13.2
Bullying of students on the Internet	8.1	36.7	42.7	12.5
Annoying and provoking teachers	8.7	39.2	38.6	13.5
Disruptions in class, indiscipline	2.2	23.6	39.7	34.5
Right-wing extremist slogans and graffiti	42.6	44.5	11.7	1.2
Carrying knives, brass knuckles, firearms	72.4	24.7	2.7	0.2
Alcohol consumption	46.1	41.8	10.8	1.3
Consumption of/trafficking in illegal drugs	48.5	38.6	12.0	0.9
Photographing or filming acts of violence	62.7	29.2	7.2	0.9

The most common behaviors at schools in Lower Saxony are being annoying and teasing, disruptions in class and indiscipline, and the bullying of students (see Table 78). For all three behaviors, less than 3 % of teachers have never observed the respective behaviors. Likewise, bullying of students on the Internet, annoying and provoking teachers as well as damage to school property, scuffles, fights, or brawls are frequent parts of everyday school life. Slightly less than half of the teachers have never observed right-wing extremist slogans and graffiti (never: 42.6 %), the appropriation of property under threat of violence or the use of violence (never: 43.7 %), alcohol consumption (never: 46.1 %) or the consumption of/dealing in illegal drugs (never: 48.5 %) at school. Slightly less frequent are arguments between groups of students (never: 53.5 %), violence against girls (never: 57.3 %) and blackmail and coercion (never: 57.6 %). Photographing or filming violent acts has been observed rarely in 29.2 % of schools, sometimes in 7.2 % of schools, and often in 0.9 %. Carrying knives, brass knuckles and firearms is even less common.

To investigate whether there are significant differences between the school types with regard to aggressive behavior, a distinction is made only between never (= 0) and at least rarely (= 1). There are significant differences between the school types for all reported forms of aggressive behavior except for teasing and annoyance, bullying by students and on the Internet, and alcohol consumption. The differences occur least frequently in higher school types. For almost all forms of aggressive behavior, however, there are only few differences between the frequencies at lower and intermediate school types. The clearest differences between school types are found regarding the appropriation of objects under the threat of violence or the use of violence. While this is observed at least rarely in 63.3 % of lower school types, it is observed by 66.0 % of intermediate school types and only by 34.5 % of higher school types ($\chi^2(2) = 53.17$, $p < .001$, $V = 0.29$). This is second clearest in arguments between groups of students, which were observed at least rarely in 55.0 % of schools at lower types of schools, and in 56 % of intermediate school types, while it was reported by 25.7 % at higher types of schools ($\chi^2(2) = 50.94$, $p < .001$, $V = 0.28$).

7.3 Occupational Burnout

The *Maslach Burnout Inventory Test* (MBI; Maslach et al., 1996; German translation: Büssing & Perrar, 1992) will be used to provide initial indications of the extent to which teachers in Lower Saxony suffer from the Occupational Burnout. The syndrome is characterized by emotional exhaustion due to work. In addition, depersonalization and loss of empathy play a role. This can be expressed in a lack of appreciation for others and through cynical expressions as well as indifference. A third characteristic represents one's own performance assessment, which in the case of Occupational Burnout is evaluated negatively and leads to dissatisfaction with achievements at work (Maslach & Jackson, 1981).

Teachers answered 22 questions that could be categorized into three domains (1) emotional exhaustion (9 items), (2) depersonalization (5 items), and (3) performance appraisal (8 items) and are shown in Table 79. Teachers could grade their responses on a scale from "0 - never" to "6 - every day." Until the third edition of the MBI manual, cut-off scores were published to identify an Occupational Burnout. However, due to lack of diagnostic validity, these were removed with the fourth edition of the manual. Nevertheless, to make statements about how many teachers have high scores on the three scales, the standardized z-scores proposed by Leiter and Maslach (2016) are used:

- High emotional exhaustion = mean + (standard deviation * 0.5)
- High depersonalization = mean + (standard deviation * 1.25)
- High performance rating = mean + (standard deviation * 0.1)

For the present sample of teachers from Lower Saxony, this results in cut-off values of 18.15 for high emotional exhaustion, 9.06 for depersonalization, and 33.10 for high performance appraisal. According to these cut-off values, 23.8 % of the teachers can be classified as emotionally exhausted and 10.8 % as depersonalized. For their own performance appraisal, a low personal performance appraisal is interpreted as an indication of an Occupational Burnout. Thus, 53.5 % of the teachers rated their performance negatively. Differentiated by gender, significant differences ($\chi^2(1) = 4.46$, $p = .035$, $\varphi = 0.09$) emerge for depersonalization. Male teachers are depersonalized or suffer from empathy loss slightly more often (13.8 %) than female teachers (8.5 %). Overall, there are 5.8 % of teachers who have both high scores on emotional exhaustion and depersonalization and low scores on performance appraisal, which may be an initial indicator of Occupational Burnout. There are no significant differences between female and male teachers and between school types.

Table 79. Maslach Burnout Inventory Test (%; weighted data).

	Never	At least a few times a year	At least once a month	A few times per month	Once a week	Several times a week	Every day
	(0)	(1)	(2)	(3)	(4)	(5)	(6)
I feel emotionally drained from my work.	20.0	36.6	16.3	11.2	5.6	8.4	1.9
I feel spent at the end of a workday.	8.8	27.9	15.9	19.5	9.2	15.9	2.7
I feel fatigued when I get up in the morning and must face a new day on the job.	36.9	27.4	13.7	10.9	4.5	5.5	1.1
Working with people all day is really a strain for me.	31.8	29.8	12.3	9.8	7.7	6.1	2.4
I feel burned out from my work.	35.1	32.6	11.9	8.8	4.4	5.2	2.1
I feel frustrated by my job.	24.7	32.8	16.2	12.2	5.3	7.3	1.5
I feel like I'm working too hard on my job.	44.7	23.4	12.8	9.8	3.8	4.9	0.5
Being in direct contact with people at work stresses me out too much.	65.0	19.4	6.9	3.9	3.2	1.4	0.1
I feel like I am at the end of my rope.	53.0	28.6	8.3	5.2	2.2	2.5	0.3
High emotional exhaustion	(n = 621)						
	23.8						
I feel like I treat some clients/colleagues as if they were impersonal objects.	74.5	11.4	4.7	3.5	3.2	2.4	0.3
Since I have been doing this work, I have become more indifferent to people.	73.2	12.5	5.4	4.8	2.3	1.5	0.2
I fear that my work is hardening me emotionally.	63.2	16.6	6.7	6.5	3.6	2.4	0.9
I don't really care what happens to some of my colleagues.	58.4	19.2	6.8	6.9	3.8	3.1	1.8
I feel like my colleagues blame me for some of their problems.	65.9	20.2	7.2	2.9	2.2	1.2	0.5
High depersonalization	(n = 615)						
	10.8						
I can easily understand how my colleagues/supervisors feel about things.	4.1	5.0	5.3	16.2	8.4	38.4	22.7
I deal very effectively with the problems of my colleagues.	2.9	4.6	6.3	14.6	13.9	39.7	18.2
I feel I am positively influencing other peoples' lives through my work.	1.5	3.4	5.0	15.1	14.2	39.6	21.2
I feel full of energy.	3.5	6.2	8.3	14.1	12.6	47.0	8.2
I find it easy to create a relaxed atmosphere in my work environment.	4.3	5.2	6.5	10.8	11.6	43.3	18.3
I feel exhilarated after working closely with my colleagues.	7.1	7.9	6.9	15.9	15.6	32.0	14.5
I have accomplished many worthwhile goals in this job.	1.7	5.6	7.5	15.4	18.9	38.1	12.9
In my work, I deal with emotional problems very calmly.	9.0	10.3	9.2	18.3	15.9	26.8	10.5
Low performance assessment	*(n = 564)*						
	53.5						
Occupational Burnout	(n = 549)						
	5.8						

7.4 Alcohol consumption

As with students (see Section 4.1), the *Alcohol Use Disorder Identification Test* (AUDIT for short; Babor et al., 2001) was used with teachers in 2019 to obtain information about teachers' alcohol consumption. A cutoff of eight items is recommended for adults to identify risky use. Table 80 shows the ten questions and the scoring for each answer. According to this categorization, 9.3 % of the teachers consume alcohol at a risky level. There are no significant differences between school types. However, male teachers with 15.5 % are significantly more prone to risky alcohol consumption than female teachers with 5.0 % ($\chi^2(1) = 20.66$, $p < .001$, $\varphi = 0.18$).

Table 80. "Alcohol Use Disorders Identification Test" for teachers in 2019 (%; weighted data).

	Never	**1 time a month or less**	**2 – 4 times a month**	**2 – 3 times per week**	**4 or more times per week**
	(0)	(1)	(2)	(3)	(4)
How often have you had a drink containing alcohol in the past 12 months?	8.1	20.1	43.6	21.4	6.8
	1-2	**3-4**	**5-6**	**7-9**	**10 or more**
	(0)	(1)	(2)	(3)	(4)
If you have had alcoholic beverages in the past 12 months, how much did you usually drink in a day?	76.6	16.2	5.3	1.3	0.7
	Never	**Less often than 1 time per month**	**1 time a month**	**1 time per week**	**Daily or almost daily**
	(0)	(1)	(2)	(3)	(4)
How many times have you had 6 or more glasses of alcohol on one occasion?	51.7	32.8	11.7	3.9	0.0
How often have you found that you were not able to stop drinking once you started?	91.9	6.7	0.7	0.7	0.0
How often during the last year have you failed to do what was normally expected of you because of drinking?	95.5	4.0	0.5	0.0	0.0
How many times have you needed a first drink in the morning to get yourself going after a heavy drinking session?	99.4	0.6	0.0	0.0	0.0
How often have you had a feeling of guilt, or remorse after drinking?	86.0	11.1	1.7	1.1	0.2
How often during the last year have you been unable to remember what happened the night before because of your drinking?	93.6	5.4	0.8	0.2	0.0

	No	**Yes, but not in the last twelve months**	**Yes, in the last twelve months**
	(0)	(2)	(4)
Have you or someone else been injured because of your drinking?	93.5	5.6	0.9
Has a relative, friend, doctor or other health care worker been concerned about your drinking or suggested a cut down?	91.9	5.1	3.0
Risky alcohol consumption	**9.3**		

Summary

Teachers in Lower Saxony rarely report that they have been physically attacked or threatened by students in or outside of school. However, teachers have certainly been victims of verbal assaults. Almost one third of the teachers were insulted by students at school. Differentiated by school type, teachers at higher school types were significantly less likely to have been victims of insults or verbal abuse than teachers at lower or intermediate school types.

Regarding aggressive behavior at school, disruption of lessons, annoyance and teasing as well as bullying of students are most frequently observed by teachers. In general, almost all forms of aggressive behavior are least represented at higher school types, while they are most frequently observed at lower and intermediate school types, depending on the type of behavior.

In addition, there are 5.8 % teachers who have both high levels of emotional exhaustion and depersonalization or loss of empathy and low levels of performance appraisal, which may be an initial indicator of Occupational Burnout. In addition, 9.3 % of teachers consume alcohol at a risky level. There are no significant differences according to school types, but male teachers show riskier alcohol consumption than female teachers.

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ISBN: 978-3-948647-00-1