

# SCOPING REVIEW OF SCHOOL ATTENDANCE PROBLEMS

## **Roll Call: A Scoping Review for School Attendance Problems Among Youth**

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## **Abstract**

Regular school attendance is central to the psychosocial development of youth. Youth who frequently miss school face adverse consequences, including lower academic achievement, impaired socio-emotional development, mental health difficulties, and increased health risk behaviors. The emergence of the COVID-19 pandemic has shed light upon the issue of school attendance like never before. Nevertheless, school attendance problems (SAPs) have been studied for decades and diverse perspectives exist regarding how to define, conceptualize, and measure SAPs. Although this has proven advantageous to the field, there is poor comparability and limited integration across research disciplines to date. This complicates efforts towards prevention and intervention for SAPs. An interdisciplinary lens is more urgent than ever. This scoping review sought to examine the full range of ways that SAPs are conceptualized, operationally defined, assessed, and measured across the disciplines of psychology, education, medicine, criminology, and sociology. It presents notable points of consensus about the nature of SAPs within and across disciplines, identifies gaps in the extant literature on SAPs, and suggests future directions for research, policy, and practice. Study findings highlight an urgent need for more Canadian empirical research as well as the development and implementation of valid and multi-item measures for SAPs. In addition, future research examining SAPs from an inclusive bioecological systems framework is warranted. Implications for practitioners, educators, researchers, and policymakers are discussed.

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## Statement of Research

The emergence of the COVID-19 pandemic shed light upon the issue of school attendance like never before. Beginning in 2020, school closures were implemented worldwide to mitigate the spread of COVID-19, and learning in virtual classrooms became the new normal. At the height of the pandemic in 2020, school closures interfered with the learning of nearly 1.6 billion students across 190 countries, corresponding to over 90% of the global population of learners (UNESCO, 2020; UN, 2020). By mid-September 2021, children and adolescents (hereafter referred to as ‘youth’) had missed an average of 4.5 months of school since the start of the pandemic, though school closure lengths varied according to the region (UNESCO, 2020).

It is well-documented in research literature that regular school attendance is central to the psychosocial development of youth, especially considering the variety and depth of social experiences that the school context has to offer (Roeser et al., 2000). Thus, concerns around the negative impact of missed school for youth are growing, and this has become a topic of increased media attention (e.g., Histrova, 2020). The circumstances around COVID-19 are unprecedented, and the full scope of the impacts for youth are unknown (UNESCO, 2020). Nonetheless, school attendance problems (SAPs) themselves have been a prevalent issue for decades, and their numerous adverse consequences are documented in the literature. For example, it has been established that SAPs are associated with the onset and exacerbation of mental health difficulties (Egger et al., 2003; Gottfried, 2014; Wood et al., 2012). It is estimated that between 15% and 30% of youth in Canada are struggling with mental health difficulties, and SAPs are both a major contributor and consequence of the ongoing and ever-growing mental health crisis worldwide (CMHA, 2020; U.S. Department of Education, 2016).

As mentioned previously, SAPs have been a topic of discussion amongst educators, policymakers, and researchers for decades. Thus, they have been examined by researchers from diverse academic and professional disciplines, including psychology, education, social/criminal justice, and medicine, amongst others (Heyne et al., 2019; Kearney, 2003, 2008). As a result, varying perspectives exist regarding how to define, conceptualize, measure, and intervene in SAPs. This is reflected in the range of terms that have been developed to capture school absenteeism, many of which are used inconsistently across publications. Unfortunately, the plethora of divergent approaches to the study of SAPs has contributed to poor comparability and limited integration across disciplines to date. This complicates our efforts towards understanding, assessing, and intervening in SAPs. Given growing concerns around the adverse consequences of SAPs for youth, an interdisciplinary lens that would contribute to greater shared understanding is more urgent than ever (Heyward, 2021).

### **Research Objective**

To begin addressing these concerns, the present study will synthesize the extant literature on SAPs among high school youth using a scoping review methodology. It will focus specifically on how school absenteeism is conceptualized, operationally defined, assessed, and measured across various disciplines that usually do not intersect, including psychology, education, medicine, criminology, social work, and sociology. The primary outcomes of the scoping review will be (a) a display of the full range of ways that SAPs are treated in the literature and (b) notable points of consensus about the nature of SAPs within and across research fields and professional disciplines.

## Literature Review

Regular school attendance is central to the psychosocial development of youth (Roeser et al., 2000). Youth who attend school regularly benefit from a language-rich environment and can develop social competence, influential relationships with peers and adults, and critical thinking skills, all of which are necessary for social, academic, and occupational functioning (Kearney, 2016; Kearney & Graczyk, 2014; Wang & Eccles, 2013). While occasional absence from school due to an acute illness, religious holiday, or family emergency is typical among youth, a child's absence becomes problematic when it occurs frequently, has no legally justifiable reason as agreed upon by parents and school officials, and has detrimental consequences to well-being (Kearney, 2003). Kearney (2008) proposed that problematic absenteeism be defined as an issue characteristic of school-aged youth who: "(1) have missed at least 25% of total school time for at least 2 weeks, (2) experience severe difficulty attending classes for at least 2 weeks with significant interference in a child's or family's daily routine, and/or (3) are absent for at least 10 days of school during any 15-week period while school is in session (i.e., a minimum of 15% days absent from school; (Kearney, 2008).

Although SAPs are a debilitating issue, their prevalence is difficult to quantify given that there is currently no common approach to collecting statistics on SAPs. While statistics are collected in some provinces, information is inconsistent in its quality, content, and accessibility (e.g., on government websites). Nevertheless, published estimates suggest that the average rate of chronic absenteeism is about 10-15% in Canadian schools, with rates approaching 25% in secondary schools (Office of the Child and Youth Advocate Newfoundland & Labrador, 2019; Quin, 2019; Simson, 2013). A student is considered chronically absent when they miss at least 10% of the school year, even if the absences are excused or due to an out-of-school suspension (California Department of Education, 2020).

Furthermore, while SAPs are prevalent worldwide, they disproportionately affect vulnerable communities. Youth in low-income countries, for example, face barriers to education such as food shortages, housing instability, health crises, community violence, inadequate infrastructure, and lack of educational resources, which significantly impede learning (UNESCO, 2019). In Sub-Saharan Africa, for example, while 81% of children are enrolled in schools, only 63% of students complete primary school and an even lower 38% complete lower secondary school. This contrasts significantly with rates in Europe and North America, where 99% of students complete primary school and 98% complete lower secondary school. Nevertheless, even in developed countries, school absenteeism and dropout rates are elevated, especially amongst racialized groups such as Black, Indigenous, and Other People of Colour (California Department of Education, 2020; Gee, 2018; Jacob & Lovett, 2017; Muhajarine et al., 2019; Sosu et al., 2021; U.S. Department of Education, 2016).

Elevated rates of school absenteeism among vulnerable groups date back to the 1970s, when exclusionary discipline became a common form of punishment in American schools. Between the 1970s and 2000s, Black students were three times as likely to be suspended as White students (Office of Civil Rights of the U.S. Department of Education, 2014). Students with disabilities and pre-existing emotional and behavioural disorders were also excluded at disproportionate rates (Quin, 2019; Simson, 2013). Unfortunately, when we examine recent data on school absenteeism from the Toronto District School Board, it is evident that not enough has changed. Data from their 2021-2022 Caring and Safe Schools Report shows that self-identified Black, Middle Eastern, and Mixed students were suspended or expelled at disproportionately high rates. In addition, Black students were suspended at a rate greater than two times their representation within the larger student population (Toronto District School Board, 2022). A

slightly older example from the U.S. Department of Education demonstrates that in the 2015-2016 school year, American Indian and Pacific Islander students exhibited a likelihood of missing three or more weeks of school that was at least 50 percent higher than their White counterparts. Likewise, Black students showed a 40 percent higher likelihood, while Hispanic students demonstrated a 17 percent higher likelihood (U.S. Department of Education, 2016). Finally, another study conducted in 2018 found that American Indian and Black students were approximately 25% more likely to be petitioned to juvenile court for unexcused absences compared to their White peers (Hockenberry & Puzanchera, 2018).

### **Short- and Long-Term Consequences of SAPs**

These estimates are of utmost concern given that youth who experience significant disruptions to their school attendance face numerous adverse consequences, both in the short- and long-term (Ansari et al., 2020; Kearney & Graczyk, 2014; Quin, 2019). It has been well-established that school absenteeism negatively impacts educational and social-emotional outcomes among school-aged children. Research conducted by Gottfried (2014) demonstrates that school absenteeism as early as kindergarten has immediate impacts on academic achievement (e.g., reading and math achievement scores) and educational engagement in the classroom (e.g., eagerness and attitudes toward learning) for children. Other research has focused specifically on middle and secondary school. For example, Liu et al. (2021) examined the causal impact of absenteeism on educational attainment. They found that missing ten classes in Mathematics or English Language Arts lowered student test scores (by 3-4% of a standard deviation) and course grades (by 17-18% of a standard deviation). In addition, it was found that ninth and tenth grade students with a total of ten absences across all subjects were less likely (by 2%) to graduate high school on time and to ever enroll in college. Also, Quin (2019) specifically examined the impacts of suspensions among high school students. It was found that students who

were suspended from school at least once reported more frequent interactions with antisocial peers, had less supportive relationships with teachers, experienced more negative emotions, reported more problem behaviours, were less interested in school, and experienced greater family conflict (Quin, 2019).

Furthermore, the link between school absenteeism and the development or exacerbation of mental health difficulties is also well-established in the literature (e.g., Egger et al., 2003; Epstein et al., 2020; Gakh et al., 2020; Gubbels et al., 2019; Lawrence et al., 2019; Wood et al., 2012). Lawrence et al. (2019) found that in general, having a mental disorder was associated with lower school attendance among Australian school-aged children. Other studies have explored the link between school absenteeism and mental health further. Wood et al. (2012) found that absenteeism and psychopathology may act as reciprocal factors during childhood and adolescence. More specifically, they found a significant reciprocal association between school absenteeism and self-reported anxiety, depression, and conduct problems among middle school students. Moreover, Gakh et al. (2020) found that school truancy was a significant predictor of alcohol, tobacco, and marijuana use among American high school students, while Epstein et al. (2020) linked school absenteeism with both self-harm and suicidal ideation among children and adolescents.

Finally, researchers have also examined the long-term impacts of school absenteeism on behavioural, economic, and educational outcomes in adulthood (e.g., Ansari et al., 2020; Collingwood et al., 2023; Oba et al., 2022). Ansari et al. (2020) found that students who were frequently absent between kindergarten and eighth grade were more likely to experience greater economic hardship, receive government assistance, and be unemployed. They were also more likely to have low high school grade point averages and were less likely to graduate high school.

Those who did graduate reported fewer years of post-secondary education (Ansari et al., 2020). Similarly, Oba et al. (2022) found that long-term school absenteeism among students in grades 7 to 12 (i.e., lasting 30 or more full school days) was associated with unemployment in young adulthood. On another note, Collingwood et al. (2023) found that Australian youth who were truant in high school were over four times more likely to receive future government welfare payments as compared to youth who were never truant. In addition, the likelihood of receiving government welfare was the same for individuals who were infrequently truant versus those who displayed problematic levels of truancy (Collingwood et al., 2023).

### **Historical Approaches to the Study of SAPs**

Given that SAPs are prevalent and have debilitating consequences, it is unsurprising that they have been studied by researchers, educators, and policymakers across a wide range of disciplines, including psychology, education, sociology, criminal justice, law, nursing, and medicine (Kearney, 2008). A diverse array of terms for SAPs have been published in the literature, and various perspectives exist regarding how best to conceptualize, operationally define, assess, and intervene in attendance issues. One drawback of having diverse perspectives is variation in the use and definition of key terminology featured in publications across different disciplines (Kearney, 2003, 2008). To illustrate this point, a brief history of SAPs, including some key terms and definitions that arose from sociological, criminological, psychological, psychiatric approaches to its study, will be discussed.

To begin, a key term from sociological and criminological approaches to the study of SAPs is school truancy. The term ‘truant’ comes from the 12<sup>th</sup> century Old French word “troungant”, which means a beggar, vagabond, or rogue (Shute & Cooper, 2015). In the 15<sup>th</sup> century, the term ‘truant’ referred to an individual who wanders from a designated place. Its usage became further popularized throughout the 19<sup>th</sup> century, following the advent of

compulsory education and the emergence of school attendance and absenteeism as topics of interest (e.g., Gleeson, 1992; Oreopoulos, 2005; Williams, 1927). The goal of compulsory education was reportedly to protect children from being economically exploited by their families by separating the child from the home, although strengthening state surveillance and control was arguably the main priority (Gleeson, 1992). In Canada, many advocated for public compulsory education because it was seen as an opportunity for economic security (Oreopoulos, 2005). This was especially true among families living in Canadian rural areas. The shortage of farmland meant that farming could no longer provide an economically viable future.

Even after public schooling became widely accessible, irregular school attendance was seen as a major issue (Gleeson, 1992; Oreopoulos, 2005; Williams, 1927). Teachers and politicians were among the first to express concern regarding irregular school attendance, arguing that the low numbers of students in classrooms prevented meaningful learning from occurring (Oreopoulos, 2005). Absence from school was seen as a threat to the future welfare of the state, and it was decided that students who were absent, especially intentionally, should be reprimanded (Williams, 1927). Thus, the implementation of compulsory school attendance laws followed. In England and Wales, for example, the 1870 Forster Education Act was implemented, stipulating that attendance at school was compulsory for all children aged five years and older (Gleeson, 1992). School boards were responsible for enforcing this legislation and typically picked their own school attendance officers to oversee this issue. In Canada, compulsory attendance laws were first introduced in Ontario in 1871 (Oreopoulos, 2005). Children aged 7-12 were required to attend school for at least four months a year, or else their parents would be fined. Attendance laws were slowly introduced in other Canadian provinces, though none were strictly enforced at first, especially in rural areas.

With the implementation of compulsory school attendance laws, the term school truancy became further nuanced. It was understood as referring to purposeful absence from school without the knowledge or authorization from parents or school authorities. Given the value and emphasis placed on receiving an education and the understanding that it would bring good prospects, it was difficult to understand the motivations or causes behind refusal or rebellion against school (Gleeson, 1992; Williams, 1927). Thus, truancy was viewed as a symptom of psychological dysfunction that was typically characteristic of juvenile delinquency (Gleeson, 1992; Shute & Cooper, 2015). These early understandings of truancy created a portrait of the 'truant' as a lost and troubled juvenile with psychological problems. This traditional view has unfortunately prevailed over the decades, though it proves to be of little value in present day. In many cases, individuals who are truant do in fact display traditional 'delinquent' or 'deviant' behaviours, such as frequent antisocial behaviour, involvement in criminal and gang activity, and substance abuse (Frick & Dickens, 2006; Kearney, 2008; Shute & Cooper, 2015). However, research shows that approximately 62 to 71% of students have been truant at some point in their lifetime (Shute & Cooper, 2015). How can truancy indicate juvenile delinquency when it is societally widespread? Fortunately, modern approaches to the study of truancy have moved away from the portrait of the psychologically troubled delinquent and have increasingly highlighted broader contextual and systemic factors as contributors to the problem (Kearney, 2008).

Following this, around the mid-20th century, psychological and psychiatric approaches to school absenteeism began to highlight other individual-level and proximal factors as contributors to the problem. These factors included emotional or psychological symptoms of the child such as fear, separation anxiety, and family dysfunction (e.g., Berry & Lizardi, 1985; Johnson et al., 1941). Key terms from psychology and psychiatry include school phobia, school avoidance,

school reluctance, and school refusal, which have all been used interchangeably to refer to absence motivated by fear or distress (Berry & Lizardi, 1985). Johnson et al. (1941) first introduced the term school phobia, which was described as a “psychoneurotic disorder” in which children displayed extreme terror or anxiety in relation to being at school and could be absent for days, months, or years if the problem was left untreated. Later, separation anxiety was designated as a comparable but non-identical condition to school phobia, which refers to chronic difficulty attending school due to the child’s fear of separation from their mother (Estes et al., 1956).

Although some of these terms are now outdated in the absenteeism literature, similar phenomena have been captured by novel broader terms, including school refusal and school refusal behaviour. School refusal highlights a child’s experience of emotional distress, which may include fear, anxiety, depression, temper tantrums, or somatic symptoms, as interfering with regular school attendance (Fremont, 2003). School refusal behaviour is an even broader term that refers to any child-motivated refusal behaviour, regardless of whether it’s based in fear or anxiety (Kearney & Silverman, 1995). However, one important criticism of psychological approaches is that they tend to focus on internalizing symptoms and immediate proximal variables amongst clinical samples of youth, ignoring broader contextual factors, such as school- and community-based factors (Lyon & Cotler, 2007).

In the late 20<sup>th</sup> century, school exclusion was employed increasingly as criminalization made its way into schools, particularly in the United States. The term “exclusion” originated from the Old French term *clos-* (circa 1200 BCE), the Latin term *clausus* (circa 1200 BCE), and partly from the Old English term *bechysan* (circa 1400 BCE), meaning to shut, close, cut off from, or make inaccessible (Online Etymological Dictionary, n.d.). Prior to the 1960s, schools employed public humiliation and corporal punishment as disciplinary tactics for students

(Adams, 2000; Simson, 2013). These traditional disciplinary methods aimed to deter those students who were observing the individual being punished from misbehaving or offending, and were perceived to be useful due to small class sizes. However, corporal punishment began to lose its effectiveness in the 1960s as student populations grew (Adams, 2000; Simson, 2013).

Beginning in the 1970s, it was banned from schools in many states (Gershoff, & Font, 2016).

Following this, Post World War II and the advent of the baby boom alongside the civil rights movement, women's movement, and the Vietnam protest movement meant increased school enrollment, a greater number of educational facilities, and greater student unrest and rebellion in the United States (Adams, 2000; Simson, 2013). The growth of the student population in the 1970s led to increased implementation of exclusionary discipline practices. School administrators employed suspensions and expulsions in order to quickly and efficiently deal with large numbers of disruptive students. In the late 1980s and 1990s, school discipline became ever more punitive as the concept of zero-tolerance made its way into American classrooms. This was a result of the United States federal Gun-Free School Act of 1994, which sought to restrict weapons in schools, and later expanded to include misbehaviour that was non-violent and non-weapon related (Adams, 2000; Simson, 2013; Welch & Payne, 2018). In Canada, the concept of zero tolerance became prevalent in policy discussions throughout the 1990s and 2000s, as media coverage of violence in Canadian and American schools increased (Bailey, 2017). Canadian school boards such as The Scarborough Board of Education and the Toronto District School Board began adopting Safe Schools policies that promised a zero tolerance approach to misbehaviour in their schools. During this time, school absenteeism research began to move away from a primary focus on the individual and the family and began to critically consider the influential power of factors such as school environment, community, and

broader economic, political, and systemic issues became a central focus in SAPs research (Kearney et al., 2022).

These are just a few examples of the historical development of terms and definitions for SAPs from the disciplines of sociology, criminology, psychology, and psychiatry. To complicate matters further, terms such as school refusal and truancy are used inconsistently across publications, according to the researcher's discipline and educational background (Kearney, 2003). For example, school refusal behaviour has been used as an umbrella term for constructs such as school truancy, school refusal, and school phobia. Many more terms for school absenteeism exist in the literature, and readers can refer to Heyne et al. (2019) for a comprehensive list. The diversity in terms and approaches creates greater ambiguity around classification, an obstacle to the advancement of assessment and intervention efforts for SAPs. However, when we consider psychological and criminal justice perspectives together, for example, we add complexity and nuance to our understanding of SAPs, and it becomes more evident that integration of existing knowledge across the numerous disciplines within which SAPs have been studied is of utmost importance.

### **Models of Classification**

Some authors have made efforts towards integration by providing suggestions for standardized models of classification/conceptualization that can be useful for intervention and treatment purposes (e.g., Heyne et al., 2019; Kearney & Silverman, 1990). There are currently two popular schools of thought with regards to classification of school absenteeism – one promotes differentiation based on function and the other promotes a typology for SAPs. First, Kearney and Silverman (1990) developed a model that classifies youth with school refusal behaviour according to the primary reason why they are refusing school. The four proposed maintaining variables for school refusal behaviour include: 1) avoiding specific stimuli in the

school environment that trigger fear or anxiety, 2) escape from aversive social or evaluative situations, such as speaking in front of a class, 3) separation anxiety or attention-seeking from significant others, and 4) to pursue tangible reinforcements outside of school, such as to watch television or spend time with friends. The first two variables can be classified as avoiding school for negative reinforcement while the second two involve absence from school to obtain positive rewards from a non-school environment (Kearney, 1990). Kearney (2007) suggests that understanding the function of school refusal behaviour amongst youth with various clinical presentations allows educators and professionals to make informed decisions about choice of treatment.

In a more recent example, Heyne et al. (2019) proposed a conceptual framework that differentiates between four types of attendance problems: 1) school refusal, 2) school truancy, 3) school withdrawal, and 4) school exclusion. School refusal is described as absence motivated by emotional distress (e.g., anxiety, fear, depression) in relation to being present at school and does not include children with severe antisocial behaviour, such as conduct disorder. Children stay home with their parents' knowledge, and parents make reasonable attempts to secure their child's school attendance. School truancy is said to involve intentional or deliberate action to miss school, and may take the form of skipping classes, leaving school early, or missing entire school days. It is prevalent among adolescents, is not typically driven by emotional distress, and occurs without parental or school permission. School withdrawal refers to situations in which parents prevent their child from attending school or make little effort to secure their attendance. In this case, absence may be justified with family-based reasons, such as having children take care of a sick family member, look after younger siblings, or help with household chores. It may be an act designed to protect children from threats at school, such as bullying, or it may reflect intent to

hide something from school staff, such as malnutrition, maltreatment, incomplete homework, or a psychological disorder.

Finally, school exclusion refers to absence that stems from school-based decisions, such as the use of disciplinary measures, a lack of willingness to accommodate a student's special needs, or a desire to satisfy school-based performance requirements. Heyne et al. (2019) argue that absence from school for disciplinary reasons (e.g., suspension) is not typically considered problematic unless it is unfair, non-transparent, inconsiderate of the student's needs, and/or occurs outside accepted guidelines. However, the distinction between non-problematic and problematic school exclusion is often not clear in research studies. Thus, for the purpose of this study, all forms of school-motivated absenteeism will be labeled as school exclusion. Finally, in this model, both school refusal and school truancy are considered forms of child-motivated absence while school withdrawal and school exclusion are considered forms of parent-motivated and school-motivated absence, respectively. Heyne et al. (2019) suggests that this framework has value in signaling the most appropriate intervention to practitioners, researchers, and policymakers who provide support to youth and families struggling with school attendance.

### **Conceptual and Theoretical Frameworks**

As mentioned previously, this scoping review is guided by the conceptual framework put forth by Heyne et al. (2019). This research also draws upon the Bioecological Model of Human Development, which explains individual development as a product of ongoing and bi-directional interactions between person and environment (i.e., *proximal processes*; Bronfenbrenner, 1979; Bronfenbrenner & Morris, 2006). The latest version of this model by Bronfenbrenner and Morris (2006) introduces a Process-Person-Context-Time (PPCT) model. *Proximal processes*, which are considered the primary mechanism fueling human development,

are influenced by *person characteristics*, context, and time. Firstly, *person characteristics* encompass *demand, resource, and force characteristics*, all of which play a role in encouraging or deterring social interactions between individuals. *Demand characteristics* refer to visible traits like age and gender, *resource characteristics* refer to cognitive, emotional, and material resources (e.g., accumulated knowledge, skills, and experience) and *force characteristics* encompass behavioural tendencies (e.g., motivation, temperament, persistence).

Next, *context* pertains to the positioning of an individual and their interactions within a hierarchy of five interconnected environmental “layers”, namely, the *microsystem, the mesosystem, the exosystem, the macrosystem, and the chronosystem*. The *microsystem* encompasses the collection of interpersonal relationships, activities, and social roles that a child experiences in their immediate environment, implicating structures such as family, peer group, daycare or school, and neighborhood. The *mesosystem* is a system of two or more *microsystems*. Following this, the *exosystem* encompasses the relationships between larger social systems and microsystem settings/structures, indirectly impacting a child’s development. The *macrosystem* encompasses cultural values, laws, and customs – these principles can impact standards and expectations regarding parenting and schooling and the availability and nature of community-based resources, for example. The *chronosystem* encompasses the degree of stability, consistency, and predictability that exists in any of these environments over time. One example is stability of family living conditions, which can be assessed by examining factors such as number of family moves, changes in school or daycare placements, incidence of divorce and remarriage, and conditions of parental employment (Bronfenbrenner & Morris, 2006). Finally, *time* is a critical aspect of this model because positive human development is dependent upon the degree

of stability, consistency, and predictability maintained over time in any element of the systems constituting the bioecological model.

Therefore, when studying a complex issue such as SAPs, it is critical to examine not only the individual characteristics of the child who is experiencing problems with school attendance but the immediate and distal contexts that characterize their environment (Lyon & Cotler, 2007). An interdisciplinary approach to the study of SAPs takes into consideration the collection of immediate and remote environments that have varying degrees of influence on development, such as family, peers, school, community factors, cultural values/customs/laws, and the current historical period and political climate in which the child is living. By examining SAPs through an interdisciplinary lens, we acknowledge that attendance problems are created and maintained within complex systems, and efforts toward prevention and intervention require system-level solutions.

### **Research Objective**

As described previously, SAPs are widespread and can have debilitating consequences with regards to youth educational, economic, social-emotional, and health outcomes. The examination of SAPs from an interdisciplinary perspective will promote integration of existing knowledge across diverse disciplines, and this will benefit efforts towards prevention and intervention made by professionals in relevant fields. Thus, the specific research objectives of the present study are to (a) display the full range of ways that SAPs among high school students are treated in the literature, including conceptualizations, operational definitions, and assessment and measurement tools, (b) present notable points of consensus about the nature of SAPs within and across research fields and professional disciplines, and (c) identify gaps in the extant literature on SAPs and suggest future directions for research, policy, and practice.

## **Methodology**

The scoping review aims to synthesize or ‘map’ relevant literature in a particular field of interest (Arksey & O’Malley, 2005). Its purpose is to determine the scope, variety, and nature of evidence on a topic, summarize findings from a body of knowledge that is heterogeneous in nature, and identify gaps in the literature to guide future research directions (Arksey & O’Malley, 2005; Tricco et al., 2018). I deemed the scoping review methodology to be most aligned with the objectives of this study because the intention was to report and discuss key definitions, conceptualizations, measurement tools, and interventions related to absenteeism, as well as to identify common variables linked with SAPs. The purpose of this study was not to address the feasibility, appropriateness, meaningfulness, or effectiveness of any method, intervention, or treatment related to SAPs, which is a typical objective of quantitative synthesis methodologies like meta-analysis (Munn et al., 2018).

### **Inclusion Criteria**

Studies were eligible for inclusion if they met the following criteria:

- 1) Language: published in English;
- 2) Year: published between 2012 and 2022;
- 3) Publication type: peer-reviewed empirical articles based on qualitative and/or quantitative research methods from any journal and any country. Theses and dissertations, theoretical papers, review articles, government reports, and books were not included;
- 4) Topic: school absenteeism was a central concept, meaning that a discussion of its conceptualization, operationalization, and measurement was featured in the text;
- 5) Accessibility: for full-text screening, studies were accessible online or in libraries accessible to one of the authors;

6) Population: study subjects or participants were youth in secondary schools, roughly capturing students in grades 7 through 12.

I chose to examine English-language studies exclusively because this is the language in which I am fluent. I also restricted my search to studies published since 2012 in order to exclude literature containing outdated terms, definitions, measurement tools, and interventions, as these have evolved dramatically over the years and continue to increase in complexity (Kearney, 2008). I also focused solely on empirical articles (not theoretical or review articles) because I was interested in mapping and reporting the ways in which SAPs are conceptualized, defined, assessed, and measured by researchers working with data derived directly from secondary school students. It was also a requirement for empirical articles to be peer-reviewed. Grey literature was excluded because it would have imposed considerable time and resource demands (Mahood et al., 2014). Finally, I restricted the population to youth in secondary schools for this review. SAPs among elementary school students were examined in a previous study (see Smith et al., 2022). I chose to examine these populations separately because differences in the frequency and nature of school absenteeism between primary and secondary students have been documented (e.g., Hancock et al., 2013; U.S. Department of Education, 2016). For example, research reports show that while school attendance rates tend to be relatively stable in primary school, they drop in secondary school, with rates of unauthorized absences increasing significantly (Hancock et al., 2013, p, 39; U.S. Department of Education, 2016).

### **Literature Search**

In order to review absenteeism literature across the fields of education, psychology, criminology, sociology, and medicine, I systematically searched the following databases in May 2023: 1) ERIC (OVID), 2) PsycInfo (OVID), 3) Criminal Justice Abstracts, 4) Sociological

Abstracts, 5) Medline. I created search terms and phrases for this systematic search with the assistance of a university research librarian, who specializes in document search methods. They were modified according to each database's thesaurus and subject headings. All search strategies included two main components. The first component was dedicated to capturing SAPs and included some or all of the following concepts: school attendance, school absenteeism, school attendance problems, truancy, school refusal, school phobia, suspension, and expulsion. These concepts were coded as search terms (e.g., truan\* was used to include all versions of the word, like truancy and truant) and as subject headings, where possible. The second component was dedicated to capturing youth in secondary schools. Similarly, I used search terms and subject headings such as "secondary education", "secondary schools", and "secondary school students" to capture the secondary student population, which roughly spans students in grades 7 to 12. Variations of these subject headings were created using the terms "junior high school" and "high school" as well. Tables 1 through 5 outline the specific search strategies used for each database.

### **Screening**

The search yielded 1285 publications: ERIC (233), PsycInfo (130), Criminal Justice Abstracts (293), Sociological Abstracts (195), and Medline (278). After removing duplicates, 1121 articles were available for screening. Next, Covidence, a web-based software platform designed to streamline the process of research reviews, was used to conduct a two-step screening process: 1) title and abstract review and 2) full text review. At Step 1, publication titles and abstracts were reviewed according to the eligibility criteria stated above. When I was uncertain about whether a publication met inclusion criterion four (i.e., absenteeism/attendance was a central concept in the study), I chose to review it during full-text screening to minimize error. I also chose to include studies with mixed samples of middle and high school students (inclusion

criterion six, study population). A clear division between elementary, middle, and high school does not always exist, and when it does, it tends to vary by province/state and country. Taking an inclusive approach allowed me to include a significant number of relevant studies in the final sample. At Step 2, the full text version of each article was reviewed, with data charting occurring concurrently. 244 studies were included in the final sample. Figure 1 shows the PRISMA diagram for this screening process.

### **Data Charting and Synthesis**

An Excel spreadsheet (see Appendix A) was developed to record data charted from the selected 244 articles. The data coded into the spreadsheet was categorized into 1) study characteristics and 2) absenteeism-relevant information. Study characteristics included research design, theoretical or conceptual framework (if specified), geographical location, data collection setting, and participant characteristics (e.g., sample size, participant type, informant type, age range). Absenteeism-relevant information included conceptualization, operationalization, and measurement, as well as intervention and themes or outcome variables linked with SAPs, where available. The coding process for absenteeism-relevant information was guided by the conceptual framework proposed by Heyne et al. (2019), which organizes SAPs into four predominant types: 1) school refusal, 2) school truancy, 3) school withdrawal, and 4) school truancy. A fifth category titled “undifferentiated” was added to capture circumstances in which the reason for absence was unclear or not specified by the study’s authors.

**Table 1***ERIC OVID Search Strategy*

Line	Term or phrase	Results (#)
1	Truancy/	905
2	School phobia/	166
3	Suspension/	2035
4	Expulsion/	1102
5	(school* adj2 (absen* or non-attend* or refus* or phobi* or truan* or suspen* or expel* or expulsion* or exclude* or exclusion* or withdraw*)).ti,ab.	2673
6	("school attendance" adj2 (problem* or difficult* or concern* or issue*)).ti,ab.	64
7	1 or 2 or 3 or 4 or 5 or 6	4995
8	exp Secondary Education/	97698
9	schools/ or private schools/ or public schools/ or junior high schools/ or high schools/ or secondary schools/	99952
10	junior high school students/ or high school students/ or secondary school students/	75412
11	(school* or class or classes or classroom*).ti,ab.	750349
12	((school* or secondary or grade*) adj2 (student* or adolescent*)).ti,ab.	112161
13	attendance/	5848
14	8 or 9 or 10 or 11 or 12	826565
15	13 and 14	4944
16	7 and 15	902
17	limit 16 to (english language and journal articles and yr="2012 - 2022")	233

**Table 2***PsycInfo OVID Search Strategy*

Line	Term or phrase	Results (#)
1	School truancy/	601
2	School refusal/	468
3	School phobia/	376
4	School suspension/	557
5	School expulsion/	257
6	(school* adj2 (absen* or non-attend* or refus* or phobi* or truan* or suspen* or expel* or expulsion* or exclude* or exclusion* or withdraw*)).ti,ab.	4273
7	("school attendance" adj2 (problem* or difficult* or concern* or issue*)).ti,ab.	117
8	1 or 2 or 3 or 4 or 5 or 6 or 7	5041
9	exp Secondary Education/	7488
10	schools/ or private schools/ or public schools/ or junior high schools/ or high schools/ or secondary schools/	39298
11	junior high school students/ or high school students/ or secondary school students/	43296
12	(school* or class or classes or classroom*).ti,ab.	594405
13	((school* or secondary or grade*) adj2 (student* or adolescent*)).ti,ab.	90454
14	School attendance/	2641
15	9 or 10 or 11 or 12 or 13	614855
16	14 and 15	2337
17	8 and 16	577
18	limit 17 to (english language and "0100 journal" and yr="2012 - 2022")	174

**Table 3***Criminal Justice Abstracts Search Strategy*

Line	Term or phrase	Results (#)
S1	SU school attendance or SU school absenteeism	244
S2	SU school phobia or SU exclusion from school or SU student suspension or SU student expulsion	130
S3	TI (school* N2 (absen* or non-attend* or refus* or phobi* or truan* or suspen* or expel* or expulsion* or exclude* or exclusion* or withdraw*)) or AB (school* N2 (absen* or non-attend* or refus* or phobi* or truan* or suspen* or expel* or expulsion* or exclude* or exclusion* or withdraw*))	569
S4	TI ("school attendance" N2 (problem* or difficult* or concern* or issue*)) or AB ("school attendance" N2 (problem* or difficult* or concern* or issue*))	10
S5	S1 or S2 or S3 or S4	802
S6	SU secondary education	443
S7	SU schools or SU private schools or SU public schools or SU junior high schools or SU high schools or SU secondary schools	14644
S8	SU junior high school students or SU high school students	2087
S9	TI (school* or class or classes or classroom*) or AB (school* or class or classes or classroom*)	47049
S10	TI ((school* or secondary or grade*) N2 (student* or adolescent*)) or AB ((school* or secondary or grade*) N2 (student* or adolescent*))	6928
S11	S6 or S7 or S8 or S9 or S10	49719
S12	S5 and S11	794
S13	Limit S12 to English language, academic journal, and published between 2012-2022	309

**Table 4***Sociological Abstracts Search Strategy*

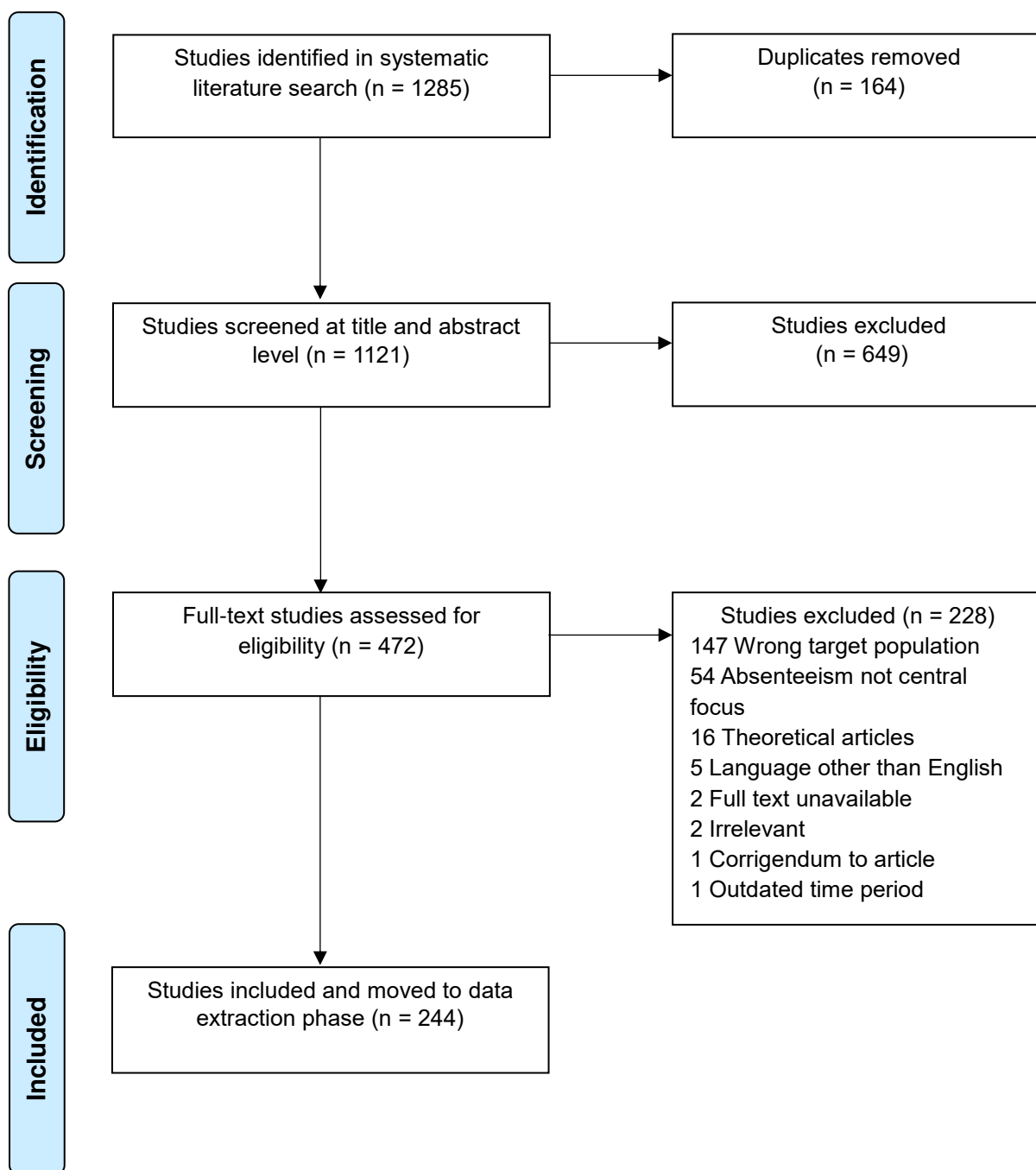
Line	Term or phrase
S1	MAINSUBJECT.EXACT("School Attendance")
S2	MAINSUBJECT.EXACT("Absenteeism")
S3	MAINSUBJECT.EXACT("Truancy")
S4	TI (school* N2 (absen* or non-attend* or refus* or phobi* or truan* or suspen* or expel* or expulsion* or exclude* or exclusion* or withdraw*)) or AB (school* N2 (absen* or non-attend* or refus* or phobi* or truan* or suspen* or expel* or expulsion* or exclude* or exclusion* or withdraw*))
S5	TI ("school attendance" N2 (problem* or difficult* or concern* or issue*)) or AB ("school attendance" N2 (problem* or difficult* or concern* or issue*))
S6	S1 or S2 or S3 or S4 or S5
S7	MAINSUBJECT.EXACT("Secondary Education")
S8	MAINSUBJECT.EXACT("Schools") OR MAINSUBJECT.EXACT("Public Schools") OR MAINSUBJECT.EXACT("Private Schools") OR MAINSUBJECT.EXACT("Junior High Schools") OR MAINSUBJECT.EXACT("High Schools") OR MAINSUBJECT.EXACT("Secondary Schools")
S9	MAINSUBJECT.EXACT("Junior High School Students") or MAINSUBJECT.EXACT("High School Students")
S10	TI ((school* or secondary or grade*) N2 (student* or adolescent*)) OR AB ((school* or secondary or grade*) N2 (student* or adolescent*))
S11	TI (school* OR class OR classes OR classroom*) OR AB (school* OR class OR classes OR classroom*)
S12	S7 or S8 or S9 or S10 or S11
S13	S6 and S12
S14	limit S13 to (english language and yr="2012 - 2022" and scholarly journal)

*Note.* The number of results per search line is unavailable for reporting.

**Table 5***MEDLINE OVID Search Strategy*

Line	Term or phrase	Results (#)
1	(school* adj2 (absen* or non-attend* or refus* or phobi* or truan* or suspen* or expel* or expulsion* or exclude* or exclusion* or withdraw*)).ti,ab.	3684
2	("school attendance" adj2 (problem* or difficult* or concern* or issue*)).ti,ab.	70
3	1 or 12	3722
4	Education/	21519
5	("junior high school education" or "high school education" or "secondary school education" or "secondary education").ti,ab.	7532
6	Schools/	50936
7	("private schools" or "public schools" or "junior high schools" or "high schools" or "secondary schools").ti,ab.	17986
8	Students/ or Adolescents/	2255583
9	("junior high school students" or "high school students" or "secondary school students").ti,ab.	14820
10	((school* or secondary or grade*) adj2 (student* or adolescent*)).ti,ab.	40146
11	(school* or class or classes or classroom*).ti,ab.	964009
12	Absenteeism/	9751
13	4 or 5 or 6 or 7 or 8 or 9 or 10 or 11	3081965
14	12 and 13	3117
15	3 and 14	815
16	limit 15 to (english language and yr="2012 - 2022" and journal article)	<sup>a</sup> 353

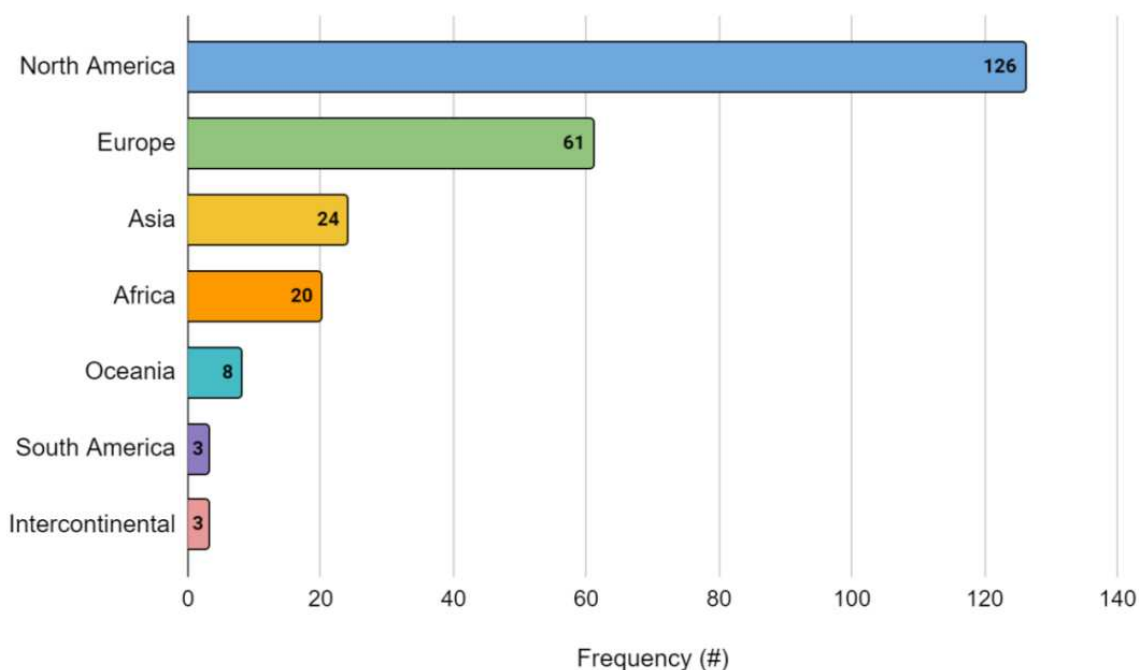
<sup>a</sup>This search originally yielded 354 results, however, one article was retracted due to an error made in the evaluation of the data or calculations.

**Figure 1***Study Selection Flowchart*

## Results

**Figure 2**

*Study Distribution by Continent*



*Note.* An “intercontinental” study is one that collects data across two or more continents.

Approximately half (51.6%) of the 244 studies reviewed were conducted in North America (see Figure 2). Among these studies, 98% were conducted in the United States and 2% in Canada. The predominant research design was quantitative (86%). Only 91 studies (37%) explicitly cited a theoretical/conceptual framework, and four stood out as being most frequently cited (see Table 6). School was a primary data collection setting in 193 studies (79%). Researchers also collected data online, at community agencies, medical sites, family homes, research facilities, and juvenile justice facilities. Participants were primarily middle and/or high school students, roughly spanning grades 6 through 12. Some studies incorporated

parents/caregivers, school personnel, and/or community workers as informants in their samples, all of whom had personal experience with youth struggling with school absenteeism.

**Table 6**

*Most Frequently Cited Frameworks*

Framework	Frequency
Life-course theory of cumulative disadvantage	9
Labeling theory of delinquency	5
Interdisciplinary model of school absenteeism	5
Ecological systems theory	5

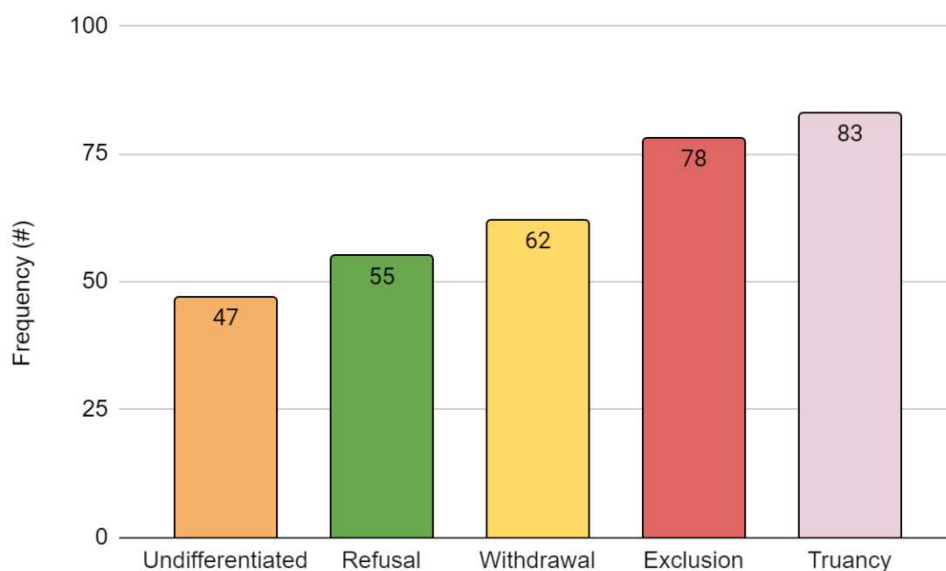
**Conceptualization**

Next, findings indicate that the two most frequent conceptualizations for SAPs were school truancy and school exclusion (see Figure 3). Heyne et al. (2019) define school truancy as absence from school that occurs without knowledge or permission from parents and is not legitimately excused by school officials, medical practitioners, or state law. This often takes the form of skipping classes, leaving school early, or missing entire school days. School exclusion is defined as school-based decision making that centers around the use of disciplinary measures, the need to satisfy academic performance requirements, and/or a lack of willingness to accommodate students' special needs, thereby excluding students from instructional and social

opportunities on school grounds (Heyne et al., 2019). Although school truancy and exclusion stood out in the literature, all five categories were employed frequently.

**Figure 3**

*Conceptualization of SAPs by Category*



*Note.* Total instances exceed 244 because some studies used multiple conceptualizations.

### **Operationalization**

Following this, school absenteeism was most frequently operationalized by 1) type of absenteeism or 2) number of school hours and/or days missed in a specified period (see Table 7). The category “type of absenteeism” refers to circumstances in which researchers identified and studied a particular absence problem (e.g., school refusal) but did provide an operational definition (i.e., did not quantify absenteeism). This form of operationalization appears to be common among 1) qualitative studies, in which participants are interviewed about SAPs, 2) studies that specifically recruit participants with SAPs (e.g., from truancy diversion programs or family courts and services centers), and 3) studies in which the presence of an absence problem

is determined by responding “yes” to a single item measure (e.g., “have you ever received an out-of-school suspension during the past year?”)

**Table 7**

*Operationalization of School Absenteeism and Attendance*

Operationalization	Frequency
Type absenteeism	157
# hours and/or days absent	134
# hours and/or days absent + type absenteeism	68
# disciplinary incidents	16
# days attended	7
Not specified	4

*Note.* Total instances exceed 244 because some studies used multiple operational definitions

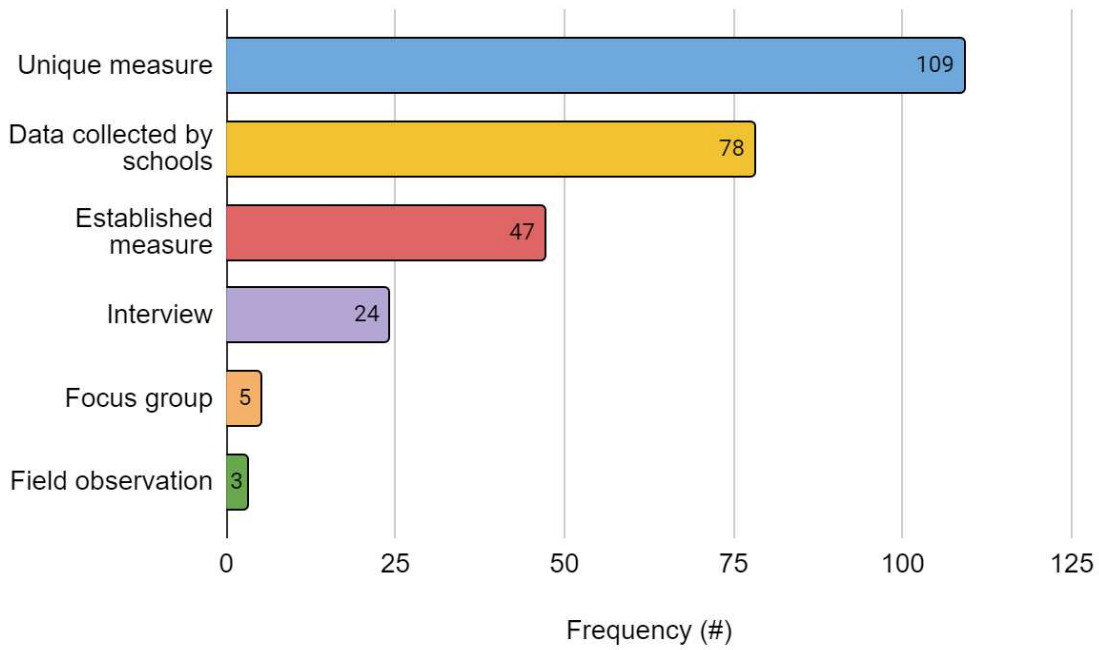
**Measurement**

Furthermore, the most common measure type for absenteeism was the unique measure (see Figure 4), which refers to any self-report item, scale, or questionnaire that was developed for a specific research project and had no prior psychometric evidence to support its validity. This finding is supported by the fact that youth were the most common informant for the measurement of absenteeism (see Figure 5). Notably, while approximately 46.6% of studies employed a unique measure to assess absenteeism, only 19% used established measures with psychometric validity. The second most common measure of absenteeism was data routinely collected by schools. In this scenario, researchers accessed databases containing official school

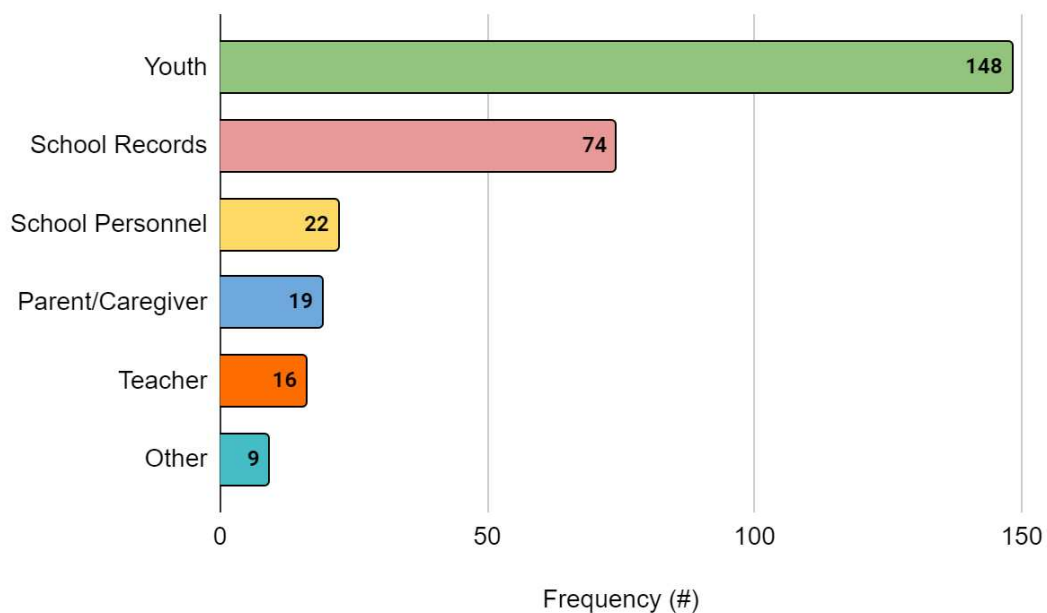
records to find absenteeism or attendance rates (typically organized by academic year), which was then reported in their study.

**Figure 4**

*Absenteeism/Attendance Measure Type*



*Note.* Total instances exceed 244 because some studies used multiple measure types.

**Figure 5***Absenteeism/Attendance Informant Type*

*Note.* Total instances exceed 244 because some studies used multiple measure types.

Eighty-four studies (about 34%) chose a reporting interval of one regular/academic year, which aligns with the frequent use of unique measures and official school records as measurement tools/sources. Unique measures were often a single yes/no question requiring participants to report, for example, whether they had ever ‘played truant’ or ‘received an out-of-school suspension’ in the past year. As for school records, they are typically organized by academic year. Similarly, one academic semester was sometimes selected as a reporting interval (4%). However, the remaining 150 studies selected seemingly arbitrary reporting intervals, such as  $x$  days (4.5%), 1 month (18%),  $x$  months (11%), lifetime (8%), or  $x$  years (1%), where  $x$  represents an arbitrary number. Overall, these measurement-related findings indicate significant reliance on participant self-report in the measurement of school attendance or absence.

### **Interventions and Variables Linked with SAPs**

Thirty-nine of the studies included in this scoping review (16%) measured attendance or absenteeism in the context of an intervention. Nine studies introduced novel interventions, meaning they had no previous citation history. The interventions employed in these studies varied greatly, meaning that no particular intervention was cited more than a few times across the 244 studies reviewed. The types of interventions employed in these studies can be broadly classified into four categories: 1) mental health, 2) physical health, 3) school engagement, climate, and safety, and 4) education/employment. See Table 8 for examples of interventions that fall under each category. Finally, themes (qualitative) and outcome variables (quantitative) linked with SAPs were identified and classified into nine domains: 1) psychological/behavioural, 2) physical health, 3) family, 4) social-cultural identity, 5) school climate and safety, 6) school academics, 7) criminal justice, 8) macrosystemic factors, and 9) adulthood outcomes. See Table 9 for a list of specific examples from each domain.

**Table 8***Types of Interventions Targeting Absenteeism or Attendance*

Domain	Nature of intervention
Mental health	<ul style="list-style-type: none"> <li>• Substance abuse recovery</li> <li>• Family therapy</li> <li>• Cognitive behavioural</li> <li>• Behavioural intervention for school refusal</li> <li>• Mindfulness and emotion regulation training</li> </ul>
Physical health	<ul style="list-style-type: none"> <li>• Menstrual hygiene education/management</li> <li>• Pain rehabilitation program</li> <li>• Health consultations with school nurse</li> <li>• Implementation of school-based health centers</li> </ul>
School engagement, climate, and safety	<ul style="list-style-type: none"> <li>• Goal setting, social and communication skills</li> <li>• Promotion of positive school environment</li> <li>• Increased school resource officers</li> <li>• Truancy intervention (e.g., education about school attendance laws, creation of child-focused action plan, petition to juvenile justice court)</li> </ul>
Education/employment	<ul style="list-style-type: none"> <li>• Academic mentoring and support</li> <li>• Experiential learning</li> <li>• Financial literacy</li> <li>• College preparation</li> <li>• Employment program</li> </ul>

**Table 9***Categories of Variables Linked to SAPs*

Domain	Quantitative	Qualitative
Psychological/behavioural	<ul style="list-style-type: none"> <li>• Mental health difficulties</li> <li>• Sexual risk behaviors</li> <li>• Interpersonal difficulties</li> <li>• Violent/delinquent behaviour</li> </ul>	<ul style="list-style-type: none"> <li>• Mental health difficulties</li> <li>• Future-oriented stress</li> <li>• Relationship struggles</li> </ul>
Physical health	<ul style="list-style-type: none"> <li>• Menstruation</li> <li>• Sleep difficulties</li> <li>• Illness/injury</li> </ul>	<ul style="list-style-type: none"> <li>• Menstruation</li> <li>• Chronic illness</li> </ul>
Family	<ul style="list-style-type: none"> <li>• Parent mental health difficulties</li> <li>• Negative parental attitudes or lack of involvement in school</li> <li>• Low parental education</li> <li>• Parental unemployment</li> <li>• Youth involvement in household chores or caretaking</li> <li>• Parental incarceration</li> </ul>	<ul style="list-style-type: none"> <li>• Negative parental attitudes towards education</li> <li>• Parental health issues</li> <li>• Cultural and language barriers</li> <li>• Parental unemployment</li> <li>• Strained relationships between family and school</li> </ul>
Social-cultural identity	<ul style="list-style-type: none"> <li>• Identity-related discrimination: <ul style="list-style-type: none"> <li>a) Racial/ethnic minority</li> <li>b) Sexual or gender minority</li> <li>c) Disability status</li> <li>d) Religious affiliation</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Identity-related discrimination <ul style="list-style-type: none"> <li>a) Racial/ethnic minority</li> <li>b) Immigrant status</li> <li>c) Learning disability</li> </ul> </li> </ul>
School climate and safety	<ul style="list-style-type: none"> <li>• Negative school climate</li> <li>• Perceived lack of safety due to bullying and violence</li> <li>• Large school size</li> <li>• Poor relationships with teachers</li> </ul>	<ul style="list-style-type: none"> <li>• Bullying and violence</li> <li>• Lack of teacher support</li> <li>• Large classroom size</li> <li>• Infrequent contact with counselors</li> <li>• Strained family-school relationships</li> </ul>
School academics	<ul style="list-style-type: none"> <li>• Lack of motivation or engagement</li> <li>• Lower academic outcomes</li> <li>• School dropout</li> </ul>	<ul style="list-style-type: none"> <li>• Academic difficulties/failure</li> <li>• School dropout</li> </ul>

Domain	Quantitative	Qualitative
Criminal justice	<ul style="list-style-type: none"> <li>• Criminal activity</li> <li>• Arrest</li> <li>• Incarceration</li> </ul>	<ul style="list-style-type: none"> <li>• Criminal activity</li> </ul>
Macrosystemic factors	<ul style="list-style-type: none"> <li>• Absence of state anti-discrimination policy</li> <li>• Low socioeconomic status</li> <li>• Neighborhood crime</li> </ul>	<ul style="list-style-type: none"> <li>• Family low income status</li> <li>• Inability to pay school fees</li> <li>• Unequal access to support services and resources</li> </ul>
Adulthood outcomes	<ul style="list-style-type: none"> <li>• Unemployment status</li> <li>• Low likelihood of postsecondary schooling</li> <li>• Low participation in political activities</li> <li>• Homelessness</li> </ul>	N/A

## Discussion

SAPs have a debilitating impact on the social-emotional, health, educational, and economic outcomes of youth (e.g., see Ansari et al., 2020; Epstein et al., 2020; Gakh et al., 2020; Gottfried, 2014; Liu et al., 2021). This scoping review examined SAPs from an interdisciplinary perspective to integrate existing knowledge across disciplines and increase shared understanding amongst those working to address school attendance issues. The specific research objectives of this study were (a) to display the full range of ways that SAPs are treated in the literature, including how they are conceptualized, operationalized, and measured, (b) to present notable points of consensus about the nature of SAPs within and across diverse disciplines, and (c) to identify gaps in the extant literature on SAPs and suggest future directions for research, policy, and practice. The following discussion will include an interpretation of study findings, highlight gaps in the research, review strengths and limitations, and discuss implications for research, policy, and practice.

To begin, while there is a shocking absence of Canadian empirical literature on SAPs, a significant body of American literature exists. Out of the 244 studies included in this scoping review, only three are Canadian. In our previous scoping review examining SAPs in elementary school children, not a single Canadian study was identified among the 73 included studies (Smith et al., 2022). This issue has been highlighted by other researchers, such as Birioukov (2021), who conducted a review study on the topic. After examining the research profiles of all Anglophone Faculty of Education professors in Canada, he found that no Canadian educational scholar investigated school absenteeism as their primary area of research (Birioukov, 2021). The lack of Canadian empirical knowledge on SAPs is concerning and requires urgent attention.

### **Conceptualization: School Truancy and Exclusion**

Following this, across the 244 studies included in this scoping review, it was found that SAPs were most frequently conceptualized as 1) school truancy and 2) school exclusion. Given the established prevalence of truancy and exclusionary discipline practices in the United States (Maynard et al., 2017; Perry & Morris, 2014; Simson, 2013), it is unsurprising that American researchers have been concerned with investigating their etiology and consequences. Despite efforts towards truancy reduction in the United States, rates have remained constant between 2002 and 2014 (Maynard et al., 2017). Research has documented an increased likelihood of truancy among some minority and socioeconomically disadvantaged groups (Maynard et al., 2017). This is particularly troubling given that truancy is criminalized in many states, the consequences of which include referrals to legal authorities, fines, and short stays in jail (Weathers et al., 2021). Additionally, exclusionary discipline is a consequence of truancy in some American states, creating a vicious cycle that disproportionately harms youth of colour.

School exclusion, which is inextricably tied to school truancy, emerged in the 1970s as school disciplinary ideologies centered around zero tolerance were introduced to manage drug crimes (Welch & Payne, 2018). The rationale behind zero-tolerance approaches was violence prevention and supposed safety promotion in schools (Adams, 2000). Instead, evidence suggests widespread harm to students, schools, and communities. Black, Latinx, and Indigenous students and students with disabilities, behavioural, and/or mental health difficulties are disproportionately impacted by exclusionary discipline practices (Algozzine et al., 2011; Anderson & Ritter, 2016; Fabelo et al., 2011; Losen & Martinez, 2013; Simson, 2013; Vincent et al., 2012). For example, between the 1970s and early 2010s, the rate at which Black secondary school students were suspended increased by almost 14 percent, resulting in a startling 24.3%

(Losen & Martinez, 2013). In contrast, the suspension rate for White students only increased by one percent (to 7.1%). The detrimental consequences of school exclusion, which are well-documented in the literature, include negative attitudes toward school, poor school performance, school dropout, substance abuse, violence perpetration, delinquent/criminal behaviour, and involvement with the juvenile and criminal justice systems (Anderson & Ritter, 2016; Fabelo et al., 2011; Kupchik & Farina, 2016). Thus, it is safe to say that exclusionary discipline practices do not prevent misbehaviour and violence but rather, promote it (Welch & Payne, 2018).

On another note, despite the prominence of school truancy (employed 83 times) and exclusion (employed 78 times) as ways of conceptualizing school absenteeism, the categories of school withdrawal, school refusal, and undifferentiated were also employed frequently (62, 55, and 47 times, respectively). This suggests that in general, SAPs are understood to be a complex, multidimensional, and heterogeneous issue. This generally aligns with the bioecological theory of human development (Bronfenbrenner & Morris, 2006), which stipulates that a phenomenon such as school absenteeism is created and maintained within a complex structure of nested social systems (e.g., home, peer group, school, community, society at large) that interact with one another in a reciprocal manner to impact the development of a child.

### **Current Measurement Practices for SAPs**

Furthermore, findings indicate that research on SAPs is primarily quantitative and is typically conducted within schools. These findings are unsurprising because 1) routine collection of attendance data in schools is standard practice in many countries and 2) official school records function as an accessible and informative secondary data source for researchers. Next, with regards to differentiating SAPs from non-problematic attendance (i.e., operationalization), common approaches involved recruiting participants with established attendance difficulties

from community agencies (in which case absenteeism was not quantified at all) or establishing the presence of a problem using a single-item question (yes/no) answered by the participant.

Notably, the number of single-item self-report measures employed across the studies included in this review was substantial. Single-item measures have long been criticized for having low or unknown reliability and for inadequately measuring complex psychological constructs (Allen et al., 2022; Robins et al., 2009). These criticisms have their respective merits. It is true, for example, that obtaining reliability estimates for single-item measures in cross-sectional research cannot be computed, and there exist, of course, many domains of study in which single-item measures would not be recommended, such as when assessing human personality or emotion. In these circumstances, the availability of multiple items would confer psychometric advantage in terms of increased reliability and validity. However, single-item measures can be sound measurement tools when it comes to unambiguous or narrow constructs (Allen et al., 2022). Single item measures are simple to develop, easy to administer, place little cognitive demand on participants, have higher response rates, and are associated with low data processing costs (Allen et al., 2022; Robins et al., 2009; Sarstedt & Wilczynski, 2009). They can also serve as rapid and efficient screening tools to identify individuals who may benefit from further evaluation and services (Morris et al., 2006; Waddimba et al., 2016). That being said, while the use of single-item measures in school absenteeism research is practical, exclusive reliance on these tools is not recommended. Although multi-item measures can be costly, time-consuming, and contribute to mental fatigue among participants (Allen et al., 2022), they permit the study of relationships between varying types and degrees of school absenteeism and important risk and protective factors or consequences (Keppens et al., 2019).

Additionally, most studies used either researcher-developed measures with no known scientific foundation and/or official school records to measure SAPs. Only about one-fifth of studies used established and validated scales for their research. When it comes to the study of absenteeism, both self-report measures and official school records have their respective advantages and disadvantages. Self-report measures can help researchers understand the etiology, perpetuating factors, and consequences of SAPs, especially when youth report this information directly (Keppens et al., 2019). Children and youth are the most qualified informants when it comes to their own school experiences, because no one else has better access to their thoughts, feelings, sensations, and behaviours, all of which contribute to their attendance patterns (Keppens et al., 2019; Robins et al., 2009). Self-report measures are also practical, inexpensive, and use easily interpretable language (Robins et al., 2009).

On the other hand, self-report measures are sensitive to recall bias and false reporting (Keppens et al., 2019; Keppens & Spruyt, 2019; Robins et al., 2009). Youth are more likely to conceal or underreport 'truant' or 'deviant' behavior (i.e., unauthorized absenteeism) due to fear of consequences and mistrust towards school authorities. This form of underreporting is higher among racially and ethnically diverse youth (see Kirk, 2006; van Batenburg-Eddes et al., 2012). Also, the reliability of self-report data is undermined by its dependence on individual recollection, especially when measures use long reporting intervals (Keppens et al., 2019). On the other hand, when a reporting interval is short (e.g., 2 weeks), school absenteeism tends to be underestimated. This is because absence rates calculated for short reporting intervals capture students who are absent frequently (e.g., on a weekly basis) but forego students who are only absent a few times a year (Keppens & Spruyt, 2017b).

In contrast, school administrative records contain information about absences that are detected by the school and recorded by staff members (Keppens et al., 2019). The benefit of having schools collect information regarding attendance and absenteeism is that data is collected for *all* students in a consistent manner. Typically, attendance is recorded per lesson, half school day, or day, depending on the region. Unfortunately, school administrative data also tend to overestimate the rates of unauthorized and authorized absenteeism. First, the levels of unauthorized absenteeism in schools tend to be overestimated in a non-random fashion (Keppens et al., 2019). In an absenteeism study involving 4344 students aged 15-16 years in Belgium, Keppens et al. (2019) found that certain groups of students were assigned more school-reported unauthorized absences than they reported themselves, including males, students in vocational programs, students who spoke a foreign language at home, and students from low-SES homes. Another example involves the overrepresentation of racial and ethnic minorities. Labeling an absence as authorized or unauthorized is subjective, and school staff may be more likely to discriminate against youth of colour when it comes to making such decisions. Second, certain types of absenteeism may either go undetected or be falsely reported as authorized. For example, students may skip specific lessons when they believe the probability of getting caught by teachers will be low, or they may skip school after being registered as present (Keppens & Spruyt, 2016, 2017a). Also, school withdrawal, which refers to missed school due to parent-motivated factors, may be more likely to be registered by schools as authorized absences given parental consent (Keppens et al., 2019).

Unfortunately, only a small fraction of studies used established and validated scales for their research. Measurement instruments should provide reproducible results (i.e., be reliable) and measure the constructs they claim to measure (i.e., be valid). For this reason, it is not

recommended that researchers develop their own tools, except when they are 1) measuring a new construct not previously addressed in the extant literature and 2) when a suitable instrument does not exist (Scott et al., 2019). Further development and implementation of valid and informative measures for SAPs should be a research priority as it will contribute to the integrity of measurement in this field. Some examples of existing valid measures include:

- a. the School Refusal Assessment Scale (SRAS-R; (Kearney, 2002), a clinical measure used to identify the function of a child's school refusal behavior,
- b. the Inventory of School Attendance Problems (ISAP; Knollmann et al., 2019), a clinical tool to comprehensively assess of the quality and function of SAPS, and
- c. the School Non-Attendance CheckList (SNACK; Heyne et al., 2019), a measure that simultaneously assesses the presence of school refusal, truancy, school withdrawal, school exclusion, and non-problematic absenteeism.

### **Interventions, Themes, and Outcome Variables**

Finally, a discussion of existing interventions for absenteeism/attendance as well as themes (qualitative) and outcome variables (quantitative) commonly linked with SAPs will follow. Findings will be discussed in connection with Bronfenbrenner and Morris' (2006) bioecological model of human development. First, interventions addressing school attendance or absenteeism fell into the following four domains: 1) mental health, 2) physical health, 3) school engagement, climate, and safety, and 4) education/employment. These interventions target a range of individual, family, and school factors at the micro- and meso- system levels but appear to forego factors at the exo- and macro- system levels, which are particularly relevant for socioeconomically disadvantaged populations (Melvin et al., 2019; Singer et al., 2021). For example, Singer et al. (2021) investigated chronic absenteeism in K-12 students in Detroit, a

high-poverty urban district in the United States, and found that students who were chronically absent were more likely to attend schools with many socioeconomically disadvantaged students, be socioeconomically disadvantaged themselves, receive special education services, live in crime-ridden neighbourhoods, and have changed residences or schools during the academic year.

In contrast to findings regarding intervention, exo- and macro- level factors were well-represented in the list of themes and outcome variables linked with SAPs in this scoping review, drawing further attention to their inextricable link to school absenteeism. Examples of exo- and macro-level factors that appear in this list and have also been linked to SAPs in the extant literature include lower socioeconomic status (Balkis et al., 2016; Sosu et al., 2021), school organizational factors (Lenhoff & Pogodzinski, 2018), neighborhood characteristics and structural barriers, including living in remote locations, lack of transport infrastructure, and exposure to neighborhood violent crime (Burdick-Will et al., 2019; Gottfried, 2014), and state-level anti-discrimination policies (Fields & Wotipka, 2022). Furthermore, some studies considered chronosystem factors, such as those examining the associations between secondary school absenteeism and educational and employment outcomes or criminal involvement in adulthood.

Altogether, findings highlight the importance of considering the complex network of factors that contribute to school absenteeism across the various ecological systems. While individual, family, and school-based prevention and intervention efforts to reducing school absenteeism are necessary, they are insufficient. Special consideration should be paid to addressing and reducing structural and environmental inequalities in order to effectively reduce SAPs, such as creating more effective economic assistance programs, increasing reliable transportation, and providing affordable housing (Singer et al., 2021).

## **Strengths and Limitations**

This scoping review synthesized the extant literature on SAPs across five different disciplines that usually do not intersect, namely, education, psychology, medicine, sociology, social work, and criminology. In line with its research objectives, it presented a range of ways in which SAPs are conceptualized, operationally defined, and assessed/measured in the literature among secondary school students. Additionally, it also presented some existing interventions for school attendance or absenteeism, as well as factors and outcome variables commonly linked with SAPs, where available.

I restricted my search to English language articles, which may have introduced the risk of missing important evidence on school absenteeism that is relevant to other cultural and regional contexts, as well as introducing an “English-language” bias (Stern & Kleijnen, 2020). Another limitation of this review is that grey literature, such as unpublished studies, theses, dissertations, government reports, and conference proceedings, were excluded. This may have limited the breadth of evidence reviewed and increased publication bias, or in other words, the tendency to prioritize the publication of studies with positive findings and omit those with neutral or negative results (Mahood et al., 2014). The inclusion of grey literature may have thus provided a more balanced and complete view of the evidence surrounding SAPs. Nevertheless, I opted to exclude grey literature from this review due to the challenges it would have imposed. First, a considerable amount of work and testing is required to develop search strategies that are suitable for each database and search engine you plan to use (Mahood et al., 2014). Second, searches typically yield a large number of documents, which are time-consuming to organize and review at each stage of screening. Additionally, unpublished documents are written in various formats and lengths and do not conform to the familiar format of the peer-reviewed journal article, which

makes the process of locating and extracting key information difficult and time-consuming (Mahood et al., 2014). On the other hand, by restricting the search to peer-reviewed publications, I conducted a quality assessment check of included studies. No further quality assessment was conducted in this study because unlike meta-analysis, the scoping review's objective is not to address the quality, meaningfulness, or effectiveness of any measure, intervention, or treatment related to SAPs (Munn et al., 2018).

Furthermore, the validity of the data charted in the full-text review portion of this study was not verified using formal systematic means, which may undermine the trustworthiness of the findings. I charted the data independently, and held informal consultations with my research supervisor when the need arose. Validity may have been enhanced by double-coding the charted data with a trained coder external to this project, and then calculating inter-rater agreement. Nevertheless, the same methodology and inclusion/exclusion criteria were developed and practiced in our previous scoping review, Smith et al. (2022), which examined SAPs among children in elementary school. Note that intervention studies addressing school attendance or absenteeism were not specifically targeted in the literature search of this scoping review and thus, a larger portion of the intervention literature may be missing as compared to the information collected for conceptualization, operationalization, and measurement. Thus, relative to these other facets of attendance, any comments or interpretations made regarding intervention form a less complete picture of the current state of research.

Finally, this scoping review restricted its study population to youth in secondary schools and thus, absenteeism-relevant findings may not be applicable to other age groups. For example, Smith et al. (2022) conducted a scoping review of SAPs among elementary school children and found that most studies either did not explicitly specify the reason behind participants' school

absence (“undifferentiated”) or they investigated parent-motivated factors for a child’s absenteeism, such as long-term medical absence (referred to as “school withdrawal”). This contrasts with our current study findings, which demonstrate that research on school truancy and school exclusion among secondary school students predominates. Thus, further research examining how SAPs are treated among other age groups is warranted.

### **Implications of Study**

There is an urgent need for more Canadian research on school absenteeism to better inform the policy and intervention efforts of schools and family-serving community agencies. Without Canadian empirical knowledge, efforts towards addressing school absenteeism will be heavily informed by American research studies. Given the significant differences between the economic and socio-political situations of the two countries, transferability of findings is questionable (Birioukov, 2021). Additionally, study findings indicate that research on SAPs is primarily quantitative in nature and is typically conducted in schools. More qualitative research that explores the lived experiences of children and families in relation to school absenteeism would expand the existing knowledge base. Also, a greater body of research conducted with clinical samples of children and youth is of special importance to community service providers and the families they serve.

Following this, the “story of who misses school” requires our undivided attention. It is no coincidence that attendance rates vary significantly by race, ethnicity, gender, and disability status (Gottfried & Hutt, 2019). Findings indicate that next to school truancy, school exclusion is the most frequently studied form of absenteeism among secondary school students, especially in the United States. It’s well-known that exclusionary discipline practices disproportionately impact Black, Latinx, and Indigenous youth, those with disabilities, and those experiencing

mental health difficulties (Algozzine et al., 2011; Anderson & Ritter, 2016; Fabelo et al., 2011; Losen & Martinez, 2013; Simson, 2013; Vincent et al., 2012). Therefore, it is imperative that we address equity in order to improve school attendance (Gottfried & Hutt, 2019). A few policy strategies (Leung-Gagné et al., 2022) that have been put forth to improve approaches to school discipline include 1) restricting the use of out-of-school suspensions for minor offenses, eliminating zero-tolerance policies, 2) supporting evidence-based alternatives to exclusionary discipline, such as restorative practices, 3) increasing the quality and access of support services for students and educators, and 4) collecting accurate disaggregated data on exclusionary discipline to inform equity reviews of discipline policies.

Furthermore, school administrative records and researcher-developed self-report measures that have received little to no empirical validation are the most widely used measurement tools in research studies on SAPs to date. In addition, researchers often use a single-item yes/no measure to establish the presence of an attendance problem. Exclusive reliance on these methods poses a threat to the integrity of absenteeism research, and limits the utility of findings generated from these studies. The development and implementation of empirically validated and multi-item measures needs to be a priority for the field of SAPs. This will be particularly crucial for efforts to understand SAPs in all of their complexity and to devise solutions appropriate to the specific attendance problems.

Finally, this scoping review was theoretically situated on Bronfenbrenner and Morris' (2006) ecological theory of human development. When we compare the nature of existing interventions for SAPs with the complex array of factors linked with SAPs in the extant literature, it is evident that we attribute importance to a child's immediate contexts (i.e., micro- and meso- systems) while foregoing influential factors at the exo-, macro-, and exo- system

levels. Future research may benefit from taking a bioecological systems approach to the study of SAPs (Melvin et al., 2019). The Kids and Teens at School (KiTeS) framework is one such approach, and it is applicable to the study of both risk and protective factors that shape school absenteeism. KiTeS demands consideration of the complex network of factors within the micro-, meso-, exo-, macro-, exo-, and chrono- systems contributing to school absenteeism. It also draws attention to how these factors intersect to create elevated risk for ethnically and racially diverse youth populations, such as Black and Indigenous youth and those with disabilities. Future research guided by the KiTeS framework may contribute to the development of inclusive, multifactorial, and evidence-based interventions for SAPs (Melvin et al., 2019).

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## Appendix A

Table 10

Data Charting Table

Reference	Design	Framework	Location	Data collection setting	Participant characteristics	Conceptualization					Operational Definition	Measures	Description of scale	Scale informants	Longest reporting interval	Inclusion of intervention	Brief description of intervention	Variables measured and linked to SAPs (quantitative studies)	Variables linked to SAPs (qualitative studies)
						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated									
(Ahn & Simpson, 2013)	Quant cross-sectional	N/A	United States	Alternative School	48 students across grades 7-9 (50% White, 85.4% Male) with disabilities (emotional disturbance, ADHD, learning disability, autism, traumatic brain injury, mental retardation) and from a low SES background.				X	X	-Number of missed school days in 4-month period -Hours spent for in-school suspension in 4-month period -Days spent for out-of school suspension in 4-month period	Information from school records	-Number of missed school days in 4-month period -Hours spent for in-school suspension in 4-month period -Days spent for out of school suspension in 4-month period	School records	4 months	No	N/A	Hispanic and American Indian students missed a greater number of school days, had increased incidences of tardiness, spent more hours doing in-school suspension, and spent more days in out of school suspension as compared to students from other backgrounds.	N/A
(Attwood & Croll, 2014)	Quant longitudinal	N/A	England	School	21000 youth in year 10 who were followed from age 14-15 until age 20-21		X				Answering yes to the question of whether they had been truant in the past academic year (at least one instance)	Established scale/questionnaire  Department for Education. 2011a. Longitudinal Survey of Young People in England. <a href="http://www.education.gov.uk/research">www.education.gov.uk/research</a> .	Self-reported truancy measure where young people were asked whether they had played truant in the past academic year (yes or no), and if so, how frequently and for what reason. Frequency of truancy was classified into several categories, namely, a) weeks at a time, b) several days at a time, c) particular lessons, or d) just the odd day or lesson	Self-report	1 academic year	No	N/A	1. Poor examination results 2. Unemployment in young adulthood 3. Poor mental well-being, according the General Health Questionnaire (GHQ; Goldberg and Hillier, 1979)	N/A
(Baker & Bishop, 2015)	Qualitative	Interpretive Phenomenological Analysis (IPA)	England	Family home	Four children aged 11-16 years who previously attended local authority comprehensive schools, now receiving support from a Home Education service due to non-attendance	X					Experienced attendance difficulties lasting at least one term	Qualitative interview	Interviews were prompted by a topic guide. Questions explored early school experience, participants' perceptions of the causes of non-attendance, the attributions made by others, support received, and anything they felt might have been done differently.	Children	N/A	No	N/A	N/A	Perceptions of the causes of non-attendance: -Bullying -Nervousness/anxiety -Depression -Chronic fatigue -Fear of teachers -Social isolation in school -Separation from parent

Reference	Design	Framework	Location	Data collection setting	Participant characteristics	Conceptualization					Operational Definition	Measures	Description of scale	Scale informants	Longest reporting interval	Inclusion of intervention	Brief description of intervention	Variables measured and linked to SAPs (quantitative studies)	Variables linked to SAPs (qualitative studies)
						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated									
(Balkis, 2018)	Quant cross-sectional	N/A	Turkey	School	600 students (54.5% were female and 45.5% were male) in grades 9-12. The students were aged between 14 and 19 years (M = 16.56, SD = 1.12). Of all students, 13.5% were in the ninth grade, 18.5% in the tenth grade, 33.5% in the eleventh grade, and 34.5% in the twelfth grade					X	# of days that students were absent from school in the 2014–2015 academic year.	Information from school records	Absenteeism represents days that students were absent from school in the 2014–2015 academic year.	School records	One academic year	No	N/A	Academic achievement and absenteeism together were found to partially mediate the relationship between less value placed on the task and intention to drop out of school.	N/A
(Barboza, 2015)	Quant cross-sectional	N/A	United States	School	5,589 youth between the ages of 12 and 18 (mean = 14.77, s.d. = 1.99). Males and females comprised 51% and 49% of the sample, respectively. The majority of respondents identified racially as “white” (80%) and the rest as non-white (20%) including African/American or black, Hispanic and/or Asian.	X					At least one incidence of school avoidance or withdrawal during the school year	<a href="https://doi.org/10.3886/ICPSR33081.v1">School avoidance/withdrawal was measured using the 2011 National Crime Victimization Survey: School Crime Supplement (SCS) United States Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, National Crime Victimization Survey: School Crime Supplement, 2011. Inter-university Consortium for Political and Social Research [distributor], 2013-03-26. https://doi.org/10.3886/ICPSR33081.v1</a>	Four items were used to measure school withdrawal/avoidance. Participants were asked the following questions: (1) “During this school year, did you STAY AWAY from any online activities because you thought someone might be mean to you there?”(2) “Did you AVOID any activities at your school because you thought someone might attack or harm you?” (3) “Did you AVOID any classes because you thought someone might attack or harm you?”(4) “Did you stay home from school because you thought someone might attack or harm you in the school building, on school property, on a school bus, or going to or from school?”	Self-report	One academic year	No	N/A	Fear of being attacked or harmed at school (e.g., due to verbal, relational, physical, and cyber bullying)	N/A

Reference	Design	Framework	Location	Data collection setting	Participant characteristics	Conceptualization					Operational Definition	Measures	Description of scale	Scale informants	Longest reporting interval	Inclusion of intervention	Brief description of intervention	Variables measured and linked to SAPs (quantitative studies)	Variables linked to SAPs (qualitative studies)
						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated									
(Bell, 2019)	Quant cross-sectional	Code of the Street (Anderson, 1999)	Michigan, USA	School	30 Black students (50% male) in Detroit and Southfield Public School Districts and their parents (n=30, 83% female) were recruited for this study for a total of 60 participants. 50% of students were from low SES households and 50% were from middle-class households. 9 participants were diagnosed with learning or behavioural disabilities such as ADHD, ODD, and specific learning disabilities in reading.				X		Having at least one out of school suspension from a primarily Black high school in southeast Michigan in the 2016-2017 school year	Interview	Each student and parent participant were asked a series of semi-structured interview questions regarding their perceptions of out-of-school suspension and how out-of-school suspension impacted peer relationships and social status. Students and parents were interviewed separately for approximately 60-90 minutes.	1. Youth 2. Parents	N/A	No	N/A	N/A	1. Physical altercations/violence at school 2. Being respected and perceived as tough by peers and having elevated social status in primarily Black high schools
(Berkowitz & Benbenishty, 2012)	Quant cross-sectional	Lifestyle Exposure Theory and Routine Activity Theory (Cohen & Felson, 1979; Hindelang, Gottfredson, & Garofalo, 1978)	Israel	School	The overall sample consists of 259 schools across Israel (136 junior high school and 123 high schools) and 13,262 students (6,670 male adolescents and 6,309 female adolescents; 7,207 Jews and 6,055 Arabs and Bedouins)	X					# of times during the last month a student had missed school because of fear of being hurt by somebody at school or on their way to or from school	Absenteeism item/measure	Students were asked how many times during the last month they had missed school because of fear of being hurt by somebody at school or on their way to or from school. The response options were on a four-point scale: 0 (never), 1 (once), 2 (twice), and 3 (three times or more)	Participants (self-report)	One month	No	N/A	Fear and perception of lack of safety due to school violence/bullying	N/A

Reference	Design	Framework	Location	Data collection setting	Participant characteristics	Conceptualization					Operational Definition	Measures	Description of scale	Scale informants	Longest reporting interval	Inclusion of intervention	Brief description of intervention	Variables measured and linked to SAPs (quantitative studies)	Variables linked to SAPs (qualitative studies)
						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated									
(Bever Nichols & Booker Lopez, 2012)	Quant cross-sectional	1. Strain Theory (Hagan and Dinovitzer 1999; Sirin 2005) 2. Attachment Theory (Poehlmann 2005; Murray and Murray 2010), 3. Social Control Theory (Hagan and Dinovitzer 1999; Sampson and Laub 1993) 4. Stigmatization (Murray 2007)	United States	Household	The sample for the present study consisted of 3,338 offspring of female NLSY79 participants who took part in the Young Adult survey. The sample is 47% male and the mean age was 26.5 years (SD = 3.36) at the time of the 2008 survey. Minorities were overrepresented in the sample, with about a fifth of the sample self-identified as Hispanic (22.7%) and a third identified as Black (38.9%).					X	Dropping out and returning to school after one month at least once	Extended school absence variable (National Longitudinal Survey of Youth, Young Adult Survey)  Center for Human Resource Research. (2009). National longitudinal survey of youth data. Columbus: Ohio State University.	Extended school absence was measured by one question on the NSLY Young adult survey. Participants who reported dropping out and returning after one month at least once on any of the surveys between 1992 and 2008 were coded positive for the dichotomous variable	Self-report	One month	No	N/A	1. Having at least one household member be incarcerated 2. Receiving federal aid 3. Maternal failure to graduate from high school 4. Cognitive ability	N/A
(Camacho & Krezmien, 2018)	Quant cross-sectional	N/A	Maryland, United States	School	379,903 public middle and high-school students in grades 7-12. The sample was 51% male. White (43.5%) and Black (36.0%) students made up the majority of the sample population. Students with disabilities represented 11.3% of the sample.				X		The total number of suspensions and total number of students suspended during the school year	Information from school records	Suspension data were taken from the Maryland Public School Suspensions by School and Major Offense Category Out-of-School Suspensions and Expulsions 2012–2013 (Maryland State Department of Education, 2013). Out-of-school suspension refers to removal from the school setting for one or more days. The data in this data set were count data and included the total number of suspensions. The unit of analysis was the number of students suspended during the 2012–2013 school year	School records	One academic year	No	N/A	Higher suspension rates were associated with race (being Black or African American), disability status, and a higher percentage of school teachers who are not qualified	N/A

Reference	Design	Framework	Location	Data collection setting	Participant characteristics	Conceptualization					Operational Definition	Measures	Description of scale	Scale informants	Longest reporting interval	Inclusion of intervention	Brief description of intervention	Variables measured and linked to SAPs (quantitative studies)	Variables linked to SAPs (qualitative studies)
						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated									
(East & Hamill, 2013)	Quant longitudinal	Culturally informed framework based on theories of prosocial development among Mexican American youth (Knight et al., 2011) Knight, G. P., Berkel, C., Umaña-Taylor, A., Gonzales, N., Ettekal, I., Jaconis, M., & Boyd, B. (2011). The familial socialization of culturally related values in Mexican American families. <i>Journal of Marriage and Family</i> , 73, 913-925.	California, United States	1. Schools 2. Community centers 3. Pediatric health clinics	195 Mexican American youth (M age 14.8 years; 64% girls) and their mothers participated in the study.			X			Having missed at least one full day of school to help out a family member	Absenteeism item/measure	Youths' school absences were assessed by the questionnaire item that asked how often during the last month the youth had been absent a full day of school "to help out a family member," with response options of 0 = never, 1 = one time, 2 = 2 to 3 times, 3 = 4 to 10 times, and 4 = more than 10 times. Scores were recoded as 0 (never), 1 (once), and 2 (two or more times) to reduce a skewed and kurtotic distribution.	Self-report	One month	No	N/A	More frequent sibling caretaking was associated with more frequent school absences	N/A

Reference	Design	Framework	Location	Data collection setting	Participant characteristics	Conceptualization					Operational Definition	Measures	Description of scale	Scale informants	Longest reporting interval	Inclusion of intervention	Brief description of intervention	Variables measured and linked to SAPs (quantitative studies)	Variables linked to SAPs (qualitative studies)
						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated									
(Lehman & Meldrum, 2019)	Quant cross-sectional	1. Critical race theory (Bonilla-Silva, 2006; Simson, 2014; Sleeter, 2017; Watts & Erevelles, 2004) 2. Implicit biases and decision-making (Carter et al., 2017; Okonofua & Eberhardt, 2015; Warikoo et al., 2016)	Florida, United States	School	Data for this study come from the 2018 Florida Youth Substance Abuse Survey (FYSAS). The FYSAS is a cross-sectional survey of public middle school and high school students in the state of Florida conducted annually since 2000. Students from 364 middle-schools and 321 high-schools (685 schools total) participated in the 2018 FYSAS. 51.3% of the sample identified as female and 17.5% identified as Black, 24.2% Hispanic, 13.3% Other, and 45.0% White.				X		Whether each youth reported having been suspended from school at least once in the past 12 months	Dichotomous suspension variable	The dependent variable used in this study is a dichotomous measure indicating whether each youth reported having been suspended from school at least once in the past 12 months. This item was originally coded such that it allowed participants to select options ranging from “Never” to “40+ Times.”	Self-report	12 months	No	N/A	The likelihood of being suspended is associated with: 1. Being Black or Hispanic 2. Being male 3. Living in a home where English is spoken 4. Living in a neighborhood with more disorder 5. Assaulting others 6. Getting arrested 7. Using marijuana 8. Engaging in more bullying against others 9. Experiencing more school changes 10. Being lower in self-control 11. Associating with more drug-using peers 12. Holding more delinquent attitudes	N/A
(Mowen & Brent, 2016)	Quant longitudinal	1. Life-course theory (Sampson & Laub, 1993) 2. Labeling theory (Becker, 1963)	United States	Household	The data used for this project are panel data taken from wave 1 (collected in 1997) through wave 4 (collected in 2000) of the National Longitudinal Survey of Youth (NLSY97)				X		Whether or not a student had received a school suspension in the prior year	Suspension variable Bureau of Labor Statistics (2016). National Longitudinal Surveys: The NLSY97. Retrieved from <a href="https://www.bls.gov/nls/nlsy97.htm">https://www.bls.gov/nls/nlsy97.htm</a>	At each wave, the NLSY97 asked youth to report if they had received a school suspension in the prior year. Youth could respond either yes or no for each wave making this a binary measure.	Self-report	One academic year	No	N/A	Youth who are suspended are at an increased risk of experiencing an arrest across time relative to youth who are not suspended	N/A

Reference	Design	Framework	Location	Data collection setting	Participant characteristics	Conceptualization					Operational Definition	Measures	Description of scale	Scale informants	Longest reporting interval	Inclusion of intervention	Brief description of intervention	Variables measured and linked to SAPs (quantitative studies)	Variables linked to SAPs (qualitative studies)	
						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated										
(Pengpid & Peltzer, 2017)	Quant cross-sectional	N/A	Indonesia, Malaysia, Myanmar, Philippines, Thailand, and Vietnam	School	The total sample included 28 419 school children aged 13 to 15 years from six ASEAN member states. The sample size in individual countries ranged from 1 741 in Vietnam to 160 66 in Malaysia, 48.4% were boys and 51.6% were girls, and the overall mean age was 14.0 years (SD = 0.8 years)		X					The number of days a student missed classes or school without permission in the past 30 days	School truancy variable  Centers for Disease Control (CDC). (2015). Global School-based Student Health Survey. Brunei Darussalam 2014 Fact Sheet. Retrieved from <a href="http://www.who.int/chp/gshs/Brunei_Darussalam_2014_FactSheet.pdf">http://www.who.int/chp/gshs/Brunei_Darussalam_2014_FactSheet.pdf</a>	Question: "During the past 30 days, on how many days did you miss classes or school without permission?"  Response options: 1 = 0 days; to 5 = 10 or more days (coded 1 = 0; and 2–5 = 1)	Self-report	30 days	No	N/A	The odds of school truancy were higher among students who: 1. Were current tobacco users 2. Were current alcohol users 3. Had been in a physical fight and had been bullied 4. Had sustained an injury in the past 12 months 5. Had received infrequent peer and parental support	N/A
(Seelman & Walker, 2018)	Quant cross-sectional	N/A	United States	School	This study involves secondary data analysis of de-identified data from the biennial State Youth Risk Behavior Survey, a repeated cross sectional survey of public high school students in the United States coordinated by the CDC and carried out by state health or education departments.	X						The number of days a student did not go to school because they felt unsafe at school or on their way to or from school in the past 30 days	Youth Risk Behavior Survey (CDC 2017)  Centers for Disease Control and Prevention. (n.d.). Youth Risk Behavior Surveillance System (YRBSS) Overview. <a href="https://www.cdc.gov/healthyouth/data/yrbs/overview.htm">https://www.cdc.gov/healthyouth/data/yrbs/overview.htm</a> . Accessed 6 Sept 2017	The second measure of interest focused on whether students skipped school due to fear (what is termed fear-based absenteeism in the present study). During the past 30 days, on how many days did you not go to school because you felt you would be unsafe at school or on your way to or from school? Response options included: "0 days," "1 day," "2 or 3 days," "4 or 5 days," and "6 or more days." This variable was recoded to be dichotomous so that any absenteeism due to fear in the past month was coded as 1 and no absenteeism due to fear was 0.	Self-report	30 days	No	N/A	Presence of state anti-bullying laws	N/A
(Stein & Grigg, 2019)	Quant longitudinal	N/A	Baltimore, United States	School	2,801 unique students in 8 <sup>th</sup> grade. 87.5% African American and 10.7% White	X	X					A student is chronically absent when they missed 10+ days during school year	Information from school records	From student attendance records, captured total number of days a student was absent during the school year for 2013–2014 and 2014–2015.	School records	One academic year	No	N/A	More difficult commutes, like increased travel time or complexity, leads to students missing more days of school	N/A

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(Maeda & Hatada, 2019)	Quant longitudinal	N/A	Japan	School	35 students enrolled in grades 7 to 9 (23 males and 12 females; M=13.9 years) enrolled at a public junior high school in Japan	X	X	X	X		1. Failing to attend school without a legitimate excuse for more than 10 full days during a particular 209-day school year <sup>2</sup> . The number of whole days and half days of school a child missed during the past 4 weeks (+ reasons for absence)	1. Number of absences in current and previous 209-day school year <sup>2</sup> . Type of school attendance problem measured using the School Nonattendance Checklist (SNACK: Heyne et al., 2018)	1. Number of absences in current and previous 209-day school year <sup>2</sup> . The SNACK lists 14 possible reasons for absenteeism, each of which is classified as one of four types of SAP: school refusal (SR), truancy (TR), school withdrawal (SW), and school exclusion (SE), or alternatively as non-problematic absenteeism. Based on the SNACK, the homeroom teachers and participating staff mutually determined the type of SAP applicable to each subject. The introductory paragraph for this measure is pasted below. "Over the PAST 4 WEEKS your child missed X whole days and X half days of school. Students miss school for all sorts of reasons. We would like to understand the reason(s) your son/daughter missed school. His/her absences are highlighted in the table shown here [hyperlink to table, or printed table, showing the last 4 weeks]. There is a list of reasons below the table. For each whole day or half day absent, choose the reason that best explains the absence. For example, if your child was absent on November 7 due to extreme weather conditions you would put a "14" as the reason for absence that day. If the reason your child missed school is not in the list, put "16" at the relevant	Self-report	One academic year	No	N/A	1. Negative parental attitude towards school prolongs school withdrawal absences <sup>2</sup> . Number of absences in previous year was a strong predictor of SAP in the current years	N/A

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Ackah et al. (2021)	Quant cross-sectional	N/A	Ghana	School	Participants: 3592 students in junior and senior high schools over the age of 12 (43.1% between 15 and 17 years)		X				# of full days of missed classes in past 30 days (without permission)	Established scale/questionnaire  2012 Global School-Based Student Health Survey (GSHS), Ghana version Citation: WHO, Global School-Based Student Health Survey (GSHS), WHO, Geneva, Switzerland, 2012, <a href="http://www.who.int/chp/gshs/en/">http://www.who.int/chp/gshs/en/</a>	"During the past 30 days, how many days did you miss classes or school without permission?"  Coding for this question is as follows: 1 = at least one day 2 = 0 days	Self-report	30 days	No	N/A	Having a serious injury (e.g, cut/stab wounds, broken/dislocated bones, concussion/head injury, gunshot wound)	

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(Ahslund, 2021)	Qualitative	Interpretive Phenomenological Analysis (IPA)	Sweden	School	9 students in 9th grade (50% male, aged 15-16 years) with neuropsychiatric disorders (including social phobias, ADHD, and autism spectrum disorder)				X		Not available (qualitative study) but sample was selected due to both presence of neuropsychiatric disorder and long history of school absences	Interview	Data for the study were collected through in-depth semistructured interviews with the students that lasted approximately 25-60 minutes. As a support for the interviews, an interview guide with open question themes was created. The guide's outlines were constructed with the ambition of capturing the students' personal stories but still supporting us in the areas I intended to explore (Lindseth & Norberg, 2004; Smith et al., 2009).	Self-report	N/A	No	N/A	N/A	For students with neuropsychiatric disorders:1) Negative school experiences leading to negative attitudes towards schoolwork and ultimately negative images of themselves, contributing to absenteeism2) Lack of secure relationships with peers and teachers3) Lack of supportive structures for learning, including large class size as barrier
Ang et al., 2014	Quant longitudinal	N/A	Singapore	School	136 adolescents aged 13-18 years (M = 15.21 years, SD = 0.89) were recruited from 6 schools in Singapore. Participants were 80.1% male and the ethnic composition of the sample was as follows: 44.9% Chinese, 33.8% Malay, 12.5% Indian, and 8.8% Other.		X			X	Have missed at least three days of school over three months without a valid reason (medical reasons, death of a family member, or other extenuating life circumstances)	Unique item/measure	Data collected were whether participants skipped academic classes and whether participants skipped within-school extracurricular activities over the past week at pretest and at 3-month follow up	Researchers	One week	Yes, Outward Bound Singapore Intercept Program Outward Bound Singapore. (2013). Programs e About youth (local). Retrieved from the Outward Bound Singapore website <a href="http://www.obs.pa.gov.sg/aboutyouth-local.html">http://www.obs.pa.gov.sg/aboutyouth-local.html</a>	We used a quasi-experimental design with a matched no-treatment comparison group, and included pretesting, 1 month post-intervention testing as well as testing at 3-month follow-up. The intervention group comprised 76 adolescents (61 males, 15 females), and the matched comparison group comprised 60 adolescents (48 males, 12 females). Participants in the intervention condition took part in a five-day Outward Bound Singapore "intercept" program which aims to help individuals learn and grow through experiential education and challenging experiences, and is designed specifically for adolescents who frequently absent themselves from school and who have truancy issues. This specific program aims to increase the participants' self-awareness, improve goal-setting, increase school attendance and engagement in school, and ultimately, to encourage participants to take ownership and responsibility. The program includes both indoor and outdoor activities. An example of outdoor activities would be ropes courses with high and low	N/A	N/A

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Ansong et al. (2019)	Quant longitudinal	1. Asset Theory (Sherraden, 1991; Johnson and Sherraden, 2007; Sherraden et al., 2004) 2. The Asset-Experience Framework (Byner & Paxton, 2001)	Ghana	School	2000 youth in junior high school between 12-18 years					X	The number of days students attended school in the last academic term	Information from school records	The number of days students attended school in the last academic term	School records	1 school semester	Yes, The Ghana YouthSave Experiment  Lee, Y., Johnson, L., Sherraden, M., Ansong, D., Osei-Akoto, I., & Chowa, G. A. (2017). Taking the bank to the youth: Impacts on savings from the Ghana YouthSave Experiment. Journal of International	elements. There will group discussions and debriefings post activities in which Outward Bound Singapore facilitators guide adolescents into drawing lessons from the physical challenges they encountered and applying these lessons into their lives. For example, adolescents may encounter mental and physical obstacles that they have to overcome in order to complete an activity. Likewise, there would be distractions and obstacles that adolescents face pertaining to school attendance which will be discussed and processed with the facilitators. Participants in the matched no-treatment comparison condition completed similar assessments as the participants in the intervention group but did not go through any intervention. Both groups completed a brief survey at pretest, 1-month post-intervention, and at 3-month follow up. Additionally, both groups' school behavioral records were collected at two time points, at pretest and at 3-month follow up.	Asset accumulation (youth savings) increased average rate of school attendance	N/A

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Askeland et al. (2015)	Quant cross-sectional	Kearney (2008)'s Definition of School Absenteeism in Youth	Hordaland County, Norway	School	The study employs data from a population-based study from 2012 targeting all pupils in upper secondary education in Hordaland County, Norway (the youth@hordaland-survey). 8988 adolescents (51.5% girls) between 16 and 18 years old in upper secondary education. The majority of the participants were high school students in general studies (53.2%) or vocational training at school (32.4%)	X	X	X			The number of days and school-hours each participant had been absent during the last semester (6 months)	1. Information from school records2. Unique item/measure	Absenteeism information retrieved from school records included the number of days and school-hours each participant had been absent during the last semester (6 months), converted into percentage of absence relative to the total number of school days. Low absence = less than 3% Moderate absence = between 3 and 15%High absence = 15% or moreThe participants were asked to report the number of days and school hours they had been absent during the past month. In addition, they reported location and behavior while absent, with the response alternatives: 'I'm home', 'I'm out with friends', 'I'm at work' or 'I'm sick'. Other responses could be specified in an open field and multiple responses were also an option. The open responses were categorized into: 'organizational work/politics/sport', 'unexcused absence' and 'other'.	1. School records2. Self-report	6 months (equivalent of one semester)	No	N/A	Enidaso account received a free photo ATM card that allowed them to check their account balance but not to make withdrawals. Account withdrawals were prohibited in the first 3 months. Enidaso accounts were designed as custodial accounts so parents, guardians, or trusted adults could serve as co-signatories on the account.	Increased use/greater likelihood of contact with mental health services, adolescent health clinics, and a general practitioner	N/A

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Assa et al. (2015)	Quant cross-sectional	N/A	Petah Tikva, Israel	Children's Hospital	142 adolescents aged 10-17 years and their parents participated in the study. 43 of these adolescents have Crohn Disease, 31 have ulcerative colitis, 42 have functional abdominal pain, and 30 are age-matched healthy controls.			X			The number of school days missed during the last year due to gastrointestinal symptoms	1. Unique item/measure2. Information from school records	1. The questionnaire addressed the impact of gastrointestinal symptoms on the child's school absenteeism and participation in school and after-school activities. It was composed of 9 questions as follows:a. How many school days did your child/you miss during the last school year?b. How many school days did your child/you miss because of abdominal symptoms?c. How many days did your child/you miss because of hospitalizations? Clinic/ER visits?d. How often did your child/you participate in gym classes?e. Did your child/you participate in school trips?f. How often did your child/you participate in extracurricular school activities?g. How often did your child/you participate in after-school (excluding sport) programs?h. How often did your child/you participate in after-school sport activities?i. How often did your child/you participate in after-school social activities?2. School records for academic year (absenteeism data from the questionnaire was cross-matched with the child's school annual report cards to reduce recall bias)	1. Youth2. Parents3. School records	1 academic year	No	N/A	Having Crohn disease, ulcerative colitis, or functional abdominal pain	N/A

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Baams et al. (2017)	Quant cross-sectional	N/A	California, USA	School	Participants in this study came from the cross-sectional 2011–2013 California Healthy Kids Survey (N = 800,740). The analytic sample WAS composed of 784,280 students aged 10–18 years (50.8% female)	X					At least one missed school day due to feeling unsafe in past 30 days	1. Information from school records2. Established scale/questionnaire (2011–2013 California Healthy Kids Survey)Austin, G., Hanson, T., Skager, R., Polik, J., Clingman, M. Alcohol and Other Drug Use Among California Students, 2011–2013. Results of the 14th Biennial California Healthy Kids Survey, Grades. Vol. 7, 9 & 11. San Francisco, CA: WestEd; 2014. Retrieved from <a href="http://chks.wested.org/wp-content/uploads/14thBiennialReport.pdf">http://chks.wested.org/wp-content/uploads/14thBiennialReport.pdf</a>	1. For the current study, 2011–2012 and 2012–2013 expense per ADA for high school and unified school districts were obtained from the California Department of Education.2. To assess student absenteeism because of feeling unsafe, a subset of participants (n = 41,132) from the Safety and Violence module, students answered the following question regarding absenteeism and safety: “During the past 30 days, on how many days did you not go to school because you felt unsafe at school.” Possible responses were: 0 times, 1 time, 2 to 3 times, and 4 or more times. Percentage of students who reported both absenteeism due to feeling unsafe and reported bias-based bullying was calculated and used to estimate the number of days students were absent related to bullying each month in the California population.	1. School records2. Youth	30 days	No	N/A	Feeling unsafe at school due to bias-based bullying (e.g., due to race/ethnicity, religion, gender, sexual identity, and disability)	N/A
Baker-Smith & Lipschultz, 2016	Quant cross-sectional	N/A	United States	School	We analyze the SSOCS collected by the National Center for Education Statistics (NCES). A panel survey conducted every other year since 2000, SSOCS contains information on school-level characteristics, school-level			X			The number of disciplinary actions for “insubordination” that received out-of-school suspension as their disciplinary response	Absenteeism item/measure	We evaluate the proportion of discipline for insubordination that uses out-of-school suspension (OSS). In other words, we first identify the total number of disciplinary actions, for “insubordinate” behavior in a school. Next we assess the number of these disciplinary actions for “insubordination” that received OSS as their disciplinary response and	Panel survey collected by the National Center for Education Statistics (NCES).	Not specified	No	N/A	School size and school racial composition for insubordination in schools with a more segregated population appears to be associated with lower use of out-of-school suspensions (OSS) as compared to schools that have almost no non-White students. As in the descriptive analysis, the presence of a disciplinary PLAN	N/A

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					reports of delinquency and school-level responses to delinquent behavior for approximately 3,500 elementary, middle and high schools. It is based on a stratified random sample of schools with traditional grading systems following the (NCES) sampling frame but with a focus on middle and high schools for this particular survey and contains approximately 2,500 schools in the 2008 panel (Ruddy, Neiman, Hrczaniuk, Thomas, & Parmer, 2010). From this sample we remove approximately 100 schools with combined grading schemes and limit the sample to high schools in this sample year reducing the sample to 936 schools.													or teacher training in discipline policy is associated with greater use of OSS for insubordination as is teacher training in early-warning signs of bad behavior.		
Balfanz et al. (2014)	Quant longitudinal	N/A	Florida	School	181897 students in 9th grade (54% White, 24% Black, 19% Hispanic, 2% Asian, <1%				X		At least one out-of-school suspension in 9th grade	Information from school records	1. % Suspended at least once 2. Average # of days suspended 3. Average # of suspensions	School records	One academic year	No	N/A		1. Lower academic outcomes 2. Increased likelihood of dropping out of high school 3. Lower likelihood of graduation	N/A

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					Native)												4. Lower chance of enrolling and persisting in post-secondary schooling		
Bannink et al., 2014	Quant longitudinal	N/A	Netherlands	Schools	418 adolescents with an average age of 18.0 years participated in the study. 36.9% of the sample consisted of boys, 31.3% was of Dutch ethnicity and 8.6% was a parent.					X	The number of hours an adolescent was absent from school, regardless of the reason	Information from school records	In the school registration system every hour absence was registered and school administrators indicated whether the absence was permitted (i.e. because of illness or another valid reason) or not (i.e. without notification or valid reason). 1. At baseline, absenteeism was defined as the number of hours adolescents were absent (permitted or not permitted) over the past 2 months (September–October 2012). 2. At follow-up, absenteeism was defined as the number of hours adolescents were absent in the months of February and March 2013.	School records	Two months	Your Health (Bannink et al., 2014)Bannink, R., Broeren, S., Heydelberg, J., van't Klooster, E., van Baar, C., & Raat, H. (2014). Your Health, an intervention at senior vocational schools to promote adolescents' health and health behaviors. <i>Health education research</i> , 29(5), 773-785.	A cluster randomized controlled trial with an intervention and control group (care-as-usual) was conducted among first-grade senior vocational students. Adolescents were invited for a one-to-one consultation with the school nurse in the first month after they started their education. The consultation took place at school. During the consultation, the nurses used the Dutch version of the Self Sufficiency Matrix (SSM-D) as a structured assessment tool to determine the strengths and areas for improvements in functioning of the adolescents and includes a wide variety of domains. The SSM-D assesses a persons' level of self-sufficiency on 11 domains: income, daytime activities, housing, domestic relations, mental health, physical health, addiction, daily life skills, social network, community participation and judiciary. Nurses reviewed these areas together with the adolescents and provided a rating on the matrix scales for each domain. Ratings ranged from 1, representing lowest functioning, to 5, representing highest functioning. The role of the nurse included support and health promotion. Furthermore, they either initiated a further consultation with themselves or referred adolescents to another professional if considered necessary. Adolescents completed a questionnaire at baseline and 6-month follow-up assessing health and health behaviors. School absenteeism was monitored via the school registration system. After the consultation, adolescents and nurses evaluated the consultation by questionnaire. The control group received care-as-usual, i.e. adolescents could indicate on the baseline	N/A	N/A

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Barn & Tan, 2012	Mixed methods	General strain theory  Agnew, R. (1985). A revised strain theory of delinquency. <i>Social Forces</i> , 64, 151–167.  Agnew, R. (1992). Foundation for a general strain theory of crime and delinquency. <i>Criminology</i> , 30, 47–87.  Agnew, R. (2001). Building on the foundation of general strain theory: Specifying the types of strain most	England	Social service agencies	A survey of 261 young people was completed. The sample was 43.3% male and 56.7% female; and aged 16–23 years old (M= 18.87, SD= 1.32). Slightly more than half (55.6%) were White; while the rest were of minority ethnic background (44.4%). This includes those of mixed-parentage (15.3%), Black-Caribbean (13.4%) and African/Asian/Chinese/other ethnic groups (15.7%).  A total of 16 males and 22 females were interviewed via a purposive sample of volunteers.				X		Having ever been suspended from school in the past	1. Absenteeism item/measure 2. Interview	1. The percentage of participants who had ever been suspended from school in the past (quant variable) 2. The frequency of school exclusion/expulsion during foster care (quant variable) 3. Qualitative interviews were employed to provide a descriptive account of the context of the young people in this study and to explain the ‘how’ and ‘why’ of the quantitative findings. This entailed a sense of their stay in foster care, disruption in foster placements, education, housing, employment, and preparation for leaving foster care to live independently; being a victim of crime and involvement in criminal activity.	Self-report	Lifetime	No	N/A	questionnaire that they wanted a consultation with their class mentor. Usually, this is a teacher without specific knowledge of health care, but who serves as a person of trust for the adolescents in his/her class and can refer adolescents to appropriate professionals if necessary. This option was provided to all participating adolescents, since school classes were randomly assigned after the baseline questionnaire was administered.	Young people who experienced more frequent school exclusion and suspension were reported to be more likely to engage in criminal activity	1. Greater likelihood of criminal activity among foster youth who had been excluded from school 2. Factors faced by foster youth such as parental loss and separation, child abuse and neglect, stigma of foster care, loss of networks, negative emotions of anxiety, fear, anger and a loss of trust prevent engagement with the education system and are associated with school absence.

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						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated									
		likely to lead to crime and delinquency. Journal of Research in Crime and Delinquency , 38, 319–361.  Agnew, R. (2005). Why Do Criminals Offend? A General Theory of Crime and Delinquency . Los Angeles: Roxbury																	
Baskerville, 2020	Qualitative	Process theory of waggingBaskerville, D. J. 2019. Under the Skin of Truancy in Aotearoa (New Zealand): A Grounded Theory Study of Young People's Perspectives . Wellington: Victoria University of Wellington,	New Zealand	School	The sample included thirteen adolescents (seven girls and six boys) between 13-18 years of age and who truant school		X				Not specified - interview about truancy	Qualitative Interview	This paper concentrates on one sub question of the wider study – how do New Zealand secondary school students position themselves when they truant classes? The aim of the interviews was to learn about the students' experience of their world of truancy, how they interpreted the social aspects of their educational outside-class circumstances and understand these behaviours as participants understood them	Youth	Not specified	No	N/A	N/A	Truancy was associated with:1. Negative aspects of the classroom environment, covering the relationship dynamics with teachers and peers, a lack of perceived belonging, safety, and "mattering" in the classroom, obstacles affecting learning2. Seeking positive peer relationships outside the classroom, largely in response to the first point

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		New Zealand																	
Beales et al. (2020)	Quant longitudinal	N/A	Australia	Medical clinic	1146 participants (54% female) who reported the presence of spinal pain at age 17, were working at 22 years of age, and provided work presenteeism information at least 3 times age 23.			X			Having missed any work or study due to low-back pain or neck pain in the last month	Nordic Musculoskeletal Pain Questionnaire  Kuorinka I, Jonsson B, Kilbom A, et al. Standardised Nordic questionnaires for the analysis of musculoskeletal symptoms. Appl Ergon.1987;18:233–23	Spinal pain-related absenteeism from work/school (yes/no) in the last month was established by asking the participants: 1) "Have you missed work or study due to the low-back pain?" and "Have you missed work or study due to the neck pain?".  This item is a measure of the burden of spinal pain in adolescence and its construct validity has been demonstrated in the Raine Study Gen2 participants. For each spinal pain area (low-back, neck, and low-back/neck) responses to the missing work/school questions were combined to form a nominal variable with three categories (no pain, pain without pain-related work/school absenteeism, pain with pain-related work/school absenteeism)	Participants	One month	No	N/A	Higher work presenteeism (due to ill-health or any other reason) in young adulthood	N/A

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Belay et al. (2020)	Quant longitudinal	N/A	Ethiopia, Africa	School	8839 students in grades 7-12 during the 2015-2016 academic year (Mage: 13.34 years) from 15 different schools.			X			# school days attended per week	1. Researcher collected absenteeism data. 2. Information from school records	Attendance data for 2015–2016 were collected prospectively at each school by native speakers of Tigrinya who were on site and employed by the project as data collectors. They collected and collated attendance records each week. They also calculated percent attendance for the duration of the study (approximately one academic year). For historical comparison, attendance data for 2014–2015, the school year prior to the intervention, was obtained from each school where it was available. The study involved a single intervention group (15 schools) with internal comparison (girls' vs boys' attendance) plus historical comparison to the prior year. The pre-intervention time-period was defined as October through January and the post-intervention time-period was February through April. Attendance data were a census of all students attending the 15 intervention schools.	1. Researchers. 2. School records	4 months	Yes, a menstrual hygiene intervention	A pilot project involving 15 schools was developed to assess the feasibility of delivering a large-scale intervention on the management of menstrual hygiene to schoolchildren in northern Ethiopia, including the effectiveness of such a project on school attendance by girls. The intervention took place in February 2016. Education about menstruation was provided by school-based distribution of a 42-page booklet called Growth and Changes, written in English and Tigrinya (the local language). Additional oral instruction was provided on-site by project staff from Mekelle University. Education on menstrual hygiene, including the booklets which schoolchildren were encouraged to take home and share with their families, was provided to both boys and girls. In addition to education about menstruation, girls received menstrual hygiene kits containing four locally produced, reusable menstrual pads and two pairs of underwear.	Menstruation	
Bennett et al. (2018)	Quant longitudinal	N/A	Australia	School	102 students (52.9% male) aged 10-16 years (Mage: 12.99 years) across 11 schools		X				85% or less attendance in the three previous school terms (about 30 weeks) and have no legitimate explanation for their absences from school (e.g. legitimate	Information from school records	Percent of school days missed over three previous school terms (about 30 weeks) with no legitimate explanation for their absences from school (e.g. legitimate medical illness).	School records	3 months	Yes, Ability School Engagement Program (ASEP)	To test the impact of the program, we randomly assigned 102 truanting young people over the recruitment period to either the experimental (n = 51) or control condition (n = 51). The experimental arm involved a demonstrated partnership between the Queensland Police Service and the 11 target schools and a purpose designed conference process. The first goal was to understand the “facts” relating to poor school attendance from the point	Committing crimes/delinquent behaviour	N/A

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																			<p>medical illness). This criteria is in accordance with the “Becca Bill” (SB 5439) in Washington State truancy law and dictates that students meeting this criteria undergo the ASEP intervention.</p> <p>of view of the student, parent and school representative, as well as the “affects” of truancy from different perspectives. The second key feature of the program conference was to explain the legal requirements of parents to have their child attend school, specifying the legal processes that school staff needed to follow, which could ultimately result in parents being fined or prosecuted should their child’s nonattendance persist. Facilitators in the experimental arm conferences prompted the school representatives to articulate the legal provisions at appropriate times during the conference with the goal to encourage both the parents and their children to willingly comply with the school attendance laws. On average conferences lasted for 96 min, and included two to three family members and three professionals (e.g. school and police representative, support service). In the final stage of the program conference, the truanting young person, their parent, and school and police representatives, as well as other relevant participants collaboratively developed a child-focused “Action Plan” that aimed to target factors contributing to the truancy problem.</p>	
Benore et al. (2018)	Quant longitudinal	N/A	Ohio	Medical clinic	135 children (Age 15.2, 74% female, 96.3% Caucasian, 2.2% African American) diagnosed with a chronic headache condition and admitted to a 3-week combined inpatient/day hospital intensive interdisciplinary pain rehabilitation treatment (IIPRT) program between			X				Number of school days missed over the past month	Absenteeism item/measure	Child rated the number of school days missed over the past month	Participants (self-report)	One month	Yes, a 3-week intensive interdisciplinary pain rehabilitation treatment (IIPRT) program.	The goals of the program include: (1) learn and use self-directed coping and pain management skills, and (2) increase independent daily functioning. The program blends rehabilitation therapies, psychology, and pediatric subspecialty care. Children spend 7–8 hours daily in therapies including 3 hours of physical therapy, occupational therapy, and aquatic therapy daily; 3 hours per week of individual/family treatment with a psychologist; and 3 hours of mind–body skills group focusing on cognitive-behavioral skills training. They also participate in school programming 1–2 hours each day and in recreation or music therapy groups at least 1 hour daily. Parents also	Chronic headache condition	N/A

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						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated										
					2008 and 2014.											participate in twice weekly parent group sessions with content focused on family contributions to pain, problem-solving, and relapse prevention, PT/OT education sessions, and parent wellness sessions. Following discharge, children were mailed a questionnaire at the following time points to re-assess their current functioning: 1 month, 6, months, and 1 year. Follow-up measures were mailed to the family within approximately 1 month of the time interval recorded, to be completed and returned in a self-addressed stamped envelope				
Bianchi et al. (2022)	Quant longitudinal	Kearney's (2008a, 2008b) definition of school absenteeism	Italy	School	242 low income adolescents in grades 6-13 (Mage: 12.75, 42.6% female, 19% immigrants) all certified as living below the poverty line	X	X	X				The number of days in which they skipped school over the prior 30 days	Absenteeism item/measure	Students reported the number of days in which they skipped school over the prior 30 days	Self-report	30 days	No	N/A	Low self-efficacy beliefs	N/A
Blomberg et al., 2012	Quant longitudinal	1. Cumulative Disadvantage Theory (Sampson & Laub, 1997) 2. Critical Race Theory (Ladson-Billings & Tate, 1995; Tate, 1997)	Florida	School	4,147 youths released from 115 juvenile justice institutions throughout Florida during fiscal year 2000–2001		X					The number of days youth were in attendance in public school after release from incarceration	Information from school records	This was measured as the number of days youth were in attendance in public school after release from incarceration. Those who did not return to school following release were also not included in the analysis. School attendance is calculated by adding all of the youth's attendance records in multiple schools between release and the 12-month follow-up	School records	12 months	No	N/A	Lower academic achievement while incarcerated	N/A
Bradshaw et al. (2021)	Quant longitudinal	Theory of Change Process (e.g., Bradshaw et al., 2008; Bradshaw, 2009)	Maryland	School	Students in grades 6-12 across all 410 secondary schools in the state		X		X			Schools meeting or exceeding truancy rates of 8% per quarter were eligible for inclusion. This translates to students who	Information from school records	1. Suspension rates (i.e., total suspension events divided by total school enrollment, multiplied by 100)2. Truancy rates (i.e., percent of students in the school missing 20 or more days of school across a given school year	School records	One academic year	Yes, Positive Behavioral Interventions and Supports (PBIS; Sugai & Horner,	Positive Behavioral Interventions and Supports (PBIS) is a multi-tiered framework for setting-level implementation of tiered prevention programming that aims to systematically and consistently prevent student behavior problems and promote a positive school environment. The full three-tiered PBIS framework	N/A	N/A

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Brady et al. (2020)	Quant longitudinal	N/A	England	Hospital	Data from this study was taken from the Avon Longitudinal Study of Parents and Children (ALSPAC), a longitudinal birth cohort study of children born in Avon county from April 1, 1991 to December 31, 1992. From birth to 18 years, there are 68 identifiable data collection points, inclusive of questionnaires completed by multiple informants, and extensive clinical assessments. A full description of the study recruitment and sample characteristics can be found in official study reports (Boyd et al., 2012; Fraser et al., 2013). In brief, the ALSPAC enrolled sample (aged from birth			X			The specific number of days missed from school over the past 12 months due to infections, hospital investigations, other investigations, asthma, eczema/itchy rash, hay fever/allergic rhinitis, and/or other reasons. Based on analysis of distributions of scores when days of absence were totaled, there was a strong rationale for creating a binary categorization in which a score of 6 days of more indicated a high degree of health-related school absenteeism.	Absenteeism item/measure	The specific number of days missed from school over the past 12 months due to infections, hospital investigations, other investigations, asthma, eczema/itchy rash, hay fever/allergic rhinitis, and/or other reasons. Based on analysis of distributions of scores when days of absence were totaled, there was a strong rationale for creating a binary categorization in which a score of 6 days of more indicated a high degree of health-related school absenteeism.	Mothers	12 months	No	N/A	incorporates universal or school-wide supports (Tier 1 or SW-PBIS), which are accompanied by two tiers of more intensive interventions and supports for students at risk for and/or already displaying behavioral issues to complement the universal school-wide components (Sugai & Horner, 2006). Tier 1 SW-PBIS is the focus of the current policy evaluation.	1. Chronic health problems 2. Poor mental health outcomes	N/A

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					to 18 years) had an overall total of 15,247 pregnancies, 75.3% of the determined eligible sample. Mothers reported on their children's absenteeism at 13 years of age.														
Brolin-Laftman et al. (2020)	Quant cross-sectional	N/A	Sweden	School	9482 ninth-grade students (ages 15–16 years) and 2090 teachers in 150 school units.			X			Student absence on >10 occasions during the current school year (from self-report) was considered to be sickness absence	Established scale/questionnaireStockholm Student Survey (SSS)Kjellström, J.; Holmin von Saenger, I.; Löfgren Jarl, E.; Modin, B. Technical Report for the Teacher Survey with Linkage to the Stockholm School Survey; Report RRPHS 2018:2; Department of Public Health Sciences, Stockholm University: Stockholm, Sweden, 2018; Available online: <a href="https://www.su.se/publichealth/publikationer/research-reports-in-public-health-sciences">https://www.su.se/publichealth/publikationer/research-reports-in-public-health-sciences</a> (accessed on 24 November 2019).	Recurring sickness absence was measured by the question in the SSS: “Have you been absent from school this year because you were ill or felt poorly?” and the response categories “No”, “Yes, once”, “Yes, 2–3 times”, “Yes, 4–10 times”, “Yes, 11–20 times” and “Yes, more than 20 times”. Students who marked either of the two last options (i.e., >10 times) were classified as having reported recurrent sickness absence.	Self-report	One academic year	No	N/A	Teacher-rated school ethos (measured using Stockholm Teacher Survey (STS))	N/A
Burdick-Will et al. (2019)	Quant cross-sectional	N/A	Maryland	School	4200 first-time freshman in Baltimore City public high schools (49% male, 88% Black, 4% Hispanic)	X	X				# of days absent during 1 academic year	Information from school records	Annual reported absences (this year and past year)	School records	One academic year	No	N/A	Exposure to violent crime on the way to school (walking)	N/A

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Burton et al., 2014	Quant longitudinal	N/A	Pennsylvania Ohio	Medical clinic	Data comes from participants recruited in the first two years of a National Institutes of Health (NIH) funded longitudinal study. 108 adolescents (29% males and 71% females) ranging in age from 14 to 19 (M = 16.26 years, SD = 0.92 years). Represented racial groups included 38% White, 59% African American, and 2% other. The ethnicity of the sample was predominately non-Hispanic (90%). A total of about 26% percent of the sample (n = 28) was classified as sexual minority.	X	X	X	X		The number of times in the past month a student had been absent with or without an excuse	Absenteeism item/measure	Absences from school were measured at both assessments by self-report and broken down into two categories: excused absences (e.g., absence due to illness or out-of-town travel) and unexcused absences. Participants reported on a scale of 0 (never), 1 (1 or 2 times), 2 (3 to 10 times), and 3 (more than 10 times) (a) how many times in the past 6 months they had been absent with an excuse and (b) how many times they had been absent without an excuse	Self-report	6 months	No	N/A	Sexual minority status and depression symptoms were associated with unexcused absences	N/A

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Carreon et al., 2018	Quant longitudinal	N/A	United States	Hospital	161 adolescent-parent dyads participated. Adolescents diagnosed with IBD between 11-18 years of age (Mage: 14.5 years, 56.5% male, 90.1% Caucasian, 5% African American, 0.6% Hispanic, 0.6% Asian, 2.5% Other).			X			Type of absenteeism	1. Functional Disability Inventory (FDI)2. Pediatric Symptom Checklist (PSC)3. Pediatric Quality of Life Inventory (PedsQL)Walker LS, Greene JW. The functional disability inventory: measuring a neglected dimension of child health status. J Pediatr Psychol. 1991;16:39–58.Jellinek MS, Murphy JM, Burns BJ. Brief psychosocial screening in outpatient pediatric practice. J Pediatr. 1986;109:371–78.Varni JW, Seid M, Kurtin PS. PedsQL 4.0: reliability and validity of the Pediatric Quality of Life Inventory Version 4.0 Generic Core Scales in healthy and patient populations. Med Care. 2001;39:800–12	Four items evaluated school attendance. One item from the Functional Disability Inventory (FDI) assessed child perception of their difficulty being at school all day. Youth rated this item on a 5-point Likert scale, with higher scores reflecting more difficulty. One item from the Pediatric Symptom Checklist (PSC) assessed parent perceptions of student absenteeism. Parents rated this item on a 3-point scale, with higher scores reflecting more absenteeism. The third school attendance item, from the Pediatric Quality of Life Inventory (PedsQL), assessed parent-reported absences due to medical appointments or hospital visits. Finally, the fourth item, from the PedsQL, assessed parent-reported absences due to the child not feeling well. Parents rated PedsQL items on a 5-point Likert scale, in which higher scores reflected greater absences in the past month.1. In the last few days, would you/your teen have had any physical trouble or difficulty being at school all day? (FDI)2. The following statement describes me/my child: Absent from school (PSC)3. In the past one month, how much has missing school because of not feeling well been a problem for you/your	1. Parents2. Children	One month	No	N/A	Irritable Bowel Disease (IBD)	N/A

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Cho & Lee, 2021	Quant longitudinal	N/A	Minnesota, United States	School	3977 first-time offenders who were enrolled in Minnesota public schools between ages 10 and 15 in the academic years of 2021 and 2011 (approximately 62% male, 39% White, 40% African American, 14% Native American, and 7% Hispanic youth). This allowed us to follow each youth				X		Having had at least one out of school suspension before first adjudicated offense	Information from school records	Out-of-school suspension (OSS) was coded as (0) for students who had no OSS and (1) for those who had at least one official record from Disciplinary Incident Reporting System (DIRS) before their first adjudicated offense	School records	Not specified	No	N/A	Recidivism	N/A

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Christani et al., 2015	Quant cross-sectional	N/A	United States	School	for at least 3 years based on their first adjudicated offense record. We identified 698 first-time juvenile offenders (17.5%) as having at least one official record for substantiated maltreatment incidents before their initial involvement in the juvenile justice system. The study's population consisted of all individuals from the National Adolescent Health public data set. The National Longitudinal Study of Adolescent to Adult Health (Add Health) is a longitudinal study of a nationally representative sample of over 20,000 adolescents who were in grades 7-12 during the 1994-95 school year, and have been followed for five waves to date, most recently in 2016-18. A random sample of student responses was	X	X	X	X		The number of days a student was absent from school for reasons detailed in measurement section	National Survey of Adolescent Health (ADHealth, 2015)	a) How many times (have you been/were you absent) from school for a full day with an excuse – for example because you were sick or out of time? b) How many times did you skip school for a full day without an excuse? c) Have you ever received an out-of-school suspension from school? d) Have you ever been expelled from school? e) In the last month, how often did a health or emotional problem cause you to miss a day of school?	Self-report	Not specified	No	N/A	N/A	N/A

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Clementi et al., 2017	Quant cross-sectional	N/A	Texas	Medical clinic	drawn from the publically available data set. Students were identified as special education (n = 62), and as not identified as special education (n = 1105).			X			Number of school absences in the past month	Absenteeism item/measure	Adolescents reported a number of school absences in the past month. School status (fully homebound or homeschooled owing to pain, partial homebound, attending school full-time with accommodations, attending full-time without accommodations) was obtained by medical chart review. Partial homebound was defined as a modified school schedule with a portion of the day/week completing assignments at home. Accommodations included either an informal agreement with the school or a formal education plan for students with disabilities or who require reasonable accommodations (i.e., Individualized Education Plan or 504 plan).	Self-report	One month	No	N/A	Lower pain acceptance	N/A

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Collin et al., 2016	Quant cross-sectional	Not specified	England	School	ALSPAC is a population-based study which aims to investigate a wide range of influences on the health and development of children. The primary source of data for the present study was parent-completed questionnaires administered at four time-points during the antenatal period then at regular intervals following birth. Parent- and child-reported fatigue data were available for 4962 and 4847 children, respectively. These data allowed us to classify presence/absence of CFS in 5756 children at age 16 years (included in the sample). 52.4% of these children were female.			X			The total number of authorized and unauthorized school absences during one school year	Information from school records	The total number of authorized and unauthorized school absences during the Year 11 school year (age 15-16 years) were obtained via linkage to the National Pupil Database (NPD). NPD is a pupil level longitudinal database which matches pupil and school characteristics to pupil level attainment in England	National database of school records	One academic year	No	N/A	Chronic fatigue syndrome	N/A
Collins et al., 2016	Quant longitudinal	N/A	England	Medical clinic	Adolescents aged 16 years			X			The number of days (in the past year) a child missed school/college because of tiredness/lack of energy (chronic fatigue	1. Absenteeism item/measure 2. Information from school records	How many days (in the past year) has your child been off school/college because of tiredness/lack of energy?	1. Parents 2. School records	One year	No	N/A	Chronic fatigue syndrome	N/A

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						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated										
Costello & Smyth, 2017	Quant longitudinal	Group contingency model (e.g., Skinner et al., 2000)Skinner, C., Cashwell, T., & Skinner, A. (2000). Increasing tootling: The effects of a peer-monitored group contingency program on students' reports of peers' prosocial behaviors. <i>Psychology in the Schools</i> , 37, 263–270.	Ireland, Europe	Community agency	10 participants took part in the current intervention, all were male and their ages ranged from 13 to 17 years. The participants were recruited through a project in a community-based organization in Ireland.						X	School attendance was defined as the number of days a student attended school during an eleven-week intervention period	Information from school records1. Baseline measure of attendance at school for the previous four weeks2. Measure of attendance at school during the intervention (over eleven weeks)	School attendance (both at baseline and during the intervention) was measured by a home-school liaison officer. Attendance was taken at the start of the school day and after lunchtime in the afternoon. Attendance was also taken by individual teachers at the start of each class. The data were then compiled at the end of the school day. If the students were late for school or left early they would only receive half points for that day. If they were absent, no points were awarded. The percentage school attendance for each participant was calculated by dividing the number of days attended, dividing this by the maximum number of days that could be attended and multiplying by 100. The raw data were used to calculate mean baseline and mean intervention school attendance scores for each participant.	1. Teachers2. Home-school liaison officers	Eleven weeks	Yes, Fantasy Football Intervention (Same as study citation)	The intervention was based on the fantasy football model (an interactive, virtual competition in which participants assemble an imaginary team of real life footballers and score points based on those players' actual statistical performance or their perceived contribution on the field of play). Each participant was captain of their team which was comprised of 4 other participants, hand chosen by them. The teams gained points for meeting certain behavioral targets and lost points for engaging in targeted behaviors. Data were collected daily on these target behaviors. Points could be lost or gained in a number of ways (e.g., attending school or taunting of peers respectively). Appropriate behavior in the project (sharing and interacting in an appropriate manner), and attending a personal development course were targeted as behavior that were reinforced through conditioned reinforcement (points). Participants lost points for engaging in negative behaviors such as being suspended from school or being arrested. The league ran for a period of 11 weeks.	All participants' school attendance improved during the fantasy football intervention phase compared with baseline,	N/A

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Crankshaw et al., 2020	Mixed methods	N/A	Africa	School	All learners who participated in the survey were female (N = 472) and were between the ages of 16–22 years, with an average age of 17.5 years. Ninety-five percent (n = 444) of the survey participants were black female learners. Sixty-one percent (n = 285) of all the learners had ever repeated a grade			X			Having ever missed school due to period	Absenteeism item/measure	Participants completed a survey which included several questions about absenteeism and menstrual challenges at the most recent period, and about absenteeism and menstrual challenges relating to a period in the last 3 months: 1. Ever missed school due to period (yes/no) 2. Average number of days absent last term 3. Main reason for missing school because of period in the last term a) Pain b) Not enough products c) Tired and uncomfortable d) Unclean toilets e) Other 3. Most common menstrual-related challenges in last 3 months a) Pain and discomfort b) Distracted during class c) None d) Unable to manage flow e) Didn't go out with friends f) Could not afford products	Self-report	3 months	No	N/A	Menstrual-related challenges	Menstrual-related challenges
Daily et al., 2020	Quant cross-sectional	Social Ecological Perspective (Cohen et al., 2009)Cohen J, McCabe L, Michelli NM, Pickeral T. School climate: research, policy, practice, and teacher education. Teach Coll	Virginia, United States	School	6839 middle school (49% female, 82% white) and 7470 high school (51% female, 85.0% white) students from 26 West Virginia schools.		X	X			The number of days a student was absent from school during the last 30 days due to skipping class or illness	Absenteeism item/measure	Days absent were assessed with: "How many days have you been absent from school during the last 30 days?" with 2 sub-questions: "skipped class" or "illness." Response options included: "none" to "7 or more days." Based on a preliminary tests of over-dispersion, absence variables were dichotomized to "never" absent (coded 0) and absent due to "skipped class" or "illness" (coded 1).	Self-report	30 days	No	N/A	Positive school climate and high satisfaction with school reduces school absenteeism	N/A

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		Rec. 2009;111(1):180–213.																	
Dannow et al., 2020	Qualitative	N/A	Denmark, Europe	1. University clinic 2. Family home	The sample included three families with three boys aged 13–15 years	X		X	X		Being absent from school more than 15% of the time within a three-month period	Interview	A semi-structured interview guide was used consisting of a parent and child version. It was developed to obtain a broad understanding of the experiences of school absenteeism based on central findings identified in the literature. Families were asked about their experiences of the cause and course of the absenteeism, support received, and how the problem has affected the family	1. Parents 2. Children	Lifetime	No	N/A	N/A	1. Individual factors (e.g., emotional distress, physical symptoms) 2. School factors (e.g., maladjusted academic level, unpredictability in learning environment) 3. Teacher and peer factors (e.g., conflict and negative relationships) 4. Parent factors (e.g., parents seeking support outside the school due to school's inability or lack of willingness to support the child's special needs)
Davis et al., 2018	Quant cross-sectional	N/A	Indonesia	School	1159 adolescent girls across 16 schools in grades 7-12 (Mage: 15 years)			X			Having missed one or more days of school as a result of menstruation during a girl's most recent menstrual period	Absenteeism item/measure	Having missed one or more days of school as a result of menstruation during a girl's most recent menstrual period (yes or no variable)	Self-report	Duration of one menstrual period (less than 1 week)	No	N/A	1. Menstruation, especially due to pain and feeling unwell 2. Living in a rural area	N/A

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Day et al., 2018	Quant cross-sectional	N/A	California	School	-31896 youth in middle and high schools aged 10-18 years (Mage: 14.47 years).- Sample was 51.3% female and 1.0% transgender- Sample was racially and ethnically diverse (52.9% Hispanic, 33% White, 30.7% Multiracial, 11.1% Asian, 7.4% Black)	X	X		X			Having skipped school or cut classes at least once in the past 12 months	Absenteeism item/measure	To assess truancy, responses to the question “During the past 12 months, about how many times did you skip school or cut classes?” (0 = 0 times; 6 = more than once a week) were dichotomized (0 = never truant; 1 = truant in the last 12 months). Youth were also asked to report on reasons for missing school: “In the past 30 days, did you miss school for any of the following reasons? (mark all that apply)” (0 = no; 1 = yes). Response categories included: “Felt very sad, hopeless, anxious, stressed, or angry” (missed school: depressed); “Didn’t feel safe at school” (missed school: unsafe); “Wanted to use alcohol or drugs” (missed school: alcohol/drugs); “Were suspended” (missed school: suspended). Dichotomous variables were created for each response category.	Self-report	Past 12 months	No	N/A	1. Feelings of depression, anxiety, stress2. Feeling unsafe at school3. Alcohol/drug use	N/A
de Groot et al., 2017	Quant cross-sectional	Not specified	Denmark, Europe	School	328 Dutch adolescents in grades 7 and 9 of senior general secondary education or university preparatory education was willing to participate.			X				The total number of school days that the participants were absent from school due to illness throughout the entire academic year	Information from school records	The total number of school days that the participants were absent from school due to illness throughout the entire academic year was used as continuous measure of school absenteeism. School absenteeism data were registered by the school administration and at the end of the academic year provided to the research team. When students returned from	School records	One academic year	No	N/A	There is an indirect relationship between physical activity and school absenteeism through cardiovascular fitness	N/A

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Del Toro & Wang, 2022	Quant cross-sectional	N/A	United States	School	818 African American adolescents aged 11-17 years (Mage: 13.56 years, 48.7% male) enrolled in 12 public middle and high schools				X		Having ever been suspended for a minor infraction during one school year	Information from school records	The number of minor infraction suspensions for each of three academic years was retrieved from school records data. We recoded minor infraction suspensions into a binary variable that indicated whether an adolescent was ever suspended for a minor infraction within each year (0 = never suspended for minor infraction, 1 = ever suspended for minor infraction).	School records	One academic year	No	N/A	1. Negative school climate perceptions 2. Lower academic grades 1-2 years later	N/A
Devenney & O'Toole, 2021	Qualitative	Not specified	Ireland, Europe	School	Participants were 17 professionals (8 male and 9 female) working in or supporting second-level schools in Ireland. These included principals, teachers, other school based staff and professionals from outside agencies (e.g. school completion	X					Topic of interview was school refusal	Qualitative Interviews	The aim of the phone interviews were to explore the views of education professionals in relation to school refusal. Specifically, the researchers sought to explore how school refusal was construed within the Irish context, how professionals respond to young people and families affected by school refusal, and challenges or concerns that professionals experience.	Education professionals	Not specified	No	N/A	N/A	Factors related to school refusal: 1. Emotional distress, mental health issues, trauma 2. Pressure to perform academically 3. Strained relationships between school and family 4. Unequal access to support services and resources

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						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated									
					officer).														
Diaz-Herrero et al., 2018	Quant cross-sectional	1. Bar-On Model of Emotional-Social Intelligence (Bar-On 2004, 2006) 2. Emotional Intelligence Ability Model (Mayer & Salovey, 1997) Bar-On, R. (2004). The bar-on emotional quotient inventory (EQ-i): Rationale, description and summary of psychometric properties. In G. Geher (Ed.), <i>Measuring emotional intelligence: Common ground and controversy</i> (pp. 111–142). Hauppauge: Nova Science Publishers.	Chile	School	2362 Chilean adolescents (56.8% female) aged 13-17 years (Mage: 15.25 years) across 15 different high schools	X					Instrument measures school refusal	School Refusal Assessment Scale Revised (SRAS) - Chilean Adaptation  Kearney, C. A. (2002). Identifying the function of school refusal behavior: A revision of the School Refusal Assessment Scale. <i>Journal of Psychopathology and Behavioral Assessment</i> , 24(4), 235–245. <a href="https://doi.org/10.1023/A:1020774932043">https://doi.org/10.1023/A:1020774932043</a> .  González, C., Kearney, C. A., Lagos-San Martín, N., Sanmartín, R., Vicent, M., Inglés, C. J., & García-Fernández, J. M. (2017). School Refusal Assessment Scale-Revised Chilean version: Factorial invariance and latent means differences across gender and age. <i>Journal of Psychoeducational Assessment</i> . <a href="https://doi.org/10.1177/0734282917712173">https://doi.org/10.1177/0734282917712173</a> .	This instrument measures the failure to attend to school in children and adolescents between the ages of 7 and 17 and contains 24 items that are answered on a 7-point Likert scale, ranging from 0 (never) to 6 (always). The scale divides school refusal into four dimensions or factors I) avoidance of stimuli or situations related to the school context that provoke negative affectivity, II) escape from social and/or aversive evaluative situations, III) search for care from significant others and IV) search for positive reinforcement outside of the school. Obtaining a higher score on one or more factors is indicative of greater school refusal and these factors will be considered as the main cause of their maintenance.	Self-report	Not specified	No	N/A	Lower emotional regulation, as measured by the Trait Meta-Mood Scale-24 (TMMS-24; Fernández-Berrocal et al. 2004).	N/A

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		Bar-On, R. (2006). The Bar-On model of emotional-social intelligence. <i>Psicothema</i> , 18, suppl., 13–25. Mayer, J. D., & Salovey, P. (1997). What is emotional intelligence? In P. Salovey & D. J. Sluyter (Eds.), <i>Emotional development and emotional intelligence: Educational implications</i> (pp. 4–30). Nueva York: Basic Books.																	
Dong & Krohn, 2019	Quant longitudinal	Labeling theory (Bernburg, 2009; Krohn & Lopes, 2015; Lemert, 1951; Paternoster & Iovanni, 1989; Schur, 1971)	New York, United States	School				X		Having ever been suspended or expelled during the course of the longitudinal study	Absenteeism item/measure	1. Between Waves 2 and 9, the respondents who remained in school were asked to report if they got suspended or expelled from school since the date of last interview (6-month intervals) Youth could respond either “yes” (1) or “no” (0) for each wave making this a binary measure.  2. Following prior research (e.g. Mowen & Brent, 2016), when exploring the cumulative	Self-report	6 months	No	N/A	Suspensions/expulsions associated with future delinquent behaviour and drug use	N/A	

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Duncan et al., 2016	Quant longitudinal	N/A	United States	School	31). Phase 1 covered the adolescent years of the subjects from about 14 to 18 years of age. In Phase 1, 960 respondents and their primary caretakers (most often biological mothers) were interviewed nine and eight times respectively at 6-month intervals (waves 1–9).  We analysed the data obtained from three cycles of the National Health and Nutrition Examination Surveys (NHANES), 2003–2004, 2005–2006, and 2007–2008. The final analytic sample consisted of 3119 children (50% male) aged 12-19 years (68.04% White, 15.79% Black, 16.17% Mexican/Hispanic).			X			Adolescents who missed nine days of school or more were considered as ‘having excessive school absenteeism (ESA)’	National Health and Nutrition Examination Surveys (NHANES) Survey National Center for Health Statistics CfDcAP. National Health and Nutrition Examination Survey — about the National Health and Nutrition Examination Survey; 2009	impact of school discipline during adolescence on adult drug use, we created a count variable indicating how many waves an individual was suspended or expelled from school during Waves 2–9. The cumulative score ranged from 0 to 8.  Information related to school absences was obtained in the medical conditions section of the NHANES survey. Respondents were asked “‘During the past 12 months, that is, since [CURRENT MONTH] of [LAST YEAR], about how many days did you miss school because of an illness or injury?’” Since the overall distribution for days of school missed was positively skewed, we dichotomised the study population using the cutoffs developed from previous reports, and adolescents who missed nine days or more were grouped as “‘having excessive school absenteeism (ESA)’”, otherwise as “‘having no ESA’”.	Self-report	12 months	No	N/A	Adolescents who perceived themselves to be overweight had a higher record of excessive school absenteeism in the past 12 months	N/A

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Dunne et al., 2013	Quant cross-sectional	N/A	Ghana	School	Total sample size for the survey was 7137 adolescents aged 15-20 years comprising 4018 boys with a weighted percentage of 56.3 and 3119 girls with a weighted percentage of 43.7.	X						The number of days students missed classes or school without permission over the past 30 days	Truancy item from 2008 Ghana Global School-based Student Health Survey (GSHS)  Ghana Global School-based Student Health Survey (2008) Questionnaire, Accra: Ghana Education Service.	Self-reported account on the number of days students missed classes or school without permission over the past 30 days	Self-report	30 days	No	N/A	1. Bullying 2. Having emotional problems (Both measured according to the 2008 Ghana Global School-based Student Health Survey; GSHS)	N/A
Dymnicki et al., 2021	Quant longitudinal	Multitiered System of Support (MTSS) framework	Colorado, United States	School	The study included two cohorts (46 schools in total) in Colorado that met implementation readiness criteria (based on feasibility visits) and agreed to participate in the four-year evaluation study. Cohort 1 included 10 schools and Cohort 2 included 36 schools. Staff and 62,590 students in these 46 schools (21,109 sixth-grade students, 20,891 seventh-grade students, and 20,590 eighth-grade students), located within nine districts on Colorado's Front Range, participated in this study. Forty-four percent of		X		X			Having ever missed a school day (unexcused) or having ever received an in-school or out-of-school suspension	Information from school records	1. School-level attendance rates reflected the total number of student days attended divided by the total number of days school was in session 2. School-level truancy rates reflected the total number of student days unexcused divided by the total number of days school was in session 3. School-level suspension rates included total, in-school, and out-of-school suspensions divided by the total number of student in that school	School records	One academic year	Yes, the Safe Communities Safe Schools (SCSS) comprehensive school safety framework Center for the Study and Prevention of Violence <a href="https://cspv.colorado.edu/what-we-do/safeschools/">https://cspv.colorado.edu/what-we-do/safeschools/</a>	The current SCSS Model consists of three components: (1) a multidisciplinary school team committed to implementing a comprehensive, multi-year approach, (2) capacity building so that school staff use data in decision-making, and know how to collect school and student level data, and (3) implementation of a school action plan that included an evidence-based program from a national registry designed to strengthen the school's MTSS. The three components of SCSS are delivered through a five-phase circular implementation roadmap: (1) build a foundation for SCSS implementation, (2) use data to identify the school's strengths, challenges, and gaps, (3) create an individualized school action plan, (4) implement the school's action plan, and (5) evaluate the plan. These phases are not always linear, however, because schools may need to adjust their work to reflect contextual changes (e.g., new administration and budget cuts) and changes in their school's strengths and challenges.	Participation in SCSS was associated with reduction in school-level suspension rates	N/A



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Edmunds et al., 2013	Quant longitudinal	Early College High School Model (American Institutes of Research & SRI International, 2009)	North Carolina, United States	School	For engagement-related outcomes available through administrative data collected by NCDPI, the sample included a total of 1,607 Grade 9 students in 18 cohorts in 12 schools. The outcomes included in this sample come from students who were ninth-graders in 2005-2006, 2006-2007, 2007-2008, and 2008-2009. The sample for the survey analysis includes 575 ninth-graders associated with 10 early colleges. There were a total of 349 students in the treatment group (assigned				X		Having been suspended out-of-school at least once in a given year.	Information from school records: 1. School attendance measure 2. Suspension measure	1. Each school reported the number of days each student attended school. 2. The percentage of ninth-graders who had been suspended out-of-school at least once in a given year.	Information from school records	One academic year	Yes, North Carolina's Early College High School Model  American Institutes of Research, & SRI International. (2008). 2003-2007 Early College High School Initiative Evaluation: Emerging patterns and relationships. Retrieved from <a href="http://www.air.org/files/ECHSI_Synthesis_Report_FINAL.pdf">http://www.air.org/files/ECHSI_Synthesis_Report_FINAL.pdf</a>	Early college high schools aim to provide a rigorous course of study with the goal of ensuring that all students graduate with a high school diploma and two years of university transfer credit or an associate's degree. Early colleges are intended for students who typically are under-represented in college. The target populations are students whose parents never attended college themselves, students from low-income families, and students who are members of racial and ethnic groups who are underrepresented in college. Schools participating in North Carolina's initiative are required to incorporate specific strategies and approaches, entitled "design principles," that can be seen as qualities of a highly functioning school. The six design principles focus on the following areas (North Carolina New Schools Project, 2011): 1. College Ready: Ensuring that students are ready for college. 2. Powerful Teaching and Learning: Incorporating rigorous and relevant instructional practices. 3. Personalization: Providing academic and affective support and emphasizing	Early college high school program participation was associated with improved attendance and fewer out-of-school suspensions	N/A



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Eyllon et al., 2022	Quant longitudinal	1. Theory of Collateral Consequences 2. Social Stress Process Framework (Brown et al., 2007; Thoits, 2010; Turner & Avison, 2003)	United States	School	The Add Health study is a complex stratified cluster design-based survey that represents 132 schools located in 80 distinct U.S. communities. The first Wave includes 17,670 students in grades seven through twelve who had valid parent surveys. Wave II was collected in 1996 from 14,738 students who were in grades seven through eleven in Wave I. Data for this study come from Waves I and II in-home surveys, the Wave I parent survey, and the school administrator survey. Our analytic sample is based on 13,568 Wave I				X		Whether a school administers in-school or out-of-school suspensions in response to student infractions	School discipline scale from Add Health Study  Harris, K. M., & Udry, J. R. (2018). National longitudinal study of adolescent to adult health (add health), 1994-2008 [Public Use]. Ann Arbor, MI: Carolina Population Center, University of North Carolina-Chapel Hill [distributor], Inter-university Consortium for Political and Social Research [distributor], 08-06.	the life-story interview began with a grand tour question (e.g., Describe what it was like growing up?) and had a series of follow-up questions and prompts. The schedule was designed to encourage mothers to tell stories rather than answer questions.  School administrators rated the school's discipline policies for 12 infractions on a 7-point Likert scale. One indicated no policy and seven indicated expulsion. Using the available school policy data, we created a scale indicating the mean policy severity. Due to the relatively small numbers of schools endorsing more lenient policies, even for relatively minor offenses, we collapsed "no policy," "verbal warning" and "minor action" to create a lenient policy category. Lenient policies were coded as 1, in-school suspension was coded as 2, out-of-school suspension was coded as 3 and expulsion was coded as 4. We summed the responses across the 12 infractions and then took the average policy across the 12 infractions for each school (McNeely et al., 2002). Table 1 displays the policies that school administrators were asked	Administrator report	Not specified	No	N/A	Exclusionary discipline is significantly associated with depressive symptoms	N/A

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Felver et al., 2019	Quant longitudinal	N/A	New York, United States	School	respondents who were successfully re-interviewed at Wave II and had valid survey weights. We restricted our sample to respondents with no history of suspension or expulsion who had valid data for both of our outcomes yielding a sample of 8,878. The sample is 46% male and the mean age is 15.67 years. 59% identified as White, 19% as Hispanic, 14% Black, 6% Asian, and 3% Other.					X	The number of unexcused student absences in one quarterly marking period	Information from school records	about in the Add Health study as well as the proportion of schools endorsing each type of disciplinary response	School records	One quarterly marking period (approximately half a school semester)	Yes, Learning to BREATHE (L2B; Broderick, 2013)Broderick, P. C. (2013). Learning to BREATHE: A mindfulness curriculum for adolescents. Oakland, CA: New Harbinger	L2B is a mindfulness training and a universal prevention program that aims to increase emotion regulation, stress management, compassion, and executive functioning skills to promote well-being and learning. It includes six major thematic foci that are delivered across group sessions, including body awareness, understanding and working with feelings, increasing awareness of thoughts, feelings, and bodily sensations, reducing harmful self-judgments, cultivating positive emotions. Students assigned to the intervention condition were delivered the six-session version of the L2B curriculum over the course of nine weeks.	N/A	N/A

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						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated										
Fields & Wotipka, 2020	Quant cross-sectional	Public Opinion and Isomorphism Perspectives (Everly & Schwarz, 2014)	United States	School	957,244 survey respondents in grades 9-12 (51% female). Racial/ethnic composition information is available for 938,981 participants (60.5% White, 14.1% Hispanic, 13.8% African American, 4.12% Asian, 2.3% American Indian, 1.4% Pacific Islander, 3.8% Multiracial)	X						Whether or not the student has been absent due to feeling unsafe in the past 30 days	Absenteeism measure from The Center for Disease Control's Youth Risk Behavior Surveillance System (YRBSS)  Centers for Disease Control and Prevention. (2017). Youth risk behavior survey data. Retrieved February 25, 2019, from <a href="http://www.cdc.gov/yrbss">www.cdc.gov/yrbss</a>	Students responded to the question, "has student been absent due to feeling unsafe in the past 30 days?" with yes or no	Self-report	30 days	No	N/A	Less LGBT anti-discrimination policy is associated with greater absenteeism due to perceived lack of safety in schools	N/A
Finch et al., 2018	Quant longitudinal	Recovery High Schools (Moberg & Finch, 2007)	United States	Treatment facility	194 adolescents enrolled in Minnesota, Wisconsin, or Texas schools (Age: 16 years, 86% White, 49% female) after receipt of formal inpatient or outpatient substance use disorder (SUD) treatment. Adolescents were recruited from 10 SUD treatment facilities.		X			X		Number of full days skipped school in past 3 months	Absenteeism item/measure	1. Self-reported skipping school (truancy) was measured with one ordinal item that asked adolescents when they last skipped school in the prior 3 months (range 0 [Never] to 4 [In the past month]). 2. Self-reported absenteeism was measured with one item that asked adolescents how many days they were absent from school for a full-day in the prior 3 months (range 0–54).	Self-report	Past 3 months	Yes, Recovery High School Programs (RHSs)	Because it was neither feasible nor ethical to randomly assign adolescents to attend RHSs or non-RHSs, this study used a quasi-experimental comparison group design to evaluate the effectiveness of RHSs. A non-equivalent pretest–posttest comparison group design was used to compare outcomes for adolescents who had received some formal SUD treatment and subsequently enrolled in a RHS for at least 28 days at any point during the intake through 6-month follow-up assessment (the intervention group) and adolescents who had received some formal SUD treatment and subsequently enrolled in a non-RHS (the comparison group). RHSs support students recovering from SUDs by offering a full range of academic services in a structured environment that promotes recovery. The most complete picture of these schools and their operative program models comes from a descriptive study of 17 RHSs. RHSs are typically small schools that offer both academics and diverse therapeutic services, including individual and group counseling, chemical dependency education, family support, and random	Adolescents attending recovery high schools were more likely to report lower school absenteeism	N/A

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Finning et al., 2017	Qualitative	N/A	England	School	16 educational practitioners across three secondary schools who have experience working with students with SAPs. Practitioners worked with students aged 11-18 in secondary schools.	X					X	Type of absenteeism	Focus group	A semi-structured topic guide was used that asked about practitioners' experience of, and their role in responding to school refusal, the current support available, and further support they believed would be beneficial. The term 'school refusal' was used throughout focus groups, but participants were not given, nor asked to provide, a definition.	Educational practitioners	Not specified	No	N/A	drug testing. Academic supports range from transitional help for students to earn credits and catch up for missed opportunities, to the provision of complete (although limited) high school curricula.	N/A	N/A
Finning et al., 2020	Qualitative	Bronfenbrenner's Ecological TheoryBronfenbrenner, U., and P. A. Morris. 2006. "The Bioecological Model of Human Development." In Handbook of Child Psychology: Theoretical Models of Human Development, 6th ed. Vol. 1. 793–828. Hoboken, NJ, US: John Wiley & Sons.	United Kingdom	School	16 secondary school educational practitioners from three schools in the South West of the UK. Practitioners could be working in any teaching or non-teaching role, but were required to have experience of working with pupils with attendance problems.	X	X	X				Not specified	Focus groups	A semi-structured topic guide was used and included questions regarding practitioners' experience of working with pupils with attendance problems, the current support available, and further support they believed would be beneficial. Practitioners' beliefs about risk factors for attendance problems emerged as a topic that was clearly important to participants.	Secondary school educational practitioners	Not specified	No	N/A		N/A	Factors associated with school absenteeism:1. Individual (e.g., mental and physical health, special education needs)2. Family factors (e.g., attitudes towards education, conflict)3. School factors (e.g., academic stress, transitions, unsuitable curriculum)4. Peer factors (e.g., peer conflict, peer influence)

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Flannery et al., 2012	Quant cross-sectional	An interdisciplinary model of school absenteeism  Kearney, C. A. (2008). An interdisciplinary model of school absenteeism in youth to inform professional practice and public policy. <i>Educational Psychology Review</i> , 20, 257–282. doi:10.1007/s10648-008-9078-3	United States	School	Participants in this study were 8,457 ninth-grade students who had at least one or more office disciplinary referrals (ODRs) for missing one or more classes without permission during the first semester of their freshman year. Students were nested within 193 public high schools in the United States. 56.3% were male. 1.1% were Native American, <1.0% were Asian, 8.8% were Latino, 21.5% were African American, 26.4% were Caucasian, and 39.5% identified as an “other” racial category.		X		X		Truancy: Two office discipline referral codes were combined: a) skip (miss class without permission) and b) truant (unexcused absence for half day or more)  In-school-suspension: Consequence for referral results in a period of time spent away from scheduled activities/classes during the school day  Out-of-school suspension: Consequence for referral results in a 1 to 3-day-period when student is not allowed on campus  Expulsion: Consequence for referral results in student being dismissed from school for one or more days	Information from school records: 1. Truancy variable 2. In-school-suspension 3. Out-of-school suspension 4. Expulsion	All schools in the study utilized the same data collection system (School-Wide Information System [SWIS]). Unlike unstructured disciplinary data systems, SWIS uses a set of operationally defined and mutually exclusive codes to describe student behavior and disciplinary responses, thus reducing ambiguity associated with this form of data (see www.swis.org for code definitions). Researchers documented the occurrence of disciplinary responses applied in response to first-time truancy offenses for ninth-grade students. The operational definitions for all absenteeism relevant variables can be found in the operationalization column.	School records	One academic year	No	N/A	Truancy recidivism was most common amongst students who were Asian, male, or had individual special education plans.  When examining the impact of school discipline responses on truancy recidivism, it was found that out-of-school suspensions significantly decreased the likelihood of repeat truancy and Saturday school significantly increased the likelihood of repeat truancy.	N/A

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Furrer et al., 2012	Quant longitudinal	N/A	United States	School	Selection criteria for SUN students included (a) enrollment in 9th to 12th grade as of October 1, 2008, (b) attending one of 12 high schools or high school academies, and (c) participation in SUN school services on at least 30 days during the school year <sup>1</sup> (M $\frac{1}{4}$ 48 days, SD $\frac{1}{4}$ 20.3, ranged from 30 to 139 days). The final sample included 441 SUN participants across four SUN sites					X	The total number of days absent in one academic year	Information from school records	Attendance data were available in both 2007–2008 and 2008–2009 school years for 419 (95%) SUN students and 482 (97%) comparison-group students. Attendance rates for each school year were calculated by dividing the total number of days present (summed across all students) by the total number of days enrolled (number of days present plus the number of days absent summed across all students). This calculation method weights individual student attendance rates by the number of days they were enrolled (i.e., students enrolled fewer days have a smaller effect on the overall attendance rate than students enrolled for a full school year).	School records	One academic year	Yes, Schools Uniting Neighborhoods Community Schools ProgramAfterschool Alliance. (2009b). Afterschool: The challenges of recruiting and retaining older youth (Afterschool Alert Issue Brief, No. 37, April 2009). Retrieved from <a href="http://www.afterschoolalliance.org/issue_briefs/Retention%20Brief%2037%20FINAL.pdf">http://www.afterschoolalliance.org/issue_briefs/Retention%20Brief%2037%20FINAL.pdf</a>	The structured extended school day programming in this study is a component of Schools Uniting Neighborhoods (SUN) Community Schools (CS). SUN CS System has been operating throughout the Portland, Oregon metropolitan area since 1999 and currently oversees 64 different SUN Community elementary, middle, and high school sites. In fiscal year 2009–2010, four nonprofit agencies acted as lead agencies and provided on-site services at four different SUN sites. Service providers work closely with school principals and teaching staff to meet the unique needs of each group of students within a set of standards regarding who is to be served and what types of services are to be provided. SUN CS targets students at academic risk. Although providers can serve a broad range of students and families both from the school site and surrounding community, they are expected to recruit students struggling with academic performance and who are not on track to graduate with their peers, and to tailor interventions to their individual needs. In terms of the type of services provided, the SUN service standards are based on best practices found in high-quality OST programs: (a) alignment with the school day, (b) goal setting and intentional programming, (c) family and community connections, (d) positive youth development, and (e) program evaluation (Afterschool Alliance, 2011b).	Students participating in extended school day programming had somewhat higher school attendance rates	N/A

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Gallé-Tessonneau & Gana, 2018	Quant longitudinal (scale development)	Berg's definition of school refusalBerg, I. 1992. "Absence from School and Mental Health." The British Journal of Psychiatry: the Journal of Mental Science 161: 154–166. doi:10.1192/bjp.161.2.154.Berg, I. 1997. "School Refusal and Truancy." Archives of Disease in Childhood 76 (2): 90–91. doi:10.1136/adc.76.2.90.	France, Europe	1. School2. Mental health centers	Study 2 (scale validation): A community sample of 624 adolescents (58% girls) aged 10–16 years old (Mage = 12.4 years) were recruited from six French public middle schools for this study. Another 31 adolescents (15 boys and 16 girls) aged 10–16 years old (Mage = 13.3 years) displaying school refusal were recruited from five mental health centers according to Berg's criteria of school refusal.	X				X	School refusal Berg, (1992, 1997) has five clinical criteria:(1) Reluctance, severe difficulty in attending school, or frequent refusal to go to school(2) Seeking the comfort and security of home, preferring to remain close to parental figures, especially during school hours; (3) Displaying evidence of emotional upset and distress when the adolescent is faced with the prospect of having to go to school, although this may take the form of unexplained physical symptom (including dizziness, headaches, nausea, back pain);(4) Absence of serious antisocial tendencies, apart from possible aggressiveness	1. The School REfusal EvaluationN Scale (SCREEN)2. Information from school recordsGallé-Tessonneau, Marie; Gana, Kamel (2018). Development and Validation of the School Refusal Evaluation Scale for Adolescents. Journal of Pediatric Psychology, 44(2), 153-163.	1. The School REfusal EvaluationN Scale (SCREEN) for adolescents is an 18-item, four factor measurement model that reliably measures four interrelated aspects of school refusal. The first factor (five items) reflects anxious anticipation when the adolescent is faced with the prospect of having to go to school. Indeed, the items refer to being afraid to go college, the path and the difficulty of returning to the school, and the inability to put into words this anxiety. The second factor (four items) represents difficult transition between home and school. The items refer to the separation from home and relational issues between child and parents about it. The third factor (five items) reflects the adolescent's interpersonal discomfort in relationships at school. The items refer to the adolescent's malaise in their relations with others (at school) and to the impact of these relations on his self-perception. The fourth factor (four items) represents school avoidance, through two types of behaviors: absenteeism from school and absenteeism at school (avoidance behavior such as visits to the infirmary or call parents). 2. Absenteeism was assessed in two ways: absenteeism at school and absenteeism from school. To assess	1. Adolescents2. School records	Three weeks	No	N/A	There was a significant association between SCREEN scores and general absenteeism	N/A

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										when attempts are made to force school attendance(5) The problem is not hidden to parents, who have made reasonable efforts to ensure the presence of the child in school since the problem began.Absenteeism1. Absenteeism at school was defined as the number of times in the past 3 weeks a student (1) went to the school infirmary, (2) went to the school office, (3) called parents to leave school and return home, and (4) delay.2. Absenteeism from school was defined as the total number of half-days a student was absent within the past 3 weeks.		absenteeism at school, adolescents were asked to report the number of times in the past 3 weeks they (1) went to the school infirmary, (2) went to the school office, (3) called parents to leave school and return home, and (4) delay. It was a quantitative subjective measure. To assess absenteeism from school, for each participant, we recorded the total number of half-days they were absent within the past 3 weeks. The data were provided by the school administration. Because school refusal cannot be reduced to absenteeism, we hypothesized that SCREEN scores would be modestly related to absenteeism							

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Gallé-Tessonneau & Heyne, 2020	Qualitative	Berg's definition of school refusalBerg, I. 1992. "Absence from School and Mental Health." The British Journal of Psychiatry: the Journal of Mental Science 161: 154–166. doi:10.1192/bjp.161.2.154.Berg, I. 1997. "School Refusal and Truancy." Archives of Disease in Childhood 76 (2): 90–91. doi:10.1136/adc.76.2.90.	France, Europe	1. Schools2. Mental health centers	There were 42 participants divided across four groups: (a) 15 middle school students not displaying SR (8 girls and 7 boys) aged 11–16 years (M = 13.7, SD = 1.3); (b) 6 adolescents displaying SR (2 girls and 4 boys) aged 11–15 years (M = 13.6, SD = 1.7); (c) 17 middle school professionals (e.g., teacher, school director, school nurse; 12 women and 5 men) aged 32–60 years (M = 45.4, SD = 7.8); and (d) 4 care professionals working with adolescents displaying SR (i.e., psychiatrists and psychologists, all women) aged 29–42 years (M = 34.5, SD = 5.6).	X					Berg, (1992, 1997) presented five clinical criteria of school refusal:(1) Reluctance, severe difficulty in attending school, or frequent refusal to go to school(2) Seeking the comfort and security of home, preferring to remain close to parental figures, especially during school hours; (3) Displaying evidence of emotional upset and distress when the adolescent is faced with the prospect of having to go to school, although this may take the form of unexplained physical symptom (including dizziness, headaches, nausea, back pain);(4) Absence of serious antisocial tendencies, apart from possible	Qualitative Interview	A psychologist (first author) conducted the interviews at the schools or in the mental health centres between May and October of 2013. The interview schedules consisted of open-ended questions related to two main themes: (1) manifestations of SR; and (2) early identification of SR. The interview schedules were tailored to each of the four groups of participants, according to level of vocabulary and knowledge of SR. Some questions were consistent across all four interview schedules (e.g. What do you think are the behaviours at school of adolescents displaying SR? According to you, how can we detect these students earlier?). Other questions were specific to one or several groups. For example, adolescents displaying SR were asked: How would you describe a student displaying SR, to someone who knows nothing about SR?; According to you, what were the first manifestations of your SR?; When did you start wondering about what was happening to you?; What has changed for you since you started having difficulty going to school? Examples of the questions asked of students not displaying SR are: What do you think are the behaviours in the classroom of adolescents	1. Adolescents2. School professionals3. Mental health professionals	Not specified	No	N/A	N/A	1. Separation anxiety2. Lack of structure and predictability in school3. Medical issues and psychological vulnerabilities4. Lower social competence and relationship difficulties

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Gase et al., 2014	Quant cross-sectional	N/A	California, United States	School	We analyzed data from the Reducing health Inequities through Social and Educational change (RISE) study to examine key correlates of chronic truancy in a targeted student population. The sample consisted of 909 students in grades 9-12 (44% male, Mage: 16.4 years, 84.3% Hispanic, 12.3% Black, 3.4% Other)		X				The number of times a student cut or skipped class in a typical month	Absenteeism item/measure	Question: "In a typical month, I cut or skip class. . . ."  Five response options for this question ranged from "never" to "10 or more times." Those who responded "never" were classified as "not truant," students who reported "1 or 2 times" were classified as "infrequent truants," and students who reported "3 to 6 times," "7 to 9 times," or "10 or more times" were classified as "chronic truants."	Self-report	30 days	No	N/A	Truancy was associated with: 1. Perceived environment variables (neighborhood quality; level of personal attention from teachers; students' perceptions of the extent to which teachers, classes, and other students were focused on preparing for college; feeling safe at school) 2. Social influence variables (having some close friends that dropped out, parenting style) 3. Individual-level variables (student	N/A

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Gase et al., 2016	Qualitative	N/A	Los Angeles, United States	School	39 youth aged 13-19 years (51% female) with a history of truancy in middle or high schools. Participants were 79% Hispanic/Latino and 29% African American/Black.		X				Having reported skipping class or ditching school at least once per month currently or in the past year	Qualitative Interview	The interview team used a 16-question opened-ended interview guide, developed based on the study research questions, that asked participants to describe their "story," beginning with when they first started skipping or ditching and ending at the present day. Interview questions regarding youth school truancy are listed below. Truancy, patterns, reasons, and response. 1. When was the first time you cut or skipped class? 2. What caused you to begin cutting or skipping class at first? 3. What happened as a result of you cutting or skipping class at first? 4. What was the next grade in which you continued to cut or skip class? 5. What caused you to continue to cut or skip class? 6. What happened as a result of you cutting or skipping class? 7. When was the first time that you were confronted about your absences? Experiences and expectations. 8. What's the worst thing that	Youth	Lifetime	No	N/A	N/A	engagement, depression, GPA, and alcohol and marijuana use during the past 30 days	Factors associated with cutting or skipping school: 1. Boring, irrelevant, difficult school curriculum. 2. Not engaging or impersonal instructional style. 3. Negative relationship or conflict with teacher. 4. Infrequent contact with school counselors. 5. Large school or class size. 7. Chaotic or unsafe environment.

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Geller & Mark, 2022	Quant cross-sectional	N/A	United States	Hospital	Data were drawn from the Fragile Families and Child Wellbeing Study (FFCWS), a population-based survey of urban families, which has followed a cohort of nearly 5000 children born in 20 large cities, along with their families, over the first 15 years of the “focal children’s” lives.		X	X			The number of days a student missed school either due to illness or as a result of skipping school	1. Number of school days missed a) Due to illness b) Due to skipping school c) Both (total) 2. At risk of chronic absenteeism (binary variable)	1. Youth-report: depending on the month in which they were interviewed, the focal youth were asked to report the number of days in the current or previous school year that they missed school due to illness, and the number of days that they skipped school. We examined the total number of days the young people reported being absent for either reason and examined the number of health-related and truancy-related absences	1. Self-report 2. Caregiver report	One academic year	No	N/A	Students who were stopped by the police had more reported absences due to either health or skipping school and were more likely to have had an absence-related parent–teacher conference.	N/A



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Geven et al., 2017	Quant longitudinal	Normative Social Influence Theory (Deutsch & Gerard, 1955)	Sweden	School	The current analytic sample consisted of 2614 participants and the sample was 50% Black, 25% Hispanic, 17% White, 6% Multi-racial, 2% Other race.		X				Skippping school one at least one occasion	Absenteeism item/measure  Kalter, F., Heath, A., Hewstone, M., Jonsson, J. O., Kalmijn, M., Kogan, I., & van Tubergen, F. (2013). Children of immigrants longitudinal survey in four european countries (Cils4eu). GESIS Data Archive, Cologne, ZA5353 Data File Version, 1(0)	Five items measure student resistance to schooling: the extent to which adolescents argue with teachers, get a punishment in school, skip class, come late to school, and put a lot of effort into school. Response categories are on a 5-point scale, and range from “never” to “every day” for the first four items, and from “strongly agree” to “strongly disagree” for the last item. Higher values thus imply higher student resistance.	Self-report	Not specified	No	N/A	1. Boys engage in greater levels of school resistance than girls 2. An adolescent's school resistance is associated with the school resistance of their peers	N/A

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Goddard et al., 2021	Quant longitudinal	Not specified	Connecticut, United States	School	and stochastic actor-based models (SIENA) on a subsample of these data (2480 students in 98 classes; 49% boys)			X			Missing class time due to a medical visit for asthma	Seat time measure	For one full academic fiscal year (July 1, 2017–June 30, 2018), “seat time” data, or the actual time students are in class during a school day, were collected in order to measure the amount of seat time saved due to utilization of SBHC services. Certain measures were identified in order to document seat time, including date of visit, time-in and timeout, reason for visit, and disposition of care. The quality improvement (QI) team created an asthma seat time log to collect data on time-in and timeout of the SBHC, treatment provided, and disposition of the visit. An electronic health record (EHR) template was created to track all of the acute asthma exacerbations visits to obtain data on length of visit, treatment, and disposition. A work-flow chart was created for the nurses at each of the three SBHC sites to clearly delineate the action steps, tasks (patient treatment,	School nurses	One academic year	Yes, school-based health centers (Same as study citation)	School-based health centers (SBHC) are integrated medical and mental health care outpatient-licensed health clinics that are located in- or on-school premises through a collaborative relationship with the school and community. This SBHC program includes 14 SBHCs across five school districts in southeastern Connecticut. Each SBHC includes a full-time or part-time board certified advanced practice registered nurse (APRN) and a full-time behavioral health clinician. Only students registered for SBHC services are permitted to use the SBHC (known as “registered users”). All students who attend a school with an SBHC were eligible to receive services once registration and parental/guardian permission was obtained.	The data demonstrated that SBHC acute asthma visits take less time to receive the needed asthma exacerbation service and return to class as soon as possible, much less time than the amount of time if the patient were sent to the emergency department	N/A

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Gonzalvez et al., 2018	Quant cross-sectional (factorial invariance)	N/A	Chile	School	The sample comprised 2,678 Chilean students (43.7% boys) aged 13 to 17 years recruited from seven different communes	X					School refusal was measured	School Refusal Assessment Scale–Revised (SRAS-R)  Kearney, C. A. (2002). Identifying the function of school refusal behavior: A revision of the School Refusal Assessment Scale. <i>Journal of Psychopathology and Behavioral</i>	The School Refusal Assessment Scale–Revised (SRAS-R) is a self-report measure designed to assess four functional factors of school refusal behavior: avoidance of stimuli that provoke negative affectivity (Factor I), escape from aversive social and/or evaluative situations (Factor II),	Self-report	Not specified	No	N/A	N/A	N/A

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Goppalan et al., 2018	Quant cross-sectional	N/A	India	School	2014 children aged 12-15 years (55% male)					X		Assessment, 24, 235-245. doi:10.1023/A:1020774932043	pursuit of attention from significant others (Factor III), and pursuit of tangible reinforcement outside of school (Factor IV). The SRAS-R is a 24-item measure with a 7-point response scale (0 = never, 6 = always)	School records	One academic year	No	N/A	Poor oral hygiene	N/A	
Gottfredson et al., 2020	Quantitative longitudinal	N/A	California, United States	School	33 treatment schools (those that increased resource officer staffing levels at the time of investigation) and 72 comparison schools were included in the sample			X				The incidence of an expulsion or out-of-school suspension in response to a student's disciplinary offense	1. Information from school records 2. Absenteeism item/measure	The disciplinary action measure consisted of exclusionary actions, which were removals of students from regular instructional setting (i.e., expulsions and out-of-school suspensions) for any duration. This was the case for students regardless of their special needs status. This measure was a monthly count.	1. School records 2. Self-report	One month	Yes, increased school resource officer staffing (citation not relevant)	The study gathered and analyzed data on 33 public middle and high schools in California that increased SRO staffing levels at a specific time (treatment schools) and on a set of matched schools that did not increase SRO staffing levels at the same time as the treatment schools (comparison schools). The increases in SRO staffing levels at the treatment schools resulted from the award of U.S. Department of Justice's Office of Community Oriented Policing Services (COPS) Hiring Program (CHP) grants to local law enforcement agencies in 2013 or 2014; the grants were intended to support the placement of SROs in schools.	Increased school resource officers (SROs) increased the number of drug- and weapon-related offenses and exclusionary disciplinary actions for treatment schools relative to comparison schools.	N/A

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Graham et al., 2014	Qualitative	N/A	California, United States	School	Participants were parents of students with a range of disabilities who had recently transitioned to their neighborhood or magnet school following the closing of a school serving predominantly students with disabilities throughout the district.				X		Students with disabilities who generally have difficulty attending school due to transportation limitations	Qualitative Interview	Fourteen parent meetings were sponsored by the school district. An overarching goal of these meetings was to allow parents to provide the district administration with feedback on how well the schools and district were responding to the needs of students. Five to 12 parents attended each meeting, which were typically staffed by school district leaders and attended by the evaluation team. Parent perspectives regarding transportation problems to/from school were assessed via data from the parent meetings. The meetings lasted approximately 1.5–3 hours.	Parents	Not specified	No	N/A	N/A	Five main issues regarding the nature of transportation difficulties for students with disabilities emerged: (a) problems with aides (b) exclusion from school programming (c) scheduling problems (d) equipment problems (e) physical safety
Grant et al., 2013	Mixed methods	N/A	Malawi, Africa	School	835 female students	X	X	X			The number of days a female student missed school the last time they had their period	Absenteeism item/measure: Malawi Schooling and Adolescent Survey (MSAS) Malawi Institute of Education. 2008. Life Skills and Sexual and Reproductive Health Education. Vols. 1 and 2. Domasi: Malawi Institute of Education Press.	The MSAS included two modules that examined school absenteeism: 1. In the face-to-face survey, all students were asked whether they were absent on the last school day before the day of the interview. Respondents who reported an absence were asked why they were absent but were not provided with a list of possible responses, so multiple responses were possible. Respondents were also asked to report how many days they attended school over the prior 2 school weeks. We converted this variable into a dichotomous variable for whether they reported any absence in the prior 2 weeks.	Self-report	Two weeks	No	N/A	N/A	N/A

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Green et al., 2012	Quant longitudinal	1. The self-system model of motivational development (Skinner et al., 2008, 2009)	Australia	School	The longitudinal sample comprises 1866 high school students from six Australian high schools completing the instrumentation at T1 (3rd term of the school year) and T2 (one-year later). Around 39% of the participants were						Number of full day absences in past term	Absenteeism item/measure	2. The second module focused on menstruation-related school absences. Given that menstruation is a sensitive topic that respondents may be uncomfortable discussing, even with a female interviewer, these questions were asked in the ACASI section of the survey. Female respondents were first asked whether they had begun menstruating. Those students who answered "yes" were then asked whether they had ever missed school because of their menstrual period and, if yes, how many days they missed the last time they had their period. These two questions were used to create a binary variable that indicated whether a female student had missed any days of school the last time she experienced her menstrual period. This module also asked female students why they missed school during their previous menstrual period.	Self-report	One academic year	No	N/A	1. Positive attitudes toward school positively negatively predicted absenteeism2. Absenteeism negatively predicted test performance	N/A

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Green et al., 2015	Quant cross-sectional	System of care approach (Stroul & Friedman, 1986)	United States	Community agency	female. The mean age of respondents was 13.86 years (SD ¼ 1.28) at T1 and 14.79 years (SD ¼ 1.28) at T2. We used data from the SAMHSA's Children's Mental Health Initiative Systems of Care (SOC). The final sample included 4365 adolescents and their parents. Adolescents were on average 14.4 years old (range: 12-18 years) and a majority were male (60.2%). Adolescents reported that they were non-Latino White (40.3%), non-Latino Black (30.7%), Latino (17.7%), or Other race/ethnicity (11.3%).				X	X	Having been absent from school 1 day or more per week	Absenteeism item/measure	School functioning was assessed using three indicators from the Educational Questionnaire Revised (EQ-R). The EQ-R was developed for the SOC evaluation and completed by parents to provide data on their children's educational experiences in the past 6 months. 1. First, parents were asked "When school was in session, did [child] ever miss school for any reason in the past 6 months? This includes excused as well as unexcused absences" (emphasis in original). To identify youth with significant school absence, this variable was dichotomized to indicate whether, on average, their child was absent 1 day or more per week.  2. Second, number of suspensions was assessed by two questions asking parents to indicate the number of days that their child spent in in-school or out-of-school suspension.  Numeric responses to these two questions were summed and standardized within SOC communities to have a mean of 0 and	Parent-report	6 months	No	N/A	N/A	N/A

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Green, 2022	Quant cross-sectional	1. Critical Race Theory 2. Critical Race Feminism  Delgado, R., & Stefancic, J. (2001). <i>Critical race theory: An introduction</i> (1st ed.). New York University Press.  Collins, PH. (2000). <i>Black feminist thought: Knowledge, consciousness, and the politics of empowerment</i> (2nd ed.). Routledge.	United States	School	This study relies on two waves of data collected from two national longitudinal program evaluations—Teens, Crime and the Community/Community Works (TCC/CW) and the second Gang Resistance Education and Training (G.R.E.A.T.) program. The final analytic sample consisted of 3,448 students from 45 schools (31 from G.R.E.A.T. and 14 from TCC/CW).				X		Having received at least one in-school or out-of-school suspension in the past 6 months	Absenteeism item/measure	This measure is based on a question that asked students to self-report whether they had received in-school or out-of-school suspension in the prior 6 months. The responses were reported as a dichotomous measure (0=No, 1=Yes).	Self-report	6 months	No	N/A	1. Black individuals experienced higher rates of suspension relative to Hispanic and White individuals 2. Students who engage in minor delinquency are more likely to be suspended (e.g., skipping classes) 3. Students who engage in violent delinquency and bullying are also more likely to be suspended 4. Angry temperament had a positive relationship with the likelihood of being suspended 5. Prior victimization, substance use, and school disorder are all positively related to the likelihood of suspension	N/A

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Grinshyteyn & Yang, 2017	Quant cross-sectional	N/A	United States	School	This secondary data analysis was performed using the 2013 Youth Risk Behavior Survey (YRBS). The YRBS was started in 1990 as a survey to monitor health risk behaviors among youth in the United States. The analytic sample included 13,554 high school students in 9th to 12th grade	X						The number of days a student missed school because they felt they'd be unsafe at school or on their commute to/from school in the past 30 days	<a href="http://www.cdc.gov/healthyyouth/yrbs/pdf/YRBS_2013_National_User_Guide.pdf">Youth Risk Behavior Survey (YRBS)US Centers for Disease Control and Prevention. Youth Risk Behavior Surveillance System (YRBSS). 2013 YRBS Data User's Guide. 2014. Available at: http://www.cdc.gov/healthyyouth/yrbs/pdf/YRBS_2013_National_User_Guide.pdf. Accessed September 10, 2014.</a>	The dependent variable for this research asked, "During the past 30 days, on how many days did you not go to school because you felt you would be unsafe at school or on your way to or from school?" Response categories were: 0 days, 1 day, 2 or 3 days, 4 or 5 days, 6 or more days. Due to the distribution of these data, those who answered "4 or 5 days" were combined with those who responded "6 or more days".	Self-report	30 days	No	N/A	Electronic bullying in past year associated with missing school due to perceived unsafety	N/A
Grooms & Bohorquez, 2021	Qualitative	Critical sensemaking approach  Helms Mills, J., Thurlow, A., & Mills, A. J. (2010). Making sense of sensemaking : The critical sensemaking approach. Qualitative Research in Organizations and Management, 5(2), 182–195.	Iowa, United States	School	Two school leaders (Matt, the principal, and Eloise, the school counselor) and one district leader (Luke, the superintendent), who participated in semi-structured interviews		X	X			Not specified	Qualitative Interview	The purpose of this study was to use a diagnostic (problem identification) frame to examine how school, district, and community leadership make sense of "the story" of extreme chronic absenteeism in a rural, predominantly Latinx high school in Iowa. Data sources included: (a) semi-structured interviews with district, school, and community leaders, (b) publicly available state, local, and school policy documents, and (c) a review of local media and websites. These educational leaders have unique perspectives of the school and the community, and were asked two broad questions: "How they would describe the culture of attendance of the school?" and "How they, in their institutional role, and the school had	1. School staff 2. District leader	Not specified	No	N/A	N/A	1. Perceived lack of value for education in the family and lenient child rearing practices 2. Immigration status, SES, race/ethnicity (e.g., absenteeism is more frequent amongst students from Latinx and lower-income families)	

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Guadamuz et al., 2019	Quant cross-sectional	N/A	Thailand	School	2070 students grades 7–12 (aged 13–20 years) from 15 secondary schools (n = 2,070) around Thailand.		X				Having ever skipped school without any authorized reasons	Absenteeism item/measure	We categorized participants who reported having ever skipped school without any authorized reasons into a binary (yes, no) variable	Self-report	Lifetime	No	N/A	Illicit drug use	N/A
Gyimah & Yelkperi, 2017	Mixed-methods	N/A	Ghana	School	135 participants were selected, including 20 teachers, 100 students, 10 parents and 5 opinion leaders		X				Truancy	1. Semi-structured questionnaire 2. Semi-structured interview	1. The items in the questionnaire included personal data from the respondent with close-ended and open-ended sections. The research question 1 was on the causes of truancy in Dormaa Senior High School, question 2 was on the influence of truancy on learning, question 3 was on the effects of truancy on youth skills development in the Dormaa-Ahenkro Municipality and question 4 was on measures for curbing truancy in second cycle schools in Dormaa Municipality. The teachers and students were given close ended items and were asked to use a 5-point Likert Scale from 1 to 5 where 1 stood for	1. Teachers 2. Students 3. Parents 4. Opinion leaders	N/A	No	N/A	N/A	1. Peer group pressure 2. Failure of parents to provide the basic needs of their wards 3. Poor monitoring on the part of teachers and parents 4. Lower academic achievement



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						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated										
Hagborg et al., 2018	Quant longitudinal	N/A	Sweden	School	Data from 667 high school girls and 649 boys aged 12-18 (52.1% female, mean age 14.3) was used from the longitudinal multidisciplinary research program LoRDIA (Longitudinal Research on Development In Adolescence).		X				Moderate absenteeism was defined as 5–15% of unexcused absence during one school semester and excessive absenteeism was defined as either 20–50% 50% or more unexcused absence during one school semester	Absenteeism item/measure	Students reported absenteeism via self-report. The question was formulated as: Have you been truant from school this term (at least one whole day of unexcused absenteeism)? Responses were: No, this has not happened, A few times (1–3 times), Many times (4–10 times) and Very often (more than ten times). Since there are no mutual term or exactly defined amount of when unexcused absence is considered problematic in Sweden, definitions had to be constructed for this study. Both the CSN and the Swedish School Inspectorate define 5% of absence for at least one month as problematic absenteeism. The CSN define 10% absence as excessive absenteeism while the School Inspectorate do no such distinction. In some recent Swedish studies, 30% absenteeism has been used as a cut-off for excessive absenteeism. These studies however, focus on students with long, coherent absenteeism (Skolverket, 2010; Strand, Anbäck, & Granlund, 2015; Strand & Granlund, 2014), an issue not addressed in the current study. Since data-gathering were administered one month into the term, one full day of unexcused absence this term equals five hours and about five percent of	Self-report	One school semester	No	N/A		Moderate or excessive absenteeism was associated with history of childhood maltreatment, being less comfortable in school, less positive relationships with teachers, less positive peer climate, higher levels of externalizing symptoms, greater personal, sexual, and ethnic harassment, and greater psychosomatic and internalizing symptoms	N/A

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						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated									
Haight et al., 2016	Qualitative	Not specified	United States	1. School. 2. Home	This article is part of a larger research program examining out-of-school suspensions of 31 black middle- and high-school-age students from the perspectives of the youths, 28 of their caregivers, and 19 educators involved in the disciplinary incident. For this study, participants were four black students, their caregivers (two mothers, one grandmother, and one father), and six educators				X		One incident of an out-of-school suspension	Qualitative Interview	Semistructured, face-to-face individual interviews were conducted with participants at private locations of their choosing, including their homes and offices. With one exception, interviews occurred within one to four months of the suspension. Interviews were conducted by trained social work graduate students or postdoctoral associates. With one exception, interviewers were matched to youths and caregivers on race. Interviews lasted 15 to 60 minutes and were audio-recorded. Each student, caregiver, and educator was asked to describe the events and contexts surrounding the specific	1. Students. 2. Teachers. 3. Caregivers	N/A	No	N/A	N/A	Factors/themes contributing to school suspension: 1. Racial discrimination 2. Discrimination due to learning disability status, including staff non-compliance to student's individualized education program (IEP) 3. Punishment for avoiding class due to experience of sexual objectification/harassment 3. Attributing criminality to misbehaviour and racial identity

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						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated									
					involved in the disciplinary incidents														
Hamlin, 2020	Quant longitudinal	N/A	New York	School	61,684 students (50% male) in grades 6-12 (39% Hispanic, 30% Black, 17% Asian, 14% White)					X	Chronic absence was a dichotomous variable indicating whether a student had been absent 18 or more times during the school year. This threshold for chronic absenteeism coheres with the U.S. Department of Education's (2019) classification of chronic absence.	Information from school records: 1. Total absences (count variable) 2. Chronic absence (dichotomous variable)	1. Total absences was a count variable indicating the total number of absences for a student during the school year. 2. Chronic absence was a dichotomous variable indicating whether a student had been absent 18 or more times during the school year. This threshold for chronic absenteeism coheres with the U.S. Department of Education's (2019) classification of chronic absence	School records	One academic year	No	N/A	Perceived school climate	N/A

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Hancock et al., 2018	Quant longitudinal	School absenteeism and school refusal behavior in youth (Kearney, 2008)	Australia	School	The study commenced in 2004 with two cohorts of children and families who were followed up with every two years, with six waves of data now. We use data from the K-cohort at Wave 6, which includes 3537 children aged 14–15 years.	X	X	X			Number of times in the last six months that an adolescent was absent from school	Absenteeism item/measure	Adolescents were asked how many times in the last six months they were late for school, had cut or skipped classes, were absent from school without parental permission, were absent from school with parental permission, or had got into trouble for not following school rules. Responses for each statement included never, 1–2 times, 3–6 times, 7–9 times, and 10 or more times. Adolescents were then asked about the main reason for their most recent absence. For parent-permitted absences, the available responses included stress, anxiety or depression, tiredness, other illness or medical condition, medical, dental or other specialist appointment, bullying, problems with friends, problems with teachers, to avoid school work, to complete school work, caring for another family member, illness of a family member, out-of-school activities, family events or other reasons. For absences without parental permission, the same responses above were provided, with an additional option for 'pressure from friends to do other things	Self-report	6 months	No	N/A	Academic achievement	N/A

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Haney-Caron et al., 2016	Quant longitudinal	N/A	United States	Juvenile Justice Facility	This study involved secondary analyses of data from a randomized control trial of the Juvenile Justice Anger Management (JJAM) Treatment for Girls (Goldstein et al., 2013). Participants were 60 female youth who had been placed in one of three residential, juvenile justice facilities, two in New Jersey and one in Pennsylvania. Participants ranged in age from 14 to 19 years (Mage: 16.95 years) and self-identified as Black or African American (59.02%), bi- or multiracial (27.86%), White (9.84%), and Asian (3.33%); 31.15% identified as Hispanic and 68.85% identified as non-Hispanic.					X	Number of days of school missed during the previous year	Absenteeism item/measure	Self-reported school attendance rates for the year prior to arrest	Self-report	One academic year	No	N/A	N/A	N/A

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Havik et al., 2014c	Qualitative	N/A	Norway	1. Counseling services 2. Special schools 3. Community organizations	A convenience sample of 17 parents with children displaying or having displayed school refusal were invited to participate. Their children, eight girls and nine boys, were aged from 10 to 18 (mean age 14.7 years) at the time of the interview.	X					Interview about school refusal	Qualitative Interview	A semi-structured interview guide was developed on the basis of central components identified in the literature about school refusal and non-attendance. An introductory open question was used: "Could you please tell us your story about your child in order to try to throw some light on some of the possible reasons for school refusal?"	Parents	Lifetime	No	N/A	N/A	Factors associated with school refusal: 1. Demanding factors in school (e.g., social demands related to peers, disorganized classrooms) 2. Lack of teacher support 3. Lack of support from fellow students 3. Lack of general school support 4. Large class or school size
Havik et al., 2015a	Quant cross-sectional	Conceptual framework for school non-attendance from Kearney (2008)Kearney, C.A. (2008a). Helping school refusing children and their parents: A guide for school-based professionals. New York: Oxford University Press	Norway	School	Students were recruited from 45 schools in seven municipalities in Norway, including a relatively large Norwegian city as well as several towns and rural districts. A total of 5,465 students from the 6th to 10th grades participated (ages 11–15; 51% male and 49% female).	X	X				The number of full days of school non-attendance in the last three months	School non-attendance questionnaireHavik, T., Bru, E., & Ertesvåg, S. K. (2015). Assessing reasons for school non-attendance. Scandinavian journal of educational research, 59(3), 316-336.	The approach used to measure school refusal-related reasons (SR reasons) and truancy-related reasons (truancy reasons) for school non-attendance was developed and documented by Havik et al. (2015b). The items related to SR reasons centered on expectations or experiences of negative emotions while at school, whereas the items on truancy reasons focused on the characteristics of finding school boring and seeking more attractive activities outside school. Each scale had four items and a four-stepscoring format (from 0 to 3): "Never", "Seldom", "Sometimes" and "Quite often". The questionnaire also included an item about the number of full days of school non-attendance in the last three months, which had five response alternatives—none, 1–4 days, 5–7 days, 8–10 days, and more than	Self-report	3 months	No	N/A	1. Poor relationships with peers at school and perceived poor support from teachers is associated with school refusal and truancy	N/A

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						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated									

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10 days—that were scored 0–4. How often have you been absent from school in last three months because ...Truancy-related reasons...you were going to work on something you found boring? ...you had arranged to be with friends? ...you went to do more appealing activities outside school? ...you were tired after playing computer games during the night? School refusal-related reasons...you were afraid or worried about something at school?...you would have felt sad or sorry if you went to school? ...you wanted to avoid unpleasant situations at school? ...you were afraid of making a fool of yourself at school?

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						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated									
Havik et al., 2015b	Quant cross-sectional	Conceptual framework for school non-attendance from Kearney (2008)Kearney, C.A. (2008a). Helping school refusing children and their parents: A guide for school-based professionals. New York: Oxford University Press	Norway	School	A total of 5,465 students aged 11-15 years from the sixth to the tenth grades participated (51% males and 49% females). Students were from 45 different schools. The students who reported being absent for any full school days in the last three months were included in further analyses about the reasons for school non-attendance, resulting in a subsample of 3,629 students (49.6% males and 50.4% females).	X	X	X			The number of full days of school non-attendance in the last three months	School non-attendance questionnaireHavik, T., Bru, E., & Ertesvåg, S. K. (2015). Assessing reasons for school non-attendance. Scandinavian journal of educational research, 59(3), 316-336.	The questionnaire asked students to consider their non-attendance during the last three months and indicate the reasons for their school non-attendance. It was assumed that the reasons would be related to (1) somatic symptoms, (2) subjective health complaints, (3) truancy, and (4) school refusal. All the items had four response alternatives—never, seldom, sometimes, and quite often—that were scored 0–3. The questionnaire also included an item about the number of full days of school non-attendance in the last three months, which had five response alternatives—none, 1–4 days, 5–7 days, 8–10 days, and more than 10 days—that were scored 0–4. How often have you been absent from school in last three months because ...Somatic symptoms (factor 1)... you had a bad cold or flu?... you felt nauseated and threw up/vomited? ... you had another sickness? ... you had a fever? Subjective health complaints (factor 2)... you had a headache? ... you had a stomach ache? ... you had muscle pain? ... you felt unwell? ... you felt tired/worn-out? Truancy-related reasons (factor 3)...you were going to work on something you found boring? ...you had arranged to be with	Self-report	3 months	No	N/A	1. Somatic symptoms (e.g., cold, flu, nausea/vomiting)2. Subjective health complaints (e.g., headache, stomach ache, muscle pain)	N/A

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Hayes, 2012	Quant cross-sectional	1. Relations of parenting style and parenting involvement (Paulson, 1994)2. Parental involvement and adolescents' educational expectations (Trusty,	United States	School	145 parents/guardians of urban African American high school adolescents			X	X		1. Number of school days missed in one academic year2. Number of discipline referrals	Absenteeism item/measure:1. Days Missed2. Discipline Referrals	1. School absentees were measured from parental reports of how many days of school their children missed during the school year. The measure was based on a 3-point rating scale (0 = zero days absent, 1 = 1 – 5 days absent from school, & 2 = more than 5 days absent from school).2. Negative adolescent behavior was measured from parental	Parent-report	One academic year	No	N/A	Greater parental home-based involvement (parent-adolescent communication about school and learning) was associated with fewer missed school days	N/A

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		1999)																	
Heerde et al., 2020	Quant longitudinal	1. Life-course theory (Elder et al., 2003; Hser et al., 2007) 2. The social development model (SDM; Catalano & Hawkins, 1996).	1. Washington, USA 2. Victoria, Australia	School	1945 young adults (51% female; n = 984 in Victoria), ranging between 12 and 16 years of age (mean = 13.01 years). Participants were initially recruited as adolescents in state-representative secondary school samples at age 12 years and have been followed to age 25 years.				X		Number of times in past year that a participant was suspended from school	Absenteeism item/measure	reports of the number of discipline referrals their children received from school during the school year. The measure was based on a 3-point rating scale (0 = zero discipline referrals, 1 = 1 – 2 discipline referrals, & 2 = more than 2 discipline referrals)	Self-report	1 academic year	No	N/A	School suspension at age 15 mediated the association between less positive family management strategies at age 13 and age 25 homelessness	N/A
Heerde et al., 2020	Quant cross-sectional	N/A	United States	School	The current study analyzes longitudinal data from the International Youth Development Study (IYDS). Data comes from the grade 7 cohort extracted from early-mid adolescence (grade 7 [2002], grade 8 [2003], and grade 9 [2004]) and young adulthood (2014), as this				X		The number of times in the past year that a student was suspended from school	Suspension variable from the International Youth Development Study (IYDS)  McMorris, B. J., Hemphill, S. A., Toumbourou, J. W., Catalano, R. F., & Patton, G. C. (2007). Prevalence of substance use and delinquent behaviour in adolescents from Victoria, Australia and Washington State, United States. <i>Health Education &amp; Behavior</i> , 34, 634–650.	The item, “How many times in the past year have you been suspended from school?” measured suspension.	Self-report	One academic year	No	N/A	School suspension in adolescence increased risk for young adult homelessness	N/A

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					was the cohort chosen for long-term follow-up in the USA, and therefore has the most complete data in both states at these time points. The analyzed sample consisted of 1945 participants (n = 984 [50.6%] in Victoria). In 2002, 989 (51%) participants identified as female. The sample age ranged between 12 and 16 years (mean (M) = 14.01 years). The majority of the Victorian sample identified as Australian (91%) and the Washington State sample had a majority identifying as white (65%). In 2014, the sample ranged in age between 23 and 27 years (M [SD] = 25.14[.84]) and female participants formed 53% (n = 966) of the sample.							<a href="https://doi.org/10.1177/21090198106286272">https://doi.org/10.1177/21090198106286272</a> .							

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Hemez et al., 2019	Quant longitudinal	Life-course perspective (Elder, 1985; Farrington, 2003; Laub & Sampson, 1993; Sampson & Laub, 2003)	United States	School	To explore the relationship between school suspension and incarceration, we use the first 15 rounds of the National Longitudinal Survey of Youth 1997 (NLSY97). Sponsored by the Bureau of Labor Statistics, the NLSY97 collects information on a variety of topics including the educational and employment outcomes of adolescents as they transitioned into adulthood. The initial sample consisted of 6,748 nationally representative respondents who were between the ages of 12 and 16 in 1997 (born between 1980 and 1984), as well as an oversample of 2,236 Black and Hispanic adolescents, resulting in an initial sample size of 8,984 respondents. Yearly interviews were conducted for the first 15 rounds (1997–2011), with the survey switching to a biennial design after 2011.				X		Having ever been suspended from school	1. Suspension variable (binary) 2. Total number of grades in which respondents received suspension. From: National Longitudinal Survey of Youth 1997 (Moore et al., 2000) <a href="https://www.nlsinfo.org/sites/default/files/attachments/121221/TechnicalSamplingReport.pdf">https://www.nlsinfo.org/sites/default/files/attachments/121221/TechnicalSamplingReport.pdf</a>	1. Suspension experience during the 7th through 12th grades serves as the independent variable. To capture this measure, we draw on data from two questions in the first round of the NLSY97 that asked: “Have you ever been suspended from school?” and “In what grade(s) did this happen?” Similar questions were asked during subsequent rounds: “Were you suspended from school since the last interview?” and “In what grades did this happen?” Using responses to these questions, we create two measures of suspension experiences. The first measure represents individuals who were ever suspended during Grades 7 through 12 as a dichotomous measure (1 = ever suspended, 0 = never suspended). 2. The second measure captures the total number of grades in which respondents reported receiving a suspension. This ranged from 1 (suspended in one grade) to 6 (suspended in all grades).	Self-report	Lifetime	No	N/A	Suspension during grades 7–12 is significantly associated with greater odds of incarceration in young adulthood	N/A

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Hemphill et al., 2014	Quant longitudinal	N/A	1. United States 2. Australia	School	Although the NLSY97 suffers from some attrition, more than 80% of the original sample is retained during the first 15 rounds of the survey.  Participants were seventh grade students enrolled in the International Youth Development Study (IYDS) (N = 1945), followed up in grades 8 (N = 1832) and 9 (N = 1796). The IYDS used standardized methods in Washington State, United States and Victoria, Australia. The sample was composed almost entirely of 12- and 13- year-olds in both states. Boys and girls were equally		X		X			1. The number of times in the past 12 months a student was suspended from school 2. The number of whole days a student missed because they skipped or 'cut/wagged' during the last 4 weeks	Absenteeism item/measure	1. School suspension was measured using the item: "How many times in the past year (12 months) have you been suspended from school?" 2. Truancy was assessed with the item: "During the last 4 weeks how many whole days have you missed because you skipped or 'cut/wagged'?" Owing to the skewness of the data, these 2 items were recoded to form a dichotomous measure; none or never scored as "absent" (0) and a score of 1 or greater scored as "present" (1).	Self-report	1 academic year	No	N/A	Alcohol use and heavy episodic drinking in 7th grade were associated with greater likelihood of both suspension and truancy in 8th and 9th grade	N/A

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					represented.														
Hill & Mrug, 2015	Quant cross-sectional	N/A	United States	School	This study utilized data collected with the PRIDE Survey in a single metropolitan area in the Southeastern U.S. The sample includes 23,615 middle school and high school students attending grades 6–12 (approximately 80% participation rate). The mean age of the students was 14 years old. The sample comprised 47% males and 53% females. Racial/ethnic composition of the sample was 53% African-American, 41% Caucasian, 2% mixed, 2% Hispanic, and 2% other. School-level data were obtained from 42 middle schools (grades 6–8, ages 12–14) and 24 high schools (grades 9–12, ages 15–18).					X	The number of school days missed in one academic year	Information from school records	School absenteeism was calculated as 100 minus the Average Daily Attendance rate reported by each school. Average Daily Attendance rate is computed as the number of days each student attended school during the academic year, summed across all students and divided by the number of students and the number of school days in the academic year. Thus, school absenteeism indicates the average percentage of school days missed by an average student during the school year.	School records	One academic year	No	N/A	Higher absenteeism were related to alcohol, marijuana, and combined substance use, particularly at lower grade levels	N/A

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Holt et al., 2013	Quant cross-sectional	N/A	Singapore	School	3096 youth participated in the study (2,303 males (55.5%) and 1,844 females (44.5%)) across 2 primary and 8 secondary schools in Singapore in 2006. These schools were located across the country, and incorporated students from all social, economic, and cultural backgrounds.	X					Having skipped school due to bullying on at least one occasion	Absenteeism item/measure	Participants were asked, "Have you ever stayed away from school because of bullying?" This item was written to encompass the individual experience of bullying victimization, as well as prospective concerns over bullying within their school generally. Four response categories were provided, including: (1) No, I've never thought of doing so; (2) No, but I've thought of doing so; (3) Yes, I have once or twice; and (4) Yes, more than twice. The modal response category was no (78.5%), though 12% thought of skipping school, 3.4% had skipped once or twice, and 1.6% had done so more than twice over the last year. Due to the limited variation, the responses were dichotomized into whether the respondents had never thought of skipping school (option 1 ¼ 0) and whether they had either contemplated or actually did skip school (options 2–4 ¼ 1; see Table 1).	Self-report	Lifetime	No	N/A	Bullying victimization	N/A
Holtes et al., 2015	Quant cross-sectional	N/A	Netherlands	School	1167 secondary school students of Dutch ethnicity (53.7% male, Mage: 15.9 years).		X				Number of hours that an adolescent spent truanting in the past 4 weeks	Absenteeism item/measure	Truancy was assessed by the question: "Have you ever been truant in the past 4 weeks?" (no to more than 20 hours). For analyses purposes, truancy was dichotomized into: never and 1 or more hours.	Self-report	1 month	No	N/A	Greater alcohol consumption, including binge drinking	N/A

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Houck et al., 2012	Quant cross-sectional	N/A	New England, United States	School	Between 2007 and 2009, 138 7th grade adolescents from 3 New England public middle schools participated in an HIV prevention intervention study for at risk youth. The current study used data from baseline adolescent assessments completed on audio computer-assisted self interview. The total sample was 51% male; participants' average age was 13.14 years. The racial composition of the sample was 38% white, 25% African-American, and 12% other categories (25% provided no response); 38% identified as Latino		X					Students were described as havin a history of truancy if they had ever missed school without a valid excuse	Youth Inventory-4  Gadow KD, Sprafkin J. Adolescent Supplement to the Child Symptom Inventories Manual. Stony Brook, NY: Checkmate Plus; 1995	Students completed the item "I skip school" ("never," "sometimes," "often," or "very often") from the Youth Inventory-4, a screening tool for common emotional and behavioral disorders. Responses other than "never" were considered to indicate a history of truancy.	Self-report	Lifetime	No	N/A	Teens who reported a history of skipping school indicated greater frequency of having ever engaged in oral, vaginal, and anal sex, as well as nonintercourse sexual behaviors. They also reported less value in remaining abstinent but did not demonstrate differences in HIV knowledge or school connectedness	N/A
Hughes et al., 2017	Quant cross-sectional	1. Racial Threat (Blalock, 1967) 2. Intergroup Contact (Allport, 1954)	Florida, United States	School	Across 66 of the 67 school districts in the state of Florida, 335 public middle schools and 313 public high schools are included in this sample				X			The number of suspensions for Black, Hispanic, and White students in one academic year	Information from school records	Black, Hispanic, and White suspension counts over one academic year (an average is provided across all schools included in the sample)	School records	One academic year	No	N/A	1. Larger racial and ethnic student populations within schools increase the likelihood of suspensions for Black and Hispanic students while decreasing suspensions for White students. 2. Higher levels of intergroup contact between Black, White,	N/A

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						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated										
Hughes, 2022	Quant cross-sectional	1. Foucault's (1977) carceral continuum perspective2. Place-based stratification theory (Shaw & McKay, 1942)Foucault, M. (1977). Discipline and punish: The Birth of the prison. Vintage.Shaw, C. R., & McKay, H. (1942). Juvenile delinquency and urban areas. University of Chicago Press	Florida, United States	School	The data for this study combine 2011–2013 school and school district data from the Florida Department of Education (FDOE) with incarceration data from the Florida Department of Corrections (FDOC), county-level demographic data from the U.S Census and crime data from the Uniform Crime Report. Across 66 Florida counties (or school districts), 287 public middle schools and 272 public high schools were randomly sampled				X		The number of out-of-school suspensions a student received in one academic year	Information from school recordsa. Total suspension rateb. Black suspension ratec. Hispanic suspension rated. White suspension rate	This study utilizes the total out-of-school suspension rate and race-specific suspension rates for Black, Hispanic, and White students during the 2011–2012, 2012–2013 school years. These measures capture the rate (per 100 students) of suspension for the total student population in addition to Black, Hispanic, and White students, respectively, for each school in the sample. These suspension rate measures were averaged across the two academic years to adjust for possible fluctuations.	School records	One academic year	No	N/A	and Hispanic school board members are associated with a lower likelihood of suspensions for all students.	1. Black and Hispanic students are more likely to be suspended in places with higher incarceration rates; 2. All students are more likely to be suspended in places with greater concentrated disadvantage;3. Black and Hispanic students are significantly more likely to be suspended when attending schools in places with high incarceration rates and greater concentrated disadvantage.	N/A
Hysing et al., 2015	Quant cross-sectional	N/A	Norway	School	8346 adolescents aged 16-19 years (54% female)		X				Substantial school absence understood as 10 or more full-day absences OR more than 19 hours of absence in past semester (6	Information from school records	Number of full days and number of school hours of absence during the last semester (6 months)	School records	One semester (6 months)	No	N/A	Sleep difficulties	N/A	

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Hysing et al., 2017	Quant cross-sectional	N/A	Norway	School	10,243 Norwegian adolescents aged 16–19						X	months). Used the 90th percentile as a cutoff	Number of hours and days of non-attendance at school over the past semester (6 months)	Information from school records	Non-attendance at school over the past semester (6 months) was assessed using official register-based data provided by Hordaland County Council. For the purpose of the present study, we used both the continuous variable (mean of days and hours), as well as categorical variables using the quartiles as cut-offs based on the continuous variable.	School records	6 months	No	N/A	1. Parental work absenteeism 2. Adolescent symptom complaints (e.g., headache, abdominal pain, back pain, dizziness and pain in neck/shoulder)	N/A
Hysing et al., 2019	Quant cross-sectional	N/A	Norway	School	10,220 adolescents aged 16-19 years (54% female)						X	Both days and school hours of absence for the last semester (6 months)	Information from school records	Both days and school hours of absence for the last semester (6 months)	School records	One academic semester or six months	No	N/A	None	N/A	
Ingul et al., 2012	Quant cross-sectional	Kearney's (2008) definition of problematic absence	Norway	School	865 adolescents (52.3% female) ranging in age from 16 to 21, with a mean age of 17.18 years and standard deviation of 1.15 years.	X					X	Number of days absent from school in previous semester	Absenteeism item/measure	Absenteeism from the school during the past semester was reported for each participating pupil in terms of days and hours by teachers. School reports did not differentiate between problematic and unproblematic absence. A total absence was calculated and pupils were divided into three groups: those having no absence (<1.5 days of absence), those having normal absence (>=1.5 and < 13.5 days of absence), and those having high absence (>=13.5 days (15%)). The cut-off for the high absence group was in line with Kearney's (2008)	Teachers	One semeste	No	N/A	1. Externalizing problems, including panic/somatic disorders, depression, hyperactivity, and conduct problems (DSM-IV disorders). 2. Chronic illness 3. Parental absence from work (i.e., long-term unemployment)	N/A	

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Inoue et al., 2018	Quant longitudinal	N/A	Japan	School	17,378 junior high school students in Japan			X										1. Lower life satisfaction 2. Lower adjustment to learning 3. Difficulties in interpersonal relationships (e.g., lower teacher support, friendship, social skills, and non-intrusive relationships)	N/A
Inthaphatha et al., 2021	Quant cross-sectional	N/A	Laos, Asia	School	1,366 girls aged 13-19 years across six secondary schools (Mage: 15.8 years)			X										1. Experiencing dysmenorrhea to the extent that pain needs to be treated 2. Being stressed, irritated, and anxious during menstruation	N/A

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Iverson et al., 2016	Quant cross-sectional	N/A	Washington	School	937 adolescents (53.3% male, 44.7% Hispanic/Latino, 37.6% White) between the ages of 12 and 19 years attending public schools.		X		X		Data were provided by Washington State Center for Court Research (George et al., 2015), representing children for whom a court petition was filed with the state due to excessive absenteeism, in accordance with Washington state statutory law (BECCA Bill, 1995, E2SSB 5439).	Absenteeism item/measure	Youth responded to a set of demographic questions asking about their behaviors such as arrests and suspensions from schools. The arrest and suspension data were collapsed such that individuals fell into never arrested (0) or arrested (1), and suspended twice or less (0) or three times or more (1).	Self-report	Not specified	No	N/A	1. Aggression/Defiance (Greater) 2. Depression-Anxiety (Greater) 3. Substance Abuse (Greater) 4. Peer Deviance (Greater) 5. Family Environment (Lower quality) 6. School Engagement (Lower) *Measured according to the Washington Assessment of the Risks and Needs of Students (WARNS; George et al., 2015)	N/A
Johannessen et al., 2020	Qualitative	N/A	Norway	School	In total, 17 school nurses and 25 teachers gave their informed consent and 11 focus group interviews were conducted (five groups of teachers, five groups of school nurses and one group consisting of three teachers and one school nurse from a special school for immigrants). All participants were ethnic Norwegians, six of the teachers were males and 19 were females. All of the school nurses were females. The ages of the teachers	X		X		Not specified but interview about school withdrawal	Focus groups	The interviews were carried out at the participants' workplace. The interviews lasted approximately 90 min and all of the participants were active during the focus group sessions. The interviews were organized around a semi-structured interview guide. The questions addressed the participants' experiences with the expression of pain by adolescents, how the adolescents handled pain themselves, and what the teachers and school nurses did when they encountered adolescents with pain. All of the groups were asked explicitly about their experiences with ethnic minorities.	1. School nurses 2. Teachers	Not specified	No	N/A	N/A	Pain associated with absence from school. Pain understood as a complex phenomenon encompassing physical ailments and psychological stress related to immigration and the students' futures	

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Kansiime et al., 2020	Mixed methods	Social Cognitive Theory (Bandura, 2004)	Uganda	School	ranged from 29 to 62 years and they had 3-40 years of experience in schools. The ages of the school nurses ranged from 27 to 65 years with 2-34 years of experience as a school nurse. 369 students (188 girls; 81.0%; and 181 boys; 83.0%) participated in the endline survey. At baseline, the mean age was 15.4 years (SD 1.31; range 12–20) for girls and 16.2 (SD=1.5; range 13–21) for boys. The majority (n=361; 80.2%) were Christian and 198 (44.0%) were of Ganda ethnicity.			X			Number of days of missed school due to menstruation	Absenteeism item/measure	Students self-reported the days they missed school due to menstruation in daily diaries for the duration of one school semester (pre-intervention) and one semester (post-intervention)	Self-report	One school semester	Yes, the Menstrual Hygiene Management (MHM) Intervention titled MENISCUS (Kansiime et al., 2020)	The intervention consisted of the following. 1. Puberty education: We used a training of trainers model in which WoMena Uganda worked with an educational consultant and her assistant to train 30 teachers from the two schools to improve delivery of Ugandan Government guidelines for puberty education to their students. The trained teachers were expected to develop a plan for delivering puberty training in their school and deliver the specified number of sessions to both male and female students. 2. Drama skit: To address stigma, attitudes and psychosocial issues about menstruation, WoMena Uganda facilitated students, with support from the school drama teacher, to develop and perform drama skits. Topics included managing pain, teasing, parental responsibilities for supporting girls with menstruation and tracking the menstrual cycle. 3. Menstrual management kit: A kit, including a pack of four AFRipads reusable menstrual pads, a small towel, soap, water bottle, underwear, a mirror and menstrual calendar, was distributed to all girls in S2. WoMena Uganda trained teachers and prefects to deliver education sessions on menstruation to girls and boys on MHH, pain relief strategies such as stretching, using a hot-water bottle and use of the reusable	Menstruation	Menstruation

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						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated									
																pads to girls only			
Karlberg et al., 2020	Quant longitudinal	N/A	Sweden	School	2770 students followed from 7th to 9th grade (aged 13-16 years) and 4542 teachers					X	Absenteeism was defined as missing more than 2% of the school year due to unauthorized absences (approximately four full days of unauthorized absence across the academic year)	Information from school records	Registered unauthorized hours of absenteeism was used as the dependent variable, dichotomized above 16 h (over 2% of school time) versus less than 16 (less or equal to 2%)	School records	One academic year	No	N/A	Student positive ratings of school climate (measured using the Pedagogical and Social Climate Questionnaire (PESOC; Grosin, 2004) were associated with lower unauthorized absences between ages 13 and 16.	N/A
Kathryn et al., 2014	Quant longitudinal	Routine Activity Theory (Cohen and Felson 1979; Felson 1998)	1. Pennsylvania 2. Arizona	Court System	Data for the present analyses were drawn from a sample of 1,354 adolescents (1,170 males and 184 females) participating in the Pathways to Desistance study, a prospective study of serious juvenile offenders in two major metropolitan areas (see Schubert et al. 2004 for complete details of study methodology). The enrolled adolescents were between 14 and 17 years of age at the time of committing a serious felony offense for which they were adjudicated. The mean age of the		X		X		Whether or not a student reported truancy or suspension or expulsion in a given month	1. Monthly suspension or expulsion from school 2. Monthly truancy from school	1. Adolescents reported if they had been enrolled in secondary school from which they were able to be suspended, expelled, or truant (i.e., not an institution school or college or junior college setting) at any point in the recall period. If an individual endorsed that he (or she) had been enrolled in school, the months when school was in session were labeled on the life calendar. Of the months that school was in session, youth reported on the number of days that he (or she) had been suspended or expelled from school in a given month. Based on this variable, we calculated a binary variable that indicates whether or not a youth reported suspension or expulsion in a given month.  2. Youth also reported on whether or not he or she	Self-report	6 months	No	N/A	Youth who are out of school (via suspension, expulsion, or truancy) will be more likely to be arrested in that same month.	N/A

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Kearney & Hendron, 2016	Quant cross-sectional	Response to Intervention Model  Kearney, C. A., & Graczyk, P. A. (2014). A response to intervention model to promote school attendance and decrease school absenteeism. <i>Child and Youth Care Forum</i> , 43, 1–25. doi:10.1007/s10566-013-9222-1	Nevada, United States	1. Family courts and services center 2. Truancy diversion program	sample is 16 years and the sample is primarily Black (41.5 %), followed by Hispanic-American (33.5 %), non-Hispanic White (20.2 %), and other ethnicities (4.8 %)  Participants included 398 middle and high school students ages 11 through 19 years (M = 14.41; SD = 1.80 years). Youths identified as Hispanic (66.9 percent), African American (9.7 percent), European American (7.9 percent), other (6.9 percent), multi-racial or biracial (4.6 percent), Asian American (2.3 percent), and Native American (1.3 percent). Slightly more than half were male (52.9 percent).		X				Students who had approached or exceeded the legal limit of 10 absences in a 15-week semester	Information from school records	had been truant from school in a given month using the life calendar technique. A binary variable was calculated to indicate whether or not an adolescent had been truant from school in each month  School staff provided a total number of absences for 106 of the participants (data were unavailable for other participants). Total number of school days missed during the academic year was divided by the total number of school days possible for that academic year (at the time of consent and data collection) and multiplying by 100	School staff	One academic year	No	N/A	Absenteeism (truancy) was associated with negative student perceptions of school climate, as measured by the School Climate Survey Revised Edition (SCS; Emmons, Haynes, & Comer, 2002).	N/A

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						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated									
Keppens et al., 2019	Quant cross-sectional	N/A	Belgium	School	The LiSO project follows a cohort of 6457 students in 57 schools who started secondary education in the school year 2013–2014 (Stevens et al., 2015). A regional sampling strategy was used whereby nearly all students in the targeted cohort who attended school in the target geographic region were included in the study (Dockx et al., 2019). For the present study, data were used from wave 4 (T4) which was gathered at the end of the fourth year (May 2017) of secondary education (age 15–16). T4 is the only wave that included items gauging self-reported school absenteeism. The total sample of students in T4 consisted of 6545 students in 53 schools. Within this sample, 4344 students completed the questionnaire in a valid way resulting in a total response rate of	X	X	X			The number of times a student skipped school without a valid reason in the current school year (includes explanation for absence)	1. Absenteeism item/measure2. Information from school records	Self-reported unauthorized school absenteeism was measured through the following question: “How many times did you skip school without a valid reason in the current school year?” Students who reported to have skipped school at least once were asked about whether their parents knew about the absence and if so whether they approved the absence. These characteristics allowed us to differentiate between three types of SAP: truancy, school refusal and school withdrawal. 2. Pre-planned truancy was measured by asking students who reported to have skipped at least once whether their unauthorized absences were discovered by the school staff. Self-reported authorized absenteeism was measured by asking: “How often were you absent from school for a valid reason this school year due to family or personal reasons (e.g., death of a friend or family member) or illness (I had a valid note from my parents or the doctor)?”. Respondents answered on a Likert-scale ranging from 1 (never) to 5 (more than 10 times).	1. Self-report2. School records	One academic year	No	N/A	N/A	N/A

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						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated									
					66.69%.														
Keppens, 2022	Quant cross-sectional	Not specified	Belgium, Europe	School	A random sample of 10% (n = 6260) of all pupils enrolled in the fourth year of secondary education (which equates to students of ages 15–16 years if they have followed a standard trajectory) in the 2014–15 school year. 51.04% of the participants were boys and 12.80% spoke a foreign language at home. The mean age of the study population was 16.38 years (SD = 0.69)					X	One school absence is registered as a half school day of non-attendance	Information from school records	This study's key measure of interest was within-student sequences in school non-attendance. An important asset of the administrative database that I utilized was that it contains a range of data on school absenteeism that allows for the study of such sequences. In Flanders, school non-attendance is registered twice a day (during the first lesson of the day and the first lesson in the afternoon) by teachers or the school administration (Keppens et al., 2019). Schools automatically report these registered absences to a centralized database (DISCIMUS) that is operated by the Flemish Ministry of Education and Training through unique student and school identification numbers. Each half school day of non-attendance is timestamped and linked to these identifiers. The	School records	One academic year	No	N/A	Youth with greater school absenteeism: 1. Speak a foreign language at home 2. Come from families that earned less than €53,816 per year (48.51%) 3. Live in a deprived neighborhood 4. Have a lower educated mother 5. Have poorer end-of-year examination results	N/A

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Kim & Gentle-Genitty, 2020	Quant cross-sectional	Transformative School-Community Collaboration (TSCC; Kim, 2017)	Indiana	School	3428 students across 14 schools. About 53% were female (n = 1726) and 59% were White (n = 2024). More than 56% of students (n = 1905) were aged 6–15 years, whereas about 44% were aged 16–20 years.					X	Days of missed school in the last school year	Absenteeism item/measure	2014–15 school year started for the pupils in the sample on September 1, 2014, and ended on June 30, 2015. In Flanders, a school day in compulsory education normally begins around 8:30 and finishes around 16:00. Schools work with full days on Monday, Tuesday, Thursday, and Friday and a half-day only (from 8:30 to 12:00) on Wednesdays. A regular school week in Flanders thus consists of 9 half school days. By inserting half school days of presence sequentially across these timestamped half school days of non-attendance, I constructed for each student in the sample a sequence of 329 subsequent occurrences of half school days attendance and non-attendance (which equals the sum of all half school days in the 2014–15 school year).	Self-report	One academic year	No	N/A	Lower school-community collaboration	N/A

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Kirksey, 2019	Quant longitudinal	N/A	California	School	This study used pre-registered secondary data from a California school district and the sample size of participants is not specified. Demographic information provided includes participants being 52% Male, 78% Hispanic, 5% Asian, 4% Other Race, 1% Black				X	X	Number of classes and full school days missed in one academic year	Information from school records: 1. Percentage of school days missed 2. Percentage of classes missed 3. Discipline data	absenteeism (3–10 days of absence), and high absenteeism (11 or more days of absence).  1. Number of school days missed per academic year was obtained from school records and the percentage was reported. 2. Number of classes missed per academic year was obtained from school records and the percentage was reported. 3. Discipline information is given on a per incident basis. Discipline variables were created to represent the total number of in-school and out-of-school suspensions received by a student each school year (reported in %).	School records	1 academic year	No	N/A	Absenteeism was negatively associated with course grades, overall GPA, and likelihood of school dropout	N/A

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Klein et al., 2020	Quant cross-sectional	N/A	Scotland, Europe	School	This research uses data from the Scottish Longitudinal Study (SLS), which is a large-scale anonymized record linkage study in Scotland. Our study sample consists of 4620 students in their final year of compulsory schooling. We adjust our multivariable analysis with the following confounders: student sex (53% boys; 47% girls), place of residence (22% rural; 78% urban), ethnicity derived from parental information (97% "White"; 3% "Other ethnic background"), and the child's age at school stage S3 (Mean = 14.06 years; SD = 0.28).	X	X	X	X		The number of half-days students missed school due in their final year of compulsory schooling	Information from school records1. Overall absenteeism2. Sickness-related absenteeism3. Truancy4. Temporary exclusion5. Absence due to family holiday	1. Overall absenteeism was measured as the proportion of half-days a pupil was absent from school in their final year of compulsory schooling, regardless of the reason for being absent. Students in Scotland attend school for half a day (commonly eight 40-minute sessions with breaks; 27 h per week). To account for differences in the number of possible half-days between different school authorities and students, we divided the total number of half-days attended by the total number of possible half-days for each student in a given school authority. We subtracted the resulting proportion from one to obtain the proportion of overall absenteeism. 2. Sickness-related absence refers to the proportion of half-days, a pupil was absent from class due to sickness and for which no alternative educational arrangement was provided. This includes any time where a pupil is off sick, with proof of illness such as a parental letter or medical certificate. The percentage of half-days students missed school due to sickness absence in the final year of compulsory schooling was calculated.3. Truancy measures the proportion of half-days a student was absent and for which the	School records	One academic year	No	N/A	Adolescents from more deprived areas, living in socially rented housing, coming from households with lower levels of parental education and social class, and registered for free school meals were more frequently absent from school than their peers from more advantaged backgrounds.	N/A

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Kljakovic & Kelly, 2019	Mixed methods	N/A	England	1. Alternative education program 2. Mental health service agency	Qualitative part of this study Three group interviews were conducted. The first was held with Individual Tuition programme (IT) professionals (n = 5), the second with Tower Hamlets Child and Adolescent Mental Health	X					Interview topic was school refusing adolescents	Qualitative interview	student did not provide an adequate explanation. The percentage of half-days students missed school due to truancy in the final year of compulsory schooling was calculated. 4. Temporary exclusion refers to a situation in which a student is suspended from school for a fixed period. It was measured as a binary variable indicating whether a student had ever been excluded (1) or not excluded (0) during the school year. The percentage of students that were temporarily suspended from school at least once in the final year of compulsory schooling was recorded. 5. Absence due to family holidays is a binary variable indicating whether families have taken their children out of school to go on holidays (including authorized and unauthorized) at least once during the final year of compulsory schooling (1) or not (0).	1. Professionals	Not specified	No	N/A	N/A	Themes that emerged from the discussion of problems and factors maintaining school refusal include parental factors (e.g., parent-child relationships, difficult relationships between services and parents), psychosocial factors

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Kookana et al., 2016	Quant cross-sectional	N/A	India	School	Services professionals (n = 4), and the third with managers at Tower Hamlets local authority, the PRU and CAMHS (n = 5). Each interview was conducted using a semi-structured interview schedule.			X		X	The total number of days a student was absent in one month	1. Absenteeism item/measure 2. Information from school records	1. The survey questionnaire was designed following the principles suggested by Thayer-Hart et al. (2010) and implemented by face-to-face interviews. A set of 45 questions were designed to elicit responses to the following items, namely (i) students background such as parents' educational status; (ii) demand on students' time for assistance in home duties and possible impact on school attendance and educational opportunities and (iii) perceived water scarcity and water quality issues. Data on drinking waters in schools and toilet facilities were obtained from the school administration at the same time. The survey questions were of three types: dichotomous (i.e. Yes/No); closed questions with multiple choice options and a small number of open-ended questions to allow for additional responses.	1. Youth 2. School records	One month	No	N/A	Groundwater scarcity is associated with school absenteeism as a consequence of the demand on students' time for household work (e.g., fetching drinking water)	N/A	(e.g., bullying/victimization and diverse identities), mental health problems, system barriers, incongruent goals between families and professionals, and societal pressure to succeed in education.

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Koutra et al., 2011	Quant cross-sectional	N/A	Greece	School	320 high school students aged 14-19 years (53.4% female)	X	X	X	X		At least one absence (full day or single hour) or suspension from school during past year	Absenteeism item/measure	<p>Scale-based questions were avoided to address divergence in levels of student numeracy.</p> <p>2. Data on school attendance of students from year 8 were collected from three schools in Dharta watershed over a period of three years (academic years 2010–2013). For this purpose, monthly summary sheets of students' attendance records were procured from the principals of participating schools. The data were collected on an anonymous basis (only gender was noted) from those schools that were willing to participate. In total, the data represented the school attendance of 232 students of 8th year. Frequency distributions were calculated comparing the average number of days missed by female and male students (as a proportion of total student numbers) in a given month</p>	Self-report	One academic year	No	N/A	Greater alcohol consumption associated with higher number of absences (general) and suspensions	N/A

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Kramer et al., 2017	Quant cross-sectional	N/A	New York, United States	Hospital	104 adolescent inpatients with BPD aged 13-17 years (94.2% female, 30.3% Non-White, Mage: 15.7 years) compared with 60 age-matched psychiatrically healthy comparison subjects (83.3% female, 33.3% Non-White, Mage: 14.8 years)				X		Number of students who were suspended or expelled from school	Suspension/expulsion measure from the Background Information Schedule (Adolescent version)  Zanarini MC. Background Information Schedule: adolescent version (BIS-AV). Belmont: McLean Hospital, 2006.	Number of students who were suspended or expelled from school	Self-report	Not specified	No	N/A	Patients with BPD were significantly more likely to have been suspended or expelled from school	N/A
Krisdapong et al., 2013	Quant cross-sectional	N/A	Thailand	School	1063 children aged 12 years (50.4% female) and 811 children aged 15 years (51.8%) from the Sixth Thailand National Oral Health Survey.			X			Number of school absences in the current semester due to toothache (3 months)	Absenteeism item/measure	Students reported their history of school absence due to toothache in the current semester by reporting the number of days absent in this period.	Self-report	One academic semester	No	N/A	Toothache	N/A
Kuhlmann et al., 2020	Quant cross-sectional	N/A	Missouri, United States	School	58 female students in grades 9-12			X			Last school year, having missed school for any reason related to a period	Absenteeism item/measure	1. Last school year, missed school for any reason related to a period (yes/no) 2. Last school year, missed school due to period for the following reasons: a) Pain or cramping with your period - Never - 1 day some months but not all - 1 day each month) - More than 1 day each month b) Heavy bleeding with your period - Never - 1 day some months but not all - 1 day each month - More than 1 day each month c) A bad odor during your periods - Never - 1 day some	Self-report	1 academic year	No	N/A	Missing school was associated with menstruation, specifically, an inadequate supply of period products	N/A

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Kumbeni et al., 2021	Quant cross-sectional	N/A	Ghana	School	705 adolescent girls aged 12-19 years			X			Whether or not a student was absent from school due to menstruation-related issues during the last menstruation	Absenteeism item/measure:1. Menstruation-related school absenteeism2. Number of days absent in a month	months but not all - 1 day each month - More than 1 day each month d) Not having adequate products to manage period - Never - 1 day some months but not all - 1 day each month - More than 1 day each month	Self-report	Duration of one menstruation (approximate 4-7 days)	No	N/A	Menstruation	N/A
Kupchik & Catlaw, 2015	Quant longitudinal	Methodological strategy from McFarland and Thomas (2006)	United States	School	We used participant data from Add Health, a longitudinal, nationally representative sample of adolescents who were in Grades 7 to 12 in the 1994-1995 school year. It includes a cluster sample of 80 high schools selected from a				X		Having ever been suspended from school	Absenteeism item/measure	Our individual-level variable is dichotomous, indicating whether each respondent had ever been suspended from school (by Wave 1).	Self-report	Lifetime	No	N/A	Young adults with a history of school suspension are less likely than others to vote and volunteer in civic activities years later, suggesting that suspension negatively impacts the likelihood that youth engage in future political and civic activities.	N/A



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Kupchik et al., 2022	Quant longitudinal	1. Social-cognitive theory (Bandura, 1986) 2. Ecological systems theory (Bronfenbrenner, 1979)	Delaware, United States	School	The sample consisted of 28 schools, within which there were N = 3160 8th grade students and N = 1650 11th grade students. This sample is composed of 45% White students, 29% Black students, 19% Latino/a students, and 3% of students of other or multiple races/ethnicities.	X	X				Having ever skipped a day of school	Skipping school variable from Delaware Department of Education (DOE) School Survey  Bear, G. G., Yang, C., Harris, A., Mantz, L., Hearn, S., & Boyer, D. (2019). Technical manual for the Delaware school survey: Scales of school climate; bullying victimization; student engagement; positive, punitive, and social emotional learning techniques; and social and emotional competencies. <a href="http://wh1.oet.udel.edu/pbs/school-climate/delaware-school-climate-survey-2018-19/">http://wh1.oet.udel.edu/pbs/school-climate/delaware-school-climate-survey-2018-19/</a>	Our measure of skipping school comes from the 2018 UDSS. It was initially an ordinal scale (with categories: never; before, but not in past year; a few times in past year; once or twice a month; once or twice a week; almost every day) but was highly skewed, with few students reporting the behavior regularly. Thus, we transformed it into a dichotomous variable to indicate whether the respondent reported having ever skipped a day of school.	Youth self-report	Lifetime	No	N/A	Students are more likely to report having skipped when their schools have worse climates for bullying	N/A
Lane et al., 2019	Quant longitudinal	Systems Perspective McIntosh, K., & Goodman, S. (2015). Integrating multi-tiered systems of support: Blending RTI and PBIS. New York, NY: Guilford Press	United States	School	Study 1: Participants were 2,313 middle school students (1,202 males) attending one of four middle schools in the Midwest who were rated by their advisory teachers (n = 171) on the SRSS-IE. Schools served students in sixth (34.52%), seventh (33.81%), and eighth (31.67%) grades. Students were predominantly			X			The total number of days a student was assigned in-school suspension due to serious or repeated infractions	Information from school records	In-school suspensions referred to the total number of days a student was assigned in-school suspension due to serious or repeated infractions	School records	One academic year	No	N/A	Middle and high school students with higher levels of risk according to the Student Risk Screening Scale for Internalizing and Externalizing (SRSS-IE) were likely to spend more time in in-school suspensions	N/A

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Langdon et al., 2022	Quant cross-sectional	N/A	Washington, United States	Hospital	White (75.08%, n = 1,690). Study 2: Participants were 2,727 students (1,393 males) attending one of two public high schools in the Midwest who were rated by their second-period teachers (n = 161) on the SRSS-IE. Schools served students in ninth (29.23%), 10th (23.99%), 11th (25.06%), and 12th (21.72%) grades. Students were predominantly White (76.23%, n = 2,008),			X											99 participants aged 12-17 years who were mostly female (70%) with an average age of 14.8 years. Participants are 39% Caucasian, 33% African American, 21% Other, 4% Unknown, 2% No response.	The number of full days with less than half normal functioning in school and partial days of school missed over the preceding three months.	Absenteeism item/measure	A survey was created internally for this pilot study and is not validated. To evaluate school related disability, patients were asked to report full days of school missed, partial days of school missed, and days with less than half normal functioning in school over the preceding three months.	Self-report	3 months	No	N/A	Computer screen use (greater than 4 hours a day) and school related headache disability	N/A
Lannegrand-Willems et al., 2012	Quant cross-sectional	N/A	France, Europe	School	Participants were 523 students (317 males, 60.6%; 206 females, 39.4%) aged 15- to 22-years-old (M $\bar{x}$ 16.13; SD $\bar{s}$ 0.95).					X									Participants were 523 students (317 males, 60.6%; 206 females, 39.4%) aged 15- to 22-years-old (M $\bar{x}$ 16.13; SD $\bar{s}$ 0.95).	Absenteeism was defined as missing between 4 and 10 half-days of school per month  Problematic absenteeism was defined as	Information from school records	Absenteeism groups were determined on the basis of the number of half-days missed per month during the school year. We collected this information for each student from their head of year. Three groups of absenteeism were created: Non-absenteeism (less than 4 half-days	School records	1 month	No	N/A	Absenteeism was associated with lower self-reported school efforts, student involvement, satisfaction about vocational training, greater risk of dropping out of school, and lower support from parents and	N/A

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																		teachers.	
Larm et al., 2017	Quant cross-sectional	N/A	Sweden	School	2045 students in 9th grade aged 15-16 years (49.7% female)		X					missing more than 10 half-days of school per month.	Absenteeism item/measure	Self-report	One academic year	No	N/A	Non-drinking associated with lower school truancy	N/A
Leos-Urbel, 2014	Quant longitudinal	Not specified	New York, United States	School	24,179 students who applied to the summer employment program for the summer of 2007 and were in New York City public schools in both the school years before and after the program (school years 2006 to 2007 and 2007 to 2008).					X		The number of days a student attended school	Information from school records	School records	One academic year	New York City's Summer Youth Employment Program (SYEP)  New York City Department of Youth and Community Development (NYC DYCD). (2012). New York City Summer Youth Employment Program 2011 annual summary. Retrieved April 7, 2012, from <a href="http://www.nyc.gov/html/dycd/downloads/pdf/2011SYEP_an">http://www.nyc.gov/html/dycd/downloads/pdf/2011SYEP_an</a>	SYEP participants work in a variety of entry-level jobs in the nonprofit, private, and public sectors for up to 25 hours per week, for seven weeks from the beginning of July to mid-August, and receive the New York State minimum wage. Ten percent of participant hours are devoted to education and training on topics such as work readiness, financial literacy, career exploration, postsecondary education options, and health education. Worksites include a wide variety of public- and private-sector settings, with the most common placements being summer camps and day care centers. Other SYEP worksites include government agencies and social and educational service providers, as well as private sector placements that accounted for 21 percent of SYEP worksites in 2007. SYEP's stated goals are to introduce and prepare youth for the world of work, reduce youth unemployment during summer months, and provide supplemental income to families (NYC DYCD, 2012). Although SYEP includes an educational and training component, it is primarily a workforce development program rather than an education program. Yet, we may expect SYEP to influence school attendance and other academic	SYEP participation was associated with small increases in school attendance in the following academic year	N/A

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Lerang et al., 2018	Quant cross-sectional	N/A	Norway, Europe	School	The sample contained 1975 students from grades 8–10 (age 14–16) in 11 Norwegian lower secondary schools					X	The number of days a student was absent from school in the previous fall semester	Absenteeism variable	Students reported how many days they had been absent from school the previous fall (“no days” = 0, “1–5 days” = 1, “5 to 10 days” = 2, and “more than 10 days” = 3)	Self-report	One academic semester	No	N/A	outcomes for many of the reasons discussed above	Mastery orientation was significantly associated with school non-attendance among all three grade levels, indicating that students who are mastery orientated are less absent from school. Performance orientation was significantly associated with school non-attendance among grade 10 students; however, this association was weak.	N/A
Lessard et al., 2020	Quant cross-sectional	N/A	United States	Social Media	All participants (ages 13–17 years) identified as LGBTQ, spoke English, and were currently living the U.S. The final analytic sample included 17,112 participants. Self-reported ethnicity revealed the sample to be 62% White, 11% Latino/a, 6% African American, 4% Asian, and 17% from other ethnic groups. Taking into account sex assigned at birth and gender identity, participants were				X	Whether or not participants had ever received an out-of-school suspension	School suspension variable from Add Health Survey	Participants were asked whether they ever received an out-of-school suspension (0 = no, 1 = yes).	Self-report	Lifetime	No	N/A	Students were more likely to receive a suspension if they were African American, had a disability, had higher BMI, or were "out" to teachers (teachers knew their sexual orientation) In addition, bullying targeting students' body weight and sexual orientation was associated with lower academic grades and increased likelihood of school suspension	N/A		

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Liping et al., 2013	Quant cross-sectional	N/A	United States	Family home	43% cisgender female, 24% cisgender male, 21% transmasculine/non-binary, 8% transgender male/boy, 3% transfeminine/non-binary, and 1% transgender female/girl. Just over a third of the sample identified as gay/lesbian (38%), 35% identified as bisexual, 2% identified as heterosexual and 26% of the sample identified as something else (e.g., pansexual, asexual)			X				Number of sick days taken in the past 12 months	Absenteeism item/measure	Parent-report	12 months	No	N/A	Obesity	N/A
Lowry et al., 2022	Quant longitudinal	N/A	United States	School	Data were combined from the 2015, 2017, and 2019 national Youth Risk Behavior Surveys to produce nationally representative samples of U.S. high-school students who	X						Number of days absent due to perception of unsafety at school during the past 30 days	Absenteeism item/measure	Self-report	1 month	No	N/A	Exposure to school violence (e.g., being threatened/injured with a weapon at school), specifically among sexual minority students	N/A

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Lucia, 2016	Quant cross-sectional	1. Self-Control Theory (Gottfredson and Hirschi, 1990) 2. Hirschi's Social Control Theory (2002)	Switzerland	School	identified as gay/lesbian (n=1,061), identified as bisexual (n=3,210), were not sure of their sexual identity (n=1,696), or identified as heterosexual (n=35,819).  The sample consisted of 4574 pupils in grades 8 and 9 in Canton Vaud between 2003 and 2005. All schools from five districts were included and all pupils enrolled in the 24 schools took part in the study. The pupils ranged in age from 12 to 18 (mean age = 14.9, SD = 0.97), with 51.3 percent in grade 8 and 48.7 percent in grade 9. Approximately half (49.5 percent) were girls.		X				Missing school for at least a whole day without a legitimate excuse during the last 12 months (i.e., truancy)	Absenteeism item/measure	Truancy is defined as missing school for at least a whole day without a legitimate excuse during the last 12 months. This variable was dichotomized into two categories, "at least once" and "never".	Self-report	1 year	No	N/A	Bullying others associated with truancy	N/A
Mackner et al. (2012)	Quant cross-sectional	N/A	Ohio	Medical clinic	50 adolescents with inflammatory bowel disease (62% male, 90% White) and 42 healthy comparison adolescents (52% male, 83% White) and their parents. For the			X			Number of full day absences in one school year	Information from school records	Number of full day absences in one school year. The average number of school days missed during one school year was calculated for both the IBD group and the healthy control group and compared with statistical analysis.	School records	One academic year	No	N/A	Inflammatory bowel disease (IBD)	N/A



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Maeda & Heyne, 2019	Quant longitudinal	1. Berg's criteria for school refusal (Berg, 1997, 2002) 2. Active approach to clinic-based treatment for school refusal (e.g., Aida, 1978; Maeda, 2012) Aida, M. (1978). Futoukou ni taisuru chichioya ni yoru kyouseihou [One approach to school refusal: flooding method by the client's father]. <i>Jpn. J. Psychother.</i> 4, 57–63. Maeda, N. (2012). The effects of active parental intervention on school refusal behavior. <i>Prog. Soc. Welf. Res.</i> 7, 15–25 Berg, I. (1997). School refusal and truancy.	Japan	School	The parents of 62 adolescents were given the opportunity to implement the school-based rapid school return approach. In 39 cases (19 males and 20 females) the parents agreed to implement the approach. These cases constitute the intervention group. The 39 adolescents were between 12 and 14 years (M=13.4, SD = 0.6 years). The non-intervention group comprised the 23 cases (13 males and 10 females) in which the parents did not agree to implement the approach. The 23 adolescents were aged between 12 and 15 years (M = 13.3, SD = 1.0 years).	X					Adolescents who had missed more than four consecutive school days or 10 intermittent school days in the school year so far, and who met Berg's (1997, 2002) school refusal criteria, were included in the study.  *Berg's school refusal criteria include (a) remaining at home with the knowledge of the parents; (b) an absence of severe antisocial behavior, apart from possible aggressiveness when the young person is forced to go to school; (c) parental attempts to get the child to attend school; and (d) displaying emotional upset at the prospect of attending school.	Absenteeism item/measure	For each adolescent on the list, attendance-related data was recorded during the intervention and for at least 9 months thereafter. The attendance-related data included: (a) number of days present/absent (b) number of classes present/absent, per day (c) amount of time spent in other special rooms during classtime, such as the school nurse's office (d) characteristics of the adolescent's arrival at school from home (i.e., alone, escorted by parents, or escorted by school staff).	Researchers	Approximately 10 months	Yes, the Rapid Return Approach (Blagg, 1987) Blagg, N. R. (1987). School Phobia and Its Treatment. London: Croom Helm	The intervention process was as follows: (a) Parents would declare to their child that they would be forcing him/her to attend school (b) the intervention would commence 2 days after the declaration, during which time the parents would encourage their child to get ready for return to school (e.g., preparing textbooks and school uniform) (c) the parents would use planned ignoring of the child's behaviors associated with SR, such as crying, somatic complaints, or tantrums (d) the parents would conceal sharp implements at home to reduce the possibility of self-harming (e) the parents would wake their child, get him/her changed into the school uniform and escort him/her to the school gate (f) school staff and the classroom teacher would escort him/her from the school gate to the classroom, perhaps with the support of close friends (g) school staff would come to the family home if the parents could not escort the adolescent to school on time due to resistive responses (h) after arriving at school, the adolescent would be expected to stay at school all day (preferably in the classroom for the whole time), and school staff would not permit him/her to leave school early, even if the adolescent wished to do so.	Participation in the rapid return approach intervention is associated with improved school attendance	N/A



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Maeda, 2016	Qualitative	N/A	Japan, Asia	School	The intervention was done with three Japanese secondary school children exhibiting school-refusal behaviours	X					<a href="#">Japan's Ministry of Education defines school-refusing children as those who are absent from or unable to attend school for over 30 days per year due to physical, psychological, social and/or emotional factors, with the exception of disease and economic reasons. Their behaviour closely matched the criteria proposed by Blagg and Yule (1984), which included extreme difficulty in attending school with refusal and absence from school for at least three days; accompanying emotional upset marked by temper tantrums, sleep disturbances and psychosomatic complaints; remaining at home with the knowledge and permission of parents and the absence of significant</a>	Information from school records	School staff recorded the data for participants' school attendance and provided the data to the school counsellor every day	School staff	One week	Yes, a school-based behavioural consultation with parents and school staff for school-refusal behaviour	A two-part intervention was established in this study. The first part consisted of a school counsellor providing behavioural consultation for school-refusal behaviour to the parents and school staff and the second part used an attendance process which parents and school staff escorted children who are unwilling to engage in treatment process to school. Through a series of intervention, all participants were able to attend school from the first week of intervention, and a school-based behavioural consultation using escorting school attendance was effective in treating these children.	A school-based behavioural consultation with parents and school staff improved school attendance	N/A



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		Research, Practice, Training, 23, 375–381.													Research, Practice, Training, 23, 375–381.	to eliminate/control them; and (2) behavioral intervention aimed at forcing patients to take necessary actions, while suffering from their anxiety-related symptoms. Morita therapy for school refusal is rather simple; that is, the patient is simply instructed to attend school immediately, while accepting his/her school-related-neurotic symptoms. Case Study - Morita Therapy-Based Consultation On January 30, 2014, the parents, school counselor, homeroom teacher, and school principal held a support meeting regarding Student A's school refusal. During the meeting, the school counselor provided Morita therapy-based psychoeducation for Student A's symptoms and school refusal to her parents and the school staff members. The main contents of the psychoeducation included the following: (1) Student A's psychogenic fever was reinforced and fixated by "psychic interaction" in which she and her parents continuously attempted to eliminate/control the fever; (2) her parents carried out a mood- and physical condition-oriented approach in which they avoided sending Student A to school when she had psychogenic fever or was simply in a bad mood; (3) Student A and her parents should change their attitude from a mood- and physical condition-based approach to a purpose-based approach in which Student A should attend school even if she has psychogenic fever in the morning; and (4) her parents should explain the concept of Morita therapy to their daughter and force her to attend school immediately, while ignoring her somatic complaints. After the school counselor explained the mechanisms of Student A's symptoms and the Morita therapy-based approach to her parents and the school staff members, they immediately accepted the approach. Immediately after the meeting, the parents described the contents of the			

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Maina et al., 2020	Quant cross-sectional	N/A	Kenya	Family home	426 male adolescents aged 10–14 years living in households covered by the Nairobi Urban Health and Demographic Surveillance System (NUHDSS) in Korogocho informal settlement.					X	Having ever missed school during the past month	Absenteeism item/measure	Participants were asked to report whether they had ever missed school in the past month. Responses were categorized into, "never missed school" and "missed school one or more times".	Self-report	One month	No	N/A	consultation to their daughter.	Sexual experience between the ages of 10-14 years (among boys)	N/A
Martin, 2020	Qualitative	Berg's definition of school refusal  Berg I. School refusal and truancy. Arch Dis Child (1997) 76(2):90–1. doi:\10.1136 /adc.76.2.90	France, Europe	School	52 school personnel in middle and high schools from two regions of France	X					In interviews, we specifically used the standard definition of school refusal by Berg (9, 27), which includes: a) reluctance or refusal to attend school, often leading to prolonged absences, b) staying at home during school hours with parents' knowledge rather than concealing the problem from parents, c)	Qualitative Interview	An interview guide for in-depth interviews was developed and included open-ended questions that focused on how participants understand school refusal and the practices that might shape the health care pathway of youths from families with transcultural backgrounds. The interview guide included questions such as: "Can you tell me about the situations of school refusal you've encountered?", "What does 'school refusal' mean to you?" and "How do you manage these situations?"	Teachers	Not specified	No	N/A	N/A	1. Families' school culture clashing with that of school personnel 2. Cultural and language barriers 3. Mental health difficulties 4. Difficulties associated with migration	

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Marvul, 2012	Quant longitudinal	Not specified	New York, United States	School	The sample included 40 truant male students who were randomly assigned to intervention and control conditions. All of the participants were classified as at-risk for school failure. This sample was representative of the student body at large, split approximately 50–50 between Black and Hispanic students, with a small number of Native American and other students, with the “Other” students being of mixed race.		X				experience of emotional distress at the prospect of attending school (somatic complaints, anxiety, and unhappiness), and d) absence of severe antisocial behavior.	All students had assigned to the program because of severe truancy in their regular schools.	Information from school recordsMean number of absences over the course of five months (for both intervention and control groups)	The researcher tracked daily, weekly, and monthly attendance rates and class attendance/truancy through individual teachers’ reports and through the school’s attendance officer at the main office. This way both groups were monitored as follows: which students were missing school for the day, which students had skipped a class, and which students were coming late. Daily attendance rates were tracked both through on-site resources and through the program’s main office. Included in these data were figures for tardiness, class cutting, and discipline issues. Because of the multivariate nature of this research question, a discriminant analysis was run comparing the intervention group with the control group on absenteeism assessed at postintervention. The	1. Teachers2. School Personnel	Five months	Yes, a five-month program involving attendance monitoring, sports participation, and a moral character class. No title was provided.	This particular intervention used three techniques: daily phone calls to the home before school, participation in a moral issues class, and sponsoring of club football and basketball teams. Every school day morning, telephone calls were made by the researcher to the homes of those students in the study. The conversations that took place may have been about absences, tardiness, class cutting, and unacceptable behaviors; however, parents were also told about their child’s triumphs at school and about upcoming events that could positively influence their children’s lives. Most importantly, parents were asked to become partners in getting their students to attend school daily,getting them to refrain from skipping classes, and getting them to be on time every day.The moral character class involved discussions of the differences between right and wrong and how they are interpreted by various cultures. The class came to a consensus on what it believed were universal rights. Essentially, they were studying the six pillars of moral character. They wrote journals that responded to everyday moral dilemmas, prepared 10 min oral presentations on moral issues that interested them, and discussed situations that raised ethical and moral concerns.The third intervention was a	A 5-month program involving attendance monitoring, sports participation, and a moral character class reduced absenteeism among truant high school students	N/A

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Maynard et al., 2012	Quant cross-sectional	N/A	United States	Household	This study is based on public-use data from the 2010 National Survey on Drug Use and Health (NSDUH; SAMHSA 2011). The sample consisted of adolescents aged 12–17 years that reported having skipped one or more days of school during the previous 30-day period (N = 1,646). The mean age of the sample is 15.2 years (SD = 1.6). The respondents were evenly distributed between males (50.2 %) and females (49.8 %). 55.5% of participants are White, 22.7% are		X				Having skipped one or more days of school during the previous 30-day period	Absenteeism item/measure	mean number of absences over the course of the intervention period was recorded for both intervention and control groups.	Self-report	30 days	No	N/A	Truancy is associated with: 1. Low levels of school engagement 2. Infrequent participation in school activities 3. Poor grades 4. Low levels of parental help with homework	N/A

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Maynard et al., 2017	Quant cross-sectional	N/A	United States	Household	Hispanic, and 14.1% are African-American. The remaining 7.8% of youth reported American Indian or Alaska Native, Asian, other Pacific Islander or Native Hawaiian identities, or more than one race and were categorized as “other” race/ethnicity. This study examined public-use data collected between 2002 and 2014 as part of the National Survey on Drug Use and Health (NSDUH). The current study restricted analyses to non-Hispanic White, African American, and Hispanic respondents between the ages of 12 and 17 (n = 209,393).		X				The number of days a student missed school because they skipped, cut, or just didn't want to be there in the past 30 days	Truancy variable from the National Survey on Drug Use and Health (NSDUH) Substance Abuse and Mental Health Services Administration. Results from the 2013 National Survey on Drug Use and Health: Summary of national findings. Rockville, MD: Substance Abuse and Mental Health Services Administration; 2014.	Truancy was measured on the basis of the following question: “During the past 30 days, how many whole days did you miss (school) because you skipped or ‘cut’ or just didn’t want to be there?” Youth who reported one or more instances of skipping were coded as 1 and all other youth coded as 0.	Self-report	30 days	No	N/A	For all racial/ethnic groups, truancy was significantly correlated with alcohol and marijuana use, fighting, the propensity to take risks, and lower academic engagement and school grades.	N/A

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Mazerolle, Antrobus, et al. 2017	Quant longitudinal	Third Party Policing (Mazerolle 2014; Mazerolle & Ransley 2006)	Queensland, Australia	School	102 truanting young people aged 10-16 years (Mage: 12.98 years) and their guardians were recruited for the study. Approximately 53% of the sample was male. 51 youth were randomly allocated to both the experimental and control conditions.		X				Students needed to have 85% or less attendance in the three previous school terms and have no legitimate explanation for their absences from school (e.g., legitimate medical illness)	Information from school records	Students' school absences were collected from the education department's database, and a rate of absenteeism was calculated for each student. Absences were calculated as a proportion of school days that were missed (i.e., weekends and holidays were excluded, as were periods of time students were not enrolled in school), with part day absences weighted as 0.25 or 0.5 of a day's absence where appropriate. 1. For high school students, absenteeism was calculated using the proportion of unexplained or unauthorized absences across the three school terms prior to the date of their random assignment. 2. For primary school students, school staff indicated that unexplained absences were not frequently recorded and so, as per their suggestion, primary school students' absences were calculated using the proportion of absences of any type. Baseline data were collated for all student participants in the three school terms prior to the individual students' date of random assignment. Comparison post intervention data were taken for the three school terms following their treatment, that is, for experimental student participants, the three school terms following their program conference	School records	Three school terms	The Ability School Engagement Program (ASEP; Mazerolle, Antrobus, et al., 2017; Mazerolle, L., Antrobus, E., Bennett, S., & Eggins, E. (2017). Reducing truancy and fostering a willingness to attend school: Results from a randomized trial of a police-school partnership program. <i>Prevention science</i> , 18, 469-480.	ASEP is a Third Party Policing (TPP) partnership between schools and police that sought to (1) reduce future antisocial behavior and (2) lessen the negative relationship between willingness to go to school and antisocial behavior. 102 truanting young people from a highly disadvantaged urban area in Brisbane, Australia were randomly assigned to either the ASEP intervention or the business-as-usual condition. In ASEP, police and schools partnered together, engaging parents and young truants in a conversation that used procedurally just dialogue to communicate the legal responsibilities of parents to facilitate their child's attendance at school. ASEP operationalized TPP in a three-step approach: (1) police and school engagement with the parents (or responsible guardian) and truanting young people in a facilitated Family Group Conference (FGC) in which truancy laws were communicated and a child-centered Action Plan developed; (2) at least 6 months of police monitoring the Action Plan; and then (3) a police-led Exit Interview with the truanting young person and their parent. Respondents in the control condition (n=51) received a resource packet that provided information about social service resources available to families living in the location of the trial. Other than the resource packet, young persons in the control condition received business-as-usual actions from the school, including warning letters and school principal interviews with the parents if the child continued to truant, as well as the police "business-as-usual" approach to truancy, including street stops, cautions and, in some cases, arrests.	A collaborative police-school partnership intervention reduced official truancy, facilitated students' willingness to attend school, and improved school attendance perceptions and behavior.	N/A

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McGarvey et al., 2014	Quant longitudinal	N/A	United States	Household	The sample includes 147 adolescents aged 12-18 years. Overall, the majority of the adolescents were males and there were more White than African-American adolescents enrolled.			X	X		The average number of days that students missed school and were expelled from school in one academic year	1. Absenteeism variable 2. Expulsion variable	1. The average number of days that students missed school in one academic year 2. The average number of days that students were expelled from school in one academic year	Self-report	One academic year	Yes, Adolescent Community Reinforcement Approach with Assertive Continuing Care Godley, S. H., Barner, B. R., Passetti, L. L., Funk, R. R., Dennis, M. L., & Godley, M. D. (2010). Adolescent outpatient treatment and continuing care: Main findings from a	An evidence-based treatment for adolescent cannabis users, Adolescent Community Reinforcement Approach with Assertive Continuing Care, was implemented in rural county and small city in the USA. It was implemented to support recovery by providing continuing care for 147 adolescents aged 12–18 years. ACC provides continuing care for the adolescent in the home, typically over a 12–14 week period, about 3 months, during which the therapist completes weekly visits. It incorporates developmentally appropriate skills training and support for the adolescent to maintain social environments to promote non-use of substances.	The majority of youth who participated in treatment had stopped using cannabis over time and improved in their school attendance	N/A

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															randomized clinical trial. Drug and Alcohol Dependence, 110, 44–54. Godley, M. D., Godley, S. H., Dennis, M. L., Funk, R., & Passetti, L. (2002). Preliminary outcomes from the assertive continuing care experiment for adolescents discharged from residential treatment. Journal of Substance Abuse Treatment, 23, 21–32. Godley, M. D., Godley, S. H., Funk, R. R., & Passetti, L. (2007). The effect of assertive continuing care of continuing care linkage, adherence and abstinence following residential treatment for adolescents				

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McNeely et al., 2019	Quant longitudinal	N/A	United States	School	The linked dataset contained 4412 students in 7th–10th grades referred to TIP between 2006 and 2009.					X	Five full days of unexcused absence from school (prompts referral to the Truancy Intervention Program)	Information from school records	1. The primary outcome was the student's annual daily attendance rate, defined as the proportion of days enrolled in any public school in the state (called membership days) that the student attended. This variable was provided by the Department of Education. 2. As a secondary outcome variable, we used the number of excused and unexcused days absent in the months following referral to TIP. These data were provided by the individual school districts in the intervention county as daily or period-level excused and unexcused absences. In accordance with the school districts' policies, students were considered absent for a full day if they had three or more full-period absences.	School records	One academic year	Yes, Truancy Intervention Program (TIP)	We evaluated whether the Truancy Intervention Program (TIP) improved the school attendance of students in grades 7–10 in a metropolitan county in the Midwestern USA. After a student has three full-day unexcused absences (defined as three or more periods), school staff send a letter to the student and parent(s) stating that failure to improve attendance will result in a referral to TIP. After two more full-day unexcused absences, for a total of five, school personnel may refer the student to TIP. TIP consisted of three increasingly intrusive steps: (1) a parent meeting, (2) a hearing to develop an attendance contract, and (3) a petition to juvenile court. The intervention group consisted of students from the intervention county who had been referred to TIP between 2006 and 2009. The comparison group was drawn from a contiguous, same-sized, and socio-demographically similar county that petitioned truant students directly to court.	N/A	N/A
Meinck et al., 2015	Quant cross-sectional	Bronfenbrenner's Ecological Theory (Bronfenbrenner, 1979)	South Africa	1. Non-governmental organization 2. School 3. Community	603 children aged 13–19 years (47.9% female)					X	Number of days in past week children did not attend school	Absenteeism item/measure	School attendance was measured using items developed by the South African Department of Education and the Young Lives study. These included a timetable in which children had to identify which days of the past week they did not attend school, and answer questions such as 'in the past year, how many times	Self-report	One year	No	N/A	Physical and emotional child abuse	N/A

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Melander et al., 2022	Qualitative	N/A	Finland	School	The ten focus groups had 55 participants, one to eleven per group. Most participants (75%) were female. The groups included (vice) principals, special education/resource/subject teachers, guidance counselors, school social workers, school psychologists, school nurses, school doctors, and social workers working in child protective services	X	X	X			Not specified	Focus groups	did you miss school for more than a week', or 'have you ever repeated any school years?'	Educational and mental health professionals	Not specified	No	N/A	N/A	1. Student-related reasons (e.g., health, leisure/truancy, motivational issues) 2. Family-related reasons (e.g., parent unemployment or health issues) 3. School-related reasons (e.g., bullying, poor relationships with teachers)
Miuro et al., 2018	Mixed methods	N/A	Uganda, Africa	School	The study was conducted among students in secondary school years (predominantly age 15–16 years) in four secondary schools.			X			Whether a girl missed a half-day or full-day of school during her period	1. Interviews 2. Self-report diary	1. Group and individual interviews were held based on a topic guide and explored perceptions, taboos, myths and terminologies related to menstruation, menstrual management, school absenteeism, school sanitation facilities and views on proposed interventions. 2. Ten girls who reported having had regular periods over the last 4 months were randomly selected from each school.	Self-report	6 months	No	N/A	Menstruation	The most commonly reported reasons for missing school during menstruation were stomach or back pain (92.5%), feeling generally unwell (60.0%), fear of leaking blood (38.5%), and lack of privacy for changing (38.5%). When asked to name the main reason, the majority said pain (85.7%).

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Mitchell et al., 2020	Quant cross-sectional	1. The Minority Threat Hypothesis (which is rooted in conflict theory; Quinney, 1977; Turk, 1969). 2. School Prisonization (Hirschfield, 2008)	Arizona	School	This study uses a sample of schools (259 middle and high schools) across Arizona, drawn from the 2004 wave of the Arizona Youth Survey (AYS) and Safe and Drug-Free Schools (SDFS) survey conducted in Arizona. Data are derived from the 2004 AYS and the 2004 wave of the SDFS. The AYS is a biennial school-based survey of eighth-, 10th-, and 12th-grade students, administered in schools across all 15 counties in Arizona. All schools (e.g., traditional public, private, charter, and reservation				X		Removal of a student for at least 1 year, referral of a student to law enforcement, suspension or removal of a student for less than 1 year, and/or transfer of a student for at least 1 year.	Absenteeism item/measure	Participants were asked to self-complete a diary booklet for a six-month period from October 2015 to April 2016 with a box for each day to show whether or not she was menstruating (and if so, whether it was a light, moderate or heavy flow), and whether she attended school for a full-day, half-day or not at all. A female research assistant checked the diaries for completion during unannounced visits to the school.  The measure of exclusionary school discipline captured the potential use of four possible disciplinary responses: removal of a student for at least 1 year, referral of a student to law enforcement, suspension or removal of a student for less than 1 year, and transfer of a student for at least 1 year. In the SDFS, administrators were asked to indicate whether a specific disciplinary response was used (coded as "1") or not used (coded as "0") within their school. The responses to each indicator of exclusionary school discipline practices were summed to create a score reflective of the increased use of exclusionary school discipline practices. On average, most schools used two of these exclusionary discipline responses, with a range	School administrator report	1 year	No	N/A	Exclusionary discipline was associated with: 1. Presence of a probation or police officer 2. Presence of security cameras 2. Larger school size 3. Presence of counselors and mental health professionals in schools	N/A



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Mowen et al., 2019	Quant longitudinal	1. Cumulative Disadvantage Theory (Sampson & Laub, 1997) 2. Labeling Theory (Bernburg & Krohn, 2003)	United States	Household	A national, household-based survey, the NLSY97 consists of a total of 8,984 youth between the ages of 12 and 18 at wave one. The NLSY97 is a longitudinal panel data set and, as such, contains data collected from the same respondents over time. Data collection occurred annually. The first wave of data were collected in 1997 (ages 12–18), wave two in 1998, wave three in 1999, and wave four data were collected in 2000 (ages 16–22). Participants were 51.4% female and 52.5% White, 21.6% Black, 20.2% Hispanic, and 5.7% Other. The mean age at wave one is 14.047 years (range is 12–18 years)				X		Having ever been suspended from school across the four waves of data collection	Absenteeism item/measure	At each of the four waves of data (every year), respondents were asked if they had been suspended since the prior interview. Respondents could answer yes (coded as “1”) or no (coded as “0”).	Self-report	One school year	No	N/A	Increased criminal offending	N/A

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Mukherjee et al., 2020	Quant longitudinal	N/A	United States	School	Participant data was drawn from the Youth Risk Behavior Surveillance Survey for 1991-2017. 195,280 students in grades 9-12 had valid survey responses during 1991-2017. Nearly 63% were non-Hispanic white, 14% non-Hispanic black or African American, 16% Hispanic, 4% non-Hispanic Asian or Native Hawaiian or other Pacific Islander, less than 1% non-Hispanic American Indian or Alaska Native, and more than 3% non-Hispanic multiracial.	X						During the past 30 days, the number of days a student did not go to school because they felt unsafe at school or on their way to or from school	Absenteeism item/measure	Perception of safety was the main independent variable and was assessed based on the question, “During the past 30 days, on how many days did you not go to school because you felt you would be unsafe at school or on your way to or from school?” with response options 0, 1, 2 or 3, 4 or 5, and ≥6 day(s). A preliminary examination of the distribution of missed school days because of perceived lack of safety revealed that the number of respondents who missed a single day was comparable with the cumulative total number of students who missed school two or more days. Therefore, for the purpose of this study, respondents were classified into those who did not miss school within the past 30 days, those that missed school once, and those who missed school twice or more often because of perceived lack of safety.	Self-report	30 days	No	N/A	Those who skipped school owing to perceptions of lack of safety were significantly more likely to carry weapons—overall as well as on school property.	N/A
Mulia et al., 2022	Quant longitudinal	Cumulative disadvantage theory and the chain of risks model from life-course epidemiologyKuh D, Ben-Shlomo Y, Lynch J, Hallqvist J, Power C. Life course epidemiology	United States	Household	Data are from 1299 black Americans (654 females and 645 males) in the US National Longitudinal Survey of Youth, followed from 1979 (aged 15–19 years) to 2012.			X				Having ever been suspended or expelled from high school	Unique item/measure	High school suspension/expulsion (HST), hereafter referred to as suspension, indicated any incident (yes/no).	Self-report	Lifetime	No	N/A	Suspension or expulsion in high school was associated with lower educational attainment. In turn, educational attainment was negatively associated with young adult heavy drinking, repeated unemployment, and adult poverty.	N/A

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Munoz et al., 2014	Quant cross-sectional	N/A	Kentucky, United States	School	The sample included one Early College High School Initiative (ECHS) school and two matched control schools. The ECHS school sample included 146 students (40.41% female). Control school A had 184 students (45.11%) and control school B had 89 students (48.31% female)			X	X		The number of out-of-school suspensions a student received in one academic year	Information from school records 1. School attendance rate 2. School suspension rate	1. The attendance rates for both ECHS and control students were computed using the following formula: $[\frac{m-a}{m}] \times 100$  In the formula, school membership (m) minus school absences (a) is divided by school membership (m). The resultant dividend is then multiplied by 100 to obtain the attendance rate expressed in percentages.  2. Suspension rates were calculated for both ECHS and control students on out-of-school suspensions in the year 2009–2010 and the year 2010–2011.	School records	One academic year	Yes, Early College High School Initiative (ECHS)  Early College High School Initiative. (2012). A portrait in numbers. Retrieved June 10, 2012 from <a href="http://www.earlycollege.org/Downloads/portrait%20in%20numbers9.pdf">http://www.earlycollege.org/Downloads/portrait%20in%20numbers9.pdf</a>	Inspired by the earliest Early College at Bard College, the new breed of early colleges was developed in the early 2000s through a partnership with Jobs for the Future, the Bill and Melinda Gates Foundation, and other foundations. Four core principles guide the ECHS initiative: (a) ECHSs are committed to serving and reaching students who are currently underrepresented in higher education and who are at risk of not completing or marginally completing high school; (b) ECHSs use a partnership developed between a public school system and a local college with support from their local community; (c) ECHSs develop an integrated program of studies that can lead to completion of up to one or two years of college credit while students are in high school; and (d) ECHSs offer wrap-around student-support services focusing on both academic and social skills as well as behaviors necessary to succeed in college (Conley, 2005, 2010)	Results indicated that, after an initial year of implementation, school attendance remained the same amongst students in the ECHS school as compared to the control schools, but suspensions were decreased	N/A

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Nichols et al., 2016	Quant cross-sectional	Developmental ecological perspective  Bronfenbrenner, U., & Ceci, S. (1994). Nature-nurture reconceptualized in developmental perspective: A bioecological model. <i>Psychological Review</i> , 101(4), 568–586.	United States	School	Participants were drawn from the In Home Survey of the Add Health dataset, a nationally representative study of seventh to twelfth grade students in the United States between 1994 and 1995 (Harris et al. 2009)		X					The number of days a student skipped school during one school year	Truancy variable from the In Home Survey of the Add Health dataset  Harris, K. M., Halpern C. T., Whitsel, E., Hussey, J., Tabor, J., Entzel, P. & Udry, J. R. (2009). The National Longitudinal Study of Adolescent Health: Research design [WWW document]. URL: <a href="http://www.cpc.unc.edu/projects/addhealth/design">http://www.cpc.unc.edu/projects/addhealth/design</a> .	Truancy was derived from the Wave I In-home survey. Participants self-reported the number of days they skipped school during the 1995–1996 school year, resulting in a single continuous item	Self-report	One academic year	No	N/A	Factors associated with higher rates of truancy: 1. Parental incarceration 2. Large school size 3. Having no mental health services onsite 4. Lower parent/family connectedness 5. Receiving mental health counseling	N/A
Nijhof et al., 2016	Quant cross-sectional	N/A	Netherlands, Europe	Outpatient clinic	204 adolescents (ages 10–18 years who visited the pediatric rheumatology and immunology outpatient clinic at Wilhelmina Children's Hospital from April through July 2013 were invited to participate in the study. As a reference group, we used healthy subject data collected from the control group of a previous study on adolescent fatigue; this group included 144 subjects (79% female)			X				School attendance was measured as the percentage of classes attended during the 6 months prior to the study	Absenteeism item/measure	School attendance was measured retrospectively as the percentage of classes attended during the 6 months prior to completing the sleep questionnaire.	Self-report	6 months	No	N/A	Fatigued patients had significantly lower levels of physical functioning compared to nonfatigued patients and a significantly higher percentage of school absences	N/A

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Nik Jafaar et al., 2013	Quant cross-sectional	N/A	Malaysia	School	with a mean 6 SD age of 15.3 6 0.5 years (22) 373 16-year-old adolescents attending three high-risk schools in Kuala Lumpur. The study sample consisted of an approximately equal number of male (56.6%, n = 211) and female (43.4%, n = 162) subjects. The racial distribution of the study sample was 63% Malay (n = 234), 26% Chinese (n = 100), 9% Indian (n = 33) and 2% other (n = 6), which is representative of the Malaysian population		X					“Truants” are identified as those who were “absent from school on official schooling day without verbal or written reasons from parent(s) or guardian or a medical doctor” for a total of 20 days or more (moderate to severe truancy) based on the guidelines by Kuala Lumpur Federal Territory Education Department (2004; p. 89).	Information from school records	The number of days a student was truant during the study year were obtained from school records	School records	One academic year	No	N/A	Truancy was associated with: 1. Greater internalizing and externalizing symptoms2. Having divorced parents3. Having a dislike for school4. Aiming for lower education goals	N/A
Novak & Krohn, 2020	Quant longitudinal	Labeling Perspective (Paternoster & Iovanni, 1989)	United States	Community agency	838 youth at-risk of maltreatment and/or with a history of maltreatment whose data is from the LONGSCAN study (Runyan et al., 1998). Participants are 55% Black, 25% White, 7% Hispanic, 13% Other. 56% are female.			X				Whether they had been suspended at least once in the past year	Absenteeism item/measure	1. Suspension between the ages of 13 and 14 was measured using youth self-reports of whether they had been suspended at least once in the past year obtained during the age 14 interview (0 = no, 1 = yes). 2. This measure was created using youth self-reports of whether they had ever been suspended by the age 12 interview (0 = no, 1 = yes)	Self-report	12 years	No	N/A	1. Suspension directly associated with arrest 2. Suspension associated with both arrest and self-reported offending via prosocial exposures 3. Suspension was associated with arrest via prosocial exposure and deviant peer association 4. Suspension ages 13–14 was associated with a decrease in prosocial exposures at the age of 14 and a significant	N/A

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						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated									
Novak et al., 2022	Quant longitudinal	1. The age-graded theory of informal social control (Sampson & Laub, 1993)2. Cumulative disadvantage framework (Sampson & Laub, 1997)	1. Philadelphia2. Arizona	Family Home	Data from this study were taken from participants in the Pathways to Desistance Study, a longitudinal study of factors affecting desistance among serious adolescent offenders. From 2000 to 2003, the study enrolled 1,354 youth offenders who had been processed in juvenile justice systems or waived to the adult court systems in Phoenix and Philadelphia. To be eligible for the study, individuals had to be between 14 and 18 years old and adjudicated or found guilty of at least one felony or serious misdemeanor violent, property,				X		Being suspended or expelled at least once from school in their lifetime	Absenteeism item/measurePathways to Desistance StudySchubert, C. A., Mulvey, E. P., Steinberg, L., Cauffman, E., Losoya, S. H., Hecker, T., ... & Knight, G. P. (2004). Operational lessons from the pathways to desistance project. <i>Youth violence and juvenile justice</i> , 2(3), 237-255.	The measures are based on self-reports from participants taken at the baseline interview, at which time they were asked if they had ever been suspended from school and if they had ever been expelled from school (separate items). Those who responded affirmatively were then asked (1) the number of times they had been suspended and expelled, and the (2) age at which they were first experienced each type of school exclusion. To correct the skew and address potential outliers, we created an ordinal variable with three categories that each included about one-third of respondents. The categories include those who reported being suspended 0 to 2 times, those suspended 3 to 9 times, and those suspended 10 or more times. In contrast, most respondents reported zero (60%) or one (27%) expulsions. Given this distribution, this variable	Self-report	Lifetime	No	N/A	Expulsion and more frequent suspension also increase risk of recidivism among youth previously adjudicated for delinquency	N/A



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Novak, 2022	Quant cross-sectional	1. Labeling Theory (Lieberman et al., 2014; Paternoster & Iovanni, 1989)2. Life course theory of cumulative disadvantage (Sampson & Laub, 1997)3. Age-graded theory of informal social control (Sampson and Laub, 1993) Lieberman, A. M., Kirk, D. S., & Kim, K. (2014). Labeling effects of first juvenile arrests: Secondary deviance and secondary sanctioning. <i>Criminology</i> , 52(3), 345–370. Paternoster, R., & Iovanni, I. (1989). The labeling perspective and delinquency: An elaboration of the theory and an	United States	1. Social service agencies2. Medical clinics	Data for 763 youth were drawn from the LONGSCAN study. 55.44% of the sample identified as male, 55.18% identified as Black, 25.16% as White, 13.50% as Other, 6.16% as Hispanic.		X		X		1. Having ever been suspended from school, either at or before age 12 or between the ages of 13 and 162. Whether or not a youth has skipped school in the past year (reported at age 12)	1. Suspension variable2. Truancy variable	Suspension variableAt the age of 12, youth were asked if they had ever been suspended; youth who indicated they had been suspended at least once by the age of 12 were coded as having first experienced suspension in childhood; that is, at or before age 12 (1 = suspended, 0 = not). Youth were asked the same question at the age 16 interview; youth who indicated they had been suspended at least once and did not indicate experiences of suspension at the age 12 interview were coded as having first experienced suspension in adolescence, between the ages of 13 and 16. After each independent measure was created, a categorical variable was derived to reflect youth reports of suspension experiences (0 = never suspended, 1 = first suspended at or before age 12, 2 = first suspended between the ages of 13 and 16)Truancy variableOne item assessing whether or not a youth has skipped school in the past year (1 = truant). This item was assessed at age 12.	Self-report	Lifetime	No	N/A	1. Youth who were suspended in childhood and adolescence were more likely to be youth of color as compared to youth who were never suspended. 2. Youth who were suspended were also more likely to be male and more likely to report an arrest and/or delinquent behavior between the ages of 17 and 18. 3. Black males were more likely to be suspended in childhood, while Black females, and Hispanic youth were more likely to be suspended in adolescence.	N/A



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Obsuth et al., 2017	Quant longitudinal	N/A	London, Europe	School	300 students across 17 schools were assigned to the treatment condition and 306 students across 19 schools were assigned to the control condition. Of the 606 total students, 71% were male (Mage = 14.05 years) and 176 (29%) were female (M age = 13.98 years). More students identified themselves as “Black-African, Black-Caribbean or Black British” (n = 244; 40.3 %) than any other category, with “White British” students comprising the second largest racial grouping (n = 151; 24.9 %).				X		Having been suspended or excluded from school at least once in the academic year	School exclusion measure	The students and teachers completed measures tapping each of the outcomes at baseline and at the post-intervention data collection. At baseline, completed in September/October 2013), students were asked about their behavior in the previous nine months (“... since January”). At the post-intervention assessment, they were asked to recall their behavior in the past four weeks, which corresponded with the month after the intervention had finished. Students and teachers answered questions asking about the frequency of 14 different school disciplinary measures each rated on a six-point scale ranging from “never” to “every day”. Two questions covered the frequency of “fixed-period exclusion” and “suspensions”. We included both terms as they are commonly used in practice, but not always interchangeably. These were used to create a dichotomous outcome of “excluded” or “not excluded”, where any exclusion or suspension was coded “1” and those reporting ‘never’ to both questions were coded as “not excluded”. Official records of school exclusions from the National Pupil Database from the Department of Education in the UK were	1. Students2. Teachers3. School records	One academic year	Yes, Engage in Education London (EiE-L)Obsuth, I., Sutherland, A., Pilbeam, L., Scott, S., Valdebenito, S., Carr, R., & Eisner, M. (2014). London Education and Inclusion Project (LEIP): A cluster-randomized controlled trial protocol of an intervention to reduce antisocial behaviour and improve educational/occupational attainment for pupils at risk of school exclusion. BMC Psychology, 2(24), 1–16.	The EiE-L intervention aimed to improve students’ behavior by developing their communication and broadersocial skills. EiE-L operated at the individual, school and family level. It aimed to provide targeted support to students with issues they were particularly struggling with, support teachers in addressing the behavioral and communication needs of students, and assist families to better support their children in school. The program consisted of one-hour long group and one-to-one sessions with students over 12 weeks. Each group session was delivered by two core-workers who were assigned to a school and one-to-one sessions were delivered by one of these core-workers. One-to-one sessions were used to build on themes covered in group sessions or help participants with specific problems at home or at school. Home visits or phone calls to parents allowed the intervention providers to maintain engagement in the intervention by informing parents or carers about the performance of their child, positive or negative. Finally, I CAN provided support for teaching staff by delivering training sessions, conducting observations and conducting additional follow-up sessions.	Contrary to expectation, students in the treatment condition were significantly more likely to self-report being temporarily excluded from school in the previous month than those in the control schools following the treatment.	N/A



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Ohlson et al. (2016)	Quant cross-sectional	Educational Performance Framework (Goldhaber & Brewer, 1997; Levin, 2004)	Florida	School	1657 teachers across 50 schools (71% female, 51% White, 28% Hispanic/Latino, 18% African-American/Black, 3% Asian/Pacific Islander)				X	X	Excessive student absences were quantified as 21 or more days absent within each school	Information from school records	1. Excessive absence rate within each school 2. Out-of-school suspension percentage within a school	School records	Not specified	No	N/A	Lower out-of-school suspension rates were significantly associated with the following variables from the School Culture Survey (Gruenert & Valentine, 1998): 1. Greater teacher collaboration 2. Greater % of classes taught by out-of-field teachers 3. Greater % of certified teachers within schools	N/A
Onyeaka et al., 2020	Quant cross-sectional	N/A	Benin, Ghana and Liberia (Africa)	School	8912 school-going adolescents aged 11–18 years who participated in the Global School-based Student Health Survey between 2012 and 2017. They participated in three West African countries.		X				The number of days a student missed classes or school without permission in the past 30 days	Truancy variable WHO, Global School-Based Student Health Survey (GSHS), WHO, Geneva, Switzerland, 2012, <a href="http://www.who.int/chp/gshs/en/">http://www.who.int/chp/gshs/en/</a>	The GSHS questionnaire includes one question on truancy which is “During the past 30 days, how many days did you miss classes or school without permission?”. This variable was recoded into a dichotomous variable and utilized as the dependent variable in the analysis.	Self-report	30 days	No	N/A	1. Alcohol use 2. Sexual risk behaviour	N/A
Ozcan, 2020	Qualitative	N/A	Turkey	School	21 school counsellors participated in this research (57% female)	X	X	X	X		Not specified	Qualitative interview	Counselors answered four questions about school absenteeism, which were related to general reasons for school absenteeism, reasons for school absenteeism at participants’ schools, participants’ practices to reduce school absenteeism, and participants’ proposed solutions for reducing school absenteeism	School counselors	N/A	No	N/A	N/A	1. Lack of school attachment 2. Educational problems 3. Health issues 4. School management

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Palmer & Gretak, 2017	Quant cross-sectional	N/A	United States	1. Online 2. Community Agencies	8215 middle and high school students who identified as lesbian, gay, bisexual, queer, or a sexual orientation other than heterosexual or described themselves as transgender or as having another gender identity that is not cisgender. Students were 16.08 years on average and 68.6% identified as White, 14.4% as Hispanic/Latinx, and 8.4% as Multiracial, and 3.2% as African American.	X	X		X		Missed school at least once due to safety concerns	Absenteeism item/measures: 1. Four measures of school discipline 2. One measure of school avoidance	1. Four measures of school discipline (referred to principal's office, school detention, suspension, expulsion) and one indicating any type of justice system involvement (arrest, court appearance, and/or detention in a juvenile or adult facility) resulting from school discipline 2. One measure of school avoidance (1 = missed school at least once due to safety concerns)	Self-report	One academic year	N/A	N/A	1. Students with higher levels of victimization based on their sexual orientation were more likely to experience each of the school discipline and justice system outcomes 2. Students with higher levels of victimization based on gender expression were more likely to experience referrals to the principal, school detention, and suspension.	N/A
Peltzer & Pengdid, 2018	Quant cross-sectional	N/A	Africa	School	25,372 school-going adolescents (Mean 14.3 years, 51.8% male) across 9 African countries		X				The number of days that a student missed classes or school without permission in the past 30 days	Truancy variable Global School-Based Health Survey (GSHS; CDC, 2017) Centers for Disease Control and Prevention (CDC). (2018). Global school-based student health survey (GSHS). Retrieved from <a href="https://www.cdc.gov/gshs/">https://www.cdc.gov/gshs/</a>	Question: "During the past 30 days, on how many days did you miss classes or school without permission?" Response options ranged from 1 = 0 days to 5 = 10 or more days (coded as 1 = 0 and 2-5 = 1)	Self-report	30 days	No	N/A	Past-month cannabis and lifetime amphetamine use	N/A

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Pengpid & Peltzer, 2018	Quant cross-sectional	N/A	Oceania	School	Data utilized were from the cross-sectional "Global School-Based Student Health Survey (GSHS)". The total sample included 10968 adolescents (mean age 14.1 years) from seven Pacific Island countries.		X				The number of days a student missed class or school without permission in the past 30 days	Truancy variable from Global School-based Student Health Survey (GSHS)  Centers for Disease Control and Prevention (CDC). (2018). Global school-based student health survey (GSHS). Retrieved from <a href="https://www.cdc.gov/gshs/">https://www.cdc.gov/gshs/</a>	"During the past 30 days, on how many days did you miss classes or school without permission?" Response options ranged from 1 = 0 days to 5 = 10 or more days (coded 1 = 0 and 2-5 = 1)	Self-report	30 days	No	N/A	Lower levels of parental involvement were associated with school truancy	N/A
Pengpid & Peltzer, 2020	Quant cross-sectional	N/A	Kuwait, Asia	School	The study sample comprised of 3,637 in-school adolescents (15 years median age) in grades 8-12 from Kuwait, 51.1% were girls and 48.9% were boys.		X				The number of days a student missed classes or school without permission in the past 30 days	Global School-based Student Health Survey (GSHS; (WHO, 2019) Citation: WHO, Global School-Based Student Health Survey (GSHS), WHO, Geneva, Switzerland, 2012, <a href="http://www.who.int/chp/gshs/en/">http://www.who.int/chp/gshs/en/</a>	"During the past 30 days, how many days did you miss classes or school without permission?" Coding for this question is as follows: 1 = 0 days, 2 = 1-2, 3 = 3-5, 4 = 6-9 and 5 = 10 or more days.	Self-report	30 days	No	N/A	1. Current tobacco use 2. Frequent soft drink consumption 3. Suicide attempt 4. Lack of peer support 5. Lack of parent support	N/A
Perelman et al., 2019	Quant cross-sectional	N/A	Europe	School	Adolescents aged 15-16 years across 36 European countries	X	X	X	X		Having missed at least 3 school days in the last month	Absenteeism item/measure:1. Percentage of students with absenteeism > 3 days (due to illness, skip, any reason) 2. Number of school days missed in last month (due to illness, skip, any reason)	1. We first classified absenteeism as dichotomous variable, with a value of 1 when the student reported having missed at least 3 school days in the last month. The variable was constructed using the following question in the survey, 'During the last 30 days on how many days have you missed one or more lessons?', whose answers were 'none', '1 day', '2 days', '3-4 days', '5-6 days', '7 days or more', with the possibility to distinguish the cause for each answer category ('because of illness', 'because you skipped or 'cut'' and 'for other	Self-report	1 month	No	N/A	Smoking more than 5 cigarettes a day	N/A

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Pesta, 2018	Quant cross-sectional	Life course theory of cumulative disadvantage  Sampson, R., & Laub, J. (1997). A life-course theory of cumulative disadvantage and the stability of delinquency. In T. Thornberry (Ed.), <i>Developmental theories of crime and delinquency</i> (pp. 133-161). New Brunswick, NJ: Transaction Publishers.	United States	Household	Data of 4822 participants are drawn from the National Longitudinal Study of Adolescent to Adult Health (Add Health). 2805 participants identified as non-Hispanic White, 1065 as non-Hispanic Black, and 451 as Hispanic.				X		Having ever received an out-of-school suspension or having ever been expelled from school	Exclusionary discipline variable	reasons'). We stratified absenteeism by being due to illness, due to skipping, or due to 'any cause', which groups those who missed school for any of the three reasons (skipping, illness and other reasons).2. We also modelled absenteeism with the number of school days missed in the last month. The number of missed school days was set by taking the mid-value for each category.  The exclusionary discipline variable combines instances of out-of-school suspension and expulsion and is comprised of responses to the following questions: (1) Have you ever received an out-of-school suspension? and (2) Have you ever been expelled? Exclusionary discipline was dummy coded with 1 indicating an experience with suspension or expulsion	Self-report	Lifetime	No	N/A	1. Black youth experienced the highest rates of suspension and expulsion. 2. For Black youth, being suspended or expelled increases the odds of dropping out and engaging in criminal behavior. Regarding parental and family characteristics, for each additional year of parental education, there is a 14% decrease in the odds of exclusionary discipline 2. For White youth, being suspended or expelled is associated with a decrease in the odds of engaging in delinquency. For each additional year of parental education, the odds of suspension or expulsion and dropping out of school decrease by 2. 3. For Hispanic youth, suspension/expulsion	N/A

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Pflug et al., 2016	Quant cross-sectional	N/A	Germany	School	Secondary school students aged 10-21 years (Mage: 15.1 years, 52.9% male)	X	X	X	X		The child or adolescent was considered a school absentee, if they had missed school during the past 7 calendar days, regardless whether they had been absent for single lessons, parts of a school day or for one or more days. Additionally, the question of whether the child or adolescent frequently stayed away from school had to be answered	Absenteeism item/measure	Online self-report survey created for purpose of study. All participants were asked whether they had missed school in the past seven calendar days. If they reported nonattendance, they were asked to indicate the duration of their absence (single lessons or parts of a school day; 1 day; two or more days) and their reasons for school absenteeism. They could select one or more possible causes from 14 proposed causes or specify a reason. They were further asked if they frequently stayed away from school and in which grade they started not to attend school. "Frequently" was not	Self-report	7 days	No	N/A	1. Lower SES2. More emotional and behavioural problems and less prosocial behaviour (according to Strengths and Difficulties Questionnaire)	N/A
																	is positively related to both delinquency and criminal offending, but neither of those relationships is significant. In terms of parental and family factors, for each additional year of parental education, the odds of being suspended or expelled decrease by 11%.		

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Prakash et al., 2017	Quant cross-sectional	Not specified	India	School	2275 adolescent girls aged 13-14 years				X	X	The number of days in the past month that an adolescent did not attend classes. Those who reported being absent from school for 4 or more days in the past 30 days were defined as 'frequently absent.'	Absenteeism item/measure	1. School dropout was defined as a binary variable (yes/no), using the following question: "Are you currently attending school?"  2. Recent school absenteeism was measured for all girls who were attending school at the time of the survey. They were asked the following question: "Thinking about the last month you went to school, how many days in that month would you say that you did not attend classes?" Girls who reported being absent from school for 4 or more days in the past 30 days were defined as 'frequently absent.'	Self-report	1 month	No	N/A	1. Experience of menstruation 2. The perception that steady employment in adulthood is important 3. The perception that it is very difficult for girls in their village to complete secondary education 4. Migration in the past 12 months for work 5. School environment characterized by bullying/harassment 6. Poor quality of learning at school 7. Household poverty	N/A
Prince et al., 2018	Quant cross-sectional	N/A	South Carolina, United States	School	360 students with disabilities in a southeastern state who exited special education in the school years ending June				X		Number of out-of-school suspensions or expulsions for violent and/or criminal	Information from school records	1. Attendance rate 2. Percentage of out-of-school suspensions or expulsions for violent and/or criminal offenses	School records	One academic year	No	N/A	Absenteeism was associated with a lower likelihood of engaging in postsecondary education/training	N/A

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Reference (author, date)					2009, 2010, and 2011						offenses								
Rivara et al., 2022	Quant longitudinal	N/A	Washington, United States	School	200 adolescents aged 11 to 18 who had a medically diagnosed sports or recreational related concussion within the past 9 months, and at least 3 symptoms persisting at least 1 month after injury. They had a mean age of 14.7 years, 62.0% were female, approximately 80% were White.			X			Number of missed school days due to injury (concussion)	Concussion Learning Assessment and School Survey (CLASS) Ransom DM, Vaughan CG, Pratson L, Sady MD, McGill CA, Gioia GA. Academic effects of concussion in children and adolescents. Pediatrics. 2015;135(6):1043–1050. [PubMed: 25963014] Gioia GA, Babikian T, Barney BJ, et al. Identifying school challenges following concussion: psychometric evidence for the Concussion Learning Assessment & School Survey, 3rd Ed. (CLASS-3). J Pediatr Neuropsychol. 2020;6:203–217	The number of missed school days was provided by parent report on the CLASS at baseline and 3, 6, and 12 months after study entry. At study entry, parents were asked, “How many days of school has your child missed since their concussion?” This same question was posed at the 3- and 6-month assessments where parents were asked about their children’s missed school days since injury for the “past 3 months” and at the 12-month assessments for the “past 6 months.”	Parents	Six months	Yes, Collaborative Care Intervention Same as study reference	Adolescents randomized to the intervention received cognitive-behavioral therapy (CBT), care management, and stepped-up medication consultation, if warranted, throughout the 6-month treatment period. Modular CBT addressed topics based on presenting concerns, such as headaches, fatigue, sleep problems, depressive symptoms, or anxiety symptoms. Care management was most often conducted with the parent, and addressed care coordination regarding medical treatment, social services, parent support, school advocacy, mental health, and other adolescent and parent concerns. All care management and CBT were delivered by one of two master’s level trained mental health professionals who decided which CBT modules to deliver. Components of the intervention were offered in person or by video telehealth. Case conferences were convened weekly to discuss patients randomized to the intervention condition. All patients randomized to collaborative care also received full care as usual from their treating clinician(s). Usual care control group included the use of sports medicine, rehabilitation medicine, physical therapy, primary care, specialty mental health services, emergency department, and referral to other specialty providers as needed and was not standardized. Usual care was documented by obtaining parent report of health care utilization as well as chart abstraction.	The collaborative care intervention reduced days of school missed but had no effect on the other areas of academic functioning assessed (GPA, academic problems).	N/A

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Rocque et al., 2016	Quant longitudinal	N/A	London, England	1. Research Office 2. Family home	Cambridge Study in Delinquent Development (CSDD; Farrington (1980, 1989; see also, West & Farrington, 1973). The participants include 411 boys who were recruited for participation in 1961-1962 from South London. The sample was generated by targeting all boys aged 8 to 9 on the list of six primary school registries within a one-mile radius of the research office. The sample was working class, mostly White (97%), and aged 8 to 9 when the study was initiated (Farrington, 1996; West & Farrington, 1973). Interviews have been conducted when the boys were approximately aged 8, 10, 14, 16, 18, 21, 25, 32, and most recently, at age 48.	X					Whether or not a boy was considered truant between ages 12 and 14	Absenteeism item/measure Farrington, D. (1996). Later life outcomes of truants in the Cambridge Study. In I. Berg & J. Nursten (Eds.), <i>Unwillingly to school</i> (pp. 96–118). Gaskell/Royal College of Psychiatrists.	The primary independent variable for this study is whether the man was considered a truant when he was aged 12 to 14. The measure here follows Farrington (1996), which is a combination of self-reports and teacher determinations on whether a child was a truant at age 12 and 14. The boys were interviewed and tested in their schools when they were aged about 8–9, 10–11, and 14–15, by male or female psychologists. For simplicity, these tests are referred to as the tests at ages 8, 10, and 14. Teachers completed questionnaires when the boys were aged about 8, 10, 12, and 14. These furnished data about their troublesome and aggressive school behavior, their restlessness and poor concentration, their school achievement and their truancy.	1. Self-report 2. Teacher-report	2 years	No	N/A	1. Truancy was associated with being convicted of any crime at age 50 2. Truancy predicts problem drinking at age 18 and 32	N/A

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						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated									
Rose et al., 2017	Quant cross-sectional	1. Dual-factor model of mental health (Greenspoon and Saklofske 2001)2. Subjective well-being (Keyes, 2006)	Michigan, United States	Household	This study is a secondary analysis of the 2001–2003 National Survey of American Life—Adolescent Supplement (NSAL-A; Jackson et al. 2004). The final sample consisted of 1170 participants, 810 African Americans 360 Blacks of Carribean descent. They ranged in age from 13 to 17 years (Mage: 15.03 ). The sample did not significantly differ by gender (48% male; 52% female).				X		Having ever been suspended or expelled from school	Absenteeism item/measure:1. School suspension variable2. School expulsion variableQuestions about suspension and expulsion were derived from the National Longitudinal Study of Adolescent to Adult Health (Add Health; Harris 2013; Harris et al. 2009)	School suspension was evaluated by the student’s response to “Were you ever suspended from school for a day or longer?” Finally, school expulsion was assessed by the question, “Were you ever expelled from school?” Grade retention, school suspension, and school expulsion were dichotomized as yes/no and recoded in this study to 0 (no) and (1) yes.	Self-report	Lifetime	No	N/A	Mental health difficulties associated with suspensions	N/A
Rosenbaum, 2018	Quant longitudinal	1. The secondary deviance hypothesis (Gibson & Haight, 2013; Michail, 2012) 2. Selection bias (no citation provided)	United States	School	The National Longitudinal Study of Adolescent and Adult Health (Add Health) comprises a nationally representative sample of adolescents attending public and private high schools and their feeder middle schools in 1994-1995. The Add Health surveys were given to adolescent respondents in				X		Whether the student had been suspended during a particular academic school year	Suspension variable from Add Health Study  Harris, K. M., & Udry, J. R. (2018). National longitudinal study of adolescent to adult health (add health), 1994-2008 [Public Use]. Ann Arbor, MI: Carolina Population Center, University of North Carolina-Chapel Hill [distributor], Inter-university Consortium for Political and Social Research [distributor], 08-06.	The predictor of interest is self-reported suspension between 1995 and 1996, based on the Wave 2 question, “During this school year (during the 1995-1996 school year) did you receive an out-of-school suspension from school?”	Self-report	1 academic year	No	N/A	The factors most strongly associated with suspension included lower grade point averages, a gut-feeling decision style, parents’ low assessment of their child, lower school attachment, lower expectations of college attendance, lower positive expectancies, more daily smoking, more likely to have ever smoked marijuana, more experiences with violence, and higher delinquency scoresv	N/A

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					1995 (Wave 1, response rate 79.0%), 1996 (Wave 2, 88.6%), 2001 (Wave 3, 77.4%), and 2008 (Wave 4, 80.3%); their parents (93% female parents) in 1995 (response rate 82.5%); and school administrators in 1995 (response rate 97.7%); National Longitudinal Study of Adolescent Health, 2015). Respondents were a 9,593 person subsample who participated in the first two surveys, at least one of the subsequent surveys (Wave 3 and/or 4), and reported at baseline having never received an out-of-school suspension or been expelled from school ("Have you ever received an out-of-school suspension from school?" and "Have you ever been expelled from school?").												Outcomes 5 years after suspension: youth were less likely to earn a high school diploma, more likely to have been expelled, more likely to have been arrested (especially as a minor) Outcomes 12 years after suspension: Suspended youth were more likely to have been arrested at least once, more likely to have been in prison, and more likely to have been on probation		

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Saelzer & Lenski, 2016	Quant cross-sectional	Sutherland's theory of differential association Sutherland, E. H. (1924). <i>Criminology</i> (4th ed.). Philadelphia, PA: Lippincott	Germany, Europe	School	Our data are drawn from the PISA 2012 sample in Germany (Prenzel, Saelzer, Klieme, & Köller, 2013). Participants consisted of 4,763 students in 210 high schools, located in all 16 federal states of Germany. All students were born in the year 1996 and, according to the birth cohort definition, were 15 years old at the time of the PISA test.		X					Truancy was defined as having ever skipped at least one lesson of the school day	5-item truancy index Kittl, H., Mayr, A., & Schiffer, B. (2005). Early school leaving and dropout: Research report. Graz, Austria: Studienverlag	Truancy was measured by a five-item frequency index adapted from Kittl, Mayr, and Schiffer (2005) that referred to the current school year (from August or September 2011 until the day of the PISA test in May 2012). The five items of the index distinguished skipping single lessons ("Have you ever skipped the first or last lessons of a school day?") from skipping half or whole days ("Have you ever skipped school for a morning and/or an afternoon?") or several consecutive days ("Have you ever skipped school for more than one school day in a row?"). In the context of the German educational system, different degrees of severity are seen as located on a continuum of truant behavior rather than as qualitatively different characteristics. For this reason, we distinguish single-lesson skipping from skipping half and whole school days, as well as skipping several days in a row. Students had to choose one of the four response options: never (1 point), once or twice (2 points), three or four times (3 points), and five times and more (4 points). This resulted in a possible range of 5 to 20 points.	Self-report	9 months	No	N/A	Association between attendance policies and truancy Students who are in a class where they notice many other students being truant skip classes more often than others. Furthermore, students who report that their school follows a rather passive attendance policy tend to be truant more often than others	N/A

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Sanderson et al., 2013	Quant cross-sectional	1. The Developmental Asset Profile (DAP; Search Institute, 2005) 2. Cultural and Social Capital (Mignone & O'Neil, 2005)	Alberta	School	67 high school students in grades 10-12 (52% male) in the community of Hobbema, which is comprised of four Cree nations: Samson, Louis Bull, Montana, and Ermineskin.					X	Those with less than 75% attendance rates are considered to have low attendance	Information from school records	For the purpose of this study, attendance was measured simply by student presence at school. If a student was absent, there was no coding to indicate absenteeism due to illness or some other reason. Miyo assigns the following labels to school attendance: Students who attend more than 90% of the time are considered to have high attendance rates; those who attend between 75% and 89% of the time have moderate attendance rates; and those with less than 75% attendance rates are considered to have low attendance.	School records	Not specified	No	N/A	Strong correlation between school attendance and developmental asset scores (e.g., assets included such things as family support, a caring school climate, opportunities to be of service to others, honesty, cultural competence, and personal power)	N/A
Seidu et al., 2019	Quant cross-sectional	N/A	Ghana	School	This study used data drawn from the 2012 Global School-based Health Survey (GSHS). A total of 1 433 pupils were surveyed. This sample included 791 (55.2%) males and 642 (44.8%) females. The majority of the students (97.1%) were aged 15 years or older.		X				The number of days a student missed class or school without permission in the past 30 days	<a href="https://www.cdc.gov/gshs/index.htm">Truancy variable Centers for Disease Control (CDC), (2015). Global School-based Student Health Survey. Retrieved from https://www.cdc.gov/gshs/index.htm</a>	The outcome variable employed for this study was truancy. It was derived from the question “during the past 30 days, on how many days did you miss classes or school without permission?” The responses were: 0 days, 1–2 days, 3–5 days, 6–9 days, and 10 or more. It was dichotomously recoded “1” if the respondent missed school and “0” if the respondent did not miss school without permission.	Self-report	30 days	No	N/A	Those who felt hungry in school, used tobacco, used alcohol, engaged in physical fights, and those who sustained an injury were respectively more likely to report being truant. Adolescents whose parents or guardians checked their homework were also less likely to report being truant.	N/A

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Seidu et al., 2022	Quant cross-sectional	N/A	Africa	School	This study used secondary data of the 2015 round of the Seychelles Global School-based Health Survey (GSHS). For this study, 1,833 adolescents were included in the analysis. More than half (57.1%) were females and the remaining were (42.9%) males. Majority of the adolescents (62.6%) were within the age range 11–14 years.		X					The number of days a student missed classes or school without permission in the past 30 days	Truancy measure Chacon, A. L. M., Viswanathan, B., & Bovet, P. (2015). Seychelles global school-based student health survey. Seychelles: Ministry of Health Seychelles, 1-83.	The dependent variable used for this study was truancy and it originated from the question “during the past 30 days, on how many days did you miss classes or school without permission?” The responses were 0 days, 1 or 2 days, 3 to 5 days, 6 to 9 days and 10 or more. It was dichotomised into “1” (if the respondent missed school) and “0” (if the respondent did not miss school without permission).	Self-report	30 days	No	N/A	Truancy was associated with: 1. Having ever gone hungry 2. Using tobacco 3. Smoking 4. Alcohol use 5. Engaging in a fight 6. Having experienced bullying victimization 7. Having been attacked 8. Having had suicidal thoughts 9. Having no close friends 10. Low parental involvement in school	N/A
Shabazian, 2014	Quant longitudinal	1. Critical Race Theory (Delgado & Stefaniec, 2006) 2. Spatial Theory (Hartigan, 1999)	United States	School	Data for this study were collected from the second largest urban school district in the United States. The sample population was 56 high schools (grades 9-12) located in the district with a population of 468,681 students over three school years (2001-2004).			X				Number of suspensions or expulsions for each of three school years (2001-2004)	Information from school records	Number of suspensions and expulsions for each of three school years (2001-2004) along with the range, mean, and standard deviation	School records	1 school year	No	N/A	1. Poverty 2. Student race/ethnic composition at school site	N/A
Shorter et al., 2020	Quant cross-sectional	N/A	United States	School	Participants were 367 adolescents (females: n = 214; males: n = 153) in grades 9–12, recruited from four different high schools in an		X					Truancy was defined as the total number of unexcused absences (full day) for the 2004–2005 academic	Absenteeism item/measure	Total number of unexcused absences (full day) for the 2004–2005 academic school year	Self-report	One academic year	No	N/A	We also found that extracurricular involvement moderated the association between both moral-religiosity and cohesion and adolescent truancy;	N/A

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Siennick et al., 2019	Quant cross-sectional	Risk-Needs-Responsivity (RNR) model Andrews, D. A., & Bonta, J. (2010). The psychology of criminal conduct (5th edn.). New Providence: Matthew Bender and Company. Andrews, D. A., & Dowden, C. (2006). Risk principle of case classification in correctional treatment: a meta-	United States	School	Appalachian region (geographically and culturally) of rural East Tennessee. The sample was 94% Caucasian with a mean age of 15.9 years (SD = 1.4) and a mean grade-level of 10.2 years (SD = 1.2). Participants were 58.3% female and 41.7% male, with the majority of children (53.4%) living at home with both parents (n = 196).				X		school year	Whether or not a student received a school suspension during the observation/study period	Information from school records	A continuous indicator of the number of days elapsed between the youth's enrollment in the study and his or her first post-enrollment school suspension, not including summer vacation days. We also examined the number of days elapsed between the youth's enrollment in the study and subtypes of suspension, namely the youth's first in-school suspension and first out-of-school suspension.	School records	Not specified	Yes, a school-based intervention for students with no prior police contact (Citation same as reference)	Intervention condition Each school was served by a team of specialized staff members who were hired to implement the intervention. When a new youth was assigned to the intervention condition, the team met to discuss the youth and appropriate services; teachers and other school staff often also joined the meetings. The meetings involved discussing the youth's behavior, any sanctions appointed by the court or school, and possible treatment options from the available services. In addition to overseeing treatment planning, the intervention team also provided advocacy for students, supervision and monitoring, and home visits. The case managers helped coordinate services among the juvenile court, the school, and community providers, and the social workers served as advocates for youth both at school and in court. Furthermore, although contacts between intervention staff and intervention youth were not counted, staff reported that they occurred regularly and	moral religiosity and cohesion were negatively associated with truancy when adolescents were involved in extracurricular activity.	N/A	N/A

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		analytic investigation . International Journal of Offender Therapy and Comparative Criminology , 50, 88–100														frequently. Case managers and social workers reported checking in with youth at school at least weekly. For youth on truancy monitoring, intervention staff checked attendance daily and often called youth via phone when they were absent. For youth with school behavior problems, intervention staff provided crisis assistance and impromptu counseling as needed. Many youth also visited intervention staff in their offices for support, and staff visited youths' homes when they felt that doing so would benefit the youth. Finally, youth who were on probation also received a school-based probation officer whose office was on campus and who regularly interacted with school staff and the rest of the team. The program services were provided continually and year-round (though they were limited in the summer months) until the youth transferred schools, dropped out of school, graduated, or completed his or her court sanctions and intervention staff felt that there was no further need for assistance.			
																The control condition was a "business-as-usual" condition, meaning that control youth received the services that they would have received had the intervention not been implemented, such as services provided by the school, services received in the community, or services required as part of court sanctions. Although these services were not tracked systematically, the intervention designers and staff believed that intervention youth received more, and more appropriate services and better service coordination than did control youth. The control youth also did not receive intensive monitoring and advocacy from intervention staff.			

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Siriwardhana et al., 2013	Quant cross-sectional	N/A	Sri Lanka	School	1505 children aged 12-17 years attending government schools in 17 districts	X						20% absence in one academic year	Information from school records	School attendance was measured by using the percentage of total days absent from the total days of schooling available over a year to students and applying a cutoff point of 20% in order to define the presence or not of absenteeism as a binary variable. This information was recorded by the research assistants for each participant student by accessing class attendance registers available at schools	School records	One academic year	No	N/A	1. Exposure to tsunamis 2. Mental health disorders (measured using the Sri Lankan National Mental Health Survey (NMHS))	N/A
Sivakami et al., 2015	Quant cross-sectional	N/A	India	School	Surveys were conducted among 1800 menstruating school girls in class 8-10 (above 12 years of age, Mage: 14.1 years) of 43 government schools selected through stratified random sampling in three Indian states in 2015.			X				Whether or not a student goes to school during their period	Absenteeism item/measure	Question: "Do you go to school during your period?" Response: Yes/No	Self-report	Not specified	No	N/A	The use of disposable pads, the availability of pain medication, and a space to wash in school were all associated with less absenteeism during menstruation. Dysfunctional toilets or long queues for toilets were associated with increased absenteeism.	N/A
Sivertsen et al., 2013	Quant cross-sectional	N/A	Norway	School	9338 adolescents aged 16-19 years (53.5% female). 306 had delayed sleep phase syndrome (DSPS; Mage: 18 years) and 9032 did not have DSPS (Mage: 17.8 years)					X		Days and hours of absence during past semester (calculated separately)	1. Information from school records 2. Unique item/measure	1. Days and hours of absence during the last semester (6 months), obtained from school records. For the purpose of the present study, we used both the mean of these two items, as well as dichotomous variables using the 90th percentile as the cutoff ( $\geq 2$ days and $\geq 5$ hours, respectively). 2. Self-reported non-attendance at school was measured using the following two items: "How many days of non-	1. School records 2. Self-report	6 months	No	N/A	Delayed Sleep Phase Syndrome (DSPS)	N/A

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Sivertsen et al., 2015	Quant cross-sectional	N/A	Norway	School	8347 high-school students aged 16–19 years (53.3% girls) The overall prevalence of DSP was 3.3%, which was significantly higher among girls (3.7%) than boys (2.7%).			X			Number of days and school hours of absence for the last semester (6 months).	Information from school records	attendance have you had the last month?" and "How many single hours (in addition to whole days) of non-attendance have you had the last month?" The two self-report variables were also used both continuously and dichotomously using the 90th percentile as the cutoff ( $\geq 3$ days and $\geq 6$ hours, respectively).	School records	6 months	No	N/A	Delayed sleep phase (DSP), measured through self-report.	N/A
Skedgell & Kearney, 2016	Quant cross-sectional	Response to Intervention Model (Kearney & Graczyk, 2014)	United States	1. Family Courts & Services Center 2. Truancy Diversion Program	118 middle and high school students aged 11-19 years (Mage: 15.10) from a large school district and their parent(s). Youth were mostly female (50.8%) and were Hispanic (73.5%), African-American (10.2%), multiracial (4.3%), Asian-American (3.4%), European American (2.6%), or other (6.0%).				X	Percentage of full school days missed from the current academic year at the time of assessment	Information from school records	Absenteeism severity was assessed as the percentage of the total number of school days missed during the academic year at the time of assessment. Percentage of days absent was examined dimensionally (0-100%), across 2 categories (15-100% vs. 0-14%), and across three categories (54-100%, 20-53%, and 0-19%)	School records	One academic year	No	N/A	Greater internalizing symptoms (general anxiety separation anxiety social phobia, panic, obsessions and compulsions, and depression)	N/A	

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Skubak Tillyer & Tillyer, 2016	Quant cross-sectional	A General Multilevel Model of Violent Victimization Wilcox, P., Land, K. C., & Hunt, S. A. (2003). Criminal circumstance: A dynamic multicontextual criminal opportunity theory. New York: Aldine de Gruyter	United States	School	Data collected from 11,070 adolescents (51% female, mean age = 15.04 years) during the first two waves of the National Longitudinal Study of Adolescent to Adult Health were used in this study		X				Whether the participant reported skipping school for one full day without an excuse during the current year	Skipping school variable Harris, K. M., Halpern, C. T., Whitsel, E., Hussey, J., Tabor, J., Entzel, P., & Udry, J. R. (2009). The National Longitudinal Study of Adolescent to Adult Health: Research design (WWW document). <a href="http://www.cpc.unc.edu/projects/addhealth/design">http://www.cpc.unc.edu/projects/addhealth/design</a> .	Skip school is a dichotomous variable that measures whether the respondent reported skipping school during the current year for a full day without an excuse (0 = No, 1 = Yes).	Self-report	One academic year	No	N/A	For Hispanic adolescents, skipping school was a risk factor for violent victimization	N/A
Soares et al., 2019	Quant cross-sectional	N/A	Brazil	School	282 adolescents aged 12-17 years (57.8% female, Mage: 17 years)		X				At least one full day of school absence without permission of your parents or legal guardians in the past 30 days	Absenteeism item/measure	Have you missed a day of school without permission of your parents or legal guardians in the past 30 days?	Self-report	One month	No	N/A	1. Heavy episodic drinking 2. Use of tobacco, inhalants, and marijuana	N/A
Soderman et al., 2019	Quant cross-sectional	N/A	Sweden	Online	1785 adolescent women (Mage: 16.2 years)			X			The number of instances of school/work absenteeism in past year	Absenteeism item/measure	Researchers created a web-based questionnaire (administered by Swedish Institute for Opinion Surveys). Participants reported the number of instances of school/work absenteeism in past year. The percentage of participants who reported monthly absenteeism from school/work was included in the results.	Self-report	One year	No	N/A	Dysmenorrhea	N/A
Stewart-Tufescu et al., 2022	Quant longitudinal	N/A	Manitoba	School	1002 adolescents aged 14-17 years and one of their parents				X	X	1. Number of days absent in one month 2. Number of suspensions received	Absenteeism item/measure: 1. Self-reported absenteeism 2. Self-reported	1. Monthly absenteeism was recorded and sorted in the categories of 0 days, 1-3 days, and 4 or more days 2. The number of in-school or out-of-school suspensions were recorded	Self-report	1 month	No	N/A	Self-reported adverse childhood experiences	N/A

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Strand et al., 2017	Quant longitudinal (scale development)	Life course developmental theories (Cullen, 1994; Farrington, 2003; Laub & Sampson, 2003)Cullen, F. T. (1994). Social support as an organizing concept for criminology: Presidential address to the Academy of Criminal Justice Sciences. Justice Quarterly, 11, 527-559Farrington, D. P. (2003), Developmental and life-course criminology: Key theoretical and empirical issues-The 2020 Sutherland Award Address. Criminology, 41, 221-	Washington, United States	School	The participants were adolescents (N = 937, 53% male) between 13 and 17 years of age and attending public school in Washington state. This sample includes only youth for whom a court petition was filed with the state, with the majority filed due to excessive unexcused absenteeism, in accordance with Washington state statutory law (BECCA Bill, 1995, E2SSB 5439). The racial-ethnic background of the sample was predominately Hispanic/Latino (45%) and White/Caucasian (39%), and included individuals who identified as African American (6%), Native American/Alaska N (7%), and Asian/Pacific Islander (3%).		X					This study includes only those youth for whom a court petition was filed with the state, with the majority filed due to excessive unexcused absenteeism in accordance with Washington state statutory law (BECCA Bill, 1995, E2SSB 5439). The new law requires the school district to file a truancy petition directly with the juvenile court if a juvenile has five unexcused absences in a month or ten in a school year.	suspensions	and categorized into "never" or "1 or more"	Self-report	Not specified	No	N/A		

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		225. doi:10.1111/j.1745-9125.2003.tb00987.xLaub, J. H., & Sampson, R. J. (2003). <i>Shared beginnings, divergent lives: Delinquent boys to age 70</i> . Cambridge, MA: Harvard University Press.										friends got drunk or high from alcohol, marijuana (pot, weed), or other drugs"). 5) The Family Environment (5 items) subscale measures the quality of the parent-child relationship as well as the home environment ("If I wanted to do homework, my parents' home was a good place to be")6) The School Engagement (9 items) subscale measures the participant's attachment to school and learning ("I liked going to school"), efforts to succeed ("I studied for my quizzes and tests"), and connectedness to school and school personnel ("I could talk to an adult at school if I had a problem"). Items are measured on a rating scale (1 = never or hardly ever, 2 = sometimes, 3 = often, and 4 = always or almost always) indicating the frequency of the thought, behavior, or emotion during the past 2 months							
Studsrod & Bru, 2012	Quant cross-sectional	Self-determination theory  Deci, E. L., & Ryan, R. M. (2000). The 'what' and 'why' of goal pursuits: Human needs and the self-determination of	Norway, Europe	School	The total sample comprised 272 boys and 288 girls (n = 564, four students did not indicate their gender) from one upper-secondary school in western Norway.		X				Whether a student ever "played truant"	Information from school records  1. Truancy variable 2. Class absence variable	1. Truancy was assessed by one question regarding how often the student played truant. The response alternatives were: 'never', 'seldom', 'sometimes', and 'often'. 2. Information about single class absences during the previous school year was provided by the school administration and revealed the number of lessons that students had missed in addition to	School records	One academic year	No	N/A	Truancy was associated with lower teacher emotional and academic support	N/A

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		behavior. Psychological Inquiry, 11(4), 227–268.										whole school days							
Tanner-Smith & Fisher, 2016	Quant cross-sectional	Ecological systems theoryBronfenbrenner, U. (1979). The ecology of human development :Experiments by nature and design. Cambridge, MA: Harvard University Press.	United States	School	The data for this study came from two large national surveys—the School Crime Supplement to the National Crime Victimization Survey (N = 38,707 students; 51 % male, 77 % White, MAge = 14.72) and the School Survey on Crime and Safety (N = 10,340 schools; average student composition of 50 % male, 57 % White).		X				The number of days the adolescent skipped class in the past month (0–20 days)	1. Truancy variable from the School Crime Supplement (SCS) to the National Crime Victimization Survey (NCVS)2. School-level attendance from the School Survey on Crime and Safety (SSOCS)U.S. Department of Justice. (2009). National crime victimization survey: school crime supplement, 2007: Codebook [Computerfile]. (ICPSR23041-v1). Office of Justice Programs, Bureau of Justice Programs. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor].Ruddy, S. A., Neiman, S., Bauer, L., Hryczaniuk, C.A., Thomas, T.L.,& Parmer, R.J. (2010). 2007–2008 School survey on crime and safety (SSOCS): Survey documentation for restricted-used data file users (NCES 2010-308). Washington, DC: National Center J Youth Adolescence123for Education Statistics,	1. In the Survey on Crime and Safety (SOCS), truancy was measured using a single student reported item indicating the number of days the adolescent skipped class in the past month (range 0–20 days)2. School-level attendance was measured using a single administrator-reported item indicating the average percent daily attendance rate (range 0–100)	Self-report	One month	No	N/A	N/A	N/A

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Tanton et al., 2021	Quant longitudinal	N/A	Uganda	School	232 female students at baseline consented/assented. The mean age was 15.4 years (SD 1.31; range 12–20 years). The majority (n=193; 83.2%) were Christian and 93 (42.7%) were of Ganda ethnicity.			X			School attendance was defined as i) attended a full day of school—including if they missed some classes or ii) attended a full day at school and all classes	Absenteeism item/measure	Diaries were provided for every term and holiday and participants were asked to record on each day whether they were menstruating and to self-define the flow as light, moderate or heavy, whether they had 'period pain', as well as school and class attendance. Data on pain, school and class attendance were collected each day, irrespective of	Self-report	One semester	Yes, MENISCUS -2 Pilot Intervention StudyKansime C, Hytti L, Nalugya R, Nakuya K, Namirembe P, Nakalema S, et al. Menstrual health	MENISCUS Intervention Package:1. Puberty education: Training of teachers to deliver puberty education sessions, including gender-specific sessions2. Role play: Working with school drama clubs on psychosocial issues around menstrual hygiene management, engaging parents, boys and teachers3. Menstrual kit: Training of trainers on the menstrual kit4. Pain relief: Guidance on pain relief methods including vouchers for analgesics5. Improving school WASH facilities: Access to water near toilets, installing	Menstruation (especially period pain)	N/A

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Tegegne & Sisay, 2014	Mixed methods	N/A	Ethiopia, Africa	School	The quantitative study was conducted among 595 randomly selected adolescent school girls. Nine in-depth interviews with five school-dropout girls and four female teachers, and four focus group discussions among school girls were conducted. The girls were in grades 7-8 and were aged 10 to 19 years.			X			Any occurrence of missing school related to menstruation	Qualitative interviews and focus groups	whether participants were menstruating that day. Outcomes were (i) school attendance (attended a full day of school—including if they missed some classes) and (ii) class attendance (i.e. attended a full day at school and all classes)	1. Youth (self-report) 2. Teachers	Not specified	intervention and school attendance in Uganda (MENISCU S-2): a pilot intervention study. BMJ Open. 2020;10(2):e031182	No	N/A	N/A	Menstruation was associated with both school absenteeism and school dropout. The main reasons for their absence were; shame and fear of sudden leakage or staining, followed by not having a pad, and no private place to manage a menstrual period in their school. The main causes of school dropout were embarrassment, not having menstrual soak ups, lack of cleanliness and separate toilet and water access in their schools.

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Thomas & Hennum, 2019	Qualitative	The regime of discipline Foucault (1977) Foucault M (1977) Discipline and Punish: The Birth of the Prison. New York: Penguin.	Norway, Europe	School	Attendance-related data for 38 high schools from the Oslo Municipality website was obtained (total of 18,678 students). The qualitative interview portion of this study includes a sample of 21 students in a single class from one high school.					X	The number of days students were absent from school in one academic year	1. Information from school records 2. Qualitative interviews 3. Participant observation	1. The first part involved the analysis of official documents in the public domain. These electronically available websites report statistics on absenteeism rates, entrance scores and dropout rates, and a host of other figures for every high school in the region. The absenteeism rate per high school in the Oslo region was reported in this study. 2. The data generated in the second part of the research was gained through in-depth interviews conducted with twenty-one students. The students filled out a standard form, which constituted the basis for a one-on-one conversation with the teacher (who is also the researcher in this study). Often, many students answered these questions with expressions like 'I am happy in this school', 'Nothing to discuss, really!' and 'Yes' or 'No'. Given the brevity of these responses, the follow-up 'interviews'/conversations were intended to flesh out the students' responses. The oral responses were transcribed verbatim. In the coding process, embryonic phrases were underlined and served as guidelines for constructing individual storylines (a narrative report). 3. The third approach employed in generating data was participant observation, understood as a form of	1. School records 2. Researcher/teacher 3. Students	One academic year	No	N/A	N/A	Higher school absenteeism rates are associated with: 1. High numbers of minority background students 2. Brevity of a student's residence in Norway 3. A lack of home support 4. Poor academic competence

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Thompson et al., 2020	Quant cross-sectional	Developmental cascades theory  Patterson, G. R., DeBaryshe, B. D., & Ramsey, E. (1989). A developmental perspective on antisocial behavior. <i>American Psychological Association</i> , 44(2), 329.	United States	School	Participants (49.8% female) came from eight public high schools in a Midwestern state (n=5262) with students in grades 9 (n=1580; 30%), 10 (n=1382, 26%), 11 (n=1258, 24%), and 12 (n=1042, 20%). Seventy-three percent of the students identified as White, 13% as Black, 5% as Asian, 5% as Latinx, and 5% as some other race				X		The number of in-school and out-of-school suspensions in the spring school semester	Information from school records	1. Schools provided the number of in-school (ISS) and out-of-school suspensions (OSS) received each month. For the purposes of this study, the total number of ISS and OSS was calculated based on those received across the months of January through the end of the school year. 2. Schools provided the percent of days in attendance for each month. For spring attendance data, we averaged the monthly attendance data from January to May.	School records	Five months	No	N/A	Association between scores on the Early Identification System—Student Response (EIS-SR) and attendance/suspension data: 1. Students with higher levels of Externalizing Behavior and Emotional Dysregulation were more likely to receive a disciplinary infraction 2. Students with higher levels of Externalizing Behaviors, Attention Issues, and School Disengagement were more likely to miss	N/A

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					or two or more races.												classes in the spring		
van den Toren et al., 2021	Quant cross-sectional	N/A	Netherlands	School	555 adolescents aged 14-18 years (Mage: 15.6 years old, 47% female, 79.1% Dutch)		X	X			Number of days absent in the past four weeks, either due to sickness or truanting	Absenteeism item/measure	1. Sickness absence was assessed by the question: "How many days in the past four weeks have you been absent from school because you were sick?" (Answer categories ranged from '0 days' to 'greater than or equal to 7 days'). For analysis purposes, sickness absence in the past four weeks was recoded into '0 days', '1 day', and 'greater than or equal to 2 days'. 2. Truancy was assessed by the question: "How many days in the past four weeks have you been absent from school because you were truanting?" (Answer categories ranged from '0 days' to 'greater than or equal to 7 days'). For analysis purposes, truancy in the past four weeks was dichotomized into '0 days' and 'greater than or equal to 1 day'.	Self-report	1 month	No	N/A	N/A	N/A

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Van der Put et al., 2013	Quant cross-sectional	N/A	Washington, United States	Juvenile court	For this study, secondary data from the Washington State Juvenile Court Pre-Screen Assessment (WSJCPA) validation study were used (Barnoski, 2004). The sample consisted of 21,810 American juveniles, aged 12 to 18, who appeared before the courts for a criminal act in the period from January 1999 to January 2000 and for whom the WSJCPA was completed. All juveniles who had committed a sexual or violent felony offense were selected from this data set. The sexual offenses included both sexual offenses against a child who was at least 5 years younger than the offender and sexual offenses against a person of similar age or an adult person. The following research groups were selected: All female adolescents who had committed a felony sexual	X					A truancy petition is equal to 7 unexcused absences in a month or 10 in a year	The Washington State Juvenile Court Pre-Screen Assessment (WSJCPA) Barnoski, R. (2004). Assessing risk for re-offense: Validating the Washington State Juvenile Court assessment appendices. Olympia, WA: Washington State Institute for Public Policy, 1-49	The WSJCPA is a risk-assessment instrument developed and validated in the United States (Barnoski, 2004). The WSJCPA is designed for use by juvenile justice professionals and clinicians to summarize juveniles' risks and needs, classify their overall risk level, and plan treatment and supervision strategies. Section 2 of the WSCPA assesses youth school behaviour. Question 11 assesses youth's attendance in the most recent term. Full-day absence means missing majority of classes. Partial-day absence means attending the majority of classes and missing the minority. A truancy petition is equal to 7 unexcused absences in a month or 10 in a year. Response options include the following: ... No unexcused absences ... Some partial-day unexcused absences ... Some full-day unexcused absences ... Truancy petition filed, or equivalent full-day unexcused absences, or withdrawn within last six months In the present study, responses to this attendance question were recoded into dichotomous variables (1 if truancy petition was filed and 0 if it was not filed)	Self-report	One academic year	No	N/A	Having committed violent offenses was associated with truancy	N/A

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van der Put, 2013	Quant cross-sectional	N/A	United States	Juvenile court	offense (n = 40) b) All boys who had committed a felony sexual offense (n = 743) c) All girls who had committed a violent offense other than a sexual offense (n = 533)		X		X		1. Having ever missed a full day of school (unexcused) or having received a truancy petition or equivalent 2. Having ever received an out-of-school suspension, having ever been expelled, or having ever dropped out from school	1. Truancy variable 2. Suspension variable From the Washington State Juvenile Court Pre-Screen Assessment (WSJCPA) Barnoski, R. (2004). Assessing risk for re-offense: Validating the Washington state juvenile court assessment. Olympia, WA: Washington State Institute for Public Policy.	1. Youth 2. Parents	Not specified	No	N/A	Female adolescents who had committed a felony sexual offense against a younger child (CSOs) had less often had dropped out of school and less often were truant than those who had committed a misdemeanor sexual offense.	N/A	



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Vanneste, Mathijssen, et al., 2016	Quant longitudinal	N/A	Netherlands, Europe	School	In school year 2011–2012, the Medical Advice for Sick-reported Students (MASS) intervention had been applied by seven out of all 21 schools for pre-vocational secondary education in the Netherlands. These seven schools were asked to participate in the study as an intervention school. In 2014, within the group of the 14 remaining schools, seven schools were asked to participate in the study as a control school, by providing anonymised absence data of their students retrospectively. The intervention group consisted of students who were attending one of the intervention schools, had been identified by the school as having extensive medical absence according to the MASS-criteria, and had been referred to a youth health care			X			Students having extensive medical absence as identified by intervention criteria (i.e., reported sick four times in 12 school weeks or more than six consecutive school days)	Information from school records  The number of absence periods and absence days reporting sick during the 12 school weeks prior to the three measurement points.	The level of a student's medical absence was measured as the number of absence periods and absence days reporting sick during the 12 school weeks prior to the three measurement points. The first measurement point (T0) was the consultation moment with the youth health care physician. For the control group, the first measurement point (T0) was at two pre-defined points in time: December 1 or March 9. These points in time were chosen to avoid missing data in the 12 school weeks' measurements periods. The data of a student with an extensive absence rate at both points in time were included in December 1. After 3 months (T1) and 12 months (T2), the measurement was repeated.	School records	One academic year	Yes, Medical Advice for Sick-reported Students (MASS) Intervention Vanneste YTM, Rots-de Vries MC, Goor LAMVD, Feron FJM. Medische Advisering van de Ziek gemelde Leerling. Ontwikkelen g van een interventie [Medical Advice for Sick-reported Students Development of an intervention]. TSG. 2012;90(7): 412–9.	The MASS intervention consists of an integrated approach in a public health setting. MASS provides a clear framework in which schools, in direct collaboration with youth health care physicians (YHCPs), are able to reach students and their parents, discuss aspects of the student's medical absence, and design and monitor management plan that aims to optimise students' health and maximise students' participation in school activities. In summary, the aim of the MASS intervention is to limit the absenteeism by arranging appropriate care, educational adjustments and adequate support for students and parents. A systematic routine is followed:  Step 1 (School's policy): The school communicates with students and parents about the new policy in case of absenteeism because of medical reasons.  Step 2 Referral to the YHCP: Students with extensive medical absence are identified by school by using well-defined threshold criteria: reported sick four times in 12 school weeks or more than six consecutive school days (MASS-criteria). Meeting the criteria always leads to a referral to the YHCP for student and parents.  Step 3 Consultation of student and parents with the YHCP: During the interview and medical assessment YHCPs look for biological, psychological and social factors that contribute to the students' medical absenteeism. The YHCP identifies whether there is a specific somatic or psychiatric diagnosis to account for the absence. If the diagnosis is clear the focus will be on optimising the (adherence to) treatment. In cases of frequent physical complaints and psychosocial problems with no clear	Medical illness	N/A

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					<p>physician during school year 2011–2012. The control group consisted of students who were attending one of the control schools, and who were identified retrospectively in the absence data as having extensive medical absence according to the MASS criteria. The intervention group consisted of 493 students (12 % of the total school population of 4159 students) and the control group consisted of 445 students (14 % of the total school population 3153 students). The total study group, including both intervention and control groups, consisted of 938 students, of whom 40% were male and 60% female.</p>											<p>medical diagnosis, the YHCP considers diagnostics, and looks for family and school related factors, as well as health risk behaviours and lifestyle aspects that contribute to the physical complaints and psychosocial problems. If needed, the YHCP refers to a medical specialist or a psychosocial support network. A management plan is then designed together with student, parents and school, and with curative professionals, if applicable. This plan includes agreements on cure, care and school attendance.</p> <p>Step 4 Monitoring the management plan: School and YHCP monitor the execution of the management plan.</p>			

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Vanneste, van de Loo, et al., 2016	Qualitative	N/A	Netherlands	School	17 principals and special education needs coordinators working in nine secondary schools in the Netherlands			X			Students having extensive medical absence (i.e., reported sick four times in 12 school weeks or more than six consecutive school days)	Qualitative Interview	Semi-structured interviews were held with nine principals and eight special education needs coordinators, working in nine secondary schools that apply the Dutch intervention Medical Advice for Sick-reported Students (abbreviated as MASS). This intervention was developed to address school absenteeism due to sickness reporting, also called medical absenteeism. The questions were broad, open-ended, and non-directive. This led to a detailed exploration of participants' views and experiences with regard to the intervention. Topics put forward were reasons for paying attention to medical absenteeism, possible explanations for medical absenteeism, the possible added value of a YHCP in this intervention, opinions about and experiences with the intervention, and factors influencing the implementation of the intervention.	1. Principals 2. Special educational needs coordinators	Not specified	No	N/A	N/A	Medical sickness/illness
Vardanian et al., 2019	Quant longitudinal	N/A	Denmark	1. Family home 2. Community center	687 families		X			Having skipped school at least once in the past month	Absenteeism item/measure	School attendance was reported by adolescents and parents by using a binary scale (i.e., yes = 1, no = 0) to answer whether they had skipped school at least once in the last month (data was collected both pre- and post-intervention).	1. Self-report 2. Parent report	1 month	Yes, Functional Family Therapy (FFT; Sexton & Turner, 2010)	The FFT intervention is structured to be delivered to at-risk youth aged 11–18-years-old in an average of 12 one-hour sessions over the course of three to four months. In this study, the FFT intervention was delivered in an average of 17 75-minute sessions, with an additional 30 min per session spent on extra contact with the family. FFT is comprised of three main phases of clinical intervention (i.e., engagement and motivation, behavior change, and generalization). The first phase,	Youth disruptive behaviour problems	N/A	

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Vaughan et al., 2016	Quant cross-sectional	N/A	United States	Family home	3000 Hispanic or Latino youth (50.7% male) in grades 7–12 from Wave I in-home interviews of the National Longitudinal Study of Adolescent Health (Add Health; Harris et		X												engagement and motivation, includes aiming to build a balanced alliance (both between family members and between each family member and the therapist), reduce between-family blame, and negativity, and identify shared definitions of target problems (Sexton, 2017). This phase focuses on building rapport and a positive relationship amongst participating members as well as establishing motivation to fully engage in treatment. Behavior change constitutes the second phase of FFT, which focuses on modifying specific risk or disruptive behavior problems presented by the youth and family by incorporating protective skills within the family system (e.g., communication, parenting, supervision, problem solving, conflict management). The behavior change phase aims to change youth and family risk patterns in such a way that is consistent with their context and values. The third and final phase comprises of generalization, which focuses on the family's interactions with the broader scope of its whole environment. This phase aims to apply behavior modifications achieved in the previous phase to other areas in the family system, working to maintain the changes that have been made through relapse prevention strategies, support, and the incorporation of relevant community resources.	Alcohol use associated with truancy	N/A

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					al., 2009).														
Vaughn et al., 2013	Quant cross-sectional	Developmental-ecological framework (no citation provided)	United States	Household	18,819 youth aged 12–17 years. The mean age of the study sample is 14.6 years old. The respondents are evenly distributed between males (51.0%) and females (49.0%) but are unevenly distributed in terms of race/ethnicity.		X				The number of days they missed school from skipping in the past 30 days	2009 National Survey on Drug Use and Health (NSDUH)  Substance Abuse and Mental Health Services Administration, Office of Applied Studies. (2009). Results from the 2008 National survey on drug use and health: National findings. Rockville, MD: Substance Abuse and Mental Health Services Administration 2009.	The NSDUH survey queried youth on how many days they missed school from skipping in the past 30 days. We subsequently coded this variable into non-school skipping (0 days), moderate skipping (1–3 days), and high levels of school skipping (4+ days).	Self-report	30 days	No	N/A	1. Lower school engagement 2. Lower academic performance 3. Less parental involvement in school	N/A
Veliz & Shakib, 2012	Quant longitudinal	Social Control Theory (Hirschi, 1969)	United States	School	50 American high schools were surveyed in 2003-2004 and 2005-2006			X			Being suspended out-of-school for 5 or more days	Suspension rate obtained from School Survey on Crime and Safety (SSOCS)  <a href="https://nces.ed.gov/surveys/ssocs/">https://nces.ed.gov/surveys/ssocs/</a>	The suspension rate is constructed by adding the total number of students who were suspended out-of-school for five or more days (but less than the remainder of the school year) within each school divided by the total number of students enrolled within each school	Principals	1 academic year	No	N/A	Schools with higher interscholastic sports participation rates had fewer out-of-school suspensions	N/A

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Vellos & Vadeboncoeur, 2015	Qualitative	Sociocultural perspective to absenteeism Gutierrez, K. D. 2002. "Studying Cultural Practices in Urban Learning Communities." Human Development 45: 312–321. Lave, J., and E. Wenger. 1991. Situated Learning: Legitimate Peripheral Participation. Cambridge: Cambridge University Press.	British Columbia, Canada	School	A sample of students from Mountain High, a small senior high school alternative programme situated on a different site than the mainstream high school to which it was attached. It was designed for grade 11–12 students (16–19 years of age).		X				Many of the students in this alternative programme had been referred to the programme after not meeting attendance requirements at their mainstream high schools. According to the attendance policy for Mountain High (1995), truancy was defined as absence from class(es) without reason or permission, leaving campus without checking out. Number of truancy offenses were cumulative each semester. Accumulating a certain number of truancy offenses had consequence. For example, a first offense (1–3 trancies) resulted in having a teacher meet with a student to review expectations and assign a classroom consequence; also, the teacher contacts	Field observation	This study used qualitative methods, including participant observation, active interviews and document analysis during a six-week period at Mountain High. 1) A total of 50 h of participant observation were recorded. Observations were carried out using a participation framework that focused on identifying social practices through five features of learning contexts: location, relationships, content, pedagogy and assessment/evaluation. 2) Eight active interviews were carried out: four with educators, teachers and a Youth and Family Worker, and four with students. Active interviews position the interview as a co-construction between two participants who contribute to and learn from the outcome of the interview. In interviews with the students and educators at Mountain High, students currently enrolled had specific kinds of experiences at mainstream schools that led to their disengagement from schools. This disengagement was manifested through behaviours that put them at risk for not graduating. These behaviours included smoking, using drugs, cutting class, being late, avoiding homework and in general, not fitting in with the school community.	1. Students 2. Teachers/educators	Six weeks	No	N/A	N/A	Students enrolled in the alternative education program had specific kinds of experiences at mainstream schools that led to their disengagement. This disengagement was manifested through behaviours that put them at risk for not graduating, including smoking, using drugs, cutting class, being late, avoiding homework and in general, not fitting in with the school community.

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										parents.		Youth at Mountain High compared their previous schools and their present alternative school and found differences. These differences included, smaller classes, blocked sessions that allowed for four courses at a time, teachers that cared and motivated them, and educators that recognised their strengths and helped them build upon these. <sup>3)</sup> Document analysis included the Mountain High School Handbook (1995), and attendance policies across of four schools within three districts. A constant comparative analysis (Glaser 1965) was conducted concurrently with data collection and categories were developed with specific attention to the development of relationships and social practices that enabled the participation of students. The lens used for this article was attendance, defined as being present for class							
Walter et al., 2012	Quantitative longitudinal	N/A	Germany, Europe	School	147 anxious-depressed adolescents with chronic school absenteeism were recruited from the inpatient unit of the Department for Child and Adolescent Psychiatry and Psychotherapy at the University of Cologne. 84 boys	X					To be eligible for the study, participants had to have least 14 days without school attendance or at least 50 skipped classes in the last school report. In terms of outcome measure, discontinuous	Absenteeism item/measure	The main outcome variable was school attendance during the preceding 2 weeks, which was determined at each assessment point and operationalized as a dichotomous variable (continuous school attendance, yes/no). Discontinuous school attendance was defined as at least 1 day of irregular school attendance (i.e., at	1. Teachers 2. Parents	Two weeks	Yes, manualized cognitive behavioural therapy treatment (Daniel Walter; Christopher Hautmann; Saada Rizk; Maïke Petermann; Johannes Minkus;	The CBT treatment was manual guided, and adolescent-focused, parent-focused and teacher-focused interventions were implemented. A treatment plan was developed for each individual and included the following specific cognitive-behavioural interventions (derived from the therapy manual to treat school absenteeism): exposure therapy, assembly of leisure activities, cognitive restructuring, social skills and parent trainings to enhance educational skills. Treatment consisted of two or three individual adolescent sessions per	N/A	N/A



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Walter et al., 2017	Quant (scale development)	N/A	Germany, Europe	Inpatient/outpatient facilities	Participants were recruited at nine inpatient or outpatient facilities across Germany that specialize in treating adolescents with school absenteeism. The sample consisted of 62 adolescents (56.5% girls) aged 11 to 17 years (M = 14.7 years). Most were German (n = 57, 91.8%), 36 (58.0%) had already repeated one grade due to school absenting behavior, and 34 (54.8%) were living in a single parent household.	X					Participants were included in the study if they had missed at least 10 days at school during the previous 3 months without any somatic reason	School Refusal Assessment Scale (SRAS) - German version	First, the English versions of both the self- and parent-rated versions of the SRAS-R were translated into German by two authors. To reduce their complexity, the original 7-point Likert-type scales were reduced to a 4-point Likert-type scales (from 1 = I completely disagree to 4 = I agree completely). Second, the comprehensibility of the German versions (self- and parent-rated) was tested by administering it to a sample of school absenting adolescents (n = 15) and their parents. Based on their feedback, the wording of Item 22 was altered in both versions. The resulting questionnaire (self-rated and parent versions) consists of 24 items	1. Youth 2. Parents	Not specified	No	N/A	(who received specific training for the study) implemented daily graduated exposure and focused specifically on the enhancement of leisure activities with the youngsters. They also implemented daily 1-hour group homework training sessions. Other additional treatment components included attendance at the clinic school for youths with severe school absenteeism. A return to the previous school attended before treatment or a change to another regular school was realized as promptly as possible. Youths with less severe school absenteeism were integrated directly into their regular school during inpatient treatment. Twenty of the families received a 1-hour youth welfare consultation by a social worker during inpatient treatment.	N/A	N/A

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						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated									
																			divided into the same four subscales as the English version: (a) Avoidance of Stimuli That Provoke Negative Affectivity (Items 1, 5, 9, 13, 17, 21), (b) Escape From Aversive Social and/or Evaluative Situations (Items 2, 6, 10, 14, 18, 22), (c) Pursuit of Attention (Items 3, 7, 11, 15, 19, 23), and (d) Pursuit of Tangible Reinforcement (Items 4, 8, 12, 16, 20, 24). While the first two subscales represent absence from school because of negative reinforcement, the latter two represent absence from school that is maintained through positive reinforcement.

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						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated									
Walter et al., 2022	Quantitative longitudinal	Interdisciplinary model of school absenteeism Kearney, C.A. (2008). An interdisciplinary model of school absenteeism in youth to inform professional practice and public policy. <i>Educational Psychology Review</i> , 20, 257–28	Germany, Europe	School	49 adolescents aged between 11 and 18 years with clinically-relevant school absenteeism behavior. Out of the total of 49 participants, n = 27 (55.1 %) were female. The participants' mean age was M = 14.20 years (SD = 1.99).	X					If a patient had missed less than 2.5 days (25 %) of school within the last 2 weeks or less than 11 days (15 %) within the last 15 weeks before the start of therapy, this was considered to be mild school absenteeism	1 Information from school records2. Established scale/questionnaireSchool attendance variable (information was collected from a variety of sources, including school records, the Teacher Report Form (TRF), the Child Behavior Checklist (CBCL), and the Youth Self Report (YSR) Doepfner, M., Plueck, J., Kinnen, C., & Arbeitsgruppe Deutsche Child Behavior Checklist. (2014). <i>Manual deutsche Schulalter-Formen der Child Behavior Checklist von Thomas M. Achenbach. Elternfragebogen über das Verhalten von Kindern und Jugendlichen (CBCL/6-18R), Lehrerfragebogen über das Verhalten von Kindern und Jugendlichen (TRF/6-18R), Fragebogen für Jugendliche (YSR/11-18R)</i> [Manual of the German versions of the Child Behavior Checklist for school-aged children and adolescents by Thomas M. Achenbach. Child Behavior Checklist (CBCL/6-18R), Teacher Report Form (TRF/6-18R), Youth Self-Report (YSR/11-18R)]. Hogrefe. Doepfner, M., Plueck,	School absenteeism was assessed at the beginning and end of treatment and was rated retrospectively based on file records. Two of the authors, who were blinded regarding the assessment timepoint, independently rated information on school attendance according to three severity levels: 0 – regular school attendance; 1 – mild school absenteeism; 2 – severe school absenteeism. Following suggestions by Kearney (2008a), we coded school absenteeism as 1 – mild if the patient had missed less than 2.5 days (25 %) of school within the last 2 weeks or less than 11 days (15 %) within the last 15 weeks before the start of therapy. If information on the number of days absent in this period was lacking, we recorded missed classes based on the most recent school report (less than 94 hours in total, based on the assumption of 6.5 lessons on average per day). In the case of missing file record information on school absence (n = 9, 18.4 %), the severity of school absenteeism was coded based on a combined parent, teacher, and self-rating of the item “skips school” of the German versions of the Teacher Report Form (TRF), the Child Behavior Checklist (CBCL), and the Youth Self Report (YSR)	1. School records2. Teachers3. Parents4. Youth	Two weeks	Yes, manualized cognitive behavioural therapy treatmentDaniel Walter; Christopher Hautmann; Saada Rizk; Maïke Petermann; Johannes Minkus; Judith Sinzig; Gerd Lehmkuhl; Manfred Doepfner (2010). Short term effects of inpatient cognitive behavioral treatment of adolescents with anxious-depressed school absenteeism: an observational study. <i>Journal of Child Psychology and Psychiatry</i> , 51(11), 835–844. doi:10.1007/s00787-010-0133-5	The study was conceptualized as a one-group pre/post-test design. The first assessment occurred within the first five treatment sessions (preassessment) and consisted of clinical examination and standardized questionnaires completed by patients and their parents. The second assessment occurred at the end of the treatment and comprised ratings by patients and parents (postassessment). The study was conducted in the outpatient clinic of a school of child and adolescent cognitive behavioral therapy in Germany. The treatments were delivered by post-graduate students who held a Master's degree in psychology or education and were in the second half of their training in child and adolescent CBT. This training lasts for 5 years and encompasses the requirement of 600 sessions of psychotherapy to be delivered during the second half of the training. During the CBT training, the psychotherapy sessions are guided by an accredited CBT supervisor (one supervision session every four therapy sessions). All of the treatments provided were based on the currently recommended cognitive-behavioral methods for the treatment of adolescents with school absenteeism.	There was a considerable decline in the number of patients with school absenteeism and in the severity of school absenteeism during CBT treatment	N/A

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Wambugu & Mokoena, 2016	Qualitative	Classical liberal theory  Boyd W (1956) Emile for Today. London: Heinemann.	Kenya, Africa	School	The participants were students who returned to school after they had raised money for tuition, teachers serving on the school district committee and the head teacher.			X				The number of days that a student missed school after being sent home for non-payment of fees	1. Qualitative Interview 2. Absenteeism variable	(Doepfner et al., 2014) at the start of treatment. This item can be rated as 0 (not true), 1 (somewhat or sometimes true), or 2 (very true or often true). The item codings of the three raters (parents, teachers, patients) were summed up, with a sum score between 1 and 3 coded as 1 = mild school absenteeism and a score greater than 3 being coded as 2 = severe school absenteeism	Students	Not specified	No	N/A	N/A	Absenteeism associated with non-payment of school fees

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Watts et al., 2018	Quant longitudinal	Social Bonding Theory (Hirschi, 1969)	Tennessee	School	10541 American adolescents (first recruited during the 1994-1995 school year while they were in Grades 7 to 12) aged 11 to 23 (M <sub>age</sub> : 16.15 years). 53% of participants are White, 21% Black, and 16% Hispanic.				X		Having ever received an out-of-school suspension	Absenteeism item/measure	Out-of-school suspension consists of one item that asks respondents at Wave 1 if they have ever received an out-of-school suspension (1 = yes).	Self-report	Lifetime	No	N/A	ADHD symptomatology	N/A
Weiler et al., 2019	Quant longitudinal	Rhodes' model of youth mentoring  Rhodes J, Spencer R, Keller TE, Liang B, & Noam G (2006). A model for the influence of mentoring relationships on youth development. <i>Journal of Community Psychology</i> , 34, 691–707. doi:10.1002/jcop.20124	United States	School	The current sample consisted of adolescents and their mentors who participated in a previously published evaluation of a preventive intervention for high-risk youth known as Campus Connections (Weiler, Haddock, Henry, Zimmerman, Krafchick, & Youngblade, 2015). Of the 204 adolescents with complete mentor-report data, 54.5% were male and were 11 to 18 years old (M = 14.9). Over half		X			The number of unexcused absences in the past month	Absenteeism item/measure	A single, open-ended item, "How many unexcused absences have you had in the past month?"	Youth self-report	One month	Yes. Campus Connections (CC) Weiler LM, Haddock SA, Henry K, Zimmerman TS, Krafchick J, & Youngblade L (2015). Timelimited, structured youth mentoring and adolescent problem behaviors. <i>Applied Developmental Science</i> . doi:10.1080/10888691.2	Data were collected in two waves (a baseline survey (T1) completed up to one month prior to the program start and a second survey (T2) during the final week of the program).  CC is a time-limited mentoring program for high-risk youth who are either at risk of entering the juvenile justice system or formally charged with an early offense (see Weiler et al., 2015 for a complete program description). The 12-week program occurs entirely on a university campus and matches meet one night per week. Activities are designed to further facilitate the relationship between youth and their mentors while supporting the development of new interests, skills, and competencies. Throughout the evening, mentors serve as role models, and aim to empower youth while fostering a sense of agency and life purpose. Mentors are coached to prioritize their mentor-mentee relationship over the program-specified activities described below,	Youth with attuned mentors (capacity to respond flexibly to youth's verbal and nonverbal cues by taking into account youth needs and desires) reported less truancy	N/A	

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					of youth self-identified as White non-Hispanic (52.9%), 28.9% as Hispanic or Latino, 6.4% as American Indian or Alaskan Native, 2.0% as Black or African American, 1.5% as Native Hawaiian or other Pacific Islander, and 7% as other. Mentors (n = 204) were undergraduate university students who were selected after an application process, which included passing a background check, specifying reasons for becoming a mentor, and previous coursework or experience relevant to working with youth.									015.1014484	whendeemed appropriate. This program flexibility allows mentors to uniquely meet the needs of mentees, as is typical of many mentoring-based interventions. For instance, if a mentee is struggling with a difficult situation at home, the mentor is trained to attend to this distress even if that means passing on a program activity. The semi-structured schedule is as follows. The first 30-minutes include a walk on campus. During the walk, youth and mentors build connection through conversation, laughter, and quality time. This time is also intended to help youth feel welcome on a college campus. The next hour is set aside for matches to work together on academic-related tasks, from homework and studying to resolving conflict with peers or teachers. Matches negotiate with one another to determine the focus of this hour and can prioritize other, non-academic topics when warranted. After dinner, the last half of each program night includes two 1-hour blocks during which matches engage in prosocial activities (e.g., art projects, sports, writing, music, and games). Because youth frequently share highly personal and sometimes concerning information with their mentor (e.g. suicidal ideation, bullying, depression, abuse), which is indicative of high levels of trust, closeness, and self-expression within the mentoring relationship, family therapists provide supervision, monitoring, and support throughout the evening.				

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Welch & Payne, 2012	Quant longitudinal	Racial Threat (Blalock, 1967)	United States	School	The National Study of Delinquency Prevention in Schools (Gottfredson et al., 2000) is the source for our study's data. The final analytic sample in this study includes 294 public, nonalternative middle and high schools.				X		1. Expulsion (exclusion of students for over 30 days)2. Suspension (exclusion of students for 30 days or less)3. In-school suspension (brief exclusion of students from attendance in regular classes).	Absenteeism item/measure:Phase 2 Principal QuestionnaireGottfredson, G. D., Gottfredson, D. C., Czeh, E. R., Cantor, D., Crosse, S. B., & Hantman, I. (2000). A national study of delinquency prevention in school: Final report. Ellicott City, MD: Gottfredson	We operationalize three forms of exclusionary discipline with individual questions from the Phase 2 Principal Questionnaire regarding expulsion (exclusion of students for over 30 days), suspension (exclusion of students for 30 days or less), and in-school suspension (brief exclusion of students from attendance in regular classes). Each question asks whether school administrators use the exclusionary discipline response to student misconduct. The questions began with following introduction: "Different schools make use of different responses to student misconduct. Following is a list of possible responses to student misconduct school administrators might use. Please indicate if your school uses these responses." Possible answers to the questions are "not used," "used," and "used often." After an examination of the frequency distributions, these variables were collapsed into binary measures (Bernard, 2000). The variable expulsion was measured as used (=1) (which includes the responses "used often" and "used") or not used (=0). Suspension and in-school suspension were each measured as used often (=1) or not used often (=0) (which includes the responses "used" and	Principal report	30 days	No	N/A	Schools with a greater proportion of Black students reportedly more often use expulsion, suspension, and in-school suspension as methods for dealing with student delinquency and misbehavior	N/A

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Welch et al., 2022	Quant longitudinal	Cumulative Disadvantage Framework (Sampson & Laub, 1997)	United States	School	A sub-sample of 14,484 individuals enrolled in 129 schools were drawn from the Add Health longitudinal study. Add Health is a multi-wave nationally representative survey of youth in the United States conducted by the University of North Carolina Population Center. Wave I of			X			Having ever been suspended or expelled from school	Absenteeism item/measure	“not used”). In addition, we operationalize the use of automatic expulsion or suspension that derive from five types of zero tolerance policies. These questions also come from the Phase 2 Principal Questionnaire and ask whether schools use this automatic response to possession of tobacco, alcohol, other drugs, a knife, and a gun. Possible responses to these questions were “not usually used, usually used,” and “automatic”. Again, after an examination of the frequency distributions, these variables were collapsed into binary measures with the possible responses “automatic” (=1) or “not automatic” (=0), which includes the responses “not usually used” and “usually used” (Bernard, 2000)	Self-report	Lifetime	No	N/A	Greater odds of arrest and incarceration	N/A

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						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated									
Widdowson et al., 2021	Quant cross-sectional	1. Labeling Theory. 2. Routine Activity Theory. Sampson, R. J., & Laub, J. H. (1997). A life-course theory of cumulative disadvantage and the stability of delinquency. <i>Developmental Theories of Crime and Delinquency</i> , 7, 133–161. Cohen, L. E., & Felson, M. (1979). Social change and crime rate trends: A routine activity approach. <i>American Sociological Review</i> , 44(4), 588–	United States	Household	the Add Health data was collected during the 1994–1995 school year among students in grades 7 through 12 who were enrolled in 145 middle and high schools.  The data for this study came from waves 1 to 8 of the National Longitudinal Survey of Youth 1997 Cohort (NLSY97). The current study uses data from all 7628 respondents between 12 and 19 years (49.6% male).				X		Whether or not a student had been suspended from school	1. School suspension variable. 2. Cumulative school suspension variable	of-school suspension in the past year. Youth who responded “yes” to either of these questions were coded as 1. Similarly, respondents were coded as having been expelled (=1) if they reported that they had ever been expelled from school at the Wave I or, if applicable, Wave II interviews.	Self-report	Lifetime	No	N/A	Being suspended from school at one wave was associated with an increased hazard on gang membership onset at the next wave. The results also revealed that although being suspended from school during one wave increased the hazard of gang membership onset, youth who are suspended during multiple waves tended to have an even higher hazard of gang membership onset	N/A

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		608.																	
Wilkerson et al., 2016	Quant cross-sectional	Raywid's (1994) conceptualization of three types of alternative schools  Raywid, M. A. (1994). <i>Alternative schools: The state of the art. Educational Leadership</i> , 52, 26–31.	United States	School	A total of 5863 students in grades 9-12 were included in the sample. 5031 of them attended traditional schools (50.2% male, 63.8% African American, 18.1% Hispanic, 10.9% White, 6.5% Asian) and 832 attended alternative remediation schools (52.3% male, 73.7% African American, 19.7% Hispanic, 5.8% White, 0.6% Asian)				X		The number of suspensions received in one academic year across all students within a school	Information from school records  1. Attendance count variable 2. Suspension count variable	The participating district provided the researchers with de-identified data including student demographics, attendance, and standardized test scores, as well as data on suspensions, expulsions, and office referrals for all secondary students (i.e., those enrolled in any of Grades 9–12 as of October 1st, 2012).  1. The number of days attended (i.e., number of days the student attended at least 60% of the day) in one academic year 2. The number of suspensions in one academic year	School records	One academic year	No	N/A	Placement at alternative schools was associated with 1) significantly lower attendance than enrollment and 2) a significantly higher incidence of suspension in the traditional high schools	N/A

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						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated									
Wilkie, 2012	Qualitative	N/A	Australia	School	22 participants, consisting of senior secondary students and their mathematics teachers, participated in the study			X			The types of chronic illness experienced by students in the study included cancer, anorexia nervosa, conversion disorder, renal failure, multiple sclerosis and cochlear implant complications. Most students experienced prolonged absence from school ranging from 6 months to a year, often followed by months of intermittent absence.	A combination of a questionnaire, field notes and observations, and qualitative interview	This study sought to answer the following central research questions: 1. What concerns did students and their teachers have about continuing mathematics study during absence from school owing to chronic illness? 2. What were the perceptions of students and teachers about their interactions during absence from full-time school attendance? 3. What were the facilitators of and impediments to students' access to and utilisation of opportunities to learn effectively? 4. How was the degree of academic continuity experienced by students related to outcomes for students and teachers? 1. To gather initial data from students and teachers, a questionnaire was designed, containing a variety of open- and close-ended questions with opportunities for additional comments. Initial data collected included demographic data, mathematics-related information about learning/teaching preferences, concerns about study and support, and technology-related information about confidence and preferences for interaction. 2. Throughout their participation, students and teachers were communicated with regularly (telephone, e-mail, face-to-face) to	1. Students 2. Teachers	N/A	No	N/A	N/A	Chronic illness such as cancer, anorexia nervosa, conversion disorder, renal failure, multiple sclerosis and cochlear implant complications

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Williford et al., 2020	Quant longitudinal	1. Ecological Systems Theory (Bronfenbrenner, 1977,	United States	School	272 youth (51.8% male) aged 13-18 years (Mage: 15.59 years)	X												Peer victimization	N/A

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Wolf & Kupchik, 2016	Quant longitudinal	N/A	United States	School	The study's population consisted of a subset of individuals from the National Adolescent Health public data set. The National Longitudinal Study of Adolescent to Adult Health (Add Health) is a longitudinal study of a nationally representative sample of over 20,000 adolescents who were in grades 7-12 during the 1994-95 school year, and have been followed for five waves to date, most recently in 2016-18. The study sample consisted of 9612 students for which attendance data was available.				X		Whether the respondent had ever been suspended by the wave 1 interview	Suspension variable from National Survey of Adolescent Health (ADHealth, 2015) ADHealth, "National Survey of Adolescent Health", 2015, Retrieved from www.cpc.unc.edu/projects/addhealth."	Our primary independent variable, suspension, indicates whether the respondent had ever been suspended by the wave 1 interview	Self-report	Lifetime	No	N/A	School suspension significantly predicts victimization, criminal activity, and being incarcerated in adulthood	N/A

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Wooldridge, 2017	Quant longitudinal	N/A	Maryland	School	222 students in 8th grade across 6 middle schools with AVID programs.				X	X	Number of suspensions received	Information from school records: 1. Attendance rate 2. Suspension rate	1. Attendance was measured as percent of days present in one academic year. 2. Number of suspensions was calculated.	School records	1 academic year	Yes, the Advancement Via Individual Determination (AVID) Program (AVID Center, 2014)	The AVID program is a college preparatory program that has a mission to close the achievement gap by preparing all students for college readiness and success in a global society. It targets members of subgroups traditionally underrepresented in higher education. The program focuses on helping students develop executive functioning skills and study skills, an understanding of the college application and scholarship application process, and the ability to advocate for themselves.	N/A	N/A
Wormington et al., 2014	Quant cross-sectional	N/A	California, United States	School	2,808 middle school (Mage=13.5 years) and 6,821 high school students (Mage=15.8 years). Both samples were fairly gender balanced (middle school sample: 51.4% girls; high school sample: 48.5% girls). The middle school sample was primarily White (64.8%) but also identified as Black/African American (3.3%), Hispanic/Latino (16.4%), Asian American (19.2%), Native Hawaiian/Pacific Islander (3.1%), American Indian/Alaskan Native (4.6%), or another racial or ethnic group (16.4%). Most students in the high school sample self-		X				The number of times a student had missed school in the past 12 months	California Healthy Kids Survey, 2009 middle and high school versions CHKS (West Ed, 2009)  WestEd. (2011). California Healthy Kids Survey, 2009-11: Main report. San Francisco, CA: WestEd Health and Human Development Program for the California Department of Education.	For school truancy, students indicated the number of times they had missed school in the past 12 months on a 6-point scale (1 = 0 times, 6 = more than once a week).	Self-report	12 months	No	N/A	Peer victimization	N/A

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						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated											
Yang & Ham, 2017	Quant cross-sectional	Socio-ecological perspectives of children's well-being Bronfenbrenner, U. (1986). Ecology of the family as a context for human development : Research perspectives. <i>Developmental Psychology</i> , 22(6), 723–742. Earls, F., & Carlson, M. (2001). The social ecology of child health and well-being. <i>Annual</i>	AustraliaEuropeCanadaUnited States	School	identified as White (63.9%), but also included a sizable portion of students who identified as Hispanic/Latino (11.0%) and Asian or Pacific Islander (16.1%). Smaller groups of students identified themselves as Black or African American (3.8%), American Indian/Native American (3.1%), or other.		X														
					A large-scale dataset containing information on 205,512 children in 9,141 schools						X	The number of times students skipped days of school without authorization during the past two weeks	Absenteeism item/measure	The data on truancy analyzed in this study came from the Programme for International Student Assessment (PISA) 2012. The outcome variable of this study was school truancy, a dichotomous variable that indicated whether the <i>i</i> th student who belonged to the <i>j</i> th school of the <i>k</i> th country in the dataset ever skipped days of school during the two weeks prior to the PISA survey. Students who took part in PISA 2012 were asked to report how many times they skipped days of school without authorization during the two weeks prior to the PISA survey. The response options included “none,” “one or two times,” “three or four times,” and “five or more times.” The students who skipped school at least	Students	Two weeks	No	N/A		The probability of truancy was significantly higher among immigrant students as opposed to non-immigrant students. The extent to which a country had enacted anti-discrimination policies significantly weakened the association between immigrant students and school truancy for both first- and second generation immigrants.	N/A

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						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated									
		Review of Public Health, 22, 43–66. Garcia-Coll, C., & Szalacha, L. A. (2004). The multiple contexts of middle childhood. Children of Immigrant Families, 14(2), 81–97										once during the two-week period were coded one, while the students who never skipped school during the same period were coded zero.							
Yu et al., 2017	Quant cross-sectional	N/A	Washington	School	5929 Latino/Hispanic middle and high school students in grades 6-12					X	Number of days absent from school in past 30 days	Absenteeism item/measure	Youths were asked how many days they missed school for any reason, with or without permission during the past 30 days. Responses were rated on a 5-point scale (“0 = 0 days,” “1 = 1 day,” “2 = 2–5 days,” “3 = 6–10 days,” “4 = 11+ days”). Higher scores indicate greater number of days absent from school.	Self-report	30 days	No	N/A	Cigarette smoking	N/A
Zelezny-Green, 2014	Mixed methods	N/A	Africa	School	1. I administered a survey to 133 students to gather data on school attendance, and mobile phone access and usage. 2. I then held six focus group discussions with four to six girls in each. The ages of					X	Number of school days missed per month	Information from school records	Number of school days missed per month	School records	One month	No	N/A	N/A	School absence was associated with: 1. Inability to pay school fees 2. Illness



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						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated									
Zendegui et al., 2021	Quant longitudinal (scale development)	N/A	New York, United States	Hospital	Participants were 110 youth ages 13 to 18 years (M = 15.41 years) admitted to an adolescent partial hospitalization program. The majority of participants identified as female (57.3%), Caucasian (59.1%), and non-Latino (70.0%).	X					Having ever missed school due to mental health issues	School Interference Questionnaire (SIQ) Rohrig, S., Bennett, S. M., Desai, P., Zendegui, E. A., & Chiu, A. W. (2021). A description of school refusal behavior in adolescents prior to acute care admission [Manuscript in preparation]. Department of Psychiatry, Weill Cornell Medicine.	This questionnaire is designed to assess 1) academic functional impairment related to mental health problems and 2) the type and frequency of school refusal behavior.1) Twelve core SIQ items assess areas of academic functional impairment by having respondents rate the extensiveness of impairment in each domain. Each item begins with the stem, "How much have anxiety, depression, or other mental health problems gotten in the way of . . .," and each item lists a potential area of impairment. Youth and caregivers rate the extent of interference for each item using a 5-point Likert-type scale, with items ranging from 0 (not at all) to 4 (very much). See Table 2 for specific items.2) This measure also includes additional items, presented in a forthcoming manuscript, that assess the "type" (e.g., commonly avoided parts of the school day) and intensity of school refusal in the past week and month. For each time frame, participants indicate how often they missed full days, arrived late, left early, and left the classroom due to mental health problems using a 5-point Likert-type scale with the following anchors: 0 (none), 1 (a little), 2 (some), 3 (much), and 4 (all). The SIQ also contains items to help	Youth self-report	One month	No	N/A	Internalizing symptoms (anxiety, depression)	N/A

Reference	Design	Framework	Location	Data collection setting	Participant characteristics	Conceptualization					Operational Definition	Measures	Description of scale	Scale informants	Longest reporting interval	Inclusion of intervention	Brief description of intervention	Variables measured and linked to SAPs (quantitative studies)	Variables linked to SAPs (qualitative studies)
						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated									
Zhang, 2018	Quant longitudinal	N/A	Virginia, United States	School	238 middle and high schools were the units of analysis				X		Number of out-of-school suspensions over the course of three school years	Information from school records	Average number of incidents of out-of-school suspensions over the course of three school years across all schools in the sample	School records	3 school years	Yes, citation not applicable	This study examines the effects of Prevention Resource Officers in West Virginia middle and high schools. This study utilizes a quasi-experimental design combined with propensity score techniques to strengthen the internal validity of the results. This study uses three years of data and considers the number of years police officers are present at a school. This study uses secondary data obtained from the West Virginia Department of Education (WVDE) on all public primary, middle, high and combined schools in West Virginia for the 2014, 2015, and 2016 school years. This school-level dataset included information on incidents,	The presence of school prevention resource officers increases the number of out-of-school suspensions	N/A

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						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated										
Zusevics et al., 2013	Quant longitudinal	A constructivist model of teaching and learning (Thomas, 2000; Thomas and Mergendoller, 1999)	Wisconsin, United States	School	Four teachers (two male and two female participants) participated in interviews. All four teachers were white and averaged 10-15 years of health teaching experience. Eight public school students also participated in the focus groups.					X	The number of days students were absent from school in one semester	Attendance variable	Attendance data were collected by tracking the number of days students were absent from school the semester the curriculum was implemented	Teachers	One semester	Yes, a project-based learning (PBL) high school health curriculum. Same as study reference	removals, out-of-school suspensions, disciplinary problems, and school characteristics for each school. A majority of this data is not openly accessible by the public (e.g., through an online portal) and were obtained only through a special request to the state education department. In addition, data on PROs for each of the school years were also obtained. A separate dataset was provided by the WV Division of Justice and Community Services (DJCS) and identified a list of schools that employed a PRO for each school year. This dataset was used to indicate which schools did and did not have PROs in a particular school year. The final population of interest includes 238 individual middle and high schools as the units of analysis.	Milwaukee school representatives partnered with researchers to create and implement an innovative project-based learning (PBL) high school health curriculum to engage students in school during spring of 2010 in several high schools. There were four intervention classrooms willing to implement the new project health (PH) curriculum. The four control classrooms were selected based on the teachers' willingness to participate in the research process. The PH curriculum focused on project-based, collaborative learning and incorporated technology such as laptops, cameras, and film editing software into the classroom. PH aimed to engage students in developing health-related projects and working with their peers to improve health behaviors of concern to adolescents. Although some of the health lessons focused on risk behavior, most of the group projects employed a strengths based approach fostering constructive problem solving, self-efficacy, and positive communication skills. There were four major content areas that the PH curriculum addressed: healthy	Students in the intervention health class were significantly less absent from school than control students	N/A

Reference	Design	Framework	Location	Data collection setting	Participant characteristics	Conceptualization					Operational Definition	Measures	Description of scale	Scale informants	Longest reporting interval	Inclusion of intervention	Brief description of intervention	Variables measured and linked to SAPs (quantitative studies)	Variables linked to SAPs (qualitative studies)
						School refusal	School truancy	School withdrawal	School exclusion	Undifferentiated									
																relationships and communication; alcohol and substance use; mental health and help seeking behavior; and dating violence and reducing risky sexual behaviors. The main PBL component of PH was that students worked with small groups to produce PSAs about the four topic areas. To support the completion of these projects, the curriculum included film and technology lessons on scripting, cinematography, acting, and editing. As students mastered the PSA production process, they simultaneously learned to critically examine health. The intervention also incorporated undergraduate film students from the local university who served as service learners in the classrooms. By comparison, the standard approach to health education in MPS used a textbook and individual student work format to transfer of information from the teacher to the students through lectures, reading, worksheets, and direct instruction. Students in both the intervention and control classrooms were exposed to approximately 68 hours of health instruction over the course of the academic semester.			