Review Journal of Autism and Developmental Disorders
https://doi.org/10.1007/s40489-024-00474-x

REVIEW PAPER

# Risk and Influencing Factors for School Absenteeism among Students on the Autism Spectrum—A Systematic Review

**Isabella Sasso**[1] · **Teresa Sansour**[1]

Received: 6 May 2024 / Accepted: 20 August 2024
© The Author(s) 2024

## Abstract

School plays an important role in the development of a child. The impact of school absenteeism extends beyond academic achievement, affecting one's ability to participate in life successfully. In particular, children with difficulties in communication and interaction are at risk of developing school absences. This systematic review therefore focused on school absenteeism among children on the autism spectrum and examined the risk and influencing factors contributing to school absences. Eighteen studies were included, thirteen of which used a quantitative design, two of which were mixed-method studies, and three of which had a qualitative design. Different studies had varying definitions of school absenteeism and employed diverse study designs, prompting the need for a narrative synthesis. We evaluated the data regarding the factors of individual, parental, and school based on the KiTes bioecological systems framework for school attendance and absence by Melvin et al. (2019). We identified the majority of risks and influences in relation to the school factor and identified interacting factors contributing to school absenteeism in all factors. We recognised research gaps and provided guidance for further research.

**Keywords** Autism · Neurodiversity · School · Systematic review · Education · Special needs

## Introduction

When children and youth attend school, they have access to education, a right proclaimed in Article 28 of the United Nations Convention on the Rights of the Child (The United Nations, 1989). School education fundamentally contributes to the cognitive, social, and emotional development of children and young people while simultaneously fulfilling essential social tasks (Pellegrini, 2007). Accordingly, absences from school have enormous consequences not only for educational success but also for emotional and social development and successful participation in life. School absenteeism increases the risk of all forms of mental illness (Lenzen et al., 2013; Melvin et al., 2019). Absences can cause distress in families (Gallé-Tessonneau & Heyne, 2020) and challenge professionals and resources (Wilson et al., 2008; Finning et al., 2019).

✉ Isabella Sasso
isabella.sasso@uni-oldenburg.de

[1] Department of Special Needs Education and Rehabilitation, University of Oldenburg, Oldenburg, Germany

## Defining School Absenteeism

In international research, scholars utilise a range of terms and criteria to assess school absenteeism. Consequently, it's imperative to interpret and compare research findings within this context. For the scope of this review, we employ the term 'school absenteeism' as an overarching concept. Absenteeism, broadly defined, refers to a student's absence from school for any reason, encompassing various forms of non-attendance (Kearney, 2016).

A distinction exists between problematic and non-problematic absences. Non-problematic absences may result from factors such as illness, bereavement, or other causes. However, even initially non-problematic or technically excused absences can transition into problematic ones if more than 10% of lessons are missed (Heyne et al., 2019; Lenzen et al., 2013), or if the child's development is compromised by the absence, leading to decreased grades or challenges in reintegrating into the academic environment (Kearney, 2016). Hence, Kearney (2003) defines non-problematic absenteeism as short- or long-term absences mutually agreed upon by parents and the school, with the possibility of compensatory measures. Additional terms for distinguishing between problematic and non-problematic

Published online: 05 September 2024

absences include unexcused/excused, unauthorised/authorised (Gentle-Genitty et al., 2015), and illegitimate/legitimate (Kearney, 2003).

Heyne et al. (2019) differentiates four types of problematic absenteeism:

- *School refusal* is defined as non-attendance at school due to emotional stress related to school attendance, where the parents are informed of absences and make reasonable efforts to ensure the child's attendance at school.
- *School withdrawal* is defined as non-attendance with the knowledge of the parents or *withholding* by the parents.
- *Truancy* includes absence without permission from the school and the parents. In addition, there are efforts to hide truancy from parents.
- In the case of *school exclusion*, the school initiates the absence, for example, as a disciplinary action.

Kearney et al. (2019) intend to categorise heterogeneous concepts and provide general descriptions of common terms. *School refusal* must be distinguished from *school refusal behaviour*. While *school refusal* involves absence from school, *school refusal behaviour* is a broader term for various behaviour patterns based on the goal of avoiding school, whether anxiety-related or not (Kearney, 2016). *School avoidance* refers to an absence based on anxiety related to school. Most of these terms refer to an absence initiated by the individual, while *school exclusion* is initiated by the school, and *school withdrawal* is parent-initiated (Kearney et al., 2019).

## Risk and Influencing Factors for School Absenteeism

To identify factors increasing the likelihood of experiencing school absenteeism, various system levels must be considered (Kearney, 2008). Melvin et al. (2019) propose a multilevel approach that applies Bronfenbrenner's bio-ecological model to the factors associated with school absenteeism.

At the micro- and meso-system levels, factors such as the individual, parental/family, and school levels have been demonstrated to be associated with school attendance. Knowledge of these factors and their interactions can contribute to an understanding of school absenteeism (Melvin et al., 2019) (Fig. 1).

To categorise different types of absenteeism according to their initiation and relationship to the individual, the school, and the parental level, we constructed Fig. 2. The categorisation is based on comprehensive research regarding different types of school absenteeism and their relation (Heyne et al., 2019; Kearney, 2008; Reissner et al., 2019; Tonge & Silverman, 2019).

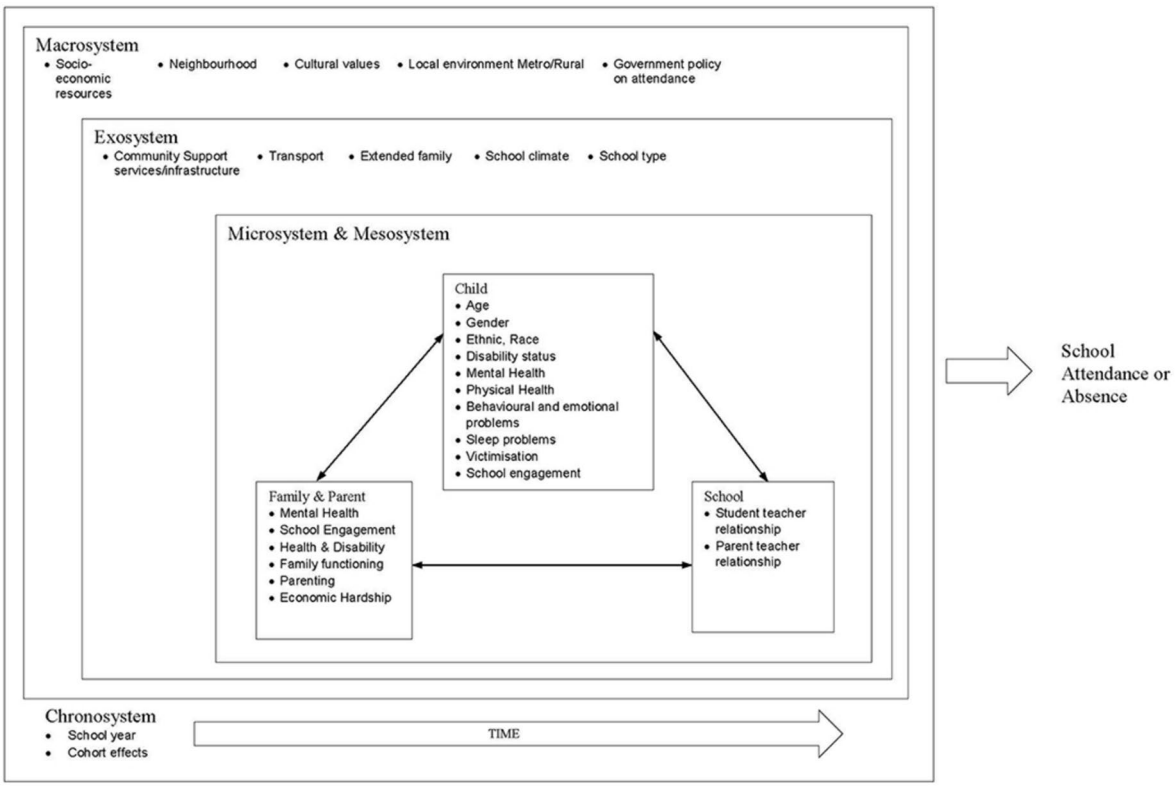



**Fig. 1** The KiTeS bioecological systems framework for school attendance and absence (Melvin et al., 2019)

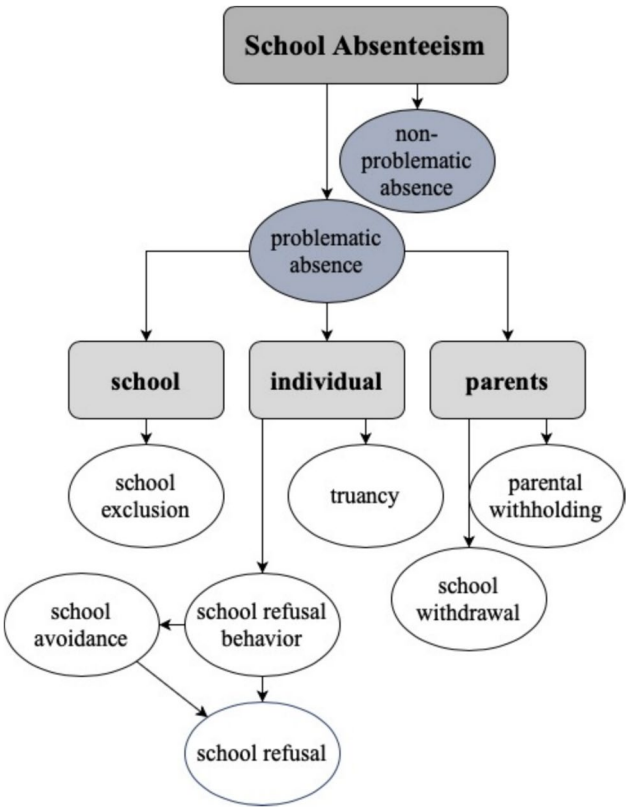



**Fig. 2** Categorisation of absenteeism types based on individual, school, and parental levels

## Defining Autism

The World Health Organisation (WHO, 2023) categorises "Autism Spectrum Disorder" (ASD) as a neurodevelopmental disorder characterised by "persistent deficits in the ability to initiate and to sustain reciprocal social interaction and social communication". Another criterion implies "a range of restricted, repetitive, and inflexible patterns of behaviour, interests or activities that are clearly atypical or excessive for the individual's age and sociocultural context". The onset is typically in early childhood, but symptoms may manifest when social demands increase. Since there is a surge in social demands at school age, coping with developmental tasks becomes even more difficult, and special support is often needed (Kamp-Becker & Bölte, 2021). Overall, transitions from different developmental and life phases are important, as these are associated with a rise in vulnerability. As the term 'spectrum' suggests, symptoms and therefore needs for support vary among autistic individuals (Kamp-Becker & Bölte, 2021). Since autism is a lifelong condition, most individuals need support and services throughout their lifetime. Most services (such as therapy and social skills training) are used in early and middle childhood (Song et al., 2022). The US Center for Disease Control and Prevention (CDC, 2023) estimated that one in 36 children is diagnosed with ASD. ASD was 3,8 times more prevalent among boys than among girls (approximately 4% of boys and 1% of girls). In total, 37.9% of the autistic individuals had an intellectual disability (IQ < 70), 23.5% had an IQ between 71 and 85, and 38.6% had an IQ > 85. However, it should be noted that the prevalence varies between countries and studies. Autism is also often associated with psychiatric conditions. It is estimated that 70–72% of autistic youth have at least one psychiatric condition. Some of the most common disorders are anxiety, depression and attention deficit hyperactivity disorder (ADHD; Rosen et al., 2018).

### School Absenteeism among Autistic Individuals

According to the Department for Education (2019) autistic students in England explore higher rates of school absences than non-autistic students with or without special educational needs. When educational needs align with challenges in social skills and communication, absenteeism rates tend to increase. On the other hand, schools comprise a variety of communication and interaction situations (Ashburner et al., 2010). Autistic students often find social interactions stressful, thereby facing an increased risk of limited participation and social exclusion (Roberts & Simpson, 2016). These circumstances elevate the risk of psychiatric conditions (Hebron & Humphrey, 2014). These co-occurring psychiatric conditions heighten the risk of school absenteeism (Finning et al., 2019).

To date no systematic review has investigated the risk factors of school absenteeism among autistic students. The aim of this study is to systematically review studies regarding the risk and influence factors for school absenteeism in autistic students. In particular, individual, educational, and parental factors of the micro- and mesosystems are considered. Another aim is to identify research gaps for further investigations.

The primary research questions for this systematic review include:

- What types of school absenteeism have been identified in prior studies for autistic students?
- What individual, school, and parental factors contribute to school absenteeism among autistic students?

## Review Methods

The protocol for this systematic review has been registered online at PROSPERO, an international register for systematic reviews (Registration number: CRD42022343467). The Preferred Reporting Items for Systematic Reviews and

Meta-Analyses (PRISMA 2020) standards has been followed for all stages of this systematic review (Page et al., 2021). The following electronic databases covering all relevant disciplines have been searched for journal articles: ERIC (Ped), Web of Science and Scopus (Psych), and PubMed (Med) on 26th June 2022. Prior to this search, a preliminary search was performed and an updated search was carried out on 30th November 2023. The Cochrane and PROSPERO databases have been searched to confirm that there was no other existing or registered systematic review about the current topic. The search strategy included terms regarding autism and school absenteeism (see Table 1).

## Inclusion Criteria

The studies included in this review have been selected based on the following predetermined inclusion criteria: (a) they focused on school-aged individuals with a formal diagnosis of autism; (b) they focused on individual, family or school factors having an influence on any form of school absenteeism; and (c) they were published in German or English. No restrictions were applied regarding the publication period of the included articles.

## Exclusion Criteria

Studies were excluded from the review based on one or more of the following criteria: (a) they were published in languages other than English or German; (b) they were not empirical studies; (c) they focused on non-autism samples or mixed etiology groups and the data for autistic individuals were not reported separately; and (d) they did not scrutinise school absenteeism and influencing factors. This review did not include grey literature, but the search was not restricted to peer-reviewed articles.

## Study Selection

Electronic searches identified 322 records. Following the removal of duplicates, each reviewer independently assessed 148 articles based on the title and abstract; each reviewer was blinded to the other's ratings. Disagreements were solved by discussion.

After screening the full texts, 18 studies that met the inclusion criteria were identified and included in the current review.

## Quality Assessment

The quality of each included study was assessed by both reviewers independently by using the Mixed Method Appraisal Tool (MMAT) described by Hong et al. (2018). Disagreements were resolved by both authors discussing the information presented. The MMAT is an appraisal tool for systematic reviews that include quantitative, qualitative and mixed methods studies. Hong et al. (2018) developed the tool based on a literature review of critical appraisal tools. By using this tool, the study quality was categorised as good, moderate or low. Sixteen studies were rated as 'good', and two studies were rated as 'moderate'. One of these studies has limitations in its quality since the actual research question was not answered (Ochi et al., 2020). However, the authors identified these limitations. The other study did not formulate any explicit research questions (Kurita, 1991). No studies were excluded due to low quality.

## Data Extraction

The first author (I.S.) extracted the data according to predefined criteria. The second author (T.S.) controlled the integrity and verified the accuracy of all the extracted data.

Data were extracted and coded for each study that met the inclusion criteria. The following descriptive data were extracted: study details, information about the sample, the definition of school absenteeism, the criteria for school absenteeism (e.g., 10% absence of school days), the data collection tool for school absenteeism, the risk and influencing factors, the absence rate, the intervention, and the effect of the intervention.

## Synthesis

A narrative synthesis was provided due to the heterogeneity of the studies, especially regarding the terminology and measurement of school absenteeism as well as the criteria of different forms of school absenteeism.

**Table 1** Search strategy

| Autism | School Absenteeism |
|---|---|
| autis* OR asperger* OR ASD OR pdd OR "pervasive developmental disorder" | "school absen*" OR "school avoid*" OR "school avers*" OR "school refusal*" OR truan* OR "school phobia" OR "school withdrawal" OR "school exclu*" OR "school attend*" OR "school drop out" |

Search strings were connected by the Boolean operator "AND"

## Results

Figure 3 shows the evaluation and screening process used to select the 18 studies included in this systematic review. Table 1 provides the details for each included study.

Three studies were from the same research group (Bitsika et al., 2020, 2021, 2022). All three address the topic of bullying. Bitsika et al. (2022) studied a subsample of a larger cohort from Bitsika and Sharpley (2016). Bitsika et al. (2021) used a sample from Bitsika et al. (2020). Each article has a different research question.

Munkhaugen et al. (2019) based their research on a subsample from the first study (Munkhaugen et al., 2017).

### Study Characteristics

All studies except Kurita (1991) are very recent (2017–2023). These studies were conducted in Australia (Adams, 2021; Bitsika et al., 2020, 2021, 2022), the United Kingdom (Gray et al., 2023; Martin-Denham, 2022; O'Hagan et al., 2022; Preece & Howley, 2018; Totsika et al., 2020; Truman et al., 2021), Sweden (Anderson, 2020), Japan (Kurita, 1991; Ochi et al., 2020), Norway (Munkhaugen et al., 2017, 2019), the United States (Mattson et al., 2022; McClemont et al., 2021) and Denmark (Lassen et al., 2022).

Three of the 18 studies used qualitative designs, two used mixed method designs, and 13 used quantitative designs. Eleven studies employed cross-sectional designs, while there was also an evaluative case study that aimed to identify the impact of an intervention, a retrospective chart review study, a longitudinal study based on retrospective school datasets, a brief report of an observational study, a qualitative study with a multi-informant approach, a qualitative study that is based on case reports and a qualitative study consisting of an interpretative phenomenological approach.

The sample size ranged from N = 1799 in a quantitative cross-sectional study to N = 3 in qualitative case reports. The total sample included 3304 autistic students. The ages ranged between 3 and 21 years. Two studies examined absenteeism in preschoolers with autism. The sample was predominantly male except for the only qualitative study that explicitly focused on girls with autism (O'Hagan et al., 2022). Fourteen studies based their results on parental

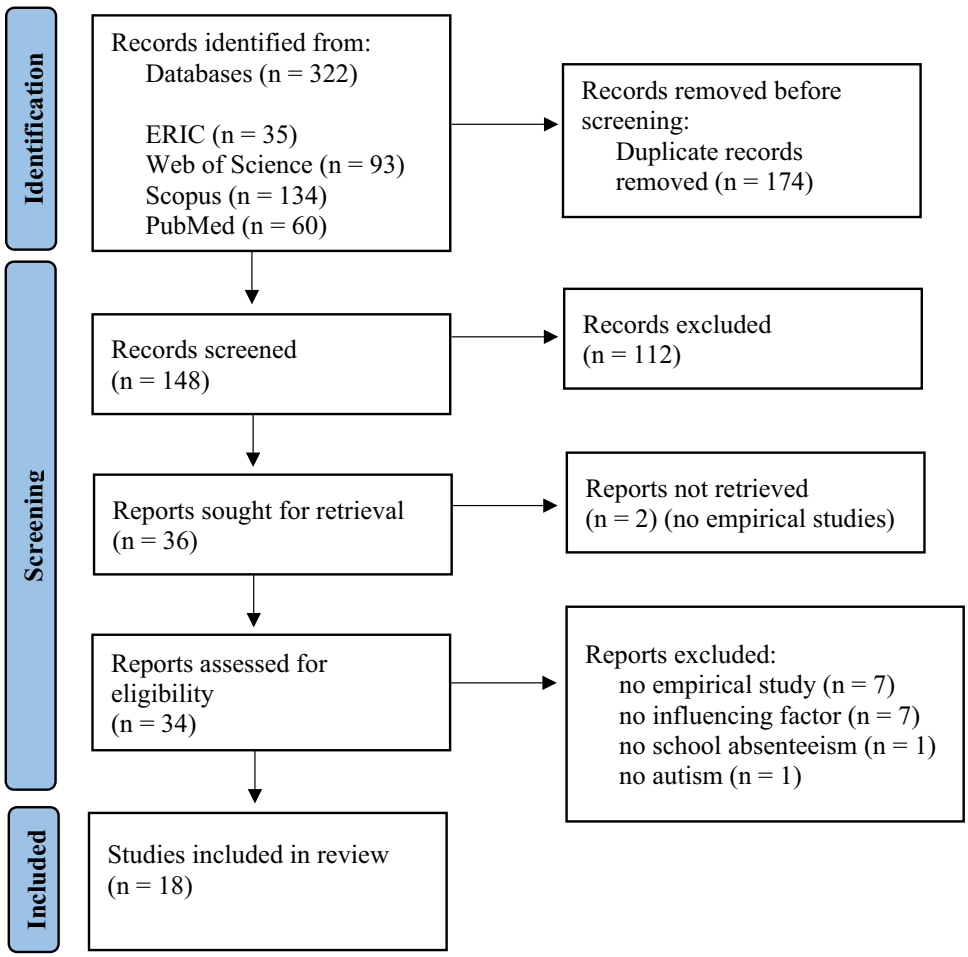



**Fig. 3** PRISMA 2020 flow diagram

reports, and four studies considered additional school staff or other professionals involved. One qualitative study collected data by interviewing the autistic young people and one used a multi-informant approach by interviewing parents, professionals and school staff. Two studies focused on data bases: one used clinical data (Ochi et al., 2020) and the other used school datasets (Mattson et al., 2022). All studies collected data regarding mainstream schools. Six studies also collected data in a special school setting. The detailed information for each included study is summarised in Table 1.

## Types of School Absenteeism

In the included studies, *school refusal* was the most commonly used term for absenteeism. In total, 11 studies referred to this term (Adams, 2021; Bitsika et al., 2020, 2021, 2022; Kurita, 1991; McClemont et al., 2021; Munkhaugen et al., 2017, 2019; Ochi et al., 2020; Preece & Howley, 2018; Totsika et al., 2020). The studies are based on the definition in which *school refusal* occurs due to emotional distress with knowledge of the parents (Heyne et al., 2019; Kearney, 2008). Totsika et al. (2020) referred to *school withdrawal, truancy, school exclusion,* and *nonproblematic absence,* as these are all categories included in the data collection tool they used (the School Non-Attendance Checklist [SNACK] by Heyne et al., 2019). Adams (2021) also used the SNACK and referred to the types defined by Heyne et al. (2019) but also described the difference between *emerging* and *established school refusal*. Furthermore, the author investigated full- and half-day absences. Bitsika et al., (2020, 2021, 2022) also followed the definition of *school refusal* established by Heyne et al. (2019). They argued that school refusal is often associated with absence from school, but it is not necessarily defined by absence; therefore, they used the term *emerging school refusal* (Bitsika et al., 2020).

Munkhaugen et al., (2017, 2019) chose *school refusal behaviour* as the object of research. They referred to Kearney (2008) who defined school refusal behaviour as 'child-motivated refusal to attend school and/or difficulties remaining in class' (Munkhaugen et al., 2017).

Kurita (1991) operationalised *school refusal* according to Berg et al.'s (1969) definition as absence from school due to reluctance to attend with the knowledge of the parents, while no antisocial disorders occur with this absence.

O'Hagan et al. (2022) used the phrase 'emotionally based' *school avoidance* and referred to Munkhaugen et al. (2017). Hence, it can be assumed that O'Hagan et al. (2022) used *school avoidance* as a synonym for *school refusal behaviour*. Gray et al. (2023) also used the term *school avoidance* as a synonym for *school refusal*.

Truman et al. (2021) did not directly focus on school absenteeism. They evaluate school experiences in the context of extreme demand avoidance behaviour. One aspect relating to this group of autistic children is *school exclusion* due to challenging behaviour. They included both formal and informal exclusions. In contrast, Gray et al. (2023) and Martin-Denham (2022) had an explicit focus on *school exclusion.* Martin-Denham (2022) referred to the Education Act and the European Court, which stated that a decision to exclude has to be lawful, rational, proportionate and fair. A differentiation was made between a fixed period exclusion, where a student was excluded from school for a set period, and a permanent exclusion, when a student did not return to school. Gray et al. (2023) also referred to this differentiation between fixed-term and permanent exclusion.

Two other included studies addressed the differentiation between *unexcused* and *excused absences* (Mattson et al., 2022), *school absences* and *nonproblematic absences,* respectively (Anderson, 2020) (Table 2).

## Criteria and Frequency of School Absenteeism

### Criteria for School Absenteeism

The included studies used different criteria to operationalise absenteeism. Two studies used the criterion of 10% absence from school days (O'Hagan et al., 2022; Totsika et al., 2020). Adams (2021) also used this criterion but to discuss 'persistent' absence. Munkhaugen et al., (2017, 2019) relied on the criteria described by Kearney and Silverman (1996), who differentiated between 'self-corrective' for < 2 weeks, 'acute' absence for 2–52 weeks, and 'chronic' absence for > 53 weeks. However, they did not provide information about how often the behaviour occurred during the period. Ochi et al. (2020) used more than 30 days per year as a criterion. Gray et al. (2023) utilised a broad definition of school exclusion "to ensure it captured the full range of experiences of autistic pupils who had persistent, problematic attendance and experience of leaving a mainstream setting due to unmet needs". Martin-Denham (2022) refers to school exclusion as a legal term. Five studies did not explicitly determine a criterion for absence in terms of a number. Rather, they explained it with descriptions such as 'prolonged' (Preece & Howley, 2018). For the remaining five studies, it was not necessary to determine the criterion thematically or because of the study design.

### Frequency of Absences

Despite the different study designs and terms, the results regarding the frequencies of absences are considered in the following.

Adams (2021) reported the highest rate of absenteeism: 72.6% of autistic children had shown 'persistent absence', defined as a 10% absence within the 20-day survey period.

**Table 2** Summary of included studies

| Study | Country | Study Type | *N*1 | Age (mean, range) | % male | Participants | Type of School Absenteeism | Influencing Factor[2] |
|---|---|---|---|---|---|---|---|---|
| Adams (2021) | Australia | quan | 106 | 11.8 | 67 | parents | school refusal | I,P |
| Anderson (2020) | Sweden | quan | 1799 | 6–21 | 74.5 | parents | school absence, non-problemati absence | S |
| Bitsika et al. (2020) | Australia | quan | 67 | 7–18 (11.7) | 100 | students, mothers | emerging school refusal | I,S |
| Bitsika et al. (2021) | Australia | quan | 71 | 7–18 | 100 | " | " | S |
| Bitsika et al. (2022) | Australia | quan | 58 | 5–16 (11.6) | 100 | " | " | S |
| Gray et al. (2023) | UK[3] | qual | 11 | 13–17 | 81.8 | individuals, parents, teachers, professionals | school exclusion, school avoidance | I,P,S |
| Kurita (1991) | Japan | quan | 135 | 13.2 | 78.4 | parents | school refusal | I,P,S |
| Lassen et al. (2022) | Denmark | quan | 61 | 7–14 | 80.3 | parents | school absence | I |
| Martin-Denham (2022) | UK | quali | 5 | 6–17 | 80 | parents | school exclusion | I,P,S |
| Mattson et al. (2022) | US4 | quan | 74 | 3–12 | -5 | archival school data | unexcused/excused absence | I,P |
| McClemont et al. (2021) | US | quan | 154 | 4–16 (10.2) | 65 | parents | school refusal | I,S |
| Munkhaugen et al. (2017) | Norway | quan | 78 | 9–16 (12.3) | 85.9 | parents, teacher | school refusal behavior | I,P |
| Munkhaugen et al. (2019) | Norway | quan | 78 | 9–16 (12.3) | 85.9 | parents | " | I |
| Ochi et al. (2020) | Japan | quan | 94 | 6–18 | 71.3 | clinical records | school refusal | I,S |
| O'Hagan (2022) | UK | qual | 3 | 11–16 | 0 | individuals, parents, school staff | school avoidance | I,P,S |
| Preece and Howley (2018) | UK | mixed | 21 | 14–16 | 100 | students, staff, family, professionals | school refusal | I,S |
| Totsika et al. (2020) | UK | quan | 486 | 10.7 | 69 | parents | school refusal, school withdrawal, truancy, school exclusion, nonproblematic absence | I,P,S |
| Truman et al. (2021) | UK | mixed | 211 | 4–18 | 70.9 | parents | school exclusion | I,S |

[1]Where multiple samples or subgroups are described, only the sample of autistic students is reported here

[2]I = Individual Factor, P = Parental Factor, S = School Factor reported in the study

[3]United Kingdom

[4]United States

[5]Dash (–) means this information was not reported

The average absenteeism rate in the study was 6.3 full days and 3.8 half days. In addition, 5.7% of the autistic students were absent for 4 weeks; all of them (partly among other reasons) did so due to school refusal.

Totsika et al. (2020) reported that 43% of autistic children showed persistent absence during a 23-day period. The average absence rate was 5 days. The median number of days missed was 2. Moreover, 64% of the autistic children missed at least 1 day, and 7% did not attend school on any of the 23 days. Similarly, Munkhaugen et al. (2017) reported that 42.6% of autistic students exhibited school refusal behaviour. Bitsika et al. (2020) reported that 56.1% of autistic boys who reported being bullied experienced emerging school refusal, but as seen in the definition stated above, this is not a clear indication of actual absence from school.

Kurita (1991) reported the lowest frequencies: 23.7% of autistic students experienced school refusal (as defined above). In addition, 28.1% were reported to have shown an unwillingness to go to school that did not result in absenteeism. According to the data provided by parents of autistic children, 35% indicated that their child had already refused to go to school (McClemont et al., 2021). Regarding school

exclusion, Truman et al. (2021) reported that 50% of autistic children were informally excluded from school.

Anderson (2020) reported the frequency of absences between different school types. The rates of absences for reasons other than illness (unexcused absence) did not significantly differ between primary (51.3%) and secondary (57.6%) schools. In primary schools for students with learning disabilities absences due to illness (excused absences) were the main cause (83.8%) among autistic students. The rate of absenteeism for reasons other than illness (unexcused absence) increased in secondary schools for students with learning disabilities (36.3%). In elementary schools, the median percentage of school day absences was 9.1% in the study by Mattson et al. (2022). On 39.1% of all missed school days analysed, students had excused absences, while 60.9% of absences were unexcused. Lassen et al. (2022) reported more absences among autistic children than among the control group.

### Data Collection Tool for School Absenteeism

As stated above, two studies used the SNACK conducted by Heyne et al. (2019). Adams (2021) modified the SNACK by also asking about half-day absences.

The majority of studies used nonvalidated scales. Six studies used self-constructed questionnaires (Anderson, 2020; Bitsika et al., 2020, 2021, 2022; Kurita, 1991; McClemont et al., 2021; Munkhaugen et al., 2017, 2019; Truman et al., 2021). Lassen et al. (2022) asked about frequency via a 5-point Likert scale with descriptive ratings (never, rarely, sometimes, often, very often).

Qualitative studies (Gray et al., 2023; Martin-Denham, 2022; O'Hagan et al., 2022) as well as a mixed-method study (Preece & Howley, 2018) have used interviews for data collection.

Two studies used existing datasets. One of them used clinical data (Ochi et al., 2020), whereas the other used school datasets (Mattson et al., 2022).

## Risk and Influencing Factors

According to the Kids and Teens at School Framework (KiTeS) by Melvin et al. (2019), the extracted risk and influencing factors for school absenteeism among autistic students were divided into individual, school and parental factors.

### Individual Factors

Age, gender, diagnosis, intellectual level and psychiatric conditions were identified as factors at the individual level.

#### Age

Mattson et al. (2022) reported that age was weakly and negatively correlated with the median percentage of days absent. They demonstrated that younger participants exhibited more frequent absences on average than older students. Another study reported that the mean age at the onset of school refusal was $12.6 \pm 2.2$ years in autistic students, which was significantly younger than in those without autism ($13.8 \pm 2.1$ years; Ochi et al., 2020). In contrast, Totsika et al. (2020) reported slightly increased rates of not attending school with increasing age. Among children who missed any school days, refusal was more likely among older children.

#### Gender

Anderson (2020) revealed a gender difference in the disadvantage of girls on the autism spectrum. They exhibited higher rates of absence (54.6%) for reasons other than illness than autistic boys (43.9%). Compared with boys, girls exhibited significantly more short absences for reasons other than illness. For continuous periods of absence longer than four weeks, there was no significant difference between boys and girls.

#### Diagnosis

In the study of O'Hagan et al. (2022), two mothers of autistic children with school avoidance indicated that feeling different from others without an explanation of a diagnosis led to low confidence and self-esteem. Families and professionals, in the study of Preece and Howley (2018), identified a late diagnosis as contributing to non-attendance since the special needs of autistic students were therefore not recognised and addressed. The findings of Martin-Denham (2022) indicate "barriers to gaining prompt assessment and identification of special educational needs and disability (SEND)". However, students who already have a diagnosis may struggle with feeling different (Martin-Denham, 2022) and having a "desire to fit in" (Gray et al., 2023).

#### Intellectual Level

While most of the related studies have focused on autistic students without intellectual disabilities, Kurita (1991) found that autistic students who experienced school refusal tended to be more intelligent than those who did not. The intellectual level was significantly greater for autistic children who refused school than for those who did not.

### Psychiatric Conditions

Truman et al. (2021) focused on a group of autistic children with extreme demand avoidance behaviour. These children showed more specific behavioural difficulties. They were able to mask their difficulties at school and then experienced a meltdown after. Fifty percent of parents informally excluded their children from school so that they could be home-educated, reducing their anxiety and stress.

On the other hand, the parents in the study of Gray et al. (2023) reported that they did not notice the anxiety of their children because they could not communicate their feelings. Anxiety was also demonstrated by aggression, which in turn led to school exclusions and, in some cases, led to symptoms of depression, including self-harm and suicide attempts.

Adams (2021) reported a 3% increased risk for half-day absences when the child experienced anxiety.

Munkhaugen et al. (2019) showed that autistic students with school refusal behaviour were more socially impaired than those without such behaviour. Nonetheless, low social motivation had the strongest association with school refusal behaviour. Parents commented that negative thoughts about relationships with peers and teachers, as well as about school subjects, were frequent reasons for their children's school refusal behaviour. Lassen et al. (2022) reported that school absence is accompanied by internalising symptoms such as anxiety. This association was even stronger than that with autistic or externalising symptoms and was not unique to the autism group.

## School Factors

School factors had the greatest influence on school absenteeism. Five studies focused their research on bullying. Other factors related to the school setting are the school type, the school environment and negative experiences.

The significance of school factors can even be seen in the oldest study. Two-thirds of parents of autistic children who refused school indicated that school refusal behaviour was a precipitating factor. The majority were school-related, with "teasing by schoolmates" being the most common factor (Kurita, 1991).

### Bullying

McClemont et al. (2021) reported that autistic children with ADHD were more likely to refuse school due to bullying (68%) than autistic children without ADHD (28%) or no diagnosis (18%). In this study, an autism diagnosis or another diagnosis did not impact the frequency of school refusal due to bullying compared to children with no diagnosis. In contrast, Ochi et al. (2020) reported that bullying was significantly associated with school refusal in autistic boys and girls. In the sample of Bitsika et al. (2020), which consisted only of autistic boys, "being bullied explained more of the variance in emerging school refusal than did age, ASD-related difficulties (judged by their mothers), and self-reported anxiety and depression". Eighty-five percent of the surveyed boys reported that they had been bullied at school, and 56% of them asked their parents if they could stay at home as a result of the bullying. Bitsika et al. (2021) identified in another sample from a previous study (Bitsika & Sharpley, 2016) the most common bullying experiences: being called mean names or being sworn at (experienced by 75.9% of the sample); being joked about or laughed at (67.2%); being hit, pushed, or kicked (63.8%); having had something taken from them (55.1%); being "ganged up on" (56.9%); and having been reported to teachers when they had not done things that were reportable (51.3%). A participant of Gray et al. (2023) talked about being bullied because he "didn't know what they were going on about".

McClemont et al. (2021) described another aspect of bullying: autistic youth with a behaviour support plan (BSP) were more likely to refuse school due to bullying than were those without. Anderson (2020) cited bullying as a factor that had a limited influence. The remaining factors outlined below exerted a more pronounced influence on absences.

### School Type

Totsika et al. (2020) highlighted the significance of school type. The risk for persistent non-attendance increased by 104% when the autistic child attended a mainstream school, by 100% for total days absent, and by 79% for total number of days missed. Additionally, school exclusions were slightly more frequent in mainstream schools. Anderson (2020) also revealed a significant difference between school type and absence from school. School absence due to illness was the main cause of absence in primary schools for students with learning disabilities (83.8%), but the rate of absenteeism for reasons other than illness increased when students attended secondary schools for students with learning disabilities (36.3%). The results indicate that the rate of school absenteeism among autistic students in primary school is relatively high and increases when pupils start secondary school. Gray et al. (2023) revealed that the amount of support in schools varied "depending on knowledge, willingness to accommodate needs and carrying out advice and implementing statutory guidelines".

In a study by Martin-Denham (2022), caregivers noted a lack of knowledge, skills, understanding, and funding in mainstream secondary schools. All participants noted that barriers to mainstream education occurred because the school staff was not adequately trained in supporting children with SEND. Similar factors regarding the school staff were mentioned by participants in the study by Gray et al.

(2023): lack of understanding of autism, negative attitudes and problematic responses and interactions. Additional factors included a lack of flexibility regarding rules and homework on the one hand and unstructured times on the other hand. Not knowing the needs and not understanding the reactions of the autistic children led to school exclusions or exclusions from school events.

Anderson (2020) asserted that a lack of autism competence among school staff was the most common reason for children's school absence.

#### School Environment

The second most common reason in the study by Anderson (2020) was the lack of adaptation of the school environment (24.3%), followed by a lack of support in learning (23.5%) and social situations (23.8%). Factors identified by Preece and Howley (2018) regarding the school environment include a lack of understanding and appropriate support, the size of the school, and the number of students because of sensory issues such as noise. Gray et al. (2023) also listed the sensory issues of participants. The number of people, large classrooms with bright light and unstructured times led to feelings of overwhelm or sensory overload. Contrary to reports recommending the use of safe spaces to support emotional regulation, Martin-Denham (2022) noted that schools were unable to implement them due to a lack of space. A different perspective regarding the learning environment was found in the study by Gray et al. (2023). Many young people described meltdowns when doing homework because of their need for "straight separation between school and home".

#### Negative Experiences

The factors described above led in the study by Gray et al. (2023) to a feeling of being treated unfairly, "which made me just feel stressed and I just refused to engage [in school]". The results of a parent and teacher questionnaire survey of autistic students by Munkhaugen et al. (2017) suggested avoiding specific subjects, conflicts with peers or teachers, and insufficient information concerning the subjects or activities in school as possible reasons for school refusal behaviour. In the study of Truman et al. (2021), parents described negative school experiences to be at least partly caused by a lack of understanding of autism. Some of these parents considered the reason for the misunderstanding in their child's ability to mask their difficulties. The parents also indicated that 'masking' may be the reason why their children's special needs were not adequately addressed. Others reported that home-education can reduce the anxiety of their autistic children: "All the stress of having to deal with the situations gone. Can now concentrate on learning and living" (Truman et al., 2021). A mother in the study by Martin-Denham (2022) described that anxiety due to a focus on negative aspects in school led to a desire to die: "You can see the anxiety, and when your son says he wants to die that is hard to listen to. So, every day he would come home with this planner and […] there would be no positives, […]. So, he felt down all the time".

### Parental Factors

Parental factors that exert an influence are parental unemployment and illness. In addition, demographic characteristics are closely linked to parental factors, such as living in a two-parent household or having educational qualifications. In most studies, demographic characteristics had no influence on school absenteeism (Kurita, 1991; McClemont et al., 2021; Munkhaugen et al., 2017, 2019). However, Totsika et al. (2020) reported an association between school exclusions and not living in a two-parent household: the risk increased by 37% to 75%.

#### Parental Unemployment

The risk of non-attendance increased by 52% to 78% if parents were unemployed. Fifty-two percent had persistent absence, 57% had total days missed, and 78% had days absent (Totsika et al., 2020). Adams (2021) even reported an increase of 85% when parents reported not having paid employment. On the other hand, parents in two studies (Gray et al., 2023; Martin-Denham, 2022) reported "having to give up" their jobs as a result of school absenteeism.

#### Illness of family members

In the study by Munkhaugen et al. (2017), illness of other family members was the only sociodemographic factor that showed a significant association with school refusal behaviour in autistic students. Similarly, Adams (2021) reported that the risk of school refusal increased by 20% as parental depression scores increased.

### Supporting Factors

Mainly, four included studies (Gray et al., 2023; Martin-Denham, 2022; O'Hagan et al., 2022; Preece & Howley, 2018) identified several aspects to support re-engagement. The most mentioned aspects were the quality of interactions between teachers and autistic students, as well as between parents and teachers. The development of a flexible learning approach was identified as supporting, as well as incorporating the voice of the young person into their support plan and the opportunity to ask questions (Martin-Denham, 2022; O'Hagan et al., 2022). Autistic students valued a flexible and

structured approach in support, as well as the opportunity to control their own learning and feel respected and listened to (Gray et al., 2023). Additionally, regarding the overall school environment, smaller group sizes and structures in the classroom and learning were mentioned, as well as being part of the school community and relationships with peers (Gray et al., 2023; O'Hagan et al., 2022; Preece & Howley, 2018). The consistent and effective collaboration and communication between parents and teachers were affirmed by both parents and teachers (Gray et al., 2023; Martin-Denham, 2022). Parents also claim that an earlier diagnosis contributes to school engagement (Martin-Denham, 2022; O'Hagan et al., 2022).

## Discussion

The risk and influencing factors of school absenteeism among students on the autism spectrum were systematically reviewed across 18 studies. Nine studies solely included parents as participants, one study additionally included teachers, and one other study additionally included autistic children. Three studies based their data on the children, parents and professional staff. Two studies used existing records.

The most common term for school absenteeism was school refusal, while studies have used different criteria for determining absences. Based on the frequencies of school absenteeism shown among different study designs, it is clear that this is a serious phenomenon that occurs among autistic students internationally. Several identified factors also showed similarities and complementarities within the included studies.

The school level predominantly exhibited the most significant factors influencing absenteeism. Bullying was the most frequently studied influence and the factor with the greatest impact.

Other factors at the school level that significantly influenced absenteeism included school type, school environment, and negative experiences. In five studies, bullying was found to be a risk factor for school absenteeism (McClemont et al., 2021; Ochi et al., 2020; Bitsika et al., 2020, 2021, 2022). All studies revealed significant associations between bullying and absenteeism. Being bullied can also lead to anxiety and depression up to suicidal attempts or ideation (Martin-Denham, 2022). Autistic students with school refusal had higher scores for major depression, general anxiety, and separation anxiety, as well as significantly greater levels of somatic symptoms and sleeping difficulties (Bitsika et al., 2022). Conversely, individual factors, including externalizing symptoms and reduced social motivation, also increase the risk for bullying (Karande, 2018). However, other studies that examined bullying, among other factors, found that these factors had greater influences on absences (Anderson, 2020; Gray et al., 2023). The influence of school type was mostly related to a lack of knowledge of school staff in mainstream schools (Anderson, 2020; Gray et al., 2023; Martin-Denham, 2022). This factor was accompanied by a lack of adapting to the school environment due to a lack of resources or support (Anderson, 2020; Gray et al., 2023; Martin-Denham, 2022; Preece & Howley, 2018). A lack of support and understanding in schools increases the risk of anxiety and depression (Martin-Denham, 2022). The results may suggest that these conditions are contributing factors because individual needs are not addressed. Therefore, it is necessary to explore in more detail what leads to bullying and which interactional processes take place. Similarly, more research focusing on interactive processes in schools is needed.

At the individual level, age, gender, diagnosis, intellectual level and psychiatric conditions were identified. Three studies reported on the influence of age (Mattson et al., 2022; Ochi et al., 2020; Totsika et al., 2020). Autistic students were younger at the onset of school absences, and the frequency of absences increased with age. These results are consistent with the increasing social demands at school age (Kamp-Becker & Bölte, 2021). However, there is a need for further investigation of the influence of age. Mediating variables associated with age must also be considered. Anderson (2020) showed that girls had greater rates of short absences than boys. There was no other statement regarding gender since most participants were boys. Recent surveys continue to show that autism is four times more prevalent in boys than in girls (CDC, 2020). Nevertheless, there is clearly a lack of research regarding autism in female students. Three studies showed that feeling different from others contributed to school absences (Gray et al., 2023; Martin-Denham, 2022; O'Hagan et al., 2022). This shows the need for education on neurodiversity in schools (Honeybourne, 2018). Since Kurita (1991) reported that autistic students who experienced school refusal tended to be more intelligent, studies have focused on autistic students without intellectual disability. Nevertheless, more current research on the school attendance of autistic children with intellectual disabilities would be desirable. Five studies acknowledged the contribution of psychiatric conditions to school absences (Adams, 2021; Gray et al., 2023; Lassen et al., 2022; Munkhaugen et al., 2019; Truman et al., 2021). All five studies found anxiety to be a contributing factor. Lassen et al. (2022) even found a stronger association with internalising symptoms such as anxiety than with externalising or autistic symptoms. As anxiety is one of the most common psychiatric conditions in autistic individuals, it can influence school outcomes (for more information, see the review of Adams et al., 2019). The influence of other psychiatric disorders should be investigated in more detail in further research.

The parental factors that influence school absenteeism are parental unemployment and illness.

Two studies (Adams, 2021; Totsika et al., 2020) revealed an increased risk when parents were unemployed.

On the other hand, parents reported having to quit their jobs due to the school absenteeism of their children (Gray et al., 2023; Martin-Denham, 2022). Due to the effects on the socioeconomic status of a family, a further link between these two aspects should be explored in further research.

The effect of the illness of a family member was also reported by two studies. Munkhaugen et al. (2017) found this to be the only sociodemographic factor with a significant association. However, Adams (2021) reported an increased risk when parents had high depression scores. Mental health issues in parents due to stress and guilt were also shown to result from school absenteeism in two studies (Gray et al., 2023; Martin-Denham, 2022). Parents mentioned that they also need support in regard to school absenteeism in their autistic children (Martin-Denham, 2022). Families benefit from organisations that support the family as well as the school (Martin-Denham, 2022). In particular, children with special needs are dependent on the support of their parents or other caregivers (Romero & Lee, 2007), emphasising the need to support them in dealing with their children and school. Research that involves further system levels is needed. Support for parents can also be provided through interaction between parents and schools. Successful collaboration between parents and schools has a positive impact on the school experience of autistic students (Lilley, 2019) (Fig. 4).

Missing school is claimed to be going hand in hand with missing important developmental steps for life in society (Pellegrini, 2007). However, as seen in the results, for children on the autism spectrum, there are also risks for development and mental health in schools, which need to be fixed to enable the development of autistic children in schools. Parents affirmed home-education as a possibility for their autistic children to "concentrate on learning and living" (Truman et al., 2021). The advantages and disadvantages of home-education could be further investigated, as school is an important area in the lives of children and adolescents. The results show that the interaction between parental and individual factors is necessary but has not been adequately investigated. None of the included studies investigated parental withholding. Nevertheless, this sensitive and complex phenomenon should be examined in future research.

The results show that the school situation of autistic children should be investigated further. There is a lack of longitudinal studies regarding the education and school situation of autistic students, as well as a lack of validated scales for data collection. Nevertheless, the actuality of the included studies indicates that there is a growing research base on this topic.

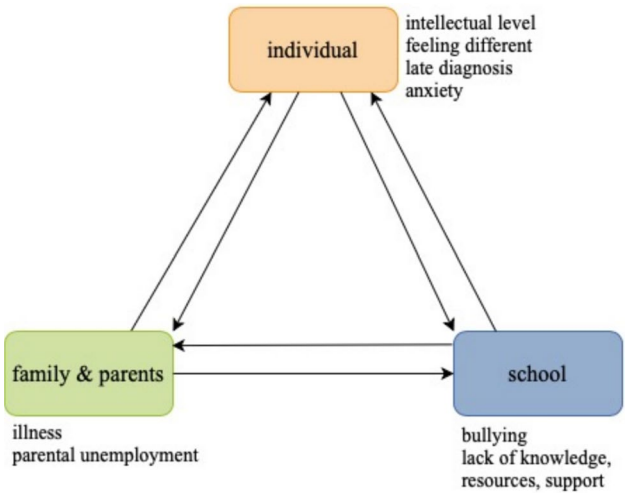



**Fig. 4** Interactions between factors

## Limitations

The results of this systematic review must be classified within its limitations. Given the overall scarcity of research in this area, a research question was developed that yielded the broadest possible results while allowing us to draw consistent conclusions. Therefore, studies with different terms of school absenteeism and different study designs were included. In addition, school absenteeism must be viewed in the context of school and health care systems in each country. This diversity makes comparability difficult and was carried out by the researchers on the basis of a narrative synthesis. The synthesis might reflect the researcher's interpretation of the data. Given the heterogeneity, it is possible that other studies included risk and influencing factors that were not identified. The specific influences of the COVID-19 pandemic were not considered. Due to limited resources, this review was conducted by only two researchers, which may have introduced limitations in the search strategy. Finally, only studies published in English or German were considered.

## Conclusion

This systematic review provides a comprehensive summary of mainly recently published studies on the factors influencing school absenteeism among autistic students. Eighteen studies were included, each with a different research focus and study design. Taken together, the results provide a picture of the different influences at the individual, school and

parental levels. Future research should incorporate other system levels as well as self-reports of autistic students and validated scales to draw conclusions for the inclusion of neurodivergent students.

**Funding** Open Access funding enabled and organized by Projekt DEAL.

## Declarations

**Conflict of Interest** On behalf of all authors, the corresponding author states that there are no conflicts of interest.

**Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit http://creativecommons.org/licenses/by/4.0/.

## References

### Studies included in the review:

Adams, D. (2021). Child and parental mental health as correlates of school non-attendance and school refusal in children on the autism spectrum. *Journal of Autism and Developmental Disorders, 52*(8), 3353–3365. https://doi.org/10.1007/s10803-021-05211-5

Anderson, L. (2020). Schooling for pupils with autism spectrum disorder: parents' perspectives. *Journal of Autism and Developmental Disorders, 50*(12), 4356–4366. https://doi.org/10.1007/s10803-020-04496-2

Bitsika, V., Heyne, D. A., & Sharpley, C. F. (2020). Is bullying associated with emerging school refusal in autistic boys? *Journal of Autism and Developmental Disorders, 51*(4), 1081–1092. https://doi.org/10.1007/s10803-020-04610-4

Bitsika, V., Heyne, D. A., & Sharpley, C. F. (2022). The inverse association between psychological resilience and emerging school refusal among bullied autistic youth. *Research in Developmental Disabilities, 120*, 104121. https://doi.org/10.1016/j.ridd.2021.104121

Bitsika, V., Sharpley, C., & Heyne, D. (2021). Risk for school refusal among autistic boys bullied at school: Investigating associations with social phobia and separation anxiety. *International Journal of Disability, Development and Education, 69*(1), 190–203. https://doi.org/10.1080/1034912X.2021.1969544

Gray, L., Hill, V., & Pellicano, E. (2023). "He's shouting so loud but nobody's hearing him": A multi-informant study of autistic pupils' experiences of school non-attendance and exclusion. *Autism & Developmental Language Impairments, 8*, 23969415231207816. https://doi.org/10.1177/23969415231207816

Kurita, H. (1991). School refusal in pervasive developmental disorders. *Journal of Autism and Developmental Disorders, 21*(1), 1–15. https://doi.org/10.1007/BF02206993

Lassen, J., Aggernæs, B., Foldager, M., Pedersen, J., Oranje, B., Kjær, T. W., Arnfred, S., & Vestergaard, M. (2022). Psychopathological symptoms associated with psychosocial functioning in children and adolescents with autism spectrum disorders and their typically developing peers. *Research in Autism Spectrum Disorders, 98*, 102040. https://doi.org/10.1016/j.rasd.2022.102040

Martin-Denham, S. (2022). Marginalisation, autism and school exclusion: Caregivers' perspectives. *Support for Learning, 37*(1), 108–143. https://doi.org/10.1111/1467-9604.12398

Mattson, J. G., Bottini, S. B., Buchanan, K. A., Jarbou, M., & Won, D. (2022). Examination of school absenteeism among preschool and elementary school autistic students. *Advances in Neurodevelopmental Disorders, 6*(3), 331–339. https://doi.org/10.1007/s41252-022-00263-9

McClemont, A. J., Morton, H. E., Gillis, J. M., & Romanczyk, R. G. (2021). Brief report: Predictors of school refusal due to bullying in children with autism spectrum disorder and attention-deficit/hyperactivity disorder. *Journal of Autism and Developmental Disorders, 51*(5), 1781–1788. https://doi.org/10.1007/s10803-020-04640-y

Munkhaugen, E. K., Gjevik, E., Pripp, A. H., Sponheim, E., & Diseth, T. H. (2017). School refusal behaviour: Are children and adolescents with autism spectrum disorder at a higher risk? *Research in Autism Spectrum Disorders, 41–42*, 31–38. https://doi.org/10.1016/j.rasd.2017.07.001

Munkhaugen, E. K., Torske, T., Gjevik, E., Nærland, T., Pripp, A. H., & Diseth, T. H. (2019). Individual characteristics of students with autism spectrum disorders and school refusal behavior. *Autism, 23*(2), 413–423. https://doi.org/10.1177/1362361317748619

Ochi, M., Kawabe, K., Ochi, S., Miyama, T., Horiuchi, F., & Ueno, S. (2020). School refusal and bullying in children with autism spectrum disorder. *Child and Adolescent Psychiatry and Mental Health, 14*(1), 17. https://doi.org/10.1186/s13034-020-00325-7

O'Hagan, S., Bond, C., & Hebron, J. (2022). Autistic girls and emotionally based school avoidance: Supportive factors for successful re-engagement in mainstream high school. *International Journal of Inclusive Education*, 1–17. https://doi.org/10.1080/13603116.2022.2049378

Preece, D., & Howley, M. (2018). An approach to supporting young people with autism spectrum disorder and high anxiety to re-engage with formal education – the impact on young people and their families. *International Journal of Adolescence and Youth*, 1–14. https://doi.org/10.1080/02673843.2018.1433695

Totsika, V., Hastings, R. P., Dutton, Y., Worsley, A., Melvin, G., Gray, K., Tonge, B., & Heyne, D. (2020). Types and correlates of school non-attendance in students with autism spectrum disorders. *Autism, 24*(7), 1639–1649. https://doi.org/10.1177/1362361320916967

Truman, C., Crane, L., Howlin, P., & Pellicano, E. (2021). The educational experiences of autistic children with and without extreme demand avoidance behaviours. *International Journal of Inclusive Education*, 1–21. https://doi.org/10.1080/13603116.2021.1916108

### Other References

Adams, D., Young, K., & Keen, D. (2019). Anxiety in children with autism at school: A systematic review. *Review Journal of Autism and Developmental Disorders, 6*(3), 274–288. https://doi.org/10.1007/s40489-019-00172-z

Ashburner, J., Ziviani, J., & Rodger, S. (2010). Surviving in the mainstream: Capacity of children with autism spectrum disorder to perform academically and regulate their emotions and behaviour at school. *Research in Autism Spectrum Disorders, 4*(1), 18–27.

Berg, I., Nichols, K., & Pritchard, C. (1969). School phobia-Its classification and relationship to dependency. *Journal of Child Psychology and Psychiatry, 10*, 123–141.

Bitsika, V., & Sharpley, C. (2016). *Brain-behaviour research group autism study*. https://www.une.edu.au/BBRG/ASD. Accessed 20 Apr 2024.

Centers for Disease Control and Prevention (CDC). (2023). Prevalence and characteristics of autism spectrum disorder among children aged 8 years — Autism and developmental disabilities monitoring network, 11 Sites, United States, 2020. *MMWR Surveill Summ, 72*(No. SS-2), 1–14. https://doi.org/10.15585/mmwr.ss7202a1

Department for Education. (2019). *Pupil Absence in Schools in England: 2017 to 2018. National Statistics*. Department for Education.

Finning, K., Ukoumunne, O. C., Ford, T., Danielson-Waters, E., Shaw, L., Romero De Jager, I., … Moore, D. A. (2019). The association between anxiety and poor attendance at school – a systematic review. *Child and Adolescent Mental Health, 24*(3), 205–216. https://doi.org/10.1111/camh.12322

Gallé-Tessonneau, M., & Heyne, D. (2020). Behind the SCREEN: Identifying school refusal themes and sub-themes. *Emotional and Behavioural Difficulties, 25*, 139–154. https://doi.org/10.1080/13632752.2020.1733309

Gentle-Genitty, C., Karikari, I., Chen, H., Wilka, E., & Kim, J. (2015). Truancy: A look at definitions in the USA and other territories. *Educational Studies, 41*(1–2), 62–90.

Hebron, J., & Humphrey, N. (2014). Exposure to bullying among students with autism spectrum conditions: A multi-informant analysis of risk and protective factors. *Autism, 18*(6), 618–630.

Honeybourne, V. (2018). *The neurodiverse classroom*. Jessica Kingsley.

Heyne, D., Gren-Landell, M., Melvin, G., & Gentle-Genitty, C. (2019). differentiation between school attendance problems: why and how? *Cognitive and Behavioral Practice, 26*(1), 8–34.

Hong, Q. N., Fàbregues, S., Bartlett, G., Boardman, F., Cargo, M., Dagenais, P., Gagnon, M.-P., Griffiths, F., Nicolau, B., O'Cathain, A., Rousseau, M.-C., Vedel, I., & Pluye, P. (2018). The mixed methods appraisal tool (MMAT) version 2018 for information professionals and researchers. *Education for Information (special Issue), 34*(4), 285–291.

Kamp-Becker, I., & Bölte, S. (2021). *Autismus* (3rd ed.). Ernst Reinhardt Verlag.

Karande, S. (2018). School refusal behavior: An enigma still to be resolved. *The Indian Journal of Pediatrics, 85*(12), 1055–1056.

Kearney, C. A. (2003). Bridging the gap among professionals who address youths with school absenteeism: Overview and suggestions for consensus. *Professional Psychology: Research and Practice, 34*, 57–65. https://doi.org/10.1037/0735-7028.34.1.57

Kearney, C. A. (2008). School absenteeism and school refusal behavior in youth: A contemporary review. *Clinical Psychology Review, 28*, 451–471.

Kearney, C. A. (2016). *Managing school absenteeism at multiple tiers: An evidence-based and practical guide for professionals*. Oxford University Press.

Kearney, C. A., & Silverman, W. K. (1996) The evolution and reconciliation of taxonomic strategies for school refusal behavior. *Clinical Psychology: Science and Practice, 3*(4), 339–354. https://doi.org/10.1111/j.1468-2850.1996.tb00087.x

Kearney, C. A., Gonzálvez, C., Graczyk, P. A., & Fornander, M. J. (2019). Reconciling contemporary approaches to school attendance and school absenteeism: Toward promotion and nimble response, global policy review and implementation, and future adaptability (Part 1). *Frontiers in Psychology, 10*, 2222. https://doi.org/10.3389/fpsyg.2019.02222

Lenzen, C., Fischer, G., Jentzsch, A., Kaess, M., Parzer, P., Carli, V., Wassermann, D., Resch, F., & Brunner, R. (2013). Schulabsentismus in Deutschland – Die Prävalenzen von entschuldigten und unentschuldigten Fehlzeiten und ihre Korrelation mit emotionalen und Verhaltensauffälligkeiten. *Praxis der Kinderpsychologie und Kinderpsychiatrie, 62*, 570–582.

Lilley, R. (2019). Fostering collaborative family-school relationships to support students on the autism spectrum. In R. Jordan, J. M. Roberts, & K. Hume (Eds.), *The SAGE handbook of autism and education* (pp. 351–362). Sage Publications.

Melvin, G. A., Heyne, D., Gray, K. M., Hastings, R. P., Totsika, V., Tonge, B. J., & Freeman, M. M. (2019). The kids and teens at school (KiTeS) framework: An inclusive bioecological systems approach to understanding school absenteeism and school attendance problems. *Frontiers in Education, 4*, 61. https://doi.org/10.3389/feduc.2019.00061

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., … Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, n71. https://doi.org/10.1136/bmj.n71

Pellegrini, D. W. (2007). School Non-attendance: Definitions, meanings, responses, interventions. *Educational Psychology in Practice, 23*(1), 63–77.

Reissner, V., Knollmann, M., Spie, S., Jost, D., Neumann, A., & Hebebrand, J. (2019). Modular treatment for children and adolescents with problematic school absenteeism: Development and description of a program in germany. *Cognitive and Behavioral Practice, 26*(1), 63–74. https://doi.org/10.1016/j.cbpra.2018.07.001

Roberts, J., & Simpson, K. (2016). A review of research into stakeholder perspectives on inclusion of students with autism in mainstream schools. *International Journal of Inclusive Education., 20*(10), 1084–1096.

Romero, M., & Lee, Y.-S. (2007). *A national portrait of chronic absenteeism in the early grades*. National center for children in poverty: Mailman School of Public Health at Columbia University.

Rosen, T. E., Mazefsky, C. A., Vasa, R. A., & Lerner, M. D. (2018). Co-occurring psychiatric conditions in autism spectrum disorder. *International Review of Psychiatry, 30*(1), 40–61. https://doi.org/10.1080/09540261.2018.1450229

Song, W., Salzer, M. S., Nonnemacher, S. L., & Shea, L. (2022). Lifespan service receipt and unmet needs among individuals on the autism spectrum. *Administration and Policy in Mental Health, 49*(4), 694–705. https://doi.org/10.1007/s10488-022-01192-4

Tonge, B. J., & Silverman, W. K. (2019). Reflections on the Field of School Attendance Problems: For the Times They Are a-Changing? *Cognitive and Behavioral Practice, 26*(1), 119–126. https://doi.org/10.1016/j.cbpra.2018.12.004

United Nations (UN). (1989). Convention of the Rights of the Child (CRC).

Wilson, V., Malcolm, H., Edward, S., & Davidson, J. (2008). 'Bunking off': The impact of truancy on pupils and teachers. *British Educational Research Journal, 34*, 1–17.

World Health Organization (2023). *ICD-11: International Classification of Diseases (11th revision)*. https://icd.who.int/en. Accessed 20 Apr 2024.

**Publisher's Note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.