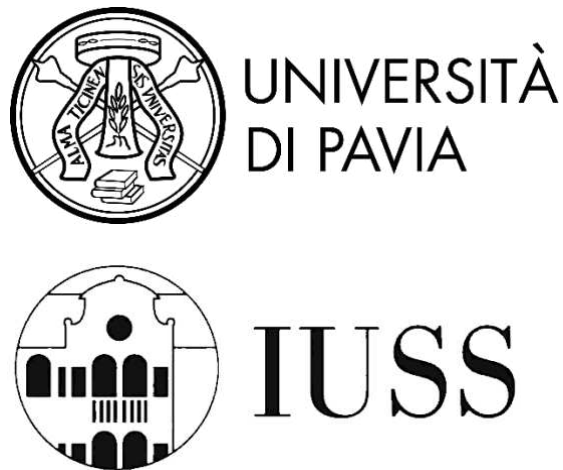


UNIVERSITY OF PAVIA – IUSS SCHOOL FOR ADVANCED STUDIES PAVIA

**Department of Brain and Behavioral Sciences (DBBS)
MSc in Psychology, Neuroscience and Human Sciences**



Understanding Suicide Risk Through a One Health Lens: A Scoping Review of Biological, Psychological, Social, and Environmental Factors in Childhood

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1. Abstract

Childhood suicidality is a critical public health issue, with suicidal thoughts and behaviors emerging even in young children, despite being less frequent than in older age groups. Although several risk factors have been identified, the evidence remains fragmented. This scoping review adopted a One Health perspective to map biological, psychological, social, and environmental factors associated with suicidality among children aged 12 years and younger. A systematic search was conducted in PubMed, Scopus, and Web of Science for studies published between 2015 and 2025. Eligible studies examined suicide-related outcomes in children and investigated at least one biological, psychological, social, or environmental risk factor. Following screening and eligibility assessment, 16 studies met the inclusion criteria. Data were extracted and categorized according to the four One Health domains. Findings showed that childhood suicidality is associated with multiple interconnected risk factors. Psychological factors, particularly depression, anxiety, and trauma-related experiences, were reported frequently. Social factors, including family conflict, bullying victimization, and childhood maltreatment, were the most commonly examined and constantly associated with suicidality. Biological factors, such as genetic vulnerability and neurobiological characteristics, were less frequently examined but appeared relevant in interactions with psychosocial stressors. Environmental factors were rarely addressed, with only one study examining natural disaster exposure. Overall, this review highlights the multidimensional nature of childhood suicidality and identifies important gaps, especially regarding environmental determinants, supporting the value of a One Health perspective for future research.

Keywords: Childhood suicidality; One Health; suicide risk; children; psychosocial factors; environmental determinants.

2. Introduction

Suicide is a major public health concern, and it is one of the most common causes of death. It does not affect solely individuals; it affects their families, communities, and the healthcare system. According to the National Institute of Mental Health (NIMH, 2025), Suicide is defined as death caused by self-directed injurious behavior with intent to die as a result of the behavior. Although suicide has been traditionally considered a problem during adolescence and adulthood, there has been increasing attention towards childhood.

2.1. Childhood Suicidality

Even though suicide is less common during childhood, suicidal thoughts and behaviors can occur even in younger children and represent a significant public health concern (Anderson et al., 2016; Becker & Correll, 2020). Historically, the reason behind the lack of evidence and its limited attention is that it has been assumed that children lack the cognitive capacity to understand death and participate in suicidal behaviors. However, in recent years, there have been arguments about this assumption, and new evidence has demonstrated that even young children are capable of experiencing suicidal ideations, thoughts, performing suicidal behaviors, and, in rare cases, dying by suicide (Anderson et al., 2016; Muwanguzi et al., 2025; Pfeffer, 1997).

Childhood suicidality occurs during a unique developmental context. Compared to adolescents and adults, children are less emotionally and cognitively developed and possess less problem-solving abilities, which influences how these suicidal thoughts and behaviors manifest (Anderson et al., 2016; Pfeffer, 1997). Although young children may not yet possess a fully mature understanding of death, evidence suggests that awareness of mortality begins to emerge early in development. Solomon, Greenberg, and Pyszczynski (2015) note that children may begin to understand death from around four years of age, although their comprehension of its irreversibility, universality, and finality continues to develop gradually. This supports the

idea that suicidal thoughts and behaviors occur even before adolescence (Anderson et al., 2016).

The characteristics of childhood development can contribute to suicide risk. Children's coping resources are not developed as much as those of adults, so they heavily rely on caregiver or social support during stressful situations (Pfeffer, 1997). Additionally, children and adolescents are more impulsive and are prone to taking more risks, which increases their susceptibility to suicidal behaviors during emotional distress (Becker & Correll, 2020). Apart from underdeveloped coping resources, all children have different life experiences, and some mature more quickly than others, meaning the understanding of death and suicide changes with every child and makes some children more prone to experience suicidal thoughts and behaviors (Anderson et al., 2016; Pfeffer, 1997).

Research says that childhood suicidality is influenced by multiple factors. Psychological factors that are correlated with childhood suicidality are feelings of worthlessness, depression, anger, impulsivity, sadness, etc. (Anderson et al., 2016; Becker & Correll, 2020; Carballo et al., 2020). Social factors such as family-related events, adverse childhood experiences, school-related problems, bullying, and socioeconomic disadvantages have been associated with greater suicide risk among children and adolescents (Anderson et al., 2016; Becker & Correll, 2020; Carballo et al., 2020; Muwanguzi et al., 2025).

Early emotional and social difficulties, psychiatric disorders, and adverse life experiences may have long-term developmental consequences. Evidence shows that suicide attempts during childhood are highly associated with the likelihood of future suicidal ideations during adolescence and adulthood (Pfeffer, 1997).

Despite growing recognition of childhood suicidality, the available literature remains fragmented. Multiple studies have examined suicidal psychological, social, and environmental risk factors, with suicidal thoughts and behaviors during childhood, but the findings remain

spread across different populations (Carballo et al., 2020; Muwanguzi et al., 2025). To understand the factors associated with childhood suicidality and to develop prevention and intervention strategies, more comprehensive research is needed.

2.2. One Health Framework

One Health is an approach that recognizes that the health and well-being of individuals are influenced by the interactions between multiple biological, social, and environmental factors. Closely focusing on the connection between the health of people, the health of animals, and our environment (WHO, 2026). The concept has existed for several decades, although it has been applied primarily to infectious diseases and environmental health. One Health emerged in response to the findings that many infectious diseases originate directly from animals and are influenced by human activities such as changes in land use, urbanization, and international travel. These developments pointed out the need for collaboration between human, animal, and environmental health sectors for a better understanding of the health challenges (Mackenzie & Jeggo, 2019).

Recently, the One Health framework has gained relevance in psychology. From a psychological perspective, the approach emphasizes that health and well-being are not only influenced by biological factors but also by social and environmental factors. Researchers have recognized that psychological well-being is interconnected to the health of the surrounding environment and that, for understanding new health challenges, they need to understand human behavior first. The application of the One Health perspective might be particularly helpful in understanding the complex mental health issues. Rather than connecting health conditions to a single cause, it acknowledges that health and well-being are shaped by multiple interacting factors at different levels. The One Health perspective is particularly useful in childhood suicidality, which has been associated with a wide range of biological, psychological, social, and environmental factors (Gilli et al., 2022).

2.3. Risk Factors for Childhood Suicide

Childhood suicidality is a complex phenomenon influenced by multiple connected factors. Previous research has identified connections between childhood suicidality and a wide range of biological, psychological, social, and environmental risk factors. Some studies have linked suicidal thoughts and behaviors to psychopathology, family conflict, adverse family life, bullying, and psychiatric disorders (Janiri et al., 2020; Ong et al., 2021). Despite the growth in childhood suicidality, it remains less studied than suicide in adolescents. Janiri et al. (2020) pointed out a lack of studies focusing specifically on children and highlighted that age may be a factor in lower reporting and the associated risk factors. Similarly, Ong et al. (2021) said that age-specific risk factors are understudied and that childhood suicidal behaviors are not yet fully understood.

Even though many risk factors have been studied, the findings remain not fully identified. Most of the existing literature focuses solely on a specific domain and not on the connections between age and how the biological, psychological, social, and environmental domains interact. Comprehensive research of the available evidence is needed to give a broader understanding of childhood suicide risk and gaps that may guide future research.

2.4. Aim and Objectives

Although numerous risk factors for childhood suicidality have been identified, research often examines each factor separately, and they usually overlook the environmental determinants, such as pollution or climate stress. As a result of this, the understanding of how these factors interact remains limited. Using the One Health framework allows us to treat biological, psychological, social, and environmental risk factors as equal, helping us with the understanding of suicide in childhood.

This scoping review aims to answer the following research question: What are the biological, psychological, social, and environmental risk factors associated with childhood suicidality when examined through a One Health lens?

More specifically, this review aimed to: (1) To identify risk factors associated with childhood suicidality. (2) To classify identified risk factors into four domains: biological, psychological, social, and environmental. (3) To highlight gaps and limitations in the literature.

3. Methods

3.1. Protocol and Registration

This scoping review (ScR) was conducted in accordance with the JBI guidelines for scoping review (Peters et al., 2020) and is reported following the PRISMA-ScR checklist (Tricco et al., 2018) (Figure 1). This study represents the childhood-focused component of a broader study, meaning biological, psychological, social, and environmental risk factors for suicide across the human life span through a One Health lens. The wider project is structured around four life stages: childhood, adolescence/early adulthood, adulthood, and older adulthood. This study focuses specifically on childhood, defined as ages 0-12, in accordance with the World Health Organization (2026).

3.2. Eligibility Criteria

This study included peer-reviewed primary research studies written in English and published within the last 10 years that examined risk factors associated with suicide-related outcomes among children aged 0-12 years. Suicide-related outcomes included suicidal ideation, suicide attempts, death by suicide, or a composite measure of suicidality. Moreover, eligible studies must investigate at least one risk factor within the following domains: biological factors (e.g., genetic vulnerability, neurological illness, or chronic physical conditions), psychological factors (e.g., mental illness, trauma, hopelessness, others), social factors (e.g., socioeconomic disadvantages, family relationships, social support,

discrimination, or interpersonal adversity), and environmental factors (e.g., pollution, climate-related exposures, housing instability, access to green or blue spaces, etc). Studies conducted in any setting were considered. For instance, community, clinical, institutional, urban, rural, and low, middle, or high-income contexts. Quantitative, qualitative, and mixed-methods primary studies and retrospective studies were considered. Studies were excluded if they were reviews, meta-analyses, theoretical papers, book chapters, editorials, opinion pieces, conference abstracts, grey literature, or if they did not provide primary empirical data. Studies including mixed-age samples were excluded unless childhood-specific data were reported separately.

3.3. Information Sources and Search Strategy

The search strategy was developed and piloted in PubMed and then adapted for Scopus and Web of Science. Searches focused on literature published from 2015 to 2025 to capture the recent data on suicide. The strategy combined terms related to suicide, risk factors, childhood, and environmental or One Health-related exposures, as seen in Table 1.

Table 1 PubMed Search String

Search component	Terms
Suicide-related terms	"Suicide"[MeSH] OR suicid*[tiab]
Risk-factor terms	"Risk Factors"[MeSH] OR risk factor*[tiab] OR predictor*[tiab] OR associated factor*[tiab]
Childhood terms	"Child"[MeSH] OR child*[tiab] OR preschool*[tiab]

Environmental / One Health terms	"Environment"[MeSH] OR environmental[tiab] OR "climate"[tiab] OR "pollution"[tiab] OR "urban"[tiab] OR "green space"[tiab] OR "One Health"[tiab]
Full PubMed search string	("Suicide"[MeSH] OR suicid*[tiab]) AND ("Risk Factors"[MeSH] OR risk factor*[tiab] OR predictor*[tiab] OR associated factor*[tiab]) AND ("Child"[MeSH] OR child*[tiab] OR preschool*[tiab]) AND ("Environment"[MeSH] OR environmental[tiab] OR "climate"[tiab] OR "pollution"[tiab] OR "urban"[tiab] OR "green space"[tiab] OR "One Health"[tiab])

3.4. Study Selection

All retrieved references were downloaded as CSV or RIS files and uploaded into Rayyan (Ouzzani et al., 2016), where duplicates were automatically removed. Two reviewers, M.K. and L.K., independently screened titles and abstracts against the predefined inclusion and exclusion criteria. Full texts of potentially eligible studies were assessed independently by the same reviewers. In case of disagreements, a third reviewer, M.E.R., was included in the screening process. The study selection process is reported in the PRISMA flowchart (Figure 1).

3.5. Data Charting and Synthesis

A standardized data-charting form was developed and piloted before extraction. Extracted information included author, year, country, study design, sample size, population characteristics, suicide-related outcome, and risk factor examined. Risk factors were categorized into One Health domains: biological, psychological, social, and environmental. To ensure consistency, studies were first assigned to the domain most prominently reflected in their objective outcomes. When studies addressed more than one domain, secondary domains

were also recorded. Any uncertainty regarding domain allocation was resolved through discussion between three reviewers.

4. Results

4.1. Search Results

As shown in the PRISMA-ScR flow diagram (Figure 1), this study initially included 1482 articles across 3 databases (Scopus: 743; Web of Science: 470; PubMed: 269). After automatically removing 494 duplicates, we were left with 988 papers. After following strict exclusion criteria, the title and abstract selection excluded 946 articles, and the full-text selection excluded 26 of the studies. We were left with 16 studies that matched the inclusion criteria.

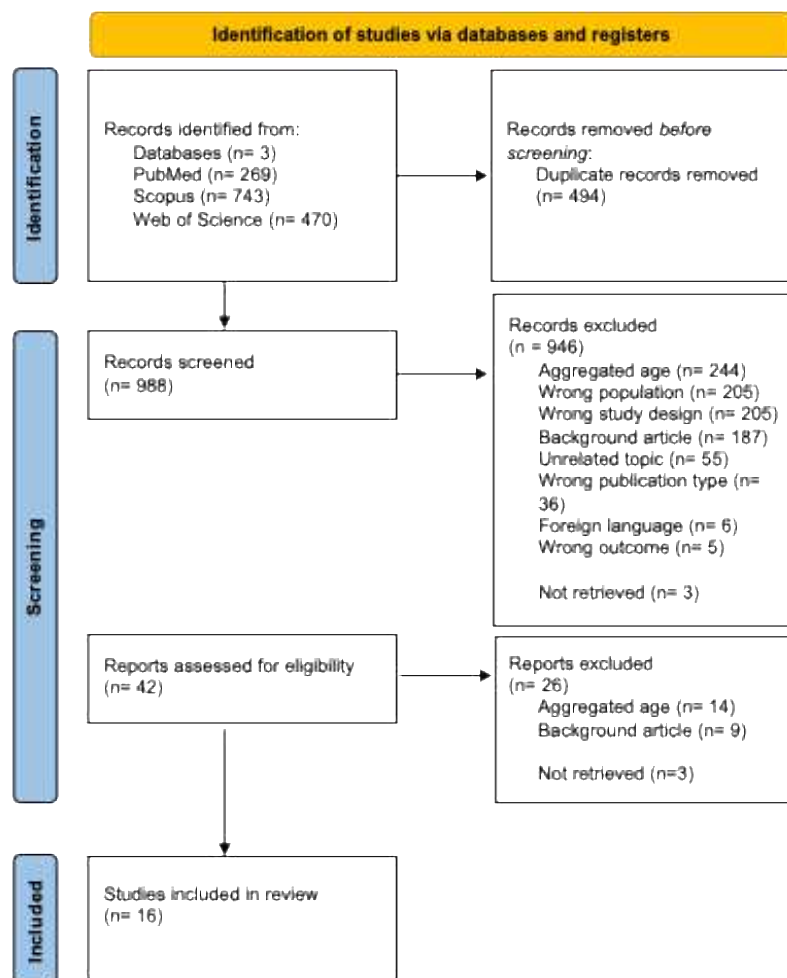


Figure 1 PRISMA-ScR Flow Diagram for Identification, Screening, Eligibility and Inclusion.

4.2. Study Characteristics

A total of 16 studies were included in this scoping review (ScR). Publication years ranged from 2016 to 2023, with the majority published in recent years. The data was collected from populations from 4 different countries (Figure 2), while most studies were conducted in the United States (n=13; 81.25%), others were from countries such as China (n=1; 6.25%) (Wang et al., 2019), Brazil (n= 1; 6.25%) (De Souza et al., 2019), and Japan (n= 1; 6.25%) (Fujiwara et al., 2017).

Study designs were mostly cross-sectional (n=8) (Argabright et al., 2022; DeVille et al., 2020; Janiri et al., 2020; Ong et al., 2021; Van Velzen et al., 2022; Vidal-Ribas et al., 2021; Walsh et al., 2021; Wang et al., 2019), followed by longitudinal studies (n=2) (Fujiwara et al., 2017; Karcher et al., 2022) and retrospective studies/reviews (n=2) (Joo et al., 2022; Marraccini et al., 2021). The remaining studies included one cohort study (Joo et al., 2022), one qualitative analysis (Ruch et al., 2021), one case series study (De Souza et al., 2019), and one secondary analysis of Adolescent Brain Cognitive Development (ABCD) data (Daskalakis et al., 2021). The included studies demonstrated large variability in sample size, ranging from 15 to 82,508 participants, with a median of 6,974 participants. Across the included studies, both male and female participants were represented. Several studies reported equal sex distribution, especially those based on the ABCD cohort, a small number of studies reported mostly male participant samples. Participants were children aged 5-12 years, although several studies focused on 9-10-year-old children from the ABCD cohort, other studies examined young children aged 5-11 years old.

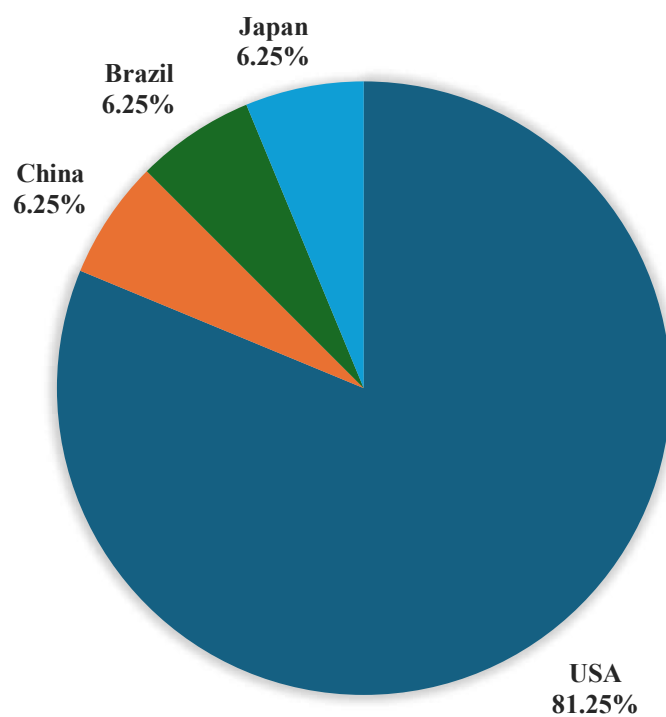


Figure 2 Countries and Percentage of Papers Included in this ScR.

Table 2 Characteristics of the Included Studies

First author surname and year of publication	Country	Study Design	Sample Size	Population Characteristics	Life Stage(s) Covered	Suicide Outcome	Age-Specific Results
Daskalakis et al., 2021	United States	Analysis of ABCD Study data	5953, European ancestry (EUR, N =4619) and from African ancestry (AFR, N = 1334)	9-10 year olds, general population sample, European and African ancestry; EUR no suicidality- age mean: 10.99; boys: 2252, girls: 1989; AFR no suicidality- age mean: 10.95; boys: 625, girls: 579; EUR suicidality- age mean: 11; boys: 211, girls: 167; AFR suicidality- age mean: 11; boys: 56, girls: 74	Childhood	Suicidality (suicidal ideation and suicide attempt)	Aggregated results 9-10 year olds
Argabright et al., 2022	United States	Cross-sectional analysis of longitudinal study data (using 1-year follow-up data).	11,235 children	Mean age 10.9 years; 52.3% boys; 20.2% Black; general population of children selected through school systems.	Childhood	Suicidality (suicidal ideation and suicide attempt)	Aggregated results 9-10 year olds

Joo et al., 2022	United States	Cohort study	11,869 initially assessed; 6,592 included in primary analysis	Preadolescent children aged 9–10 years; multiethnic (African, Admixed American, East Asian, European, and other ancestries); mean age - 9.9 years; 3588 girls (50.3%).	Childhood	Suicidal ideation (active, passive, and overall) and suicide attempt.	Aggregated results 9-10 year olds
Ong et al., 2021	United States	Cross-sectional analysis of electronic health records	18,018 total, including 1464 pre- adolescent children	Age groups: pre- adolescent children (≤12 years; n = 1,464), adolescents (13–17 years; n = 6,707), young adults (18–25 years; n = 9,847). Both genders included. Racial/ethnic composition primarily non- Hispanic White, with representation of Black, Hispanic, Asian, and multiracial groups.	Childhood, adolescents, and adulthood	Suicide attempt	Yes, results separated to childhood, adolescents, and adulthood
Walsh et al., 2021	United States	Cross-sectional (population- based surveillance data from two	Total N=82,508 (2007: n=42,149; 2010: n=40,359)	11- and 12-year-old public school students	Childhood	Suicidal ideation (past- year) and suicide attempts (past- year)	Aggregated results 11-12 year olds

independent cohorts)							
Fujiwara et al., 2017	Japan	Longitudinal (prospective cohort) study	280 children baseline sample; 210 children follow-up sample	Children exposed to the 2011 disaster at preschool age (5–8 years at baseline), aged 6–10 years at follow-up; includes boys and girls from affected and unaffected areas.	Childhood	Suicidal ideation, self-harm, and impulses (measured using the MINI-KID screening tool)	Children who were of preschool age at the time of the disaster and school age (6–10 years) at follow-up
Janiri et al., 2020	United States	Cross-sectional analysis of a population-based cohort	7994	Community-based sample of children aged 9–10 years (mean age 9.9); 53% male.	Childhood	Suicidality (suicidal ideation, plans and/or suicide attempt)	Aggregated age 9-10 year olds
Wang et al., 2019	China	Cross-sectional study	1347	Mean age 12.5. More than half of the students were male. There were 492 left behind children, of whom 49.6% had an absent father, 15.2% an absent mother, and 35.2% absent parents	Childhood	Suicidal ideation	Yes, 12.2-12.9
Ruch et al., 2021	United States	Qualitative analysis using restricted-use surveillance data	134	Children aged 5–11 years (mean age 10.6), 75.4% male. Majority White (59.0%) and non-Hispanic (81.3%)	Childhood	Suicide death	Aggregated age 5-11 year olds

Marraccini et al., 2021	United States	Retrospective chart review	502 including 121 children aged 6-12	Clinical inpatient sample of children aged 6–12 years hospitalized for suicide-related thoughts and behaviors. Age distribution: 6–12 years (majority aged 10–12)	Childhood and adolescence	Suicide-related thoughts and behaviors, including suicidal ideation, suicide plans, suicide attempts, and self-injury with suicidal intent	Aggregated age 6-12 year olds and adolescents 13-18
DeVille et al., 2020	United States	Cross-sectional analysis (retrospective)	11814	Community-based sample of 11,814 children aged 9–10 years from the ABCD Study. Approximately equal sex distribution; racially, ethnically, and socioeconomically diverse	Childhood	Suicidal ideation and suicide attempts	Aggregated age 9-10 year olds
Joe et al., 2016	United States	Retrospective review	951	951 Crisis Response Center patients who were Black, White, or Latino and under 12 years of age.	Childhood	Suicidality / suicide risk	Aggregated age- children under 12
Vidal-Ribas et al., 2021	United States	Quantitative, population-based cross-sectional study (baseline ABCD data)	7,994	Children aged 9–10 years, 47.0% female (n=3,757), unrelated participants from the ABCD study	Childhood	Lifetime suicidal thoughts and behaviors	Aggregated age 9-10 year olds

(ideation and attempts).							
Van Velzen et al., 2022	United States	Quantitative cross-sectional study using binomial penalized logistic regression and machine learning approaches .	5,885	Children aged 9-11 years 1) healthy control group (no parent-reported or child-reported psychiatric diagnosis was present and no parent-reported lifetime history of suicidal thoughts and behavior; N=2,415); 2) clinical control group (a parent-reported or child-reported psychiatric diagnosis was present, but there was no lifetime parent-reported history of suicidal thoughts or behavior; N=2,976); 3) STB group (lifetime parent-reported suicidal thoughts or behavior was reported; N=494).	Childhood	Suicidal thoughts or behaviors (STB) - composite including ideation, interrupted, aborted, or actual suicide attempt .	Aggregated age 9-11 year olds

De Souza et al., 2019	Brazil	Case series study	15	Children aged 5 to 12 years diagnosed with a depressive episode and a history of suicide attempt. The sample consisted of 9 girls and 6 boys	Childhood	Suicide attempt (at least one in all cases) and suicidal ideation (recorded in 14 cases).	Aggregated age 6-12 year olds
Karcher et al., 2022	United States	Longitudinal study	11,878	School-age youth recruited at ages 9–10 years. The sample includes 47.9% females and a diverse racial/ethnic composition (52.0% White, 15.0% Black, 20.3% Hispanic, 2.1% Asian, 10.5% Multiracial).	Childhood	Suicidal ideation (e.g., thinking of a suicidal plan) and suicidal behavior (i.e., suicide attempt).	Results are specific to the childhood age group (9-10 years old)

4.3. Main Findings

The included literature revealed that childhood suicidality is associated with a wide range of risk factors, including psychological, social, biological, and environmental risk factors, as in the One Health approach. Psychological and social being the most frequently examined across all the included studies. Biological and environmental risk factors were examined less frequently, with environmental factors only in one study. The evidence indicates that childhood suicidality is best understood through a biopsychosocial framework, where multiple factors interact and contribute to the development of suicidal thoughts and behaviors. The findings are presented in the following paragraphs and in Table 3.

Table 3 *Main Findings and One Health Relevance of Included Studies*

First author surname and year of publication	One Health Relevance	Main Findings
Daskalakis et al., 2021	Implicit: Integrates biological, psychological, and social stressors influencing suicide risk	Results in African ancestry participants (N =1,334, n =130 suicidal) showed a similar direction but were not statistically significant (OR =1.21, 95%CI 0.93–1.57, p =0.153). Sensitivity analyses using non-psychiatric polygenic score for height and using cross-ancestry PTSD-PRS did not reveal any association with suicidality, supporting the specificity of the association of ancestry-specific PTSD-PRS with suicidality. Environmental stressors were robustly associated with suicidality across ancestries with moderate effect size for negative life events and family conflict (OR 1.27–1.6); and with large effect size (OR ~ 4) for sexual-orientation discrimination. When combined with environmental factors, PTSD-PRS showed marginal additive effects in explaining variability in suicidality, with no evidence for G × E interaction. Results support use of cross-phenotype PRS, specifically stress-susceptibility, as a genetic marker for suicidality risk early in the lifespan.
Argabright et al., 2022	Implicit Connection. The study uses an "exposome framework"	Racial/ethnic discrimination is significantly associated with suicidality (OR=2.6) even when adjusted for other types of stress and psychopathology. Black children face discrimination 3 times more often than white children. When levels of discrimination are equalized (matching analysis), race itself ceases to be a risk factor for suicide, which indicates the key role of social experience of oppression rather than biological race.
Joo et al., 2022	Implicit Connection	High polygenic scores for ADHD, ASD, MDD, PTSD, and schizophrenia are significantly associated with increased suicide risk in preadolescents. A higher polygenic score for general happiness (specifically the belief that life is meaningful) is associated with decreased suicide risk. There is a significant gene-environment interaction: a higher genetic risk for ASD combined with high levels of early life stress cumulatively increases the risk of suicidal ideation and behavior.

Ong et al., 2021	Implicit: psychological and social risk factors adressed	Suicide attempts prior to hospitalization were reported in 12.1% of pre-adolescents, 22% of adolescents, and 17.9% of young adults. Psychological trauma was noted in over half of pre-adolescents and adolescents, with predictors including female sex, depressive disorder, and bullying victimization across all groups. Specific risk factors for pre-adolescents included being uninsured and experiencing unsafe environments. For young adults, factors included being non-Hispanic white, having a family history of suicide, experiencing emotional trauma, and alcohol use disorder. The findings highlight the prevalence of suicide attempts among children and adolescents and suggest that prevention strategies must address age-specific risk factors.
Walsh et al., 2021	Implicit Connection	Prevalence of past-year suicidal ideation was ~9.27% and suicide attempts ~1.88% among 11-12 year olds. Physical and sexual abuse were the strongest predictors for both ideation and attempts across both cohorts. Parental support is a more significant protective factor than peer or teacher support in this age group. Factors distinguishing "pure" ideators from attempters include socioeconomic status, parental support, physical/sexual abuse, and school safety. Peer relationship variables (bullying, social support) were significant for ideation but largely non-significant for attempts in multivariate models.
Fujiwara et al., 2017	Implicit Connection	Young girls in the affected area showed significantly higher suicidal ideation (18.5%) compared to those in the unaffected area (4.7%). For girls, there was a dose-response relationship between the number of earthquake-related trauma experiences and suicide risk (OR for 4+ events = 7.88 in the crude model). Among boys, trauma exposure was not directly associated with suicide risk; instead, maternal psychological distress and poor parenting practices were significant predictors. Internalizing behavior problems did not mediate the association between trauma and suicide risk in girls, suggesting a direct impact of trauma.

Janiri et al., 2020	Implicit (social factors addressed)	This study analyzed 7,994 unrelated children (mean age 9.9 years; 53% male) regarding suicidal ideas and behaviors. Findings revealed that 8.4% reported suicidal ideation, 0.9% had suicidal plans, and 1.3% had made attempts. Caregiver reports showed similar trends with 8.1% for ideation, 0.6% for plans, and 0.5% for attempts; however, inter-informant agreement was low. Key risk factors for suicidality included child psychopathology (OR 1.7–4.8) and family conflict (OR 1.4–1.8). Increased weekend screen time (OR 1.3) heightened risk, while parental supervision and positive school engagement lowered it (both OR 0.8). Additionally, caregiver education level (OR 1.3) and male sex (OR 1.5) were associated with caregiver-reported suicidality, which was inversely related to the number of household cohabitants (OR 0.8).
Wang et al., 2019	Implicit	The prevalence of mental health symptoms among children was found to be 10–18%. Factors such as bullying, loneliness, and stress from home and school were identified as risks, while good life satisfaction and support from social networks served as protective factors. Notably, being a left-behind child was significantly linked to depression symptoms, but other related variables did not influence mental health outcomes. The findings indicate that school-related factors contribute to the mental health risks typically attributed to home environments, suggesting that schools may be effective venues for mental health programs in rural areas facing unstable home situations.
Ruch et al., 2021	Implicit (psychological and social factors)	Childhood suicide was associated with multiple co-occurring risk factors accumulating over time, most commonly mental health concerns, prior suicidal behavior, trauma, and family or school-related problems. Suicides were often preceded by an acute precipitating event. Hanging/suffocation was the most common method; all firearm-related deaths involved unsafe storage in the home.
Marraccini et al., 2021	Implicit	Children hospitalized for suicide-related risk commonly presented with suicidal ideation and co-occurring mental health diagnoses. School and family stressors were the most frequent environmental stressors. Compared to adolescents, children were more likely to be Black, male, and diagnosed with neurodevelopmental or trauma-related disorders, and less likely to receive depressive disorder diagnoses.

DeVille et al., 2020	Implicit	Higher family conflict and lower parental monitoring were associated with increased odds of suicidal ideation and attempts in children. Supportive family environments were protective. Associations remained after adjusting for child psychopathology, indicating that family relational factors contribute uniquely to suicide risk in childhood.
Joe et al., 2016	Implicit	17.2% had a history of suicidal thoughts/behaviors. In multivariate analysis, males were less likely to present with suicidality than females. Compared with mood disorders, behavioral disorders were associated with lower odds of suicidality. Discharge to inpatient was strongly associated with suicidality.
Vidal-Ribas et al., 2021	Implicit	Suicidal thoughts and behaviors in children are strongly linked to psychopathology and social adversity, but these factors have low classification accuracy. Neuroimaging did not reveal a discrete, clinically useful "brain signature" for suicidality at this age; only one structural measure (thinner left bank of superior temporal sulcus) survived statistical correction with a small effect size.
Van Velzen et al., 2022	Implicit	The most significant differentiating factors were primarily clinical and social: family conflict, prodromal psychosis symptoms, impulsivity, depression severity, and history of mental health treatment . Notably, neuroimaging and genetic variables contributed minimally to the classification . The model could not reliably distinguish between children with suicidal ideation and those who had attempted suicide .

De Souza et al., 2019	Implicit	Key findings indicate that suicidal behavior in this group is strongly associated with a history of vulnerabilities including self-harm, sexual abuse, and family conflicts. The most common methods for suicide attempts were injury by sharp/blunt objects and intentional self-poisoning. The study highlights the importance of considering family and school environments (e.g., bullying, parental psychiatric illness) as crucial contexts for risk assessment in childhood depression
Karcher et al., 2022	Implicit	The study found that children who experience distress along with psychotic-like experiences (PLEs) show significantly higher levels of both suicidal ideation and suicidal behavior compared to those without distress. Chronicity is a crucial risk factor; children whose symptoms persisted over time (across multiple assessments) reported greater suicidal ideation and behavior than those with transient symptoms. The highest risk for suicidality was observed in the "Persistent Distressing" group, indicating that the combination of long-lasting symptoms and emotional distress creates the most severe profile for suicidal thoughts and attempts. The association with PLEs was consistent for both suicidal ideation (planning/thinking) and suicidal behavior (attempts), suggesting these symptoms are a robust risk factor for the entire spectrum of suicidality. The group with the highest suicide risk (Persistent Distressing PLEs) also exhibited the highest levels of internalizing symptoms (e.g., depression, anxiety) and externalizing behaviors, which likely further exacerbate the risk of self-harm.

4.4. Risk Factors Associated with Suicide

Risk factors in this scoping review are divided into biological, psychological, social, and environmental (see Table 4).

4.4.1. Biological Factors

Biological risk factors were not examined in the included studies as much as psychological or social risk factors, but they included some genetic, neurobiological, and physiological variables. Genetic factors included polygenic risk scores (PRS) and genome-wide polygenic scores (GPS), associated with psychiatric conditions such as post-traumatic stress syndrome (PTSD), depression, attention-deficit/hyperactivity disorder (ADHD), autism spectrum disorder (ASD), major depressive disorder (MDD), schizophrenia, bipolar disorder, Alzheimer's disease, etc (Daskalakis et al., 2021; Joo et al., 2022; Van Velzen et al., 2022). Neurological factors included cortical thickness, subcortical volumes, structural MRI measures, resting-state functional connectivity, and task-based brain activations associated with reward processing, inhibitory control, and working memory (Karcher et al., 2022; Vidal-Ribas et al., 2021). Lastly, the physiological factors included physical health, pubertal development, sleep disturbance, body mass index (BMI), and physical illness (Van Velzen et al., 2022). Overall, the available evidence suggests that biological risk factors can contribute to childhood suicidality but were underrepresented compared to psychological and social factors in the included studies.

4.4.2. Psychological Factors

Psychological risk factors were more commonly examined across the included studies. Among the most frequently reported factors were depression and depressive disorders, anxiety, PTSD, internalizing and externalizing disorders, trauma exposure (including psychological, emotional, physical, and sexual), and ADHD and other neurodevelopmental disorders (Argabright et al., 2022; Daskalakis et al., 2021; De Souza et al., 2019; DeVille et al., 2020;

Fujiwara et al., 2017; Karcher et al., 2022; Marraccini et al., 2021; Ong et al., 2021; Ruch et al., 2021; Van Velzen et al., 2022; Vidal-Ribas et al., 2021; Wang et al., 2019). Several studies also examined substance use (e.g., alcohol and drug use, smoking), psychotic disorders/psychotic-like experiences, prodromal psychotic symptoms, bipolar disorder and manic symptoms, sexuality disorders, conduct disorder, and oppositional defiant disorder (ODD) (Argabright et al., 2022; De Souza et al., 2019; Joe et al., 2016; Karcher et al., 2022; Ong et al., 2021; Van Velzen et al., 2022; Vidal-Ribas et al., 2021). Less frequently explored factors across the studies included loneliness, perceived stress, working memory deficits, prior suicidal ideation or attempts, emotion regulation difficulties, impulsivity, aggression, self-harm behaviors, executive functioning deficits, inhibitory control deficits, body image dissatisfaction, prior psychiatric hospitalization, subjective well-being, obsessive-compulsive disorder (OCD), eating disorders, and intellectual disability (De Souza et al., 2019; DeVille et al., 2020; Joo et al., 2022; Karcher et al., 2022; Ong et al., 2021; Ruch et al., 2021; Van Velzen et al., 2022; Wang et al., 2019). Overall, depression, anxiety, trauma-related experiences, and neurodevelopmental disorders were among the most correlated risk factors associated with childhood suicidality.

4.4.3. Social Factors

Social factors represented another major category of risk factors and were examined across all of the included studies. The most common social risk factor examined included family conflict and adverse family environment, bullying victimization, socioeconomic disadvantage and poverty, level of parental education, low parental support, poor parental monitoring, negative life events, school-related difficulties, poor school environment, low school connectedness, childhood maltreatment or abuse, parental mental health problems, family psychiatric history or history of suicide, divorce, separated parents, and parental issues, peer/social support difficulties, neighborhood deprivation, unsafe neighborhood, and crime

exposure. Family and school-related difficulties appeared throughout the literature, suggesting that children's social environment plays a crucial role in childhood suicidality (Argabright et al., 2022; Daskalakis et al., 2021; De Souza et al., 2019; DeVille et al., 2020; Fujiwara et al., 2017; Janiri et al., 2020; Joe et al., 2016; Joo et al., 2022; Karcher et al., 2022; Marraccini et al., 2021; Ong et al., 2021; Ruch et al., 2021; Van Velzen et al., 2022; Vidal-Ribas et al., 2021; Walsh et al., 2021; Wang et al., 2019). Less frequently explored social risk factors included sex, where female sex is considered to be more at risk, race, discrimination (eg., racial/ethnic, sexual orientation, weight-oriented), academic difficulties, parental substance use, school expulsion or suspension, low friend quality, and parental acceptance (Argabright et al., 2022; Daskalakis et al., 2021; De Souza et al., 2019; Joe et al., 2016; Karcher et al., 2022; Ong et al., 2021; Ruch et al., 2021). Lastly, residential instability, lead exposure, drug-crime exposure, free or reduced lunch, insurance status, only-child status, number of siblings or close friends, maternal mental health, home loss after disaster, and special education needs appeared less consistently across the studies, with most of these factors being examined in only one study (Fujiwara et al., 2017; Joe et al., 2016; Karcher et al., 2022; Ong et al., 2021; Ruch et al., 2021; Walsh et al., 2021). Taken together, the findings indicate that adverse family circumstances, bullying, childhood maltreatment, and socioeconomic disadvantages were commonly identified as major social risk factors in childhood suicidality.

4.4.4. Environmental Factors

Environmental risk factors were the least represented category, only one of the included studies examined environmental influences on childhood suicidality. Disclosed environmental factors included natural disaster-related exposures, such as earthquake exposure, the number of earthquakes experienced, and other earthquake-related events. The study showed that young girls in the affected area showed significantly higher suicidal ideation compared to those in the unaffected area and compared to young males in the affected area (Fujiwara et al., 2017).

Although environmental risk factors received limited attention in the included literature, the findings suggest that environmental stressors may contribute to increased childhood suicidality and that there is a need for further investigation.

Table 4 Risk Factors Associated with Childhood Suicidality

First author surname and year of publication	Biological Risk Factors	Psychological Risk Factors	Social Risk Factors	Environmental Risk Factors
Daskalakis et al., 2021	PTSD polygenic risk score (ancestry-specific PRS derived from GWAS)	Stress susceptibility; trauma-related vulnerability (indirectly via PTSD)	Negative life events, family conflict, and LGB discrimination	none
Argabright et al., 2022	none	Internalizing and externalizing disorders, prodromal psychosis symptoms, depression, and anxiety.	Racial/ethnic discrimination; discrimination based on weight; sexual orientation and origin; negative life events; family conflicts; family poverty; level of parental education, neighborhood deprivation/poverty	none
Joo et al., 2022	Genome-wide polygenic scores (GPS) for multiple traits: general happiness, insomnia, depression, risk behaviors, risk tolerance, educational attainment, cognitive performance, snoring, worry, IQ, cannabis use, alcoholic drinks per week, smoking status,	Subjective well-being, general happiness with own health, belief that own life is meaningful, psychological observations.	Marital status of parents, family income, maternal educational attainment, study site, family environment factors (measured by the Family Environment Scale), major environmental risk factor (early life stress scores).	none

		attention-deficit/hyperactivity disorder (ADHD), autism spectrum disorder (ASD), major depressive disorder (MDD), schizophrenia, bipolar disorder, post traumatic stress disorder (PTSD), and Alzheimer disease.			
Ong et al., 2021	none	Depressive disorder; bipolar disorder; personality disorder; alcohol-related disorder; prior suicide attempt; exposure to psychological, emotional, physical, and sexual trauma; bullying	Female sex; family history of suicide; bullying victimization; insurance status (uninsured children); unsafe home or school environment	none	
Walsh et al., 2021	none	none	Free or reduced lunch, low parental support, childhood maltreatment (lifetime sexual abuse, lifetime physical abuse), school variables (low teacher support, negative attitude towards attending school, low perceived safety at school), peer	none	

				relations variables (low peer social support, bullying victim, threatened at school, physically assaulted at school)	
Fujiwara et al., 2017	none	Exposure to trauma events related to the Great East Japan Earthquake, exposure to other trauma before the Great East Japan Earthquake, internalizing problems, externalizing problems		Number of siblings, one parents or both parents, subjective economic status, maternal mental health, parenting practice, home lost completely or partially damaged	Experienced earthquake, number of earthquake-related events
Janiri et al., 2020	none	none	none	Family conflict, caregiver education level, number of household cohabitants, parental supervision, school involvement, sex differences in caregiver-reported suicidality	none
Wang et al., 2019	none	Depressive symptoms, generalized anxiety symptoms, loneliness, perceived stress		Bullying victimization, quality of parent–child relationships, availability of adult and peer social support, help-seeking	none

			willingness, left-behind child status, school and home stress	
Ruch et al., 2021	none	Mental health diagnoses (ADHD, depression, co-occurring disorders), history of suicidal ideation, suicide attempts, suicidal statements or death wishes, prior psychiatric hospitalization	Divorce/custody issues, parental substance abuse, family history of mental illness or suicide, bullying, expulsion/suspension, special educational needs	none
Marraccini et al., 2021	none	Mental health diagnoses at discharge, including depressive disorders, trauma- and stressor-related disorders, neurodevelopmental disorders (primarily ADHD), and anxiety disorders	Family conflict, divorce, parental issues, academic difficulties, bullying, interpersonal conflict, trauma exposure	none
DeVille et al., 2020	none	Internalizing symptoms, externalizing symptoms, emotion regulation difficulties	Family conflict, parental monitoring, school, family cohesion, caregiver support, sociodemographic factors	none
Joe et al., 2016	none	mood disorders, behavioral disorders,	Sex, race/ethnicity, proxy socioeconomic status via insurance	none

		psychotic disorders, and other disorders/problems	type, recorded history of physical/sexual abuse, substance use history	
Vidal-Ribas et al., 2021	Cortical thickness (thinner left bank of the superior temporal sulcus associated with caregiver-reported STBs), subcortical volumes, resting-state functional connectivity, and task-based brain activations (reward processing, inhibitory control, working memory).	Child psychopathology (CBCL scores), PTSD, oppositional defiant disorder, conduct disorder, depressive disorder, anxiety disorder, ADHD	Social adversity, family conflict (caregiver and child reports), economic problems, and parental mental health history (health service use, hospitalization, depression, suicide attempt/death, alcohol/substance use during pregnancy)	none
Van Velzen et al., 2022	Physical health: pubertal development, sleep disturbance, BMI, physical illness (brain injury, epilepsy, etc.), neuroimaging: task- based fMRI measures (Stop Signal Task, Monetary Incentive Delay Task) involving regions like thalamus, caudate, amygdala, etc., polygenic risk scores for major depression, bipolar disorder,	Psychopathology (CBCL scores), prodromal psychosis symptoms, mania symptoms, history of mental health treatment, specific diagnoses (ADHD, anxiety, depression, etc.), inhibitory control, working memory, processing speed, impulsivity (UPPS-P scale: negative urgency, lack of planning) .	Family conflict, parental monitoring, prosocial behavior, parental acceptance, number of cohabitants, bullying, friendship, school involvement, parental marital status, education level, family income, negative life events. (witness violence in the community, shot, stabbed, beaten,	none

		schizophrenia, anorexia, and cross-disorder risk .		sexual assault), neighborhood safety/crime, school environment, negative life events (natural disaster)	
De Souza et al., 2019	none	Depressive episodes (mild, moderate, severe) , sexuality disorders , conduct disorders, obsessive-compulsive disorder, adjustment disorders, self-harm , aggression/aggressiveness , dissatisfaction with body image, substance use.		Psychiatric illness in family members , family conflict or violence , abandonment or rejection , history of suicidal behavior in the family , parents using alcohol/drugs , separated parents , loss of an important family figure, bullying , school difficulties/delays , bad behavior at school , school dropout, sexual abuse.	none
Karcher et al., 2022	Structural MRI measures (total volume, surface area, and cortical thickness), Resting State Functional Connectivity (RSFC) (within-network connectivity and cerebellar connectivity),	Psychotic-Like Experiences (PLEs), internalizing symptoms (depression, anxiety), externalizing symptoms (ADHD, ODD, conduct disorder), and bipolar symptoms, fluid and crystallized composite		Number of close friends, caregiver- rated school performance and drop in grades, history of receiving mental health services, Adverse Childhood Experiences (ACEs),	none

motor and speech
developmental delays,
family history of
psychotic disorder,
depression, and mania
in first-degree relatives.

scores, working memory,
processing speed, and
executive functioning.

neighborhood safety,
deprivation and
poverty, Lead
Exposure Risk, Drug
Crime Exposure,
Residential Instability.

5. Discussion

This scoping review synthesized current knowledge on the biological, psychological, social, and environmental risk factors associated with childhood suicidality through a One Health perspective. The findings demonstrated that multiple interacting factors influence childhood suicidality. Across the 16 included studies, psychological and social factors were the most commonly investigated domains, whereas the biological and environmental factors received less attention. Overall, the findings suggest that childhood suicidality cannot be explained by a single cause, but rather it has a multifactorial nature and support the importance of considering interconnectedness when talking about childhood suicidality and risk factors. Although the review adopted a One Health perspective, the available literature does not reflect a balanced One Health approach. Most of the included studies focused on psychological and social risk factors, while the biological domain received less attention, and environmental factors were almost absent.

From a One Health perspective, these findings suggest that childhood suicidality should not be understood only as an individual psychological outcome, but as the results of children's embeddedness within multiple interconnected systems. Children develop within biological, emotional, relational, socioeconomic, and environmental contexts, and vulnerabilities in one domain may intensify risks in another. For instance, genetic or neurobiological vulnerability may become more clinically relevant when combined with trauma, family conflict, bullying, poverty, or unsafe environments (South et al., 2015). Similarly, psychological distress such as depression or anxiety may be shaped and maintained by adverse social conditions, including maltreatment, poor parental support, school insecurity, and discrimination (Kirkbridge et al., 2024).

The most common among all the risk factors was social determinants, where each of the included studies talked about at least one social risk factor. Family conflict, adverse family

environments, bullying victimization, childhood maltreatment, socioeconomic disadvantage, low parental support, and poor parental monitoring were among the most common factors associated with childhood suicidality. Specifically, family-related variables were influential, with multiple studies showing an association between family conflict and increased suicidality, while positive family relationships resulted in protective factors (Daskalakis et al., 2021; DeVille et al., 2020; Janiri et al., 2020; Van Velzen et al., 2022). Just as much bullying victimization and school-related problems were associated with suicidal thoughts and behaviors, showing that not only is family life important, but life outside of family is too (Ong et al., 2021; Walsh et al., 2021; Wang et al., 2019). These findings show that childhood suicidality is strongly associated with children's social life and environments. Unlike adolescents and adults, children depend heavily on caregivers, family relationships, and school for emotional support and development. It shows us that disruptions in these systems increase the risk of suicidal thoughts and behaviors in children. The significance of these social factors in all the included studies shows the importance of the One Health perspective, saying that childhood suicidality cannot be understood purely through one's characteristics but must be understood through social contexts in which children live and develop.

A little bit less common but still very important were the psychological risk factors, in which the most common were depression and anxiety. Apart from depression and anxiety, trauma-related experiences, internalizing and externalizing symptoms, ADHD, neurodevelopmental disorders, and psychotic-like experiences showed as the most common and most frequently associated with childhood suicidality among all the included studies (Argabright et al., 2022; De Souza et al., 2019; Ong et al., 2021; Van Velzen et al., 2022; Vidal-Ribas et al., 2021; Wang et al., 2019). Depression and depressive symptoms appeared in almost all the included literature, supporting previous evidence that emotional distress plays a crucial role in suicidality and suicide thoughts and behaviors among children. Adverse childhood

experiences, such as trauma exposure, including emotional, physical, and sexual trauma, were repeatedly identified as an important risk factor that contributes to long-term emotional vulnerability and increased suicide risk (Fujiwara et al., 2017; Ong et al., 2021; Ruch et al., 2021). Another important factor commonly associated with higher levels of suicidal ideation was psychotic-like experiences, especially when paired with depression and anxiety (Karcher et al., 2022). These findings highlight the importance of early diagnosis and intervention for children experiencing psychological distress. Knowing that coping strategies and problem-solving abilities are still developing during childhood, psychological difficulties may have a very strong impact on children's ability to manage these disorders, making them highly vulnerable to suicidal thoughts and behaviors.

In comparison, biological risk factors were examined less frequently in the included studies. Studies investigated genetic, neurobiological, and physiological variables, including PRS associated with psychiatric disorders, structural and functional neuroimaging measures, sleep disturbances, pubertal development, BMI, and physical health conditions (Daskalakis et al., 2021; Joo et al., 2022; Van Velzen et al., 2022; Vidal-Ribas et al., 2021). Some studies reported associations between genetic vulnerability and childhood suicidality, specifically for PRS related to PTSD, depression, ADHD, ASD, and schizophrenia (Daskalakis et al., 2021; Joo et al., 2022). However, the findings also suggested that biological factors alone were insufficient to explain suicidal thoughts and behaviors in childhood. For example, studies examining neuroimaging markers found limited evidence for a specific biological profile of childhood suicidality, with most associations having only a small effect (Van Velzen et al., 2022; Vidal-Ribas et al., 2021). Evidence from genetic studies highlighted that biological factors became more relevant when combined with psychosocial stressors, highlighting the importance of the biopsychosocial model and the interactions between factors when examining childhood suicidality (Daskalakis et al., 2021; Joo et al., 2022).

Lastly, environmental risk factors represented the most unexplored domain identified in this review. Among the 16 included studies, only one of those examined environmental influences on childhood suicidality, with a focus on natural disaster exposures such as earthquakes. The study found that young girls in affected areas showed higher suicidal ideation than young girls living in unaffected areas, and young males living in affected areas (Fujiwara et al., 2017). Although environmental factors received limited attention in the included studies, these findings suggest that large environmental stressors can contribute to higher suicidality rates in childhood. These findings also indicate that children's mental health may be influenced not only by psychological and social factors but also by broader environmental conditions. The near absence of environmental factors investigated showed an important gap in the literature and highlights a key area for future research. From a One Health perspective, this represents a significant conceptual gap, as children's mental health is shaped not only by the family and psychological factors but also by the physical, built, and ecological environments in which they live.

Looking at it through a One Health perspective, we can see that most studies included at least two different domains. Childhood suicidality appears to result from the interconnection of multiple factors rather than from a single cause. Although social and psychological factors were the most commonly associated, several studies highlighted the connection between biological vulnerabilities and environmental or social stressors. For example, genetic susceptibility combined with adverse life experiences was associated with high suicide risk, which suggests that vulnerabilities may be increased when multiple factors interact (Daskalakis et al., 2021; Joo et al., 2022). Similarly, family conflict, bullying, and trauma often co-occurred with depression, anxiety, and emotional distress, showing the connection between multiple domains and childhood suicidality. These findings support the application of the One Health

framework, which emphasizes that health outcomes come from the interaction of biological, psychological, social, and environmental factors rather than a single cause.

While this review looked at all the risk factors and how they are interconnected, future research should deepen the understanding of how environmental risk factors influence childhood suicidality. While mental health research examining factors like climate-related stress, pollution, housing instability, and exposure to natural disasters has received growing attention, there is still a gap in the literature focusing on childhood suicidality. Additionally, most of the included studies were conducted in the United States and relied on cross-sectional designs, which limited our ability to generalize the findings and prevented us from drawing causal conclusions. Future studies would benefit from longitudinal designs, more diverse populations, and greater integrations of biological, psychological, social, and environmental factors. Such research could contribute to a better understanding of childhood suicidality and better reflect the principles of the One Health perspective.

A few limitations in this review should be acknowledged. First, only studies in English were included, which may have resulted in the exclusion of evidence published in other languages that could be relevant. Second, the search was limited to studies published in recent years, more specifically between 2015 and 2025, potentially excluding older but relevant research. Third, even though multiple databases were searched, some eligible studies may not have been identified. As this was a scoping review, the findings should be interpreted as a mapping of the available evidence rather than a strength of the evidence. Lastly, most of the studies were conducted in the United States, which may have limited the findings to a specific geographical and cultural region, leaving out other cultures and locations.

Overall, the findings of this review demonstrated that suicide risk comes from an interaction between multiple biological, psychological, social, and environmental factors and highlight how complex childhood suicidality is. While psychological and social factors

dominated the included literature, the findings suggest that to fully understand childhood suicide risk, a wide perspective is needed. By applying the One Health framework, this review provides an overview of the existing evidence and shows the gaps, specifically towards environmental factors.

6. Conclusion

This scoping review examined the biological, psychological, social, and environmental risk factors associated with childhood suicidality through a One Health lens. The findings suggest that childhood suicidality is a complex phenomenon influenced by the interconnection of these factors. Social and psychological domains were the most frequently examined, with family conflict, bullying victimization, depression, anxiety, and trauma being associated with suicidal thoughts and behaviors. Whereas biological factors received less attention, and environmental factors received almost no attention at all in the included literature. The findings suggest that when looking at childhood suicidality, we need to consider the broad perspective and the interactions between biological, psychological, social, and environmental domains. Although the current evidence only partially supports the One Health perspective, the limited research on environmental factors suggests that the literature does not fully reflect this interconnected approach. Overall, this review adds to the understanding of childhood suicidality by providing an overview of the current evidence and identifying gaps in the existing literature. Future research should continue to explore the connection between risk factors and childhood suicidality, particularly environmental risk factors, for a better understanding of the development of children and prevention and intervention for children at risk of suicidality.

7. References

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