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# A descriptive overview of research approaches to school-related trauma pedagogy. A systematic review of the last decade

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## ABSTRACT

This review aims to provide a current, systematic overview of research over the past decade in the context of school-related trauma-studies to understand research-related approaches of school-based trauma pedagogy. To address this question, a systematic review was conducted. A total of 443 articles was selected from four databases driven by inclusion and exclusion criteria, and examined regarding their bibliographic information, as well as a) original data collection, b) research methodology design, c) additional methodological details, d) journal affiliation, and e) institutional/disciplinary affiliation. The results are presented in the form of descriptive statistics and discussed in terms of implications for trauma-informed educational research. It became evident that none of the research methodological approaches appears to be dominant, although trends within the respective disciplines can be observed. A low number of integrative mixed-methods designs were identified, highlighting the need for integrative study designs to capture complex traumatic life stories. Limitations of the study as well as future perspectives are discussed.

## KEYWORDS

Trauma; school; research methods; systematic review

## Theoretical background

### *Childhood trauma and its impacts on school*



The prevalence of potentially traumatic experiences among children and adolescents is high. The National Child Traumatic Stress Network (n.d.-a) identifies a range of traumatic experiences in childhood, highlighting their diverse nature. These experiences can include single incidents, cumulative and chronic exposure, and social or societal factors such as racial discrimination, that surpass individuals' coping mechanisms and can have lasting effects on mental health, behavior, and other functional areas (American Psychological Association, 2024).

Worldwide, 60% of children and adolescents undergo emotional, physical, or sexual abuse or live in dysfunctional households during childhood (e.g., Madigan et al., 2023; Stoltenborgh et al., 2015). Interpersonal traumatic experiences account for a significant portion of traumatic events. Saunders and Adams (2014) report prevalence rates of physical abuse ranging from 4% to 19%, and sexual violence between 3–5% in boys and 13–17% in girls. Minor refugees report high prevalence rates of physical violence (15%) or witnessed interpersonal violence (41%) in their

countries of origin, during their flight, and in their host countries (Metzner et al., 2016).

When traumatic stressors and experiences, especially interpersonal ones, accumulate to polyvictimization, the impact on the development of children and adolescents becomes increasingly severe (e.g., Saunders & Adams, 2014). Research indicates that approximately 20% to 40% of children experiencing traumatic events, experience cumulative, complex trauma (e.g., Madigan et al., 2023; Saunders & Adams, 2014).

Complex trauma refers to the prolonged and repeated exposure to traumatic events, often of an interpersonal nature, such as sexual, emotional, or physical abuse, war, displacement, discrimination, or severe neglect (National Child Traumatic Stress Network, n.d.-b). Children affected by complex trauma frequently exhibit a broad spectrum of developmental impairments that affect their self-perception and key areas such as academic performance and social development (National Child Traumatic Stress Network, n.d.-b). To capture the complex manifestations and dysregulations across behavioral, emotional, social, cognitive, and somatic domains experienced by affected children, the concept of Developmental Trauma Disorder was introduced. This disorder is understood as a consequence of

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interpersonal trauma and disrupted caregiver attachments (van der Kolk, 2005).

Including the complex manifestations and dysregulation of Developmental Trauma Disorder, Perfect et al. (2016) describe in their systematic review the profound negative effects of traumatic experiences and trauma-related stress symptoms on school functioning, including cognitive functioning, academic functioning, and social-emotional-behavioral functioning, illustrating the profound and extensive impact on school and academic achievement. For example, recent studies have found specific links between traumatic experiences and both language development (e.g., Segal & Collin-Vézina, 2019) and reduced emotional well-being and educational achievement (e.g., Yeo et al., 2024), further highlighting the broad negative impact of trauma and its sequelae well beyond the school environment.

Thus, high-stress, precarious life situations, trauma, and trauma-related disorders are part of everyday school life, presenting significant challenges in the sensitive handling of children and adolescents with regard to their success at school, their cognitive development and, above all, their psychosocial development (Linderkamp & Casale, 2023).

### **Core assumptions and development of school-based trauma pedagogy**

The integration of trauma-sensitive perspectives into the school context occurs at various levels. Scientific inquiry primarily focuses on interactional dynamics, such as teaching-learning processes and pedagogical/psychological interventions both inside (e.g., Brunzell et al., 2015) and outside (e.g. Reynolds et al., 2019) the classroom. The objective is to adequately support emotionally and socially burdened children and adolescents in their psychosocial and academic development, while also aiding teachers through supervision, in teacher training, and ongoing support (Avery et al., 2021; Thomas et al., 2019). Moreover, trauma-informed school development highlights the broader scope of addressing the effects of trauma not only on individuals but also on educational systems as a whole (z.B. Wiest-Stevenson & Lee, 2016), because trauma's effects extend beyond individuals to the systems they interact with (Substance Abuse and Mental Health Services Administration, 2014). Moreover, educational institutions, meant to provide support, can themselves be trauma-inducing through punishment or exclusion (Substance Abuse and Mental Health Services Administration, 2014).

Trauma pedagogy thus extends beyond the conventional understanding of pedagogy: Trauma pedagogy or

trauma-sensitive concepts “are organized holistically and, in addition to helping people cope with trauma-related symptoms, consider aspects such as self-regulation, well-being, physical and emotional health, and academic competence” (Cole et al., 2005, 2013 in Lembke et al., 2024, p. 4).

The education system's involvement with trauma is not new, but is increasingly coming into focus of pedagogical and psychological considerations in schools due to the growing understanding of its prevalence and severe impacts on children and adolescents (e.g. Simon et al., 2020). In doing so, as a growing discipline, trauma pedagogy operates at the intersection of various reference disciplines, deriving its assumptions and concepts from them, as there is no distinct “genuinely trauma-pedagogical” school of thought (Gahleitner & Schmid, 2017).

Fritz Redl and David Wineman began exploring childhood trauma and its profound impacts as early as the mid-twentieth century. Their book *Children Who Hate* (Redl & Wineman, 1951) established a foundational framework for qualitative research on childhood trauma. A key finding was that the children showing the greatest difficulties in controlling their behavior and emotions were also the children who had experienced the most severe trauma. However, when provided with a supportive, needs-oriented environment, these children were able to develop effective coping mechanisms (Brendtro & Freado, 2024). The field expanded with the Adverse Childhood Experiences (ACE) Study by Felitti et al. (1998), which provided a quantitative, comprehensive depiction of exposure to traumatic events during childhood and adolescence and brought children and adolescents exposed to severe stressors into the focus of public attention (Zimmermann, 2017). This research spurred greater focus on trauma-informed care in pediatrics and education (Zimmermann, 2017). So, it was not until the 1990s that various educational sub-disciplines began to develop their own approaches to understanding and addressing trauma (see e.g., Capewell, 1994; or; Layne et al., 2001; Zimmermann, 2017) Since then, various subfields of pedagogy have developed independent conceptualizations of understanding and action (e.g., Zimmermann, 2017). So, initially explored within psychological and psychiatric fields (Substance Abuse and Mental Health Services Administration, 2014), trauma-informed approaches became highly relevant in non-clinical settings, including educational fields (Substance Abuse and Mental Health Services Administration, 2014).

Thus, school-related trauma pedagogy not only refers to interdisciplinary concepts and understandings in the present but has also been grounded in the adoption and

expansion of interdisciplinary bodies of knowledge from psychology, medicine, biology, sociology, and a variety of educational domains. For instance, psychiatric diagnoses and definitions such as “posttraumatic stress” are integrated into the discourse (e.g., Bagneris et al., 2021), while intervention models from social work are also employed to, for example, empower educators to take effective action (e.g., Franco, 2018).

### **Trauma pedagogical research**

The subject of trauma pedagogical research includes a broad spectrum of concepts, content and theories from a variety of perspectives. On one hand, there is a focus on traumatic life events such as ACEs, symptoms of mental health, health status, health-related quality of life, as well as functional domains such as the social sphere, occupation, or school (Seedat et al., 2004). But beyond the more individual, clinical concepts, trauma pedagogy also addresses, for example, social psychological concepts such as social trauma, which is considered a bridging concept between various trauma theories and includes cultural, collective, and historical trauma. These refers to more group-specific and context-related impacts, as well as, for example, transgenerational transmission (e.g., Hamburger, 2022).

These life stories and variables are captured through a variety of different methods the suitability of which is controversially discussed: On one hand, there is criticism regarding both a general lack of empirical publications and a lack of foundational theoretical research (e.g., Gahleitner & Schmid, 2017).<sup>1</sup> Additionally, there is a distinct discourse on the suitability of quantitative and qualitative approaches to trauma and trauma pedagogy: Quantitative research designs are criticized for providing an unspecific and discipline-dependent definition of crucial variables (Thomas et al., 2019), as well as for their insufficient ability to capture complex cultural, interactional, and social intersectionality (Mattar & Vogel, 2014; Zimmermann, 2017). At the same time, the absence of quantitative, evidence-based research is condemned (Linderkamp & Casale, 2023). Furthermore, some authors argue that by incorporating qualitative research designs, the quality and meaningfulness of quantitative trauma-related research could be improved (Mattar & Vogel, 2014; Zimmermann, 2017). Above all, ethical questions arise regarding research involving vulnerable or marginalized children and adolescents, highlighting the responsibility of researchers

toward this clientele. For example, participatory research as an ethically and methodically complex approach, navigates many areas of tension, for example between empowering children and the risk of re-traumatization (e.g., Bradbury-Jones et al., 2018). The complexity of interdisciplinary relationships often complicates the transfer of knowledge from one discipline to another, as well as continuous, interdisciplinary systematic scientific advancement and quality control (Gahleitner & Schmid, 2017).

Despite the debate surrounding research practices, there is no current, systematic, and interdisciplinary overview of this matter. While there are reviews that present various overviews, they primarily focus on the effectiveness of trauma-related interventions in schools (e.g., Avery et al., 2021; Thomas et al., 2019) and only address research methodological questions in a subordinate manner (Thomas et al., 2019). Consequently, it remains unclear how interdisciplinary research methodologically approaches the complex topic of school-based trauma pedagogy and how it arrives at its knowledge.

Considering that our perspective is primarily shaped by a special educational approach (emotional and social development), the presented systematic review aims to offer a current, systematic overview of research over the past decade in the context of school- and trauma-related research in order to understand which research methods are used in school-related trauma pedagogy to address its questions.

### **Material and methods**

To address the research question, a systematic review was conducted. To ensure quality and reproducibility, the review was organized and conducted using the software Cadima (Kohl et al., 2018) and the PRISMA guidelines (Page et al., 2021) were used for protocol documentation.

### **Eligibility criteria**

From the theoretical considerations, inclusion and exclusion criteria were derived. The formal inclusion criteria were: The publication was published in English between 2014 and 2024 and has undergone a double-blind peer-review process. Limiting the scope to the last decade allows for a contemporary overview of trauma-informed pedagogy in schools. It is important to emphasize that the focus of this work was on an overview, not an in-depth analysis. The corpus of this work

<sup>1</sup>Comprehensive, cross-method discussion about quality and suitability of different methodological approaches are mainly found in the German trauma pedagogical research discourse (e.g. Gahleitner & Schmid, 2017; Zimmermann, 2017). Respective viewpoints can also be found in international research discourses, which primarily originate from reference disciplines and are not originally situated in trauma pedagogy (e.g. Mattar & Vogel, 2014; Nind et al., 2016; Thomas et al., 2019).

therefore consisted of the abstracts of the publications. The following information had to be accessible to the authors: a) Authors, b) Publication year, c) Title, d) Abstract, and e) the publishing journal. Conversely, publications were excluded if they: a) were not in English, b) were published before 2014, or c) had incomplete bibliographic data. The content-related inclusion criteria were a) a direct content-related school reference and b) a lexical trauma reference:

- (A) Direct school reference applies if it pertains to either (1) school as an educational institution – for example, regarding school qualifications, academic success, teaching and learning, school-related interventions, teacher training, and other school staff, or (2) school as a social institution in terms of K-12, peer contacts, student and teacher well-being, teacher-student relationships, and classroom management. Studies were excluded if they solely focused on epidemiology without any connection to schools, or if they had an implicit mention of schools, such as using students as a sample without further contextual references to school-related content.
- (B) Additionally, a psychological, lexical trauma reference had to be present, which was based on the lexical term “trauma.” All medical traumas such as dental traumas or physical accident consequences were excluded.

### Search strategy and information sources

Keywords based on these inclusion and exclusion criteria were formulated (Table 1) and combined using Boolean operators AND, OR, and NOT. The operators and search strings were devised depending on the database to meet its specific requirements. Database selection was tailored to the trauma pedagogy reference fields. In four databases

(APA PsycNet, PSYNDEX PubPsych, ERIC, PubMed), a total of  $N = 886$  publications were identified (Table 1).

An extra 80 publications were found via reference lists (Page et al., 2021), bringing the total to  $N = 966$ . The combined list underwent initial screening, removing duplicates and incomplete or non-journal entries, partly automated and partly by the authors.

### Study selection

The selection process also adhered to the PRISMA guidelines. The criteria for inclusion or exclusion of publications were tested in a randomized pilot screening ( $N = 100$ ) by three raters. Interrater reliability was determined and interpreted using Cohen’s Kappa. The criteria list was reviewed and further developed in multiple steps until a substantial reliability of  $\kappa = 0.66$  was achieved (Landis & Koch, 1977). In the subsequent selection process of studies, the abstracts of the entire sample were screened using this criteria list via individual parallel assessment. 12.3% ( $N = 100$ ) were screened by three raters and 50% ( $N = 406$ ) by two raters. Disagreements arose for 107 studies, which were then validated through consensual validation to achieve a consensus rate of 100%.  $N = 456$  studies were included. During the coding process, an additional 13 studies were excluded (Figure 1), resulting in a total of  $N = 443$  included and analyzed publications.

### Operationalization and data extraction

To address the research question, publications were coded based on their bibliographic information and the methodology apparent in their abstracts. The coding scheme includes the details of a reference list (author, year, title), as well as information regarding: a) whether it involves own data collection (yes/no), b) the methodological approach (qualitative, quantitative, mixed-methods, review, or

**Table 1.** Keywords/truncations and respective search strings and hits per database.

Keywords/truncations			
Inclusion	school trauma	School, educat*, teach* trauma	
Exclusion	Nursing/care medical	Nurs* Surger*, injur*, medic*	
search strings, databases, hits			
Database	discipline	Search string	Results
APA PsycNet	Psychology	Abstract: trauma AND (Abstract: school OR Abstract: educat* OR Abstract: teach*) NOT Any Field: injur* surger* nurs* medic* AND Peer-Reviewed Journals only AND Year: 2014 To 2024	304
Psyn dex PubPsych	Psychology	((AB = trauma AB = school (AB = educat* OR AB = teach* OR TI = educat* OR TI = teach OR TI = trauma OR TI = school) PY ≥ 2014 PY ≤ 2024 NOT nurs* NOT injur* NOT surger* NOT medic*) AND LA = “eng”) AND DT = “Journal Article”	202
ERIC	educational sciences	+abstract:trauma (school OR educat* OR teach*) pubyearmin:2014	212
PubMed	medical sciences	(trauma[Title/Abstract]) AND (school[Title/Abstract]) AND ((Educat*[Title/Abstract]) OR (teach*[Title/Abstract])) NOT (medic*) NOT (nurs*) NOT (surger*) NOT (injur*)	168
<b>total</b>			<b>886</b>

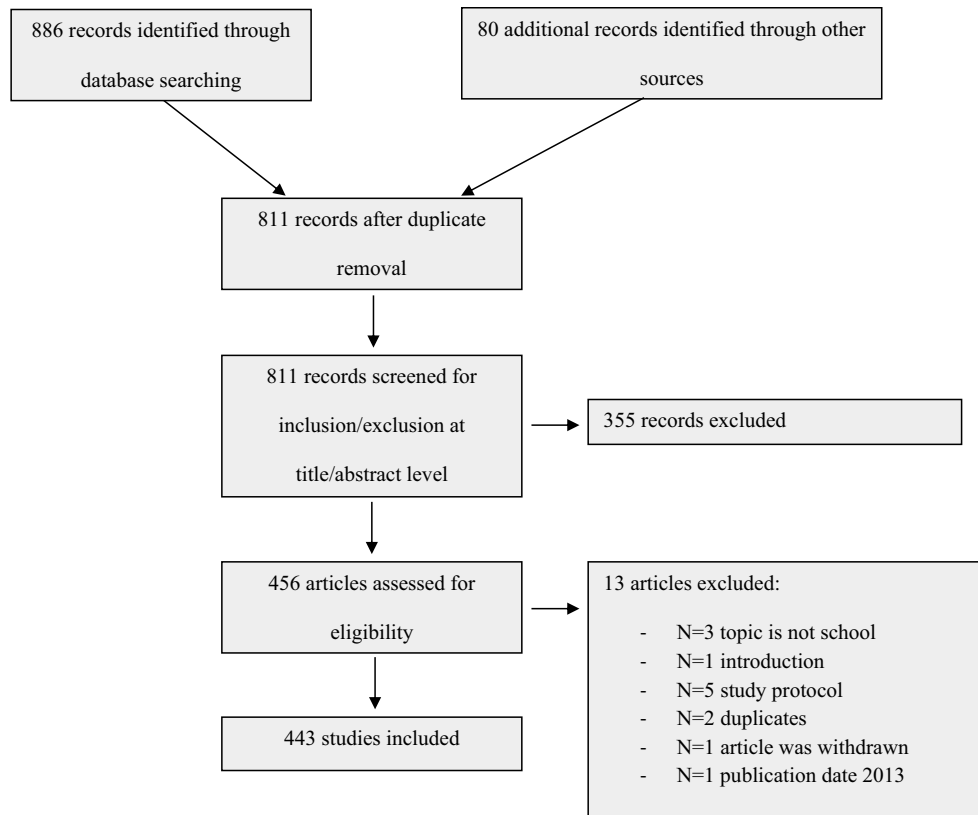


Figure 1. PRISMA flow diagram.

theoretical), c) details of the study design (open field), d) the journal affiliation (open field), and e) the institutional/disciplinary affiliation (e.g., psychology, social sciences, education, etc.).

#### **Operationalization of the categories “data collection” and “research methodology”**

**Own Data Collection.** Studies were labeled as “own data collection” if they involved primary research or conducted data collection through secondary sources with quantitative or qualitative data processing, such as in reviews. “No own data collection” publications were purely theoretical or based arguments on other empirical data without systematic processing.

**Qualitative.** The classification as “qualitative” includes studies employing qualitative data collection methods like focus groups or semi-structured interviews, as well as qualitative data analysis methods such as content analysis and thematic analysis. Case studies were also classified under qualitative design.

**Quantitative.** The classification as “quantitative” includes quantitative data collection methods like

standardized surveys or (quasi-)experimental designs, and statistical data analysis methods.

**Mixed methods.** Mixed methods designs vary in how they intertwine methodological approaches. Typically, they combine qualitative and quantitative methods to create a unique research methodology (Lopez-Fernandez & Molina-Azorin, 2011). In this study, publications were classified as “mixed methods” if they integrated both quantitative and qualitative research methods, regardless in which manner.

**Review.** Publications were categorized as “review” if they were identified as literature, scoping, systematic, narrative, or general reviews, and if they synthesized and/or presented data in a quantitative or qualitative form. This category also includes meta-analyses.

**Theoretical.** Publications were classified as “theoretical” if they did not conduct their own data collection and/or processing but rather argued based on theory or referenced other empirical research.

**Other or not assignable.** Publications were classified as “other/not assignable” if their abstracts did not allow for precise categorization.

### Operationalization of the category “institutional/disciplinary affiliation”

Categories for institutional/disciplinary affiliation were developed through a combination of deductive and inductive methods. Initially, categories were named based on established reference disciplines: Psychology, Pedagogy, Social Work, and Medicine. Subsequently, these categories were expanded based on the first 100 collected institutional and disciplinary affiliations, resulting in the categories Pedagogy/Education, Psychology, Medicine/Nursing Sciences, Social Work, Health Sciences, Social Sciences, Counseling, General Research Institutes, as well as “other” and “not assignable” disciplines. Classification relied on the institutional affiliation of the corresponding or first author, and analysis was conducted at the department, faculty, or university level. In cases where classifiable data were unavailable, additional searches were conducted outside of databases, and URLs were noted. The most specific information available was utilized, resorting to broader categories when specific data were unclear. For example, the affiliation “Behavioral, Social and Health Education Sciences, Emory University Rollins School of Public Health” was categorized under “health sciences.”

### Risk of bias assessment and reliability

Due to the extensive number of studies and the screening limited to abstracts only, the Risk of Bias Assessment, as prescribed by the PRISMA guidelines, was not performed. Only studies subjected to a double-blinded peer review process were included to ensure publication quality. To ensure the reliability of the study results, interrater reliability was calculated during the pilot screening stage, and over 60% of the abstracts

were independently and parallelly screened for inclusion and exclusion. Consensual Validation was employed until reaching a consensus rate of 100%. Reproducibility is ensured through guided implementation by the Cadima software (Kohl et al., 2018) and comprehensive documentation of the process through the PRISMA protocol (Page et al., 2021).

## Results

### Journals, research methods, institutions/disciplines, year of publication

A total of 443 studies were published in 229 different journals. The journals with the highest number of publications were “School Mental Health” with 7% ( $N = 31$ ), “Psychological Trauma: Theory, Research, Practice, and Policy” with 6% ( $N = 25$ ), “Psychology in the Schools” with 3% ( $N = 15$ ), followed by “The Journal of School Health” with 2% ( $N = 11$ ). Two each were found in 38 journals, and one each was found in a total of 163 journals.

The number of publications increased on average from year to year (Figure 2). In 2016, publications notably rose, followed by a steady increase from 2017 onwards. There was a significant rise in publication numbers particularly in pedagogy/education and psychology (Figure 3). Specifically within pedagogy/education, the percentage surged from 21% in 2014 to 49% in 2018, subsequently dropping to 33% in 2023 (Figure 4).

Quantitative research designs were utilized by 34% ( $N = 148$ ) of the publications, qualitative by 29% ( $N = 128$ ), mixed methods by 7% ( $N = 31$ ), and reviews comprised 10% ( $N = 46$ ) of the publications. Publications without original data collection,

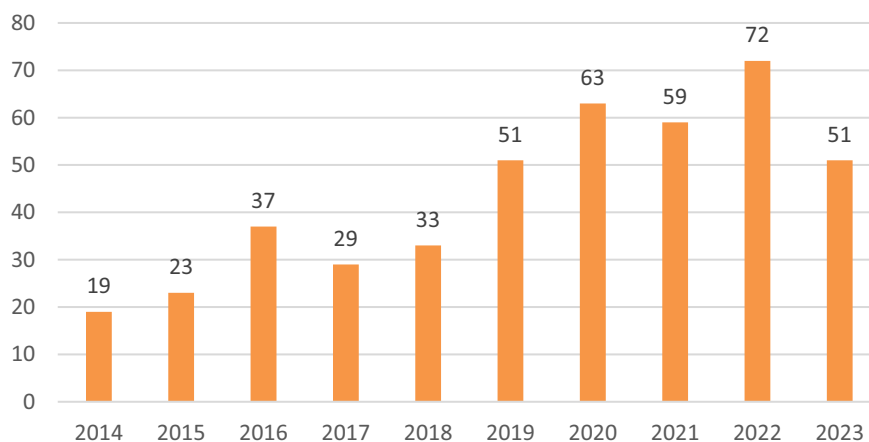
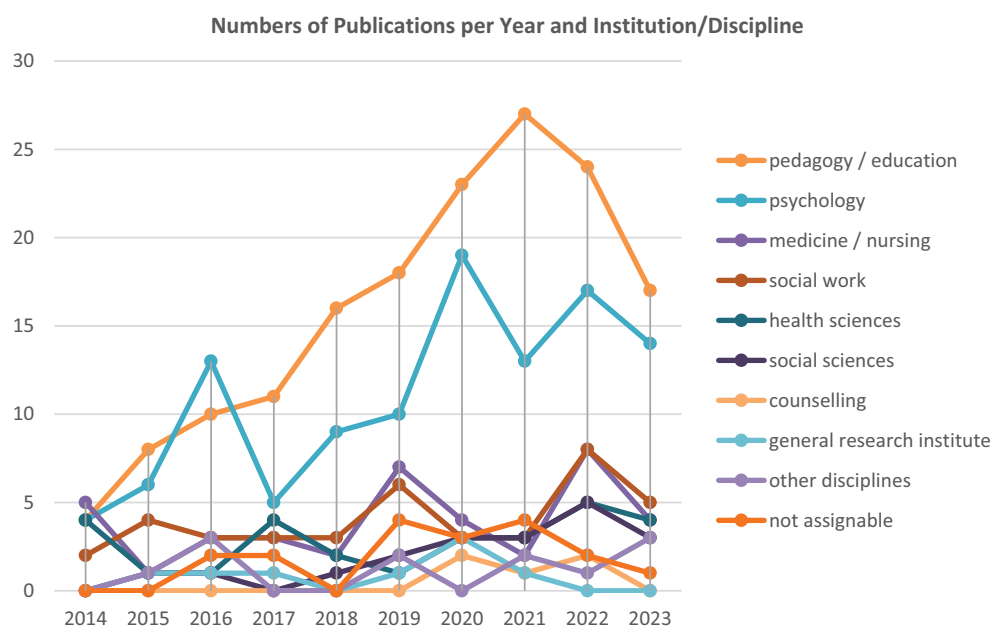
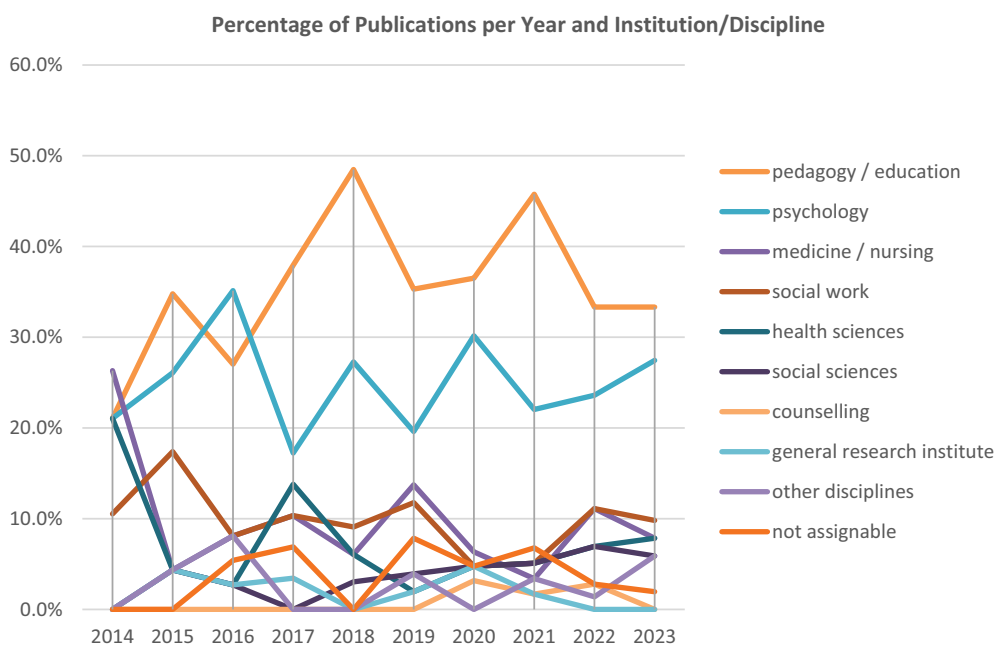


Figure 2. Number of publications per year.



**Figure 3.** Number of publications per discipline over time.



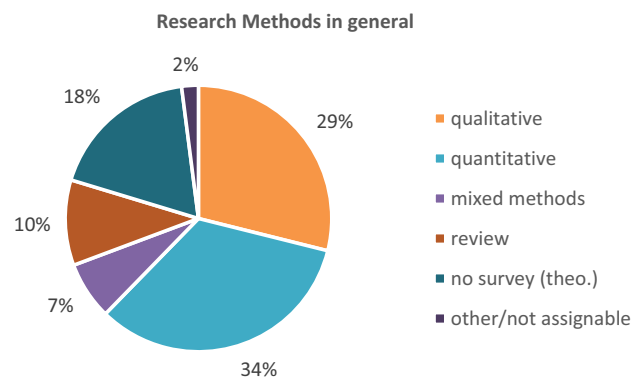
**Figure 4.** Percentage distribution of publications per discipline over time.

which were not reviews and either theoretically or empirically argued, accounted for 18% ( $N = 81$ ). 3% ( $N = 14$ ) worked with secondary data. Research designs that could not be recognized or classified were found in 2% ( $N = 9$ ) (Figure 5).

The most common institutional affiliation was categorized as “Pedagogy/Education” with 36% ( $N = 158$ ), followed by psychological affiliations labeled as “Psychology” at 26% ( $N = 115$ ). Medical, clinical, and

nursing sciences, as well as social work, accounted for 9% each ( $N = 40$ ). Other disciplinary affiliations accounted for 3% ( $N = 12$ ). These included fields such as Agricultural and Life Sciences (No. 838, No. 855), Arts and Communication (No. 1082, No. 1333), independent researchers (No. 250, No. 271), or Business (No. 916), Law (No. 868), and Theology (No. 148). 4% ( $N = 18$ ) were unclassifiable: either due to providing only a general university affiliation without specific faculty





**Figure 5.** Percentage distribution of research methods in the total sample.

identification despite further research ( $N = 15$ ), or due to lack of provided information ( $N = 3$ ) (Figure 6). All other frequencies can be found in Figure 6.

### Research methods per institution/discipline

In the frequency calculations of research methods by disciplinary field, research methods and institutional affiliations that could not be assigned were excluded.

From the field of Pedagogy/Educational Sciences, qualitative research was most common (44%,  $N = 68$ ). Quantitative research designs accounted for 14% ( $N = 22$ ), mixed methods for 6% ( $N = 10$ ), and reviews for 11% ( $N = 17$ ). Additionally, 24% did

not conduct their own data collection and argued based on theoretical considerations or other empirical research.

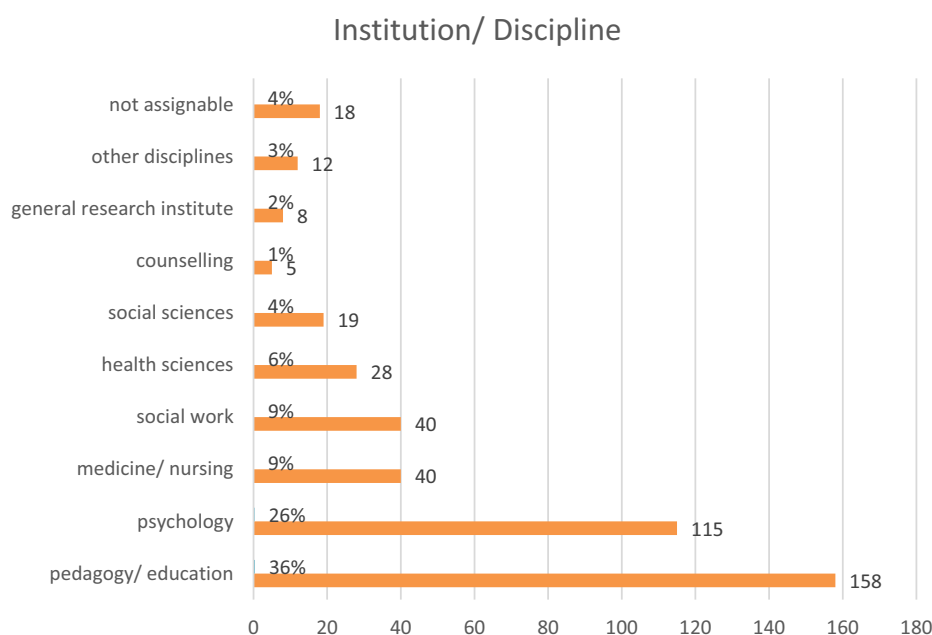
In Psychology, quantitative research was conducted in 44% ( $N = 50$ ) of cases, while qualitative research was conducted in 25% ( $N = 28$ ). 13% ( $N = 15$ ) did not conduct their own data collection and argued based on theoretical considerations or other empirical research. Reviews accounted for 12% ( $N = 14$ ), and mixed methods designs for 6% ( $N = 7$ ). Frequencies of all other disciplines can be found in Table 2.

## Discussion

### Reactivity in school- and trauma-related research

The systematic review validates the perceived rise in interest regarding trauma-sensitive schools in recent years, which coincides with global crises. Notably, a significant surge in publications in 2016 suggests a response to increased refugee movements, particularly in regions like South, Middle, and North Africa, the Middle East, and Europe. This surge likely prompted intensified exploration within trauma-related school sciences concerning potential traumas experienced by children and adolescents affected by war and refugee crises (e.g., Sullivan & Simonson, 2016).

The COVID-19 pandemic may also contribute to the rise in publications concerning trauma and schools, as it is now evident that long-term effects, prolonged



**Figure 6.** Number of publications per discipline.

**Table 2.** Overview of research methods by reference discipline.

Research method and institution/discipline	Pedagogy/ education		Psychology		Medicine/ nursing		Social work		Health sciences		Social sciences		Counselling		Research institute	
Qualitative	68	44%	28	25%	6	15%	10	26%	3	11%	4	21%	2	67%	1	13%
Quantitative	22	14%	50	44%	20	50%	17	44%	15	56%	11	58%	0	0%	4	50%
Mixed methods	10	6%	7	6%	3	8%	1	3%	4	15%	3	16%	1	33%	0	0%
Review	17	11%	14	12%	6	15%	5	13%	1	4%	0	0%	0	0%	1	13%
No own survey (theo.)	37	24%	15	13%	5	13%	6	15%	4	15%	1	5%	0	0%	2	25%
<b>Total</b>	<b>154</b>	<b>100%</b>	<b>114</b>	<b>100%</b>	<b>40</b>	<b>100%</b>	<b>39</b>	<b>100%</b>	<b>27</b>	<b>100%</b>	<b>19</b>	<b>100%</b>	<b>3</b>	<b>100%</b>	<b>8</b>	<b>100%</b>

isolation, and the perceived threat of a potentially deadly disease have significantly impacted the mental health of many children and adolescents (Salehi et al., 2021). With a likely slight delay due to the usual publication process, a significant increase in publications is particularly evident from the year 2021 onwards (e.g., Lewis et al., 2023).

### Research methods across disciplines

In the field of pedagogy and educational science, qualitative research was conducted more frequently overall, but articles that were purely theory-driven or based on other empirical surveys, as well as quantitative research designs, also accounted for over 10% each. Nind et al. (2016) emphasize the complexity of educational research, which aims to capture diverse variables such as relationships, experiences, knowledge, and societal dynamics. Given the dynamic settings where these variables occur, the scope and design of scientific contributions in education have significantly evolved. It appears evident that complex and indefinite variables may be more effectively captured through qualitative research designs, potentially explaining the prevalence of qualitative research methods in education, aligning with the disciplinary and epistemological traditions of the field (e.g., Nind et al., 2016). Nonetheless, the substantial presence of other research methods in education signals a growing diversification in methodological approaches.

High percentages of quantitative research originated from psychology, medicine, and health sciences, social work, and social sciences. When referring to the assumptions of Nind et al. (2016), variables that are more clearly defined, such as psychiatric diagnoses in psychiatric research, could be decisive for the higher percentage of quantitative research designs – as well as the stronger influence of natural sciences in relevant research practices. In response to Zimmermann's (2017) question about how science can approach trauma-affected life stories,

the results of this review can provide initial insights from research practice. It seems that qualitative approaches continue to be the primary methodology in pedagogy and educational sciences, while other disciplines tend to lean more toward quantitative research. None of the research methods has an absolute majority within the utilized research methods of the included studies, so generalizing reported findings would be inappropriate.

### Integrative mixed methods designs

The limited number of integrative mixed methods research designs expands on and confirms the corresponding finding of the review of interventions by Thomas et al. (2019), highlighting the demand for increased integration of diverse methodological approaches from various perspectives. Gahleitner and Schmid (2017), for instance, advocate for a diversity of methodological approaches that can adequately reflect the diversity of trauma pedagogy in theory and practice. From a psychological research perspective, Mattar and Vogel (2014) emphasize the opportunities arising from augmenting quantitative research with qualitative approaches. Qualitative methods can contextualize quantitative results in terms of complex cultural and social constructs that are difficult to capture with isolated variables, thereby enhancing their explanatory power. Seedat et al. (2004) argue, particularly in terms of the significance and quality of research findings, for the necessity of utilizing various forms of data collection to identify and eliminate perceptual differences that may arise from a purely quantitative or qualitative approach.

### Is pedagogy the leading discipline in school-related trauma pedagogy?

A significant portion of publications over the past decade have been attributed to the discipline of pedagogy or educational sciences, followed by publications from psychology. Assuming that publications from pedagogy

and educational sciences primarily approach research from this perspective, the call by Thomas et al. (2019) for more research from an “educational” standpoint is supported, at least to some extent. Zimmermann’s (2017) call for pedagogy to be the leading discipline in addressing trauma, given children and adolescents’ significant time in schools and other educational institutions, is only partially confirmed. While pedagogical/educational publications constituted the largest percentage, they represented just over one-third of all 443 publications. Overall, there is a steady increase both in actual publications from pedagogy and educational sciences and in the increasing percentage of pedagogical-scientific contributions within the total number of annual publications.

### **Interdisciplinarity in trauma pedagogy**

The interdisciplinary nature of (school-related) trauma pedagogical practice and research is not a new finding. Numerous publications describe an interdisciplinary interweaving and development (e.g., Gahleitner & Schmid, 2017; Zimmermann, 2017), as do recent reviews. Thomas et al. (2019) note extensive interdisciplinarity in the research field, affecting not only the composition of author teams but also the journals in which the studies were published. Moreover, the authors often lack a clearly discernible affiliation with just one discipline. These findings align with those of the present study, both at the research and publication levels. The journals predominantly used for publication operate primarily in the intersection of (school) pedagogy and psychology.

The classification of corresponding authors in this study proved complex, as many came from interdisciplinary departments within disciplines. Future research could explore the composition of author teams further. Moreover, many disciplines, such as behavioral sciences, social sciences, social welfare studies, special education, and school psychology, inherently embody interdisciplinarity. Assigning them to these disciplines implies a level of interdisciplinary involvement. Additionally, the discipline assignment process revealed that various fields beyond psychology and education contribute significantly to the discourse on trauma and schools, including health sciences, law, and life sciences like agriculture. Furthermore, the multitude of publishing journals reflects the broad spectrum of discourse surrounding trauma and schools. This can serve as an indicator of two contrasting aspects. On one hand, it may signify a diverse representation of school-based trauma pedagogy, a vibrant discourse, and the inclusion of various

knowledge bases. On the other hand, it could also indicate the risk of fragmentation of the topic, potentially associated with a vague and overused scientific understanding of trauma, as described in public discourse and reviews (Thomas et al., 2019).

### **Limitations**

The limitations of the present study primarily concern methodological considerations and data collection. Only abstracts were coded for the current analysis, not the full texts, which could potentially distort results due to the limited information provided. Additionally, the study’s findings are constrained by the publication timeframe, limiting insights to the past decade. Exploring earlier periods (e.g., 1980–2000) could offer broader insights into methodological and substantive developments, warranting further research.

Our analysis has been confined to the English-language discourse, which consequently leads to the underrepresentation of various national discourses and those in other languages. A notable example is the extensive French discourse (see e.g., Houbre et al., 2012; Idrac, 2020).

It is essential to consider the cultural aspects of trauma, as it influences not only the manifestation of symptoms and diagnoses but also the understanding and conceptualization of trauma, the terminologies used and the research strategies chosen (e.g., Seedat et al., 2004). This, in turn, affects this review, particularly through the conceptualization, selection of keywords and functionality of selected search engines, which ultimately impacts the collected data corpus. Additionally, structural conditions of trauma pedagogy and related research were not examined in detail due to the clear scope of this study. This limitation also serves as an outlook for future research to situate the findings within an additional context.

Regarding data analysis categories, two main considerations arise: Firstly, the categorization into “theoretical” was based solely on whether an original survey was conducted. Due to the limited and heterogeneous information available on abstract-level, it was not examined whether the article’s argumentation relied on empirically collected data or theoretical concepts. Secondly, distinguishing between (literature) reviews and literature papers can be challenging.

Contributions labeled as “mixed methods” integrated both quantitative and qualitative research designs, though the specifics of their integration weren’t analyzed due to limited abstract-level information. Further investigation could explore the weighting, sequence,

and interweaving of these methods (Lopez-Fernandez & Molina-Azorin, 2011).

The methodological distinction between quantitative or qualitative works using a literature review as a basis and those incorporating a literature review with, for example, a case study, was not addressed. Moreover, case studies were incorporated into the “qualitative” category, although they can also be categorized as a separate research methodology with its own versatile methodological approaches (Nind et al., 2016). Furthermore, institutional affiliations were often difficult to assign due to heterogeneous information, both in terms of completeness and level of detail provided.

The discussion also explored the growing number of publications from certain disciplines. The extent to which the separation of disciplines called for by academics such as Zimmermann (2017) and undertaken in this study is compatible with the requirements of interdisciplinary research practice remains to be discussed.

A Risk of Bias assessment was not conducted as it was difficult to capture at the abstract level.

### **Implications for future research and practice**

The discussion and limitations of the findings suggest several avenues for further investigation with the existing data or subsequent research endeavors. Based on this overview, a more in-depth analysis of the various methods and their applications should be carried out to provide detailed insights. Qualitative analysis of selected studies could offer insights into methodology, contributing to evidence-based practice and discussions on ethical and culturally sensitive research.

In addition, examining the relationship between the type of trauma exposure and/or traumatic stress symptoms and the study design could provide deeper insights into conceptualizations and understandings of trauma. Based on and expanding on the discipline affiliation surveyed in this study, a valuable approach would be to analyze the conceptualization of trauma in each article (for example, whether it adopts a psychiatric or a social/social-psychological understanding of trauma) in relation to the study design.

Additionally, exploring publications without original data collection could shed light on the significance of theory-driven versus empirically based publications. Beyond research-related inquiries, the review’s reference list offers a basis for exploring content-related questions, such as implications presented in the studies. Further investigation into differing national concepts, and systems of school-based trauma pedagogy is warranted,

considering significant differences among international school systems (e.g., Cowen & Kazamias, 2009).

Also, the national and academic backgrounds of author groups publishing in English- and non-english-language journals, and the associated potential cultural bias as described in the limitations, represent an area for future research enrichment.

The ethical and cultural dimensions of research with vulnerable, mostly underage samples should not be overlooked. There’s no comprehensive overview of how specific research methods affect the well-being of highly burdened children and adolescents, however initial findings suggest certain methods may impact the mental health of children and adolescents (e.g., Seedat et al., 2004). Furthermore, the role of traumatized children and adolescents in research, particularly in participatory research approaches, should be discussed ethically and responsibly in order to make effective use of the potential of these approaches (e.g., Bradbury-Jones et al., 2018).

Bridging the gap between research and practice remains a priority. While this review provides an overview of research in school-based trauma pedagogy, the next step is to determine which forms of knowledge acquisition are most beneficial for practice within trauma-sensitive schools. Nevertheless, implications can be derived for education, training and research practice on the topic of trauma in schools: It seems essential to interpret and discuss our study results in the context of the chosen research methods and the respective perspective on trauma.

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S.K. prepared, analyzed, and interpreted data, and wrote the first draft of the manuscript. S.G. and N.H.S. contributed to data analyses and the manuscript. All authors reviewed the manuscript and gave approval of this final version.

## Data availability statement

Data and code will be made available by request. Please contact the corresponding author.

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