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Review

Addressing School Absenteeism Through Monitoring: A Review of Evidence-Based Educational Policies and Practices

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Abstract: In many countries, indicators related to educational contexts, inputs, processes, and outputs serve as important benchmarks for allocating funding to educational institutions. Educational monitoring provides a valuable approach for gathering data on these indicators. This review offers a critical analysis of the current state of educational monitoring of school attendance in Germany, emphasizing the need for a more comprehensive monitoring system including such data. We provide an overview of the current state of research, propose a theoretical framework, and outline the key requirements for effective monitoring. From this foundation, we examine existing empirical evidence on the impact of monitoring school attendance. Our findings indicate that comprehensive and ongoing monitoring is essential for preventing and reducing student absenteeism. Moreover, we emphasize that consistent attendance monitoring is vital for educational policy and practice, offering considerable potential for school improvement. It functions as an early warning system, helping to identify students at risk of academic failure or dropping out. By systematically tracking attendance, schools can implement basic preventive measures and tailor interventions to address the specific needs of at-risk students, ultimately fostering academic achievement and engagement.

Keywords: school absenteeism; school attendance; educational monitoring; prevention; intervention; Germany; international comparison; recording; reporting

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1. Introduction

Education monitoring has become a routine procedure in the field of evidence-based policy and practice in the education sector [1,2]. In many countries, indicators of educational contexts, inputs, processes and outputs are considered a relevant point of reference for assigning funding to educational institutions [3,4]. In Germany, too, education monitoring has become an important instrument for the strategic planning of education policy since the end of the 1990s [5]. At that time, Germany had taken part in international comparative education studies for the first time in decades. With the revised overall strategy for education monitoring, the Standing Conference of the Ministers of Education and Cultural Affairs (German acronym: KMK) is continuing its endeavors to further improve the quality of the education system at all levels on the basis of the verified results of educational processes [6,7]. The revised strategy from 2015 [7] defines several benchmarks: (1) Trends in educational outcomes should not only be described, but also explained and accompanied by information on how identified problems could be solved. (2) The growing number of research findings should be systematically analyzed, and results have to be available for both educational policy and practice. (3) Given the federal structure of the country, it is necessary to provide additional information for explaining differences in performance between countries. (4) Relevant knowledge should actually be utilized for the development of the education system and each school. These benchmarks provide a clear mandate for educational monitoring, i.e., the collection of data to describe and explain educational

outcomes and trajectories. Educational monitoring primarily comprises data on academic performance, but also on the educational contexts, opportunities to learn, and background characteristics of learners [1]. What remains notably absent in Germany, however, is comprehensive data on student attendance patterns. As a result, the exact number of lessons missed without legitimate cause remains unknown. Since the effectiveness of instruction hinges on students' presence, this gap in educational monitoring is significant and warrants critical attention.

Germany, like many countries, mandates compulsory education through state constitutions or school laws. Since school policy is under the jurisdiction of the 16 federal states, each state has its own constitution and laws regulating compulsory schooling. This typically includes both regular class attendance and participation in school activities, such as excursions. Homeschooling is generally prohibited, and parents are not permitted to withdraw their children from school to provide alternative education. Compulsory education begins at age six and lasts for twelve years, comprising nine years of general education and three years of vocational education, either through an apprenticeship (part-time) or one year of full-time vocational schooling. Violations of compulsory education laws are punishable offenses in all states. However, the details of these regulations vary, presenting challenges for education monitoring. Data collection methods, operationalization of indicators, and priorities can differ between states. Significant gaps remain, especially in non-cognitive data, such as school attendance behavior. This paper examines known monitoring practices for school attendance and absence in several countries, focusing on their role in preventing absenteeism. In terms of terminology, we use the following definition: while occasional and largely harmless absences from lessons are usually referred to as truancy, the generic term school absenteeism covers the whole range from occasional to chronic absenteeism [8,9].

However, the recording of school attendance is a fundamental prerequisite for addressing absenteeism effectively [10]. Without a clear understanding of how many lessons are missed, it is impossible to make valid assessments of their impact, particularly when considered alongside lessons cancelled due to illness, teacher shortages, or other factors beyond students' control. Comprehensive attendance monitoring should account for the total number of lessons scheduled according to the local curriculum, the actual lessons delivered, and the lessons missed by each student, along with the reasons for their absence. These data form the foundation for addressing key educational questions about teaching effectiveness, school quality, and competence development. Without it, the database is significantly biased, as lessons can only occur for those who are present.

Unlike in Germany, the monitoring of school attendance is now routine practice in many countries [11–13]. Typically conducted digitally, it consolidates information from classroom records and, when applicable, the attendance office or school secretariat, enabling data-driven analysis and timely school responses [14]. In contrast, the German education system lacks a systematic, let alone uniform, approach to documenting and monitoring attendance. Where it does exist, it is limited, leading many teachers to underestimate absenteeism or recognize it too late [15]. Since careful monitoring has consistently been shown to reduce absenteeism significantly [16,17], future educational monitoring must include the tracking of school attendance [18].

This paper aims to critically examine the gap between the available data, research findings, and prevention efforts for school absenteeism, and the pressing need for empirical evidence to inform policy and practice in Germany. In this context, key elements of effective monitoring—recording, reporting, and utilizing data—are analyzed in relation to the current situation in Germany. Drawing on selected empirical evidence, the paper identifies fundamental strategies and requirements for effective monitoring of school absenteeism, tailored to the German context, to support prevention and intervention efforts.

2. Effective Monitoring: Recording, Reporting, and Using School Attendance Data

We take up the differentiation of three aspects of the collection of data on school attendance and avoidance behavior proposed by Heyne et al. [10]. The authors distinguish

between recording, reporting, and using data. *Recording* refers to the initial collection or registration of student attendance and absences, a critical step that serves as the foundation for the subsequent dimensions. However, there is significant variation in how these data are collected and what is recorded, reflecting the inherent ambiguity of the term. *Reporting* builds on recording and involves the transmission of data, which can differ widely in scope—from communication within individual schools to broader reporting at organizational or national levels. Finally, *using* the data introduces further complexity, as it involves generating insights, informing decisions, and justifying actions based on the collected information. In this section, we provide an overview of various practices related to recording, reporting, and using attendance data, before focusing specifically on the German context.

Recording. The methods for recording school attendance and absences vary significantly between and within countries, as seen in Finland, the United States, England, the Netherlands, and Spain [11]. While compulsory school attendance is implemented in many countries, it is far from universal. In some regions, comprehensive laws are lacking, and absenteeism is not prioritized, often due to economic or social factors, such as children being required to work or care for family members. In other contexts, competence may take precedence over attendance. For instance, England's Education Act [19] stipulates that parents must ensure their children receive an appropriate education, whether through regular school attendance or homeschooling (a similar approach is found in Finland, see [12]).

Moreover, attendance is defined differently across systems. Physical presence is not always required, especially with the rise of remote learning options, as seen in Japan during the COVID-19 pandemic [20]. In many countries, specific laws dictate how school attendance should be defined and reported [10]. For instance, the No Child Left Behind Act [21] and the Every Student Succeeds Act [22] in the United States mandate the recording of absences in all states. However, the implementation of these laws varies widely, with significant differences between states and even among individual schools [23]. Some systems record attendance once or twice daily, while others document it for each class or lesson (e.g., [24,25]).

The tools and methods used for tracking attendance have also evolved. Many schools now use software that allows for additional information to be recorded beyond simple attendance. Schools also differ in how they document absences. Some distinguish between excused and unexcused absences (i.e., authorized or unauthorized), while others record the exact reasons for absence obtained from parents, students, or teachers. In Japan, for example, when students miss more than 30 days in a school year, the reasons for absence are categorized into school-related, family-related, individual-related, or economy-related factors, with further subcategories ([20]. For the USA see [23] and for England see [24]). The responsibility for recording attendance also varies, with teachers often collecting initial data, but school secretariats or attendance officers ultimately ensuring complete and accurate records.

Reporting. Complete data on students' attendance are essential but insufficient on their own to ensure a continuous and successful educational trajectory for all students. The next critical step is aggregating and forwarding these data, a process referred to by Heyne et al. [10] as *reporting*: "sharing recorded DSAA [data on school attendance and absenteeism] with intended recipients such as individuals and organizations who will use it" (p. 10). The key is that the data must be shared in order to inform decisions on necessary actions to prevent or address absenteeism. Heyne et al. highlight the variations in reporting practices: reports may remain internal to schools or be shared with parents, higher authorities, or external agencies. For instance, attendance officers might forward data to parties responsible for interventions, such as juvenile detention centers, public health officials, or youth workers. Additionally, the data can be relevant for municipalities and education departments, guiding decisions on attendance-related actions [10]. Different stakeholders interpret the data from their own perspectives, leading to varying requirements. For example, parents may want to verify whether official records match their own

understanding of their child's attendance, while education authorities might focus on identifying patterns or disparities in attendance across schools in their jurisdiction.

Using. A comprehensive database documenting school attendance and absences enhances the precision of conclusions drawn from the data. Ideally, data collection should commence at the start of compulsory schooling and continue through to the end [25]. This longitudinal approach enables the tracking of trends throughout a student's educational journey and allows for a holistic consideration of the student population. When surveys focus solely on extreme cases, they may provide insights at the individual level, yet they risk overlooking preventable cases that could have been identified through an early warning system. Thus, extensive data utilization is crucial for effective monitoring, raising important questions about the purposes of data use, the stakeholders involved, and the measurable benefits derived from it [10].

At the individual level, data can inform parents about their child's attendance and absence rates, facilitating the search for appropriate interventions. At the school level, relevant data can aid in establishing preventive indicators and programs early on, allowing for adjustments in attendance recording, enhancing communication among teachers, parents, and students, and improving classroom management to foster a positive school climate. At the state or federal level, this information can identify areas in need of additional resources and evaluate how overarching regulations might enhance collaboration between parents, schools, and communities to develop effective strategies. Additionally, researchers form another critical stakeholder group. They analyze the data to identify patterns, correlations, and factors contributing to truancy, as well as the individual and societal consequences of absenteeism.

In summary, as Heyne et al. [10,26] emphasize, data serve multiple purposes: (1) building knowledge, (2) informing decision-making, (3) prompting action, and (4) evaluating the outcomes of decisions made and actions taken (p. 11). We therefore propose the term *instrumental monitoring* to express the fact that simply documenting attendance and absence in lessons is not enough.

To give an example: The Netherlands employs a uniform registration system for unauthorized truancy across all schools. Schools are required to report students' absences to a central system within three days. An independent truancy officer reviews each new registration to determine whether it is authorized or unauthorized. These local systems are integrated into a nationwide database known as the BasisRegister ONderwijs (BRON), which also captures various background variables such as gender, ethnicity, socioeconomic status, and the curriculum followed by students. The interplay of recording, reporting, and data utilization exemplifies an effective monitoring system (see [27]).

The German Case

The German system contrasts sharply with that of the Netherlands. While the Netherlands has a central reporting office for school absences, education in Germany is governed by the federal states, resulting in a lack of standardized absence recording systems at the state level. Typically, schools decide the extent to which they document attendance beyond manual registration. After primary school, which concludes after grade 4 in Germany, students are assigned to various secondary level I schools based on their prior achievements. In addition to Gymnasium (grammar school), which is the only secondary school common across all 16 federal states, each state has one or more other secondary school types. This highlights the differentiation and inconsistency within the German education system, as well as the diverse local approaches to monitoring absences.

At this point, Germany appears to be undergoing a transformative phase regarding school attendance recording. In many federal states, schools still log absences in class registers using pencil, while others have adopted software for digital documentation. The latter facilitates easier aggregation and utilization of data. Typically, class teachers are responsible for recording attendance on a daily or hourly basis. After a designated period, such as monthly or at the end of each term, teachers must report the absence rate—both

authorized and unauthorized—for each student to the school principal and, depending on the state, to higher authorities. In Germany, skipping school is considered an administrative offense due to compulsory education laws, which can lead to fines, police intervention for forced transportation to school, and, in serious cases, short-term youth detention [28].

Since the information on attendance collected by schools is not systematically aggregated for reporting [11], only a few federal states in Germany—specifically Hamburg, Berlin, Thuringia, and Hessen—can provide combined data on overall absenteeism and related indicators. Moreover, there are no standardized definitions of absenteeism or nationwide harmonized regulations for recording, reporting, and utilizing school attendance or absence data. For example, the threshold for problematic absenteeism is set at ten days per school year in Thuringia, Mecklenburg-Pomerania, and Rhineland-Palatinate, while it is 20 days per term in Berlin, Schleswig-Holstein, and North Rhine-Westphalia, and around five days in Saxony, Bavaria, Lower Saxony, Hamburg, and Saxony-Anhalt [29–31]. Consequently, using standardized and comparable data for administrative and educational policy decisions is challenging, as terminology varies significantly between federal states.

At present, the German KMK indicates that there is no integrated, overarching strategy to combat truancy [7]. Nevertheless, positive developments are emerging in various federal states. For instance, Schleswig-Holstein is implementing a new statewide approach to managing school attendance issues, emphasizing pedagogical measures over legal actions. This initiative marks a shift from punishment to support and includes essential strategies for prevention and early intervention. Key components involve enhancing school performance, fostering self-efficacy, establishing supportive structures, promoting positive student–teacher relationships, ensuring a pleasant classroom climate and safety, and developing regional collaborative networks. Additionally, it adopts a stepwise approach to addressing absences, allowing schools to respond appropriately based on the frequency and severity of cases. The subsequent list of categories in Schleswig-Holstein illustrates the connection between recording and reporting attendance data per school year [31].

1. Unexcused absence (one lesson or day): registration of absence and contact with parents.
2. Continued unexcused absence (up to 3 days): contact principal, meeting with student and parents, investigation of reasons and options.
3. Problematic absence (up to 10 days): anew contact with parents, case conference, school creates an action plan.
4. Severe unexcused absence (up to 20 days): further assessment, interdisciplinary support, notification of school authority.
5. Serious unexcused absence (up to 40 days): actions coordinated by school authority. In cases of a chronic disease, home schooling or lessons in hospital.

Additionally, schools are mandated to formulate and implement a comprehensive framework that outlines tailored measures and procedures specific to their institutional context [31]. This exemplary list from a German federal state can easily be transferred to other contexts by defining escalation levels with reference to local school laws, which can be used to locate measures and consequences.

This brief overview of effective monitoring on the one hand and the contrasting German case on the other supports the current state of research indicating that helpful monitoring of school absenteeism consists of the recording, reporting, and using of relevant data. In Germany, the monitoring of school attendance primarily focuses on recording, which limits the expectation for high-quality attendance data. As long as unexcused absences are not recorded at the end of the school year, there is no accountability. To identify the third element of effective monitoring—using the data—empirical findings on the application of attendance data will be presented and discussed in the next section. Key questions include the following: How effective are the measures derived from school attendance data? Which prevention approaches and interventions have proven successful, and how can these inform more effective strategies for monitoring and reducing student absenteeism?

3. Empirical Evidence for the Effectiveness of Monitoring

Studies indicate that unauthorized school absence may be a clear signal of an ongoing process of student attrition, which is often related to low school attainment, higher rates of unemployment, and deviant behavior [32–34]. As prevention and intervention programs on truancy can be an intuitive approach to effectively reducing school dropout, they are highly prioritized on the political agenda in many countries [35,36]. As a result, the number of programs to prevent and intervene in school absenteeism has increased tremendously worldwide. For example, in the USA, hundreds of truancy and dropout programs exist [37–39]. Among EU Member States, several distinct dropout prevention initiatives have been launched, such as improved registration of school attendance and dropout (in France, Germany, Hungary, Italy, the Netherlands, and the United Kingdom, etc. See [40]). There are now also a number of relevant websites that provide scientific findings in the field of education for practitioners and the interested public in the spirit of evidence-based practice, such as the *What Works Clearinghouse* in the USA or What do we know in the Netherlands. In Germany, the Clearing House Teaching and Learning [German: Clearinghouse Unterricht] has a similar purpose but has not yet published an overview on prevention and intervention for school attendance issues. Despite the generally high availability of prevention and intervention programs for school absenteeism, there is currently still a large gap in scientific research with regard to the systematic and large-scale evaluation of the effectiveness of these programs. Many of them are evaluated at a local and regional level, but one key problem that remains unresolved in the educational field is the issue of transferring successful practice from one school to another and from one educational context to another.

As many authors emphasize, school absenteeism is a multidimensional problem that is determined by a broad range of risk factors interacting with each other and changing over time [41,42]. Accordingly, the programs implemented are very heterogenous and address different causes at the individual, family, school, municipality, and country levels [17,35,39,43]. These programs can be more or less complex, are geared towards specific problem situations, and focus on individual causes or multiple problem situations or ongoing changes. In addition to focusing on one or limited causes (such as in clinical studies), there are also multidimensional, multi-tiered approaches [17]. This underlines the problem that tailoring a prevention and intervention programme to the specific absence situation plays a key role in the effectiveness of the measure. This makes an accompanying scientific evaluation all the more important in order to be able to determine, at least for the respective local context, what works for the local stakeholders concerned.

Having said this, we face a common problem in educational policy making; due to the high costs associated with absenteeism prevention or intervention programs, education policy makers rightly demand reliable data on the expected impact of these programs in advance [44]. Although great efforts have been made to develop appropriate prevention and intervention programs, little is known about how effective prevention and intervention programs are in relation to school attendance. There is a clear lack of evidence-based interventions [42,45,46] that have been developed taking into account the current state of research. These gaps are related to three shortcomings: (a) the accessibility and publication of evaluation results, (b) methodological challenges and deficits, and (c) the reported effect sizes [28,42]. Based on the recent literature regarding the empirical effectiveness of prevention and intervention programs, we will address these three challenges and refer the aforementioned shortcomings to the case of German in the subsequent section.

3.1. Accessibility and Publication

Despite the abundance of prevention concepts and intervention studies, there is surprisingly little information on their effectiveness in the scientific literature. Many concepts lack comprehensive explanations, and outcomes are often inadequately recorded or published according to scientific standards. Programs frequently appear as grey literature—such as handouts or brochures—indicating success only in select schools, thereby leaving others unable to assess their applicability to different contexts. Although a limited number of studies exist in

academic journals, various factors have contributed to this inadequate reporting. Essential information for scientific publication is often not gathered during local truancy prevention or intervention initiatives. Ideally, relevant data should be collected both before and after these initiatives to evaluate effectiveness; however, this is often neglected due to constraints on resources, expertise, consent, and analysis. Additionally, political considerations may lead schools to refrain from publishing figures if they fall short of established objectives or report high absenteeism rates. Consequently, challenges in recording, reporting, and utilizing school attendance data hinder the success of prevention and intervention programs, complicating the sharing of insights among educators and increasing inefficiencies and costs within the education system.

The publication format and content further complicate the landscape. A distinction exists between individual studies and reviews summarizing multiple studies. Most publications on preventing school absenteeism focus on locally implemented programs, often summarizing their designs and asserting a positive impact on attendance. However, few provide explicit details regarding methodological designs, quantitative indicators, or effect sizes. More precise descriptions enhance the transferability of findings to other educational contexts and are crucial for subsequent analyses from a research perspective. For instance, in a meta-analysis by Maynard et al. [43], around 400 interventions met basic criteria, but only 28 met the scientific inclusion criteria for the main analysis. Subsequent systematic reviews and meta-analyses provide significant advantages over narrative or vote-counting syntheses, as they combine data from underpowered studies to yield more robust statistical estimates and uncover meaningful effects that might be missed in smaller studies [42,44,47].

In Germany, the absence of systematically accessible information on the effects of truancy prevention and intervention programs necessitates a foundational strategy for scientific evaluations published in reputable outlets. Collaboration among universities, schools, local governments, and research institutes could form multidisciplinary research teams, integrating expertise from education, sociology, and psychology. Standardizing data collection would facilitate data pooling across federal states and enable longitudinal studies. Furthermore, establishing a centralized open-access repository for data, reports, and publications would enhance accessibility for researchers, policymakers, and educators. Finally, adapting and testing proven models from countries with established literature on reducing absenteeism could serve as a foundation for local evaluation and publication efforts. Here, it is important to differentiate between models and objectives; while the objectives of strategies, e.g., instrumental monitoring of school absenteeism, are easily transferable in themselves, the selection of certain models for the respective country must be competently assessed and justified, as school systems in different countries must be understood according to their respective historicity and functioning.

By employing a multifaceted approach—collaborative research, accessible publication avenues, teacher involvement, and policy advocacy—the scientific literature on truancy prevention in Germany can be significantly expanded. All stakeholders, including schools and governments, must cultivate a research-rich environment that prioritizes evidence-based solutions to truancy. This comprehensive strategy will address existing gaps in the literature and ensure the accessibility and scalability of successful interventions. This approach can also be adopted in other education systems beyond Germany; it is not tied to a federal or multi-tier system. It is primarily aimed at research institutions and educational administrations, whose cooperation and exchange should be further developed.

3.2. Methodological Shortcomings

Definitions not harmonized. When considering the effectiveness of prevention and intervention programs, one significant disadvantage is the lack of harmonization in the definition of absenteeism [45,47]. This inconsistency complicates the comparison of results and effect sizes across different programs. As previously mentioned, the definition of chronic absenteeism varies not only between federal states in Germany but also among individual schools [31,48,49]. The existence of multiple competing definitions highlights

a broader issue of transparency within the implemented programs; critical information, indicators, and measurements are often not clearly articulated due to the absence of consensus on what is necessary. Furthermore, the lack of transparency extends to financial and time investments, as well as personnel allocations, which are frequently omitted from discussions. Consequently, this deficiency in comprehensive data makes it significantly more challenging for policymakers to make informed and reliable decisions regarding the allocation of resources and the development of effective strategies to combat absenteeism.

Design. Prevention and intervention programs vary significantly in their design. Experimental designs are the most informative for assessing intervention effects and causal relationships. However, variations exist among these designs: Are students randomized into treatment and control groups, or do they use a single pre-post-test approach? Are there any selection processes involved? How well are conditions maintained throughout the intervention? Additionally, changes such as teacher turnover or program interruptions during holidays can influence results. These considerations raise questions about the external and internal validity of findings. External validity pertains to the generalizability of results across contexts, while internal validity examines whether changes in the dependent variable can be attributed solely to the independent variable (treatment) without confounding factors (e.g., variations in absence recording or changes in intervention procedures). Unfortunately, few interventions provide detailed descriptions of their designs and situational factors, limiting the accessibility of relevant information and data [47].

Quantitative vs. *qualitative data*. Currently, published and scientifically evaluated prevention and intervention programs emphasize quantitative experimental designs. However, effective interventions can also leverage qualitative data when implemented convincingly and aligned with established quality criteria [35]. Qualitative data allow for a more comprehensive contextualization of relationships and effects. Additionally, such data can yield insights that inform hypotheses for subsequent quantitative research. Employing mixed-method approaches, which integrate various designs and priorities, would enhance methodological diversity and provide combined perspectives, resulting in more nuanced interpretations of indicators, measures, and effect sizes.

Lack of control variables. A major shortcoming is that only a few studies specifically consider relevant control variables [46]. Many studies have shown that factors such as family social status, immigrant background, regional context, student personality, student–teacher relationships, social embeddedness, and family functioning significantly influence truancy and its related factors [42,50,51]. Incorporating control variables allows for mediation and moderation analyses, which provide deeper insights into the underlying causal mechanisms.

Limited observation time. A significant number of intervention studies face the challenge of measuring the dependent variable (school attendance) over a relatively short timeframe, with few long-term follow-ups conducted. This issue is crucial, as empirical findings indicate that the effectiveness of interventions may diminish over time [52,53], leading students to revert to previous behaviors once the intervention ceases and time elapses. This highlights the necessity for ongoing prevention and intervention programs. However, even successful studies often struggle to continue due to insufficient funding. Consequently, evidence-based interventions should be designed for longer durations to allow for a more comprehensive assessment of their effectiveness over time [42].

Lack of replication studies. Empirical evidence on effective prevention and intervention strategies for absenteeism is constrained by the scarcity of replication studies conducted by independent researchers. Even when programs adhering to the same design and guidelines are evaluated, local variations in the intervention—such as differences in the number and duration of sessions—often arise, rendering meaningful comparisons difficult [42]. In principle, replication studies are often cited as a prerequisite for classifying specific treatments as empirically supported. To date, however, no meta-analysis has yielded corresponding results.

Complementarity of interventions. Finally, it should be mentioned that most studies focus on the effect of a single intervention. The meta-analysis by Maynard et al. [46] highlights many positive results and effect sizes for the reduction of chronic school absenteeism. Most of them even show a reducing effect. However, the extent to which various interventions complement one another, and the causal mechanisms *responsible* for their effectiveness, remain unknown [35].

To sum up, there is no doubt that the understanding of school absenteeism and effective prevention and intervention has increased considerably. The number of implemented programs is very large and the number of experimental studies that empirically substantiate the effectiveness and efficiency of interventions is also increasing. Nevertheless, against the background of the deficits listed above, it can be stated that there are still considerable gaps that make it difficult for policymakers to launch targeted interventions. As Eklund et al. [44] mentioned, higher quality research is needed to increase confidence in intervention programs to address chronic absenteeism.

3.3. Results and Effect Sizes

A comprehensive overview of all empirical intervention studies conducted to date poses significant challenges due to the diversity of the methodological approaches used. An effective strategy for navigating this complexity is to examine existing systematic reviews and meta-analyses. Drawing upon the work of Maynard et al. [43], the following research questions will be addressed in relation to the available empirical findings: (1) Do interventions effectively increase school attendance? (2) How do the modalities of these interventions influence outcomes? Specifically, are there variations in effectiveness depending on the level at which the interventions are implemented—whether at the individual, school, community, or court-based level, particularly in the context of multimodal programs? The following paragraphs sum up these aspects.

Maynard et al. [43] investigated the effect of interventions on school attendance issues, specifically measured by the number of days attended. They employed the standardized mean difference effect size statistic to analyze the included studies. Although around 400 interventions met the initial criteria, only 16 were ultimately analyzed, comprising five randomized controlled trials (RCTs) and 11 quasi-experimental designs (QEDs). This analysis encompassed research conducted in Australia, Canada, Germany, the UK, and the USA between 1990 and 2009. The effect sizes for these studies ranged from Hedges' g = 0.01 to 1.18, with seven studies showing no significant effect. Five significant studies reported large effects (Hedges' g > 0.80), yielding a mean effect size of g = 0.46. While students who received interventions exhibited higher attendance rates compared to control groups, they did not achieve the acceptable attendance threshold of 90% or more school days attended [43]. The interventions were classified into school-based, court-based (truancy courts), community-based, and individual components, and the analysis indicated no significant differences in effectiveness among these categories. In contrast, Klima et al. [53] found that alternative educational programs (e.g., school-within-a-school models that offer smaller classes and individualized instruction) and mentoring programs were the most effective approaches in their meta-analysis of 22 empirical studies.

Eklund et al. [44] presented a promising approach by analyzing school attendance rates (measured as mean days in school). Their meta-analysis combined data from 22 studies, encompassing 50,925 participants from the USA, Canada, the United Kingdom, and Australia since 2009, yielding a total weighted effect size of g = 0.25 for between-group studies. This suggests that 60% of students in the treatment group exhibited higher average attendance compared to the controls. Further analysis indicated higher effects in elementary schools versus secondary schools, although the difference was not significant. Eklund et al. differentiated between intervention types: behavioral (skills), academic (skills), family–school partnerships, and policy interventions. The results showed small but positive effects for behavioral interventions (g = 0.26), academic interventions (g = 0.25), and parental involvement (g = 0.09). The authors concluded that despite extensive research on chronic absenteeism, few

intervention studies met their inclusion criteria. They echoed previous reviews, stating "there is limited evidence on the effectiveness of truancy interventions" (p. 11), emphasizing the lack of experimental studies that provide empirical support for specific interventions.

In his review, Kearney [54] examined various intervention types and highlighted that medical interventions, such as pharmacotherapy and health programs, are beneficial for anxiety, depression, and somatic complaints like asthma. Clinical interventions also yielded positive results in improving school attendance, primarily targeting anxiety and depression through cognitive behavioral strategies. Approaches such as relaxation training, cognitive restructuring, hypnosis, family therapy, child therapy, social skills training, and peer relationship development effectively helped youths to manage physical symptoms of stress and anxiety and modify irrational thoughts related to school attendance (see also Heyne et al. [55]).

Recent clinical studies have provided empirical evidence for interventions. In 2018, Maynard and colleagues [41] conducted a systematic review focusing on psychosocial treatments, particularly cognitive behavioral therapy (CBT), due to its prominence in the absenteeism literature. Psychosocial treatments for children with school refusal typically combine cognitive and behavioral interventions. The review included eight studies published between 1980 and 2013, based on RCTs or QEDs and involving 435 children. The findings indicated an overall positive effect size of Hedges' g = 0.54, signifying a medium effect and suggesting that CBT positively impacts attendance rates. A recent study by Lomholt et al. [56] supports the cognitive behavioral treatment approach by addressing students and their parents. After treatment, school absenteeism decreased significantly, with a large effect size. Furthermore, self-efficacy increased, while anxiety and depression decreased (see also [57–59]).

A few studies have addressed school attendance issues and the effects of interventions in local contexts in Germany. Reissner et al. [58,59] analyzed a manual-based multimodal treatment (MT) compared to treatment as usual (TAU). MT incorporates cognitive behavioral therapy, family and school counseling, and psychoeducational exercises, while TAU involves treatment from collaborating psychiatrists. The findings revealed that school attendance increased to about 60% within six months, regardless of treatment type. Walter et al. [60] reported a significant decline in school absenteeism (large effect, Cohen's r = 0.80) and mental health problems (small-to-large effect, Cohen's d = 0.33 to d = 0.82). However, a considerable proportion of the participants remained in the clinical range post-treatment.

Kearney [54] highlighted a wide array of school- and community-based approaches, such as partnerships, family involvement, early academic enrichment, and professional development for teachers to assist at-risk youth. These programs aim to mitigate barriers to school attendance by addressing violence, bullying, and language deficits, and enhancing parental involvement [28,54].

The review by Keppens and Spruyt [34] detailed a range of interventions (2005–2017) across various research designs, highlighting effect sizes. Of the 16 studies employing quasi-experimental designs (QEDs), randomized control trials (RCTs), or single-group designs (SGs), eight demonstrated significant effect sizes (Hedges' g = 0.14 to 0.91). Notably, the review differentiated between several theoretical approaches, revealing that rational choice and disciplinary interventions were largely ineffective. Conversely, raising legal awareness positively impacted attendance rates. The authors note a scarcity of convincing evidence for reward or punishment strategies, despite longstanding legal measures for addressing absenteeism that lack effectiveness evaluations.

Interventions emphasizing school bonding are more effective, as they enhance student engagement and enthusiasm for academic success, promoting long-term benefits. Overall, results are mixed, with intervention duration playing a crucial role—attendance rates tend to be higher when programs are active (the Hawthorne effect). Heterogeneity also influences outcomes; for example, the Check and Connect program has shown positive effects with a homogeneous sample, but effectiveness diminishes with greater diversity. This may relate to intervention duration, with Maynard et al. [41] noting a duration

of approximately six months compared to two years in earlier studies [61]. Keppens and Spruyt [34] advocate for multi-tier interventions, which address various levels of absenteeism due to their multifaceted nature [17].

Heyne and Brouwer-Borghuis [55] adopted a unique approach to interventions through the "What Works project" in the Netherlands. They conducted interviews with experts, students, and young individuals involved in 21 intervention studies to identify key elements deemed essential for success. Their findings highlighted the importance of providing an integrated approach that includes not just the young person but also parents and schools, as well as fostering collaboration between educational and support services. Additionally, they emphasized the need to create a safe environment and lower initial barriers to participation. The results were summarized into 14 signposts, which can be used as a checklist for professionals. For instance, investing in quality of contact with young people and parents, promoting their willingness to engage, and ensuring sufficient resources for intervention implementation are critical components. These signposts can guide professionals aiming to refine existing interventions or identify areas for team development [55].

3.4. The German Case

Taking into account the limited number of supraregional programs aimed at preventing and reducing school absenteeism in Germany, the few existing programs that have undergone rigorous scientific evaluation have yielded similar results. Approximately 15 years ago, the German Ministry of Family, Senior Citizens, Women's and Youth Affairs (BMFSFJ) launched the "2nd Chance" program, aimed at re-engaging students who exhibit signs of alienation [62]. However, the majority of programs have only been studied and published in doctoral dissertations, reports, or grey literature, with the evaluation data not available for replication. These publications [32,62] clearly indicate that the success of such programs is highly contingent upon local and individual circumstances.

In previous sections, we identified the existing shortcomings in monitoring and research concerning truancy in Germany. To address these challenges, we propose the adoption of a theoretically and empirically verifiable theoretical framework, such as that developed by Ricking and Albers [47], to facilitate systematic, model-based truancy monitoring. Their model advocates a shift from punitive measures to preventive and pedagogical approaches, as punitive actions often prove ineffective, except in instances where parental involvement obstructs school attendance. Based on the currently very selective recording of absences in the sense of systematic monitoring in Germany, the establishment of a model-based system is recommended.

Ricking and Albers [47] assert that the primary objective should not merely be to ensure physical presence in school; rather, attendance will improve when students are engaged in meaningful learning and developmental processes that foster a sense of value and involvement. Their multilevel prevention strategy encompasses basic monitoring, individual casework, effective classroom management, high-quality teaching, and the establishment of social networks and mentoring programs. This comprehensive framework holds promise for evidence-based monitoring of school attendance. To conclude our paper, we will present several theses to guide future empirical research.

4. Concluding Remarks: A Summary in Theses

In the preceding three sections of this paper, it became clear that systematically monitoring school attendance is a necessary, but not a sufficient condition for preventing school absenteeism. The monitoring process as such is complex, as simply recording absences is not enough, but also requires reporting, accountability, and utilization of the data. While several education systems around the world already routinely rely on digital, comprehensive monitoring procedures, Germany is still a developing country in this respect and, in some respects, a special case. The federal structure makes it difficult to establish a nationwide monitoring strategy. However, it has become clear that there can be no effective prevention and intervention without monitoring. This discussion is therefore dedicated

to linking the two aspects of educational monitoring and prevention or intervention. We condense the arguments summarized above in a series of four theses.

1. Consistent monitoring of school attendance serves as a crucial reference point for educational policy and practice, offering substantial potential for constructive school development processes.
2. Monitoring (recording, reporting, and using) school attendance functions as a comprehensive, area-wide early warning system; attendance data can identify students at risk of academic failure or dropout. For instance, students exhibiting chronic absenteeism can be flagged for early intervention.
3. Systematic monitoring of school attendance is fundamental to preventing school absenteeism.
4. Data on school attendance enables schools to design and implement customized interventions that locally address the specific needs of individual at-risk students.

Without systematic monitoring of school attendance behavior, targeted, evidence-based prevention and intervention is not possible, as it is impossible to determine the extent to which the frequency and severity of school absences have changed. At this point, the evidence regarding the effectiveness of interventions is disparate and confusing, making it difficult for policy makers and practitioners to use the evidence of effectiveness to guide policy and practice [42,44]. The little evidence that exists that meets the standards of scientifically sound research, shows the lack of empirical data and the related small and moderate effect sizes of truancy interventions [44,55]. It is obvious that more research is needed on prevention and intervention programs. Future research will be strengthened by larger sample sizes and more diverse samples beyond single schools, cities, or regions. Given the complexity of school refusal, larger samples will allow for more sophisticated analyses to explore potential moderators and mediators of treatment outcomes, such as anxiety type, age, or other characteristics of students, families, schools, and treatments [49].

The current review also highlights a lack of studies investigating treatments other than CBT variants; future research should rigorously evaluate alternative treatments in comparison to existing CBTs [41]. Additionally, future studies should focus on reducing bias, using more advanced analytical methods, conducting independent replications of manualized treatments from this review, and evaluating long-term treatment effects. Assessing long-term outcomes may offer further insight into the mixed findings regarding treatment effects on attendance.

4.1. The German Case

To conclude, we turn our attention once again to the case of Germany. There are several implications based on our arguments that we would like to point out. At the level of educational practice, multiple levels can benefit from comprehensive and widespread documentation of student absences. For instance, school principals could find it helpful to compare their data with neighboring schools or schools with similar student populations. However, at least in the German context, there is often a noticeable reluctance to make such comparisons. Schools prefer not to be identified as low performing, or they want to avoid additional work which will be placed on an already overburdened teaching staff, or fear that problems will become visible that the school feels unable to address. Beyond the German system, depending on the respective local structure in the education system, school sponsors or education authorities could help to ensure that schools are not disadvantaged if they disclose their attendance data, but are allocated resources for support, for example.

For school authorities, it is important to be able to compare schools within their area and to identify best practice as well as risk factors for school absenteeism. Additionally, comparisons with other regions can be helpful for better understanding the issues within their own district. In this case, monitoring serves as an additional benchmarking function, which can assist in prioritizing decisions and actions to prevent student absenteeism and design or select suitable interventions.

With regard to educational research, researchers should advocate for comprehensive, continuous monitoring of student absences from school in order to have consolidated and stable databases to inform educational policy and practice. Ideally, recording, reporting and using happens in multiprofessional teams that combine the perspectives of several stakeholders in the education sector. Future lines of research based on our findings could leverage attendance monitoring for both proactive and responsive educational practices. For example, the efficacy of attendance-based early warning systems could be evaluated in terms of quantifying their impacts on reducing dropout rates and improving student outcomes. At the same time, one could study the accuracy of attendance data in predicting at-risk students and identify factors that may enhance or hinder its reliability. In education systems that, like Germany, do not yet have an established national monitoring system for school attendance, this would be a fundamental building block for determining the added value of such monitoring. A second line of research that builds on our findings could be case studies of schools using attendance data to design and implement localized interventions to help to identify key factors for reducing school absenteeism. Third, the interplay between federal and local policies in ensuring consistent attendance monitoring should be examined with regard to specific and dynamic local needs. All these approaches should include considerations of technological innovations and equity in attendance monitoring; for example, by studying the potential of advanced technologies to enhance attendance tracking and identify typical patterns of absenteeism which can be used as a reference for developing effective measures to enhance school attendance.

4.2. Limitations

Finally, a number of limitations warrant discussion when assessing our contribution to the importance of monitoring in school absenteeism. First, and most importantly, our paper is not a meta-analysis, but rather a narrative review. This is due to the focus on Germany as an educational system that still lacks sound and systematic monitoring of school attendance and that we intended to point out as a special case. Second, the search for grey literature that was necessary to describe the state of work in preventing and monitoring truancy in Germany could not rely on databases in the way that scientific literature research can. There may be many more guidelines, best practice, working papers, or documents on locally successful programs than we have not been able to identify. However, this is one of our key points; grey literature does not follow the scientific standards we need to address the phenomenon of truancy in an evidence-based way. Third, the transferability of successful prevention and intervention concepts from one country or even one school to another is not straightforward. The question of transfer is one of the greatest challenges in the field of education. Nonetheless, it is less about specific types of monitoring and more about the principle of instrumental monitoring. Recording and observing absences, identifying trends and developments, and drawing conclusions are the fundamental prerequisites for initiating behavioral changes in students.

In conclusion, this paper emphasizes that systematic monitoring of school attendance is essential for preventing and addressing absenteeism. Without comprehensive data collection, it is impossible to assess the effectiveness of interventions or identify students at risk of academic failure. While many education systems have implemented digital monitoring processes, Germany faces specific challenges due to its federal structure and lack of nationwide strategies. This makes it difficult, but by no means impossible, to establish a standardized nationwide procedure for monitoring attendance and absence at school. The development of a robust monitoring system would enable better prevention, early intervention, and customized responses to absenteeism.

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