
Systematic Review of Interventions with Some School Involvement for School Refusal in High School–Age Adolescents

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Chronic absenteeism is a public health concern. School refusal due to emotional distress is one reason students exhibit chronic absenteeism. The objective of this systematic review was to determine potential aspects of interventions, in school settings or involving a school-based component, that are successful in addressing school refusal among high school–age adolescents. After duplicated records were excluded, 1,864 studies were identified from searches. The abstracts and full text articles were independently reviewed and received two votes from each of the five reviewers using the eligibility criteria. Two reviewers independently evaluated the remaining articles and met to discuss findings with a third reviewer. The 10 articles included eight studies that noted techniques in cognitive–behavioral therapy (CBT) as promising and two studies that considered CBT as effective as other approaches. The study design for three studies were randomized controlled trials. The remaining seven studies were quasiexperimental. Only three of the 10 studies received a high rating using the Quality Appraisal Tool. There was a limited number of quality studies that used rigorous scientific methods and variation in how each study engaged schools. Further exploration and development of interventions with an integral school-based component are needed.

KEY WORDS: *family–school–community partnerships; high school; research to practice; school refusal; school-based components*

Persistent absenteeism refers to students missing 10 percent of the total school year or 15 days of excusable or inexcusable absences related to medical illness or injury; environmental, social, psychiatric, or other conditions; as well as disciplinary suspensions (Patnode et al., 2018). One type of school attendance problem is *school refusal*, defined as a student–motivated refusal to attend school and/or difficulty remaining in class due to emotional distress about attending school (Brouwer-Borghuis et al., 2019; Egger et al., 2003; Kearney, 2008; King & Bernstein, 2001; McKay–Brown et al., 2019). The prevalence of school refusal is estimated to be between 5 and 35 percent (Martens et al., 2018; Sewell, 2008) of school-age youth and is difficult to quantify at early onset because school districts inconsistently define, track, and report instances of absenteeism (Kearney, 2008). Yet, the role of schools in intervening at the early onset of symptoms related to school refusal is critical given the long-term deleterious impact of psychosocial issues later in adulthood (Inglu et al., 2019; McKay–Brown et al., 2019).

School refusal is a complex problem that can stem from individual and contextual factors and that requires a “multitiered systems of support” framework (Chu et al., 2019). Individual factors related to school refusal range from psychiatric conditions including separation, generalized, and simple or social anxiety (Kearney, 2008; King & Bernstein, 2001) to student learning processes and mastery/performance goals (Sorrenti et al., 2016) to self-esteem (Kearney, 2008). Contextual factors range from family involvement to environment (e.g., school). Prior research has focused primarily on school refusal interventions with clinical or family involvement (Fortin et al., 2006) as opposed to a focus on the role and partnership with schools given the significant costs to the education system (Chu et al., 2015). With school personnel often the first to identify concerns related to school refusal (Kearney & Bates, 2005), understanding the details of their role, best practices to provide services, and how to partner with them is important because early identification of school refusal may prevent negative

consequences, such as dropout. School factors, such as peer relationships (Egger et al., 2003), teacher–student rapport (Havik et al., 2014), and academic failure (Yahaya et al., 2010) may be related to school refusal regardless of individual and family risk factors. Interventions that include schools are generally effective in areas of anxiety (Masia-Warner et al., 2005; Neil & Christensen, 2009) and positive youth development (Catalano et al., 2002) among other outcomes. Chu et al. (2019) not only highlighted the importance of partnering with schools in developing a screening tool to detect early signs of school refusal, but also noted school stakeholder participation as a limitation and the need for the school’s involvement in sustained delivery of services. Therefore, it is critical to understand effective aspects, if any, of school involvement on how to provide services to address school refusal and how to best partner with school personnel.

The purpose of this systematic review is to critically review interventions to address school refusal that include some school involvement to determine whether these interventions worked and to identify key characteristics related to the school’s involvement. School involvement includes utilizing personnel (e.g., administrators, teachers, or school social workers) as an integral aspect of the treatment plan through collaboration in the form of training; individual and group treatment provided in the school setting; as well as universal, schoolwide curriculum to address anxiety-related stressors that may lead to school refusal. Multidisciplinary teams to address school refusal ensure youth receive their education with proper student support services including mental health and academic supports (Chu et al., 2019); however, the involvement of a multisystem family–school–community collaboration in prevention and early intervention is costly and often difficult to maintain although essential to effective outcomes (Tonge & Silverman, 2019). Overall, research posits the significant role of schools in addressing school refusal (Havik et al., 2015); however, the details regarding the role and specifics to effectively deliver services in schools are lacking.

METHOD

Eligibility Criteria

Eligibility criteria (see Table 1) included English language studies with interventions delivered in high school settings (i.e., grades 9 through 12). Once the screening and full text review were completed, it was determined that few studies delivered the intervention in the high school setting and, therefore, we

agreed to broaden the criteria to include studies that integrated an intervention with any school involvement (e.g., meetings, phone consultations); these criteria were noticeably variable in how the schools were involved. Targeted outcomes focused on chronic absenteeism related to school refusal/avoidance, school anxiety, school phobia, and/or emotional distress. For the purpose of this review, we excluded studies that focused on chronic absenteeism related to truancy (i.e., non-anxiety-based absenteeism) and/or conduct disorders. We restricted the sample size to high school–age students (i.e., ages 13–18) because the literature highlighted school refusal as particularly prevalent in high school, in comparison with the middle school and elementary school cohorts (Stickney & Miltenberger, 1998). More specifically, school refusal was salient during the first two years of high school (Honjo et al., 2003; McShane et al., 2001; Nishida et al., 2004). Overall, the frequency of school refusal among high school students indicated a strong need to focus on school refusal interventions during this stage.

Data Source and Search Strategy

We conducted searches in the MEDLINE database, Embase, PsycInfo, ERIC, Academic Search Premier, Google Scholar, Web of Science, Grey Literature, and Education Research Complete (with date range of January 1990 to November 2018). Search terms used included: (school refusal OR school phobia OR truan* OR school anxiety OR school absen* OR school adj*) AND (evaluation* OR intervention* OR treatment* OR outcome* OR program*) AND (school based OR school health services OR high school). We also conducted a review with library specialists to filter terms and select ones that aligned with purpose of this specific review. In addition, references of relevant articles were examined for applicable studies and allowed us to discover an article that met our eligibility criteria from 1984.

Study Selection

The abstracts or full text articles from the searches were independently reviewed and received votes from two of the five reviewers (coauthors Fernandes, Kanno, Pendergrass Boomer, Hieftje, and Fiellin) via Covidence (Covidence, 2018), a web-based software platform that serves as a tool to streamline citation screening for systematic reviews. Covidence was used to minimize bias and present reliable evidence (Kellermeyer et al., 2018). In the

Table 1: Eligibility Criteria

Inclusion Criteria	Exclusion Criteria
English language studies	Non-English language studies
Study design: <ul style="list-style-type: none"> • Experimental/quasiexperimental design • Observational studies • Qualitative, quantitative, and mixed-methods studies 	Study design: <ul style="list-style-type: none"> • None
Study setting: <ul style="list-style-type: none"> • Ideally, provided in high school setting. If not delivered, a component of intervention/protocol/program delivered in collaboration with school setting • School-based component present 	Study setting: <ul style="list-style-type: none"> • Clinical settings • Any setting other than a school setting for the general population of students
Types of interventions/protocols/programs: <ul style="list-style-type: none"> • Study includes an intervention • Targeted outcome of study includes chronic absenteeism in schools related to school refusal/avoidance, school anxiety, school phobia, emotional distress • Includes a school-based component 	Types of interventions/protocols/programs: <ul style="list-style-type: none"> • If no intervention was noted in study • Targeted at truancy or conduct disorders (e.g., disobedient behaviors) • Targeted at other issues related to health or risky behavioral outcomes (e.g., asthma, pregnancy) and unrelated to emotional distress or mental health
Types of participants: <ul style="list-style-type: none"> • Targeted at high school-age youth in grades 9–12 (13–18 years old) 	Types of participants: <ul style="list-style-type: none"> • Interventions/protocols/programs targeted at elementary and middle school students: younger than 13 or older than 18
Types of papers: <ul style="list-style-type: none"> • Peer-reviewed journals 	Types of papers: <ul style="list-style-type: none"> • Dissertations • Handbooks • Books and chapters

event of a conflict, two reviewers (Fernandes and Kannoth) discussed with a third reviewer (Pendergrass Boomer) until consensus was reached.

Data Extraction

The extraction form was first piloted by two reviewers (Fernandes and Kannoth) using one article. Each section was discussed for thorough competency in extracting. The two reviewers (Fernandes and Kannoth) evaluated the remaining articles independently and then met to discuss their findings in evaluating the study sample, study setting, study design, description of intervention, description of school involvement, outcomes measured, and results (see [Table 2](#) for a summary of included studies). Any discrepancies were discussed with a third reviewer (Pendergrass Boomer).

Quality Appraisal

Two reviewers (Fernandes and Kannoth) evaluated the methodological quality and provided a score using the Quality Appraisal Tool ([Downs & Black, 1998](#)). Any discrepancies were discussed with a third reviewer (Fiellin). As a 10-point scale, the Quality Appraisal Tool ([Downs & Black, 1998](#)) assesses external validity, comparability, and exposure/outcome and determines quality appraisal. Studies with a score of 8 or above were considered high quality; studies with a score of 5 or 6 were considered moderate quality; studies with a score of 4 or less were considered low quality.

We followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) statement ([Moher et al., 2009](#)) for this systematic review, and registered our protocol through PROSPERO (ID: CRD42018107015).

Table 2: Summary of Included Studies

Study Citation	Sample Size	Study Design	Intervention	Description of School Involvement	Outcome
Anderson et al. (1998)	1	Quasiexperimental case study	CBT, including clinicians administering 7 sessions with adolescent, 7 sessions with parents, and meetings with school personnel over the course of 3 weeks.	The school component included the consultation and involvement of the school welfare coordinator, a role within the school, who assisted in a behavior management plan as well as social engineering (i.e., establishing a buddy system).	<i>Primary:</i> school attendance <i>Secondary:</i> fear, anxiety, depression, coping behaviors
Blagg & Yule (1984)	66	Quasiexperimental design	The sample included adolescents between the ages of 11 and 16. One group ($n = 30$) received BTA, one group ($n = 16$) received hospitalization; one group ($n = 20$) received home tutoring with psychotherapy. Clinicians administered BTA, which included (a) detailed understanding of child's problems; (b) discussion of child, parent, and teacher concerns; (c) contingency plans to ensure maintenance; (d) in vivo flooding; and (e) follow-up.	School personnel and parents determined course of action and plan for follow-up to evaluate BTA intervention effectiveness.	<i>Primary:</i> school attendance <i>Secondary:</i> personality, self-esteem, and behavioral ratings
Froiland (2011)	1	Quasiexperimental case study	Response to Intervention training included cognitive modeling, positive self-talk, role playing with the use of the student's self-monitoring sheet, and perspective taking.	The intervention was provided by the school psychologist. The school component involved the school counselor tracking student's weekly attendance rates.	<i>Primary:</i> school attendance <i>Secondary:</i> depression, anxiety
Heyne et al. (2011)	20	Quasiexperimental design	The sample included adolescents between the ages of 11 and 17. A manualized and modular CBT through the school program was implemented with adolescent, parents, and school staff. Clinicians provided 10–14 sessions with adolescent and 10–14 sessions with parents.	Two school-based meetings were held.	<i>Primary:</i> school attendance, school-related fear, anxiety <i>Secondary:</i> depression, internalizing problems

(Continued)

Table 2: Summary of Included Studies (Continued)

Study Citation	Sample Size	Study Design	Intervention	Description of School Involvement	Outcome
King et al. (1998)	34	Randomized controlled trial	The study sample included students ages 5–15. Students were randomized to a CBT program delivered over the course of 4 weeks by 3 non-school-based therapists (i.e., registered psychologists) at an outpatient clinic; the other group was a waiting-list control condition.	One meeting was held with teachers at school to discuss treatment plan and role of teachers in improving school attendance.	<i>Primary:</i> School attendance <i>Secondary:</i> child self-report of emotional distress and coping, caregiver reports on emotional and behavioral problems, clinician ratings of global functioning
Last et al. (1998)	56	Randomized controlled trial	Adolescents were randomized either to 12 weeks of CBT, in which clinicians delivered graduated in vivo exposure and coping self-statement training, or to 12 weeks of educational support therapy, in which clinicians provided a combination of educational presentations and supportive psychotherapy in which adolescents are encouraged to talk about their fears and learn to distinguish between fear, anxiety, and phobias.	Therapist maintains telephone contact with a “school contact person” (e.g., school counselor, teacher) who serves as on-site behavior therapist.	<i>Primary:</i> school attendance <i>Secondary:</i> anxiety, depressive symptomatology
Maeda et al. (2012)	1	Quasiexperimental case study	Clinicians use school-based intensive exposure therapy and guide parents, school officials, and school counselors to consecutively escort adolescent to school for 18 weeks.	School staff involved in escorting student to school and train staff.	<i>Primary:</i> School attendance
Maric et al. (2013)	19	Quasiexperimental design	Clinicians delivered manualized and modular CBT intervention in 10–14 sessions with adolescent and 10–14 sessions with parents.	Two school-based meetings delivered to school staff.	<i>Primary:</i> School attendance, school-related fear, anxiety <i>Secondary:</i> Depression, internalizing problems
Reissner et al. (2015)	112	Randomized controlled trial	The study sample was randomized to manual-based multimodal treatment, in which CBT is targeted, or treatment as usual consisting of outpatient therapy. Average treatment time span was 23 weeks.	Delivered in the form of case conferences, modules on school-related counseling with a focus on giving advice on school career/education, accompanying students to classroom, and providing advice to teachers/school staff.	<i>Primary:</i> School attendance <i>Secondary:</i> Severity of anxiety and depressive symptoms, self-efficacy, quality of family life
Tolin et al. (2009)	4	Quasiexperimental design	The study sample included male adolescents, aged 13–16. Clinician delivered CBT with the adolescent, parent training sessions, or a combination of these methods within a 15-session intensive format over a 3-week period.	Guidance counselors and school personnel assisted with graded exposure to school. Consulted with school staff by phone.	<i>Primary:</i> School attendance <i>Secondary:</i> Anxiety, depressive symptomatology

Notes: CBT = cognitive-behavioral therapy; TA = behavioral treatment approach.

RESULTS

Search Results

After screening and review, the online searches yielded 118 studies (Figure 1). After extractions, 10 articles met the inclusion criteria (see Table 2). The diversity of research designs and heterogeneous descriptions of school involvement precluded meta-analysis (Blettner et al., 1999).

Description of Included Studies

Study characteristics are summarized in Table 2. All studies were peer-reviewed. Additionally, our goal was to identify interventions conducted with some school involvement. Given the limited number of interventions with some school involvement for school refusal (initially five in total), we expanded our criteria to include studies that included even the slightest involvement of schools. Two investigators (Fernandes and Kanoth) revisited and reviewed all excluded studies due to setting to see if any studies implemented an intervention with any school involvement and whether these studies should be included. Five studies were then added to complete the extraction and quality appraisal steps for a total of 10 included studies.

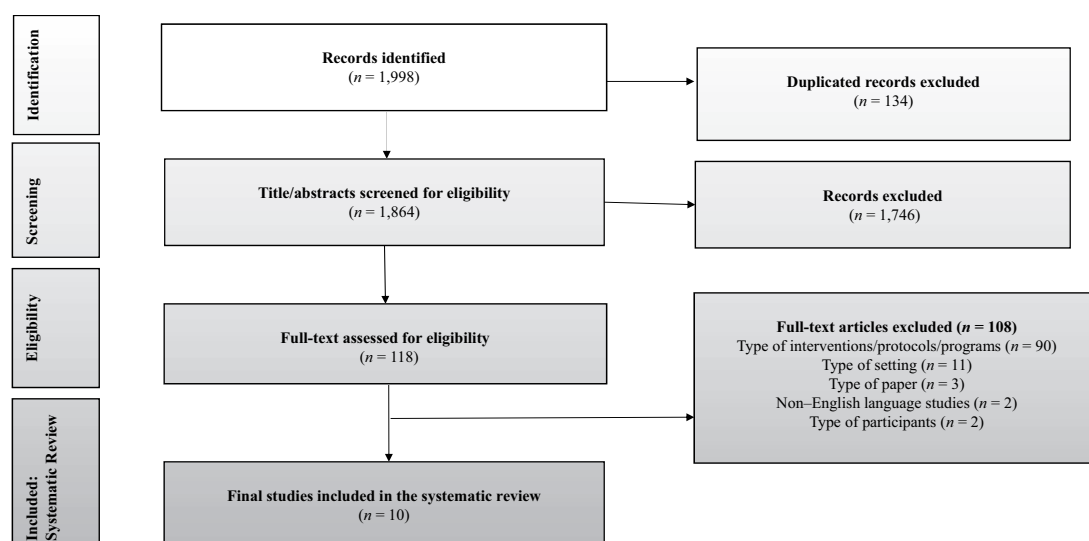
Study Design and Sample Size

Three studies conducted a randomized controlled trial (RCT), although all were conducted with small

sample sizes (King et al., 1998; Last et al., 1998; Reissner et al., 2015). One was conducted with 34 students between the ages of five and 15 who experienced school refusal (King et al., 1998). Students were randomized to a cognitive-behavioral therapy (CBT) program delivered over the course of four weeks by three non-school-based therapists (e.g., registered psychologists) at an outpatient clinic; the other group was a waiting-list control condition. The second of the three RCT studies was conducted with 112 adolescents who experienced school refusal (Reissner et al., 2015). Adolescents were randomized to manual-based treatment using techniques of CBT or treatment-as-usual (in which adolescents received outpatient therapy only). The third RCT study was conducted with 56 youth between the ages of six and 17 years who were randomized to 12 weeks of CBT or an attention-placebo control condition (Last et al., 1998).

Three studies relied on a quasiexperimental design including a comparative study that was conducted with 66 participants between the ages of 11 and 16 in which one group ($n = 30$) received behavioral treatment approach, one group ($n = 16$) received hospitalization, and one group ($n = 20$) received home tutoring with psychotherapy (Blagg & Yule, 1984). Another nonrandomized quasiexperimental study was conducted with 20 adolescents between the ages of 11 and 17 and demonstrated medium to

Figure 1: Flowchart Documenting the Article Selection Process



large effect sizes in primary outcomes (Heyne et al., 2011). As part of the aforementioned broader study investigating the efficacy of an intervention (Heyne et al., 2011), a quasiexperimental design was conducted with 19 adolescents who were assessed after completing the same intervention to identify the role of self-efficacy in mediating outcomes in CBT for anxiety-based school refusal (Maric et al., 2013).

Four studies from the 10 identified were quasiexperimental case studies and included an insignificant sample size. All case studies included a sample with fewer than five participants: two with one student (Anderson et al., 1998; Maeda et al., 2012), one with two cases (Froiland, 2011), and one with four cases (Tolin et al., 2009). In the Froiland (2011) study, one case study observed a student who was diagnosed with ADHD and a reading disorder (unrelated to school refusal); however, the other case observed a 10th grade girl who was demonstrating school refusal and possibly symptoms of depression.

Interventions with Some School Involvement

To examine the role of the school, we included all studies that had some school involvement as part of treatment and, intentionally, allowed that component to vary (e.g., one or two meetings with school personnel). For this reason, school involvement varied on a continuum, and there was little detail in describing the role of schools (see the Description of School Involvement column in Table 2). One study included weekly school modules in the setting of case conferences to teachers and staff while other studies solely included one meeting with school members throughout treatment. Therefore, the role of the school varied significantly from study to study and there were variations in how each study engaged schools in the treatment of school refusal (see Table 2). Overall, most studies did not effectively integrate members of the school as part of treatment. Three studies described their school involvement as one to two school meetings or phone calls (Heyne et al., 2011; King et al., 1998; Maric et al., 2013). Three described the role of an “on-site” person in the school to deliver some form of treatment (Anderson et al., 1998; Froiland, 2011; Last et al., 1998). One study noted that school personnel and parents collaborated to discuss a plan for the following: a detailed understanding of the child’s problem; a realistic discussion of child, parental, and

teacher concerns; and contingency plans to ensure sustainability of support with follow-up to evaluate effectiveness of intervention (Blagg & Yule, 1984). Two studies had school personnel assist with the intervention: In one study the school personnel guided parents, school officials, and school counselors to consecutively escort the adolescent with school refusal to school for 18 weeks (Maeda et al., 2012). In another, school personnel assisted in graded exposure to school (Tolin et al., 2009). Only one study explicitly reported that treatment may take place in school, but not required, as flexibility of setting was encouraged (Tolin et al., 2009). Additionally, only one study described the intervention to include regular support to the school through weekly case conferences with school staff providing advice as well as modules focused on organization and emotional issues (Reissner et al., 2015).

CBT as Intervention

CBT was the most common approach evaluated in the 10 studies we reviewed. In one study, youth who received CBT exhibited 100 percent school attendance for the two weeks following treatment with a noticeable decrease in fear of school at two-week follow-up (Anderson et al., 1998). Similarly, another study noted that CBT contributed to improvements in school attendance, school-related fear, anxiety, depression, overall functioning, and adolescent/parent self-efficacy (Heyne et al., 2011); these findings were also corroborated by a study that reported adolescents assigned to CBT exhibited a significant increase in school attendance, in comparison with adolescents assigned to a waiting-list control condition (King et al., 1998). Additionally, another study found that school-based intensive exposure therapy, another approach in CBT, for school refusal behavior was successful and indicated a return to full-time school for an adolescent school refusal case study (Maeda et al., 2012). Similarly, one study explored intensive (daily) CBT for school refusal and found that it also contributed to an increase in school attendance for three out of four cases (Tolin et al., 2009). Moreover, CBT was found to contribute to increases in school attendance and decreases in fear about school, via self-efficacy as a mediator (Maric et al., 2013). Overall, the findings from the 10 identified studies highlight the effectiveness of approaches incorporating CBT in treating school refusal with all 10 demonstrating improvement in

school attendance as the primary outcome. Two of the 10 studies noted similar gains using other approaches (Last et al., 1998; Reissner et al., 2015).

While these studies noted improvement in outcomes due to CBT techniques, two studies found approaches in CBT to be as effective as another form of treatment (Last et al., 1998; Reissner et al., 2015). One of these two studies noted improvements from a completely different approach known as educational support therapy—a modified treatment approach (Silverman, 1993). Both CBT and the educational support approach were shown to increase school attendance and reduce children's self-reported anxiety and depressive symptoms (Last et al., 1998). Likewise, it was argued that manual-based multimodal CBT appeared to be equally as effective as treatment-as-usual in improving class attendance (Reissner et al., 2015).

Quality Appraisal

Three of the 10 studies received a quality score of 8 or 9 out of 10 possible points, indicating high quality (King et al., 1998; Last et al., 1998; Reissner et al., 2015). Four studies received a 5 out of 10, indicating moderate quality (Blagg & Yule, 1984; Heyne et al., 2011; Maric et al., 2013; Tolin et al., 2009). There were three studies considered low quality with scores of 2 and 3 (Anderson et al., 1998; Downs & Black, 1998; Froiland, 2011; Maeda et al., 2012). The three studies with scores of 8 or 9 out of 10 received points for describing different intervention groups in external validation, describing the randomization to intervention groups in comparability, and obtaining all points in exposure/outcome; however, all three did not receive a point for describing the blinding of the comparability section and one of three did not adequately describe the representation of sample and adjustment for confounding variables. Of the four that received a score of 5, they did not describe a representative sample, the randomization, blinding, or an adjustment for confounding variables; however, the interventions were clearly described, there was a discussion on losses to follow-up/retention rate, and the studies described the statistical test used. Of the three studies that received a score of 2 and/or 3, all received a point for describing the intervention to be compared and the intervention as related to the outcome measure; only one of the three described the main outcome measures accurately.

DISCUSSION

This review reports on intervention studies that include some school involvement in addressing school refusal in high school-age adolescents. It is the first to summarize the findings of interventions studies with a focus on school involvement. Our findings highlight the vague description and mixed role of schools in addressing school refusal, even though school-based strategies are promising approaches (Conroy et al., 2022). As prior research suggests that school factors are closely connected to school refusal (Havik et al., 2014, 2015), school personnel play a critical role in prevention and may benefit from clarity around effective approaches; however, some educators do not believe they are equipped with knowledge and training to support student needs in this area (Walter et al., 2006). For this reason, strategies delivered using multitiered systems of support (i.e., evidence-based approaches that vary depending on student need) must be considered to address school refusal. Examples include improving school climate to enhance belonging (Cemalcilar, 2010); a school-wide social and emotional learning approach (Durlak et al., 2011); in-school personnel training in mental health literacy and providing aligned accommodations (Conroy et al., 2022); approaches in trauma-informed care (Devenney & O'Toole, 2021); and coordination of care for the child, family, school, and community (Francis et al., 2021). School social workers, specifically, are well positioned to deliver multitiered systems of support to address school refusal given their training (Raines et al., 2010). In fact, preventative social work programs hold promise by raising awareness and working with the student, families, and schools as well as highlighting the importance of culturally responsive approaches (Elsherbiny, 2017). Better connecting sociological systems (e.g., the child–family–school–community system) are key to providing an effective and comprehensive approach. Furthermore, we recognize a vast array of interventions related to school involvement (especially as we set a very low bar for the definition of involvement). This review suggests that more school involvement in delivering services may be better, yet additional research is needed to better understand factors that may contribute to a more robust school involvement.

While we did not include truancy (i.e., non-anxiety-based absenteeism) in the definition of school refusal, we recognize that some students who are deemed truant may, in fact, be experiencing

school refusal due to emotional distress. Before an assessment is made, students who experience school refusal may be referred to local authorities due to “compulsory attendance” or truancy laws; however, to date, no data support policy effectiveness, and the label of truancy disproportionately impacts students from marginalized communities (Weathers et al., 2021; Williams, 2022), hence the need for more research and clarity in addressing school absenteeism overall.

Limitations

Several limitations in the current review should be noted. First, this systematic review was conducted in late 2018 and includes articles spanning almost 40 years of research on the topic. However, this systematic review highlights the enormous gap and critical need to learn how to better partner with schools and address barriers to developing these partnerships. Through these partnerships that are a symbiotic relationship, researchers will be able to better understand and detail the role and best practices to approaches in partnering with schools to address school refusal. Supporting schools with evidence-based interventions and approaches, then providing and/or cocreating detailed descriptions on how to intervene early, will be critical for the translation of research to practice. Second, given the heterogenous findings of school involvement, our systematic review provides a narrative review. While this approach provided a useful overview of the literature, it was also susceptible to publication bias although we followed a detailed protocol. Last, these findings should be interpreted with caution given the majority of quality appraisal ratings of these studies received a low or moderate score, indicating there have been few scientifically rigorous evaluations of interventions.

Implications and Conclusion

The COVID-19 pandemic increased social isolation among school-age youth. Given the association between social isolation and school refusal among high school-age youth (Havik et al., 2015), school refusal may rise as a result of COVID-19. The longer a student stays out of school, the more engrained the adverse effects of the behavior become and the more challenging it is for the student to return (Blagg & Yule, 1984; Donovan & Spence, 2000; Hersov, 1980; Martens et al., 2018; Reid, 2006). Innovative, technology-based approaches may provide a viable

option to meet this immediate need of schools as well as deliver individual interventions. Cultural considerations must be central to the development of these interventions. **CS**

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