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Unlearning school attendance and its problems: Moving from historical categories to postmodern dimensions

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School attendance and its problems have been a focus of myriad stakeholders for over a century, which has led both to important advancements in this area as well as compartmentalized categorical approaches to explain at least part of the vast ecology of these issues. Recent seismic events and changes, however, have provided a unique opportunity to unlearn calcified notions of school attendance and its problems and to consider more inclusive paradigms. This article focuses on several categorical approaches that have been historically a focus of research, health-based clinical work, and educational and social policy in this area: defining school attendance problems, demarcating school attendance problems, subtyping school attendance problems, risk and protective factors for school attendance/problems, interventions for school attendance problems, and school completion. For each area, alternative dimensional approaches are discussed that are emerging from different disciplines and that may provide additional flexibility and comprehensiveness for avenues of endeavor relevant to a postmodern era. The article concludes with a call to abandon historical, discipline-specific, categorical silos in favor of a spectrum of postmodern, multidisciplinary systemic-analytic collaborations and shared alliances to better conceptualize and manage the full ecology of school attendance and its problems.

KEYWORDS

school attendance, school absenteeism, chronic absenteeism, truancy, unlearning, categories, dimensions

Introduction

School attendance and school attendance problems have been a focus of research, health-based clinical work, and educational and social policy for over a century (e.g., Kline, 1897; Klein et al., 2022). Such extended historical focus is due in part to the fact that school attendance is associated with myriad positive effects

in key developmental domains (e.g., academic, social) for children and adolescents and that school attendance problems (absenteeism) are associated with myriad negative effects in these and other long-term (e.g., economic and health) domains (McFarland et al., 2018; Ansari et al., 2020). Such extended historical focus is also due in part to the fact that school attendance problems have long been recognized as highly complex and seemingly intractable phenomena (e.g., Broadwin, 1932; Eaton, 1979; Lenhoff and Pogodzinski, 2018).

Professionals from many different disciplines and perspectives have thus historically addressed school attendance/problems (SA/Ps) and adopted various frameworks to conceptualize these multifaceted issues. Key disciplines and perspectives include those from criminal justice, economics, education, medicine, policy, psychology, and social work, among many others. Key frameworks include those from *systemic* approaches, which tend to focus on overarching contexts and structural concerns, as well as *analytic* approaches, which tend to focus on specific contexts and individual concerns (Kearney, 2021). An important consequence of these varied approaches, however, has been gravitation toward compartmentalized efforts to try to best conceptualize and manage at least part of the vast ecology of SA/Ps. Such compartmentalization has been manifested most clearly, historically, by the use of discrete and sometimes calcified categorical styles regarding the conceptualization and management of SA/Ps (Kearney et al., 2019a).

Categorical approaches to conceptualizing and managing phenomena are often characterized by defined groups or entities that are distinguished from one another in specific, static, and qualitatively different ways (Coghill and Sonuga-Barke, 2012). These entities are ideally represented by clearly separate features and mechanisms (Owen, 2014). Natural scientific disciplines such as zoology often rely on well-defined categorical systems. Categorical approaches can have the advantages of clearly identifying the presence or absence of a phenomenon, communicating specific features of different subtypes, providing reliable means for potential evaluative measures, and facilitating practical decision-making processes (Esterberg and Compton, 2009). Categorical approaches can struggle to account for important sources of variance, however, and may apply less well to nebulous, heterogeneous, and asymmetrical phenomena (Hudziak et al., 2007). As mentioned, categorical systems have been historically applied in sundry though limited ways to help understand at least part of the vast ecology of SA/Ps, as is described in later sections.

Numerous seismic shifts in key human and societal elements and processes in recent years provide a unique opportunity to consider new paradigms with respect to SA/Ps. Health crises and advances in technology have compelled individuals and educational entities to communicate and share information differently, and across multiple settings (Huck and Zhang, 2021). In addition, changes in the nature and timeline of

child education worldwide, away from memorization and standardization and toward a more personalized skills-based approach, even into emerging adulthood, allow for greater flexibility with respect to school curricula and school completion decisions (World Economic Forum, 2020). Furthermore, a renewed and intense focus on racial equity within various educational institutions is leading to better recognition of the fact that historical and biased school-based processes such as exclusionary discipline (e.g., suspension, expulsion, and arrests) as well as broader community processes outside of school contribute to SA/Ps and that such processes can actually be specific targets for intervention (Childs and Grooms, 2018). As various stakeholders navigate and adapt to these dynamic and fluid evolutionary changes, the potential exists for exponentially expanding the synthesis of systemic and analytic approaches to SA/Ps and implementing more inclusive conceptualization and management strategies for this complex issue. In essence, a special opportunity has arisen to unlearn traditional notions surrounding school attendance and school absenteeism.

One potential avenue for this unlearning process is greater consideration of dimensional approaches with respect to SA/Ps. In contrast to categorical approaches, dimensional approaches to conceptualizing and managing phenomena are often characterized by components on spectra or continua (Kotov et al., 2017). These components are typically general, fluid, and quantitatively different from one another (De Boeck et al., 2005). Social scientific disciplines such as sociology often rely on dimensional systems. Dimensional approaches can have the advantages of introducing flexibility to the notion of presence or absence of a phenomenon, communicating a fuller range of essential information, providing valid means to generate evaluative profiles, and allowing greater stakeholder input into decision-making processes (Narrow and Kuhl, 2011). Dimensional approaches can have drawbacks, however, that could include an excessive number of components on a given spectrum or lack of consensus regarding the components across different theoretical perspectives (Widakowich et al., 2012). Still, the malleability of dimensional approaches may be appealing for an unlearning process regarding SA/Ps, phenomena that differ tremendously in scope and nature across jurisdictions and geographical regions (Kearney et al., 2019b).

Dimensional systems may be a particularly useful mechanism for unlearning, conceptualizing, and managing SA/Ps in a postmodern era that will continue to be marked by the seismic and rapid changes noted earlier. The purpose of this article is to outline and critique various historical categorical approaches to conceptualizing and managing SA/Ps and to provide alternative dimensional approaches that are emerging from different disciplines and that can be used to better inform categorical approaches. Categorical approaches include those more narrow (e.g., subtypes) as well as those more broad (e.g., school completion) in nature. Areas of emphasis include defining school attendance problems, demarcating school

attendance problems, subtyping school attendance problems, risk and protective factors for school attendance/problems, interventions for school attendance problems, and school completion. The article concludes with a call to abandon historical, discipline-specific, categorical silos in favor of a spectrum of postmodern, multidisciplinary systemic-analytic collaborations, and shared alliances.

Defining school attendance problems

Historical categories

Perhaps the most fundamental historical *categorical* distinction with respect to SA/Ps is definition *via* a student's physical presence or absence in a particular physical school building on a particular day (Gentle-Genitty et al., 2020). This dichotomous metric is itself commonly used to differentiate categories such as non-problematic versus problematic absenteeism and to differentiate categories such as problematic absenteeism versus chronic absenteeism (see also next section). This metric is also commonly used in many countries to inform educational policy, early warning systems, and school-based interventions with respect to non-attendance, and is commonly used by researchers with respect to investigations of risk factors, developmental trajectories, and clinical interventions regarding school absenteeism (e.g., Karlberg et al., 2022). Physical presence or absence in a school building as a metric has several advantages such as feasibility, practicality, comparability across settings, amenability to a centralized data collection system, and applicability for assessment/evaluation and treatment/intervention purposes (Moodley et al., 2020).

Researchers and other stakeholders, however, recognize important limitations of this traditional definitional metric. School attendance data suffer from problems of reliability, construct validity, and integrity (Kearney and Childs, 2022). The data often differ across informant sources, ignore the many multifaceted aspects of school non-attendance, and are easily subject to corruption from caregivers and schools (Keppens et al., 2019; Gentle-Genitty et al., 2020). Overreliance on presence/absence from school also neglects the fact that many students worldwide now receive education in hybrid, home-based, and virtual formats where attendance is difficult to track (e.g., Childs et al., 2022; Havik and Ingul, 2022). In addition, presence/absence from school has been used historically by many educational and other entities for punitive purposes, particularly for minoritized students, by excluding from school those with other challenges (e.g., behavioral, academic; Mireles-Rios et al., 2020), by applying legal and other sanctions for absenteeism disproportionately to vulnerable populations (Conry and Richards, 2018), and by penalizing students who are late to school or who miss school for reasons outside of

their control (Chang, 2018). Presence/absence from school is also commonly framed as part of a deficit narrative that places substantial burden and blame on families to remediate school attendance problems even in cases where the problems are beyond their control (Martin et al., 2020; Kearney et al., 2022).

Postmodern dimensions

A *dimensional* perspective of SA/Ps in a postmodern era would increase focus on (1) broader and more flexible definitions of SA/Ps as well as (2) a continuum of school attendance problems based on degree of severity. With respect to *definition*, for example, Patrick and Chambers (2020) redefined SA/Ps as time on task, participation or evidence of student work, and competency-based attainment with demonstrations of knowledge and skill-building. Kearney (2021) redefined SA/Ps as involvement in teaching and learning practices that augments or subverts the prospect of school completion. With respect to a *continuum of school attendance problems based on degree of severity*, key components could include not only full-day absences but also premature departures from a school campus, partial attendance, skipped classes, tardiness, morning misbehaviors designed to miss school, school-based distress that interferes with social and academic performance, and other school attendance problems (Kearney, 2019). Related spectra can include collecting attendance data at multiple points during the day (and year) and reconfiguring definitions of attendance, especially for virtual learning, with respect to log-ins, number of hours per day, student-teacher interactions, completed assignments and timelines, and measures of achievement, competency, and mastery of skills and knowledge (National Forum on Education Statistics, 2021).

These reconceptualizations move away from an historical emphasis on physical location and toward dimensions of school engagement such as behavioral, cognitive, and emotional investment in academic achievement that could be informed by impairment (next section; Estévez et al., 2021). These reconceptualizations also allow for greater emphasis on a spectrum of personalized instructional formats and techniques that are part of many new educational experiences outside of a physical building. This spectrum can include its own blend of dimensions with respect to (1) in person; hybrid/lab-based; virtual learning; (2) synchronous and asynchronous learning; (3) service/experiential-based and community-based learning; and (4) educational advances related to new learning paradigms that could include, for example, artificial intelligence or augmented reality (Maas and Hughes, 2020). In addition, dimensional reconceptualizations for defining SA/Ps allow school personnel, health-based practitioners, researchers, and other stakeholders to leverage opportunities to glean valuable nuanced information about patterns of student non-attendance on an individual and grander scale (Mahoney, 2015;

Warne et al., 2020). The reconceptualizations also facilitate expanded growth metrics (e.g., learning environment climate and quality; academic achievement) for school accountability purposes and help synthesize systemic and analytic perspectives to SA/Ps (Bauer et al., 2018; Kearney et al., 2019a).

Demarcating school attendance problems

Historical categories

Another fundamental historical *categorical* distinction with respect to SA/Ps involves the use of demarcations, often based on frequency of physical school absence, to define or differentiate levels of absenteeism. Most relevant to this section is use of a cutoff (e.g., percentage of days absent) to demarcate a qualitative difference between (1) non-problematic and initially problematic absenteeism as well as (2) initially problematic absenteeism and chronic absenteeism. Those from an analytic perspective often emphasize the former distinction, especially when deciding whether a particular case of absenteeism has become clinically significant and in need of treatment (Maynard et al., 2018). Researchers from an analytic perspective of SA/Ps often utilize school attendance (physical presence/absence) as a primary outcome variable as well (Heyne et al., 2020). Those from a systemic perspective often emphasize the latter distinction, most commonly defining chronic absenteeism as 10% of school days missed (U.S. Department of Education Office of Civil Rights, 2016). In addition, various jurisdictions use specific numbers of days missed from school to delineate illicit truancy and thus some administrative or legal sanction or other response (Conry and Richards, 2018). Many educational agencies utilize this cutoff as well to meet requirements for accountability expectations (Jordan and Miller, 2017).

Problems with demarcations based on frequency of physical school absence intersect, of course, with the reliability, construct validity, and integrity problems noted earlier with respect to school attendance data. More specific to demarcations is the fact that little if any empirical data support a particular cutoff (Kirksey, 2019). In fact, little consensus is evident across analytic and systemic research studies with respect to what constitutes a clear distinction to determine problematic absenteeism and to determine chronic absenteeism. Machine learning approaches for large data sets instead reveal a wide range of demographic, family, academic, symptom, and other variables predictive of different levels of absenteeism severity (e.g., Skedgell and Kearney, 2018; Fornander and Kearney, 2019; Bacon and Kearney, 2020). In addition, cutoffs tend to minimize key differences between student groups and ignore more subtle differences; a dominant student group at a school may be largely present (e.g., 95%) whereas a minoritized group may be less present (e.g., 70%), but the overall school attendance

rate (90%) could be considered non-problematic and not in need of intervention (Gee, 2018). Other nuanced variables are minimized as well, particularly circumstances beyond a family's control such as transportation vulnerability and lack of safe routes to and within schools, as well as situations where school absence is an *adaptive* choice for a student (e.g., to support a family economically) (Birioukov, 2016; Pyne et al., 2021). In related fashion, cutoffs are typically used for punitive purposes and are not generally linked to specific restorative interventions, particularly for vulnerable students who must overcome multiple daily challenges simply to maintain semi-regular attendance (Hutt, 2018). In addition, students below a particular cutoff but who are still struggling academically or otherwise may be neglected altogether. Demarcations also fail to consider the fact that many students miss school but still function well academically due to other support systems (Henderson and Fantuzzo, 2022).

Postmodern dimensions

A *dimensional* perspective of SA/Ps in a postmodern era would focus on a more well-informed approach for a given case of school absenteeism that considers relevant contextual factors. One avenue to pursue in this regard involves degree of *functional impairment*. Functional impairment refers to “ways in which symptoms interfere with and reduce adequate performance of important and desired aspects of a child's life” (Rapee et al., 2012, p. 455). School attendance problems (“symptoms” in this case) can cause different levels of impairment for students that may be unrelated to absenteeism severity. Kearney (2022) outlined recommendations for functional impairment guidelines for this population that emphasized school, social, and family domains of functioning. With respect to the *school domain*, impairment from school attendance problems can depend on the timing of absences (potentially more impairing earlier in a school year, during critical evaluation periods, or during a particular grade), interference in academic competence (potentially more impairing if grades or academic skills are significantly affected), and administrative or legal action that impedes future attendance (potentially more impairing if a school delays academic/transportation assistance or uses exclusionary discipline for absenteeism). With respect to the *social domain*, impairment from school attendance problems can depend on interference with social competence (potentially more impairing if communication or emotional regulation skills erode), interference with interpersonal relationships (potentially more impairing if peer or teacher avoidance occurs), and enhanced risk of harm to others (potentially more impairing if greater antisocial or risky behavior occurs). With respect to the *family domain*, impairment from school attendance problems can depend on interference with daily functioning (potentially more impairing if transportation and daily routines are

disrupted), significant maladaptive changes in family dynamics (potentially more impairing if greater conflict occurs), and substantial cost to family members (potentially more impairing if caregivers must miss work or pay for child care or sanctions).

Researchers have generally linked variables such as timing of absences, family environment (e.g., conflict), and exclusionary discipline to greater impairment for students with school attendance problems (Olson, 2014; Mallett, 2016; Fornander and Kearney, 2019). More specifically, González and colleagues (González et al., 2019b) found that various aspects of functioning (school performance, peer relationships, family relationships) were inversely related to several different kinds of school attendance problems. In addition, González and colleagues (González et al., 2019a) examined different profiles of students, finding that students with fewer school attendance problems scored higher in school performance, peer relationships, family relationships, and house duties/self-care than students with greater school attendance problems. A key advantage of utilizing dimensions of impairment is that assumptions regarding the *cause* of impairment are minimized or eschewed altogether, thus helping to negate a deficit narrative by considering the possibility that, in many cases, external forces contribute substantially to school absenteeism (Childs and Scanlon, 2022). In addition, use of dimensions of impairment requires a greater focus on *attendance* rather than on absenteeism as well as better recognition of the fact that many students who face considerable challenges getting to school are resilient and still function well (Gentle-Genitty et al., 2020). The practice of punishing children for attending school may thus be unlearned in a postmodern era.

Subtyping school attendance problems

Historical categories

A related fundamental historical *categorical* distinction with respect to SA/Ps involves subtypes of school attendance problems generated from both systemic and analytic perspectives. A common goal of developing subtypes is to explicate different causes of, or reasons for, school attendance problems, ideally for appropriate intervention responses. From a systemic perspective, broad categories of school absence have been proposed with respect to disciplinary action, family activity, family emergency/bereavement, illness, legal/judicial requirement, non-instructional activity, religious observation, skipping school, student employment, unavailable transportation, and unknown reasons (National Forum on Educational Statistics, 2018). Another commonly used category of school absence involves excused/unexcused absences. This dichotomy (also sometimes noted as involuntary/voluntary, authorized/unauthorized, or unavoidable/avoidable) generally

refers to (a) “legitimate” instances of school non-attendance (e.g., illness, weather, parent consent) not necessarily under child/family member control and (b) “illegitimate” instances of school non-attendance (e.g., unlawful, willful absences) that are not administratively excused (Birioukov, 2016; Rocque et al., 2017; Lee et al., 2020). Note that substantial variation exists in how this dichotomy is defined.

From an analytic perspective, numerous distinctions for SA/Ps based on clinical subtypes and psychiatric diagnoses have been developed historically (e.g., Coolidge et al., 1957; Finning et al., 2022). Common clinical subtypes for this population include school refusal (neurotic or anxiety-based absenteeism), truancy (delinquent-based absenteeism), school withdrawal (caregiver-instigated absenteeism), and school exclusion (school-instigated absenteeism), among many others (e.g., Havik et al., 2015). Common psychiatric diagnoses used to categorize different types of school attendance problems include phobic (fearfulness), mood (depression), anxiety (especially generalized, separation, social), and disruptive behavior (conduct, oppositional defiant) disorders, sometimes whether comorbid with one another or not (Bernstein and Garfinkel, 1986; Atkinson et al., 1989; Last and Strauss, 1990). Difficulties attending school remain ensconced as a core symptom of separation anxiety and conduct disorders in current psychiatric taxonomies (World Health Organization, 2019; American Psychiatric Association, 2022). Analytic categorical distinctions for SA/Ps are often supposedly marked by the presence of a key feature (e.g., anxiety, certain kind of comorbidity), the absence of a key feature (e.g., antisocial behavior), or a forced choice option (e.g., identified instigator of a school attendance problem) that makes each one, ostensibly, a unique entity amenable to a personalized treatment strategy (e.g., Berg et al., 1969; Heyne et al., 2019).

Systemic, clinical, and psychiatric subtypes for school attendance problems generally lack strong psychometric support with respect to reliability and validity and/or cover only limited percentages of SA/P cases (Kearney, 2001, 2021). This is primarily due to the heterogeneous nature of school attendance problems that are typically characterized by considerable fluidity, comorbidity, and opacity (Chen et al., 2016). Linking various categorical subtypes to differential, prescriptive, empirically-supported interventions or treatments remains an elusive task as well (Elliot and Place, 2019). In addition, categorical subtypes are not uniformly used across disciplines and can be confusing (e.g., school “refusal” as anxiety rather than oppositional based) for lay persons, school personnel, and other stakeholders (Mauro and Machell, 2019; Brault et al., 2022). Subtypes for school attendance problems can also generate pernicious and stigmatizing labels for students and their families. Martin et al. (2020) found that school officials often pejoratively viewed vulnerable absentee students as truant rather than pursue a more accurate mental health-based conceptualization and remediation process. This applies to

the use of the term “unexcused absences” as well, which can erroneously and disparagingly signal deviance and which is not always indicative of student achievement problems (Donat et al., 2018; Klein et al., 2022). Unexcused absences also tend to be disproportionately and unfairly assigned to vulnerable student groups (McNeely et al., 2021). Traditional categories of school attendance problems also convey little nuanced information and often fail to provide information about the complex root causes of school absenteeism in a given community (Patnode et al., 2018; Childs and Lofton, 2021).

Postmodern dimensions

A *dimensional* perspective of SA/Ps in a postmodern era would focus on empirically-based and nuanced *profiles* to better inform categories and allow for more localized and complete information that can be used optimally for targeted intervention purposes. At a systemic level, such profiles could be used for a root cause analysis of school absenteeism problems, particularly in communities with high levels of chronic absenteeism (Lenhoff et al., 2020). Algorithm-based modeling, for example, has been used to pinpoint a profile of factors (e.g., residential movement) closely related to chronic absenteeism in a given community to identify targets for immediate intervention (e.g., more timely school reassignments) (Deitrick et al., 2015). Others have utilized large-scale data analytic strategies to identify profiles of community-specific, absenteeism-related factors such as food insecurity, exclusionary discipline, and use of emergency medical services that can translate into interventions such as school-based meals, arrest and court diversion, and universal screening for mental health and substance use problems (Baldwin et al., 2015; Chu and Ready, 2018; Coughenour et al., 2021). Profiles more specific to certain schools, classrooms, and student groups can be generated as well. Ideally, these types of analyses would also allow for more stable early warning systems that are valid for particular student groups in a given community and thus lead to more immediate and targeted intervention as needed (Newman et al., 2019). Information to be fed into these derived profiles could be dimensional in nature as well, including continua components within existing categories (e.g., illness severity). Such information will also require a focus on *disaggregated* data from multiple agencies and systems to assess for individual variation and clarify underlying causes and disparities regarding school absenteeism (Dougherty and Childs, 2019; Teasley and Homer, 2020).

At an analytic level, dimensional clinical profiles may be useful for informing broad categories. González and colleagues have been a leader in this approach, having investigated numerous clinical profiles of school attendance problems based on social and school anxiety, self-efficacy, self-esteem, and negative affect, among other variables (e.g., González et al., 2019b, 2020, 2021). In addition, Kearney and colleagues have

developed functional-based clinical profiles of school attendance problems based on the relative strength of maintaining factors related to negative and positive reinforcement (e.g., Kearney, 2007, 2019). González and Kearney have combined these approaches as well, identifying profiles of clinical symptoms linked to different functional conditions (e.g., González et al., 2018). These profiles have the advantage of providing detailed information for clinicians and others that address this population *via* efficient assessment and prescriptive treatment practices (Maynard et al., 2018). In addition, the data analytic strategies used in these studies (e.g., latent class analysis, structural equation modeling) allow for similar examination of clinical data across different geographical regions to identify culture-specific profiles (e.g., Díaz-Herrero et al., 2018). Such clinical profiles can also reduce the negative effects of labeling, though care must be taken to fully consider possible broader contextual variables (e.g., transportation vulnerability) so as not to assign unwarranted blame and burden on students and their families with a particular school attendance problem. Clinical profiles must not contribute unfairly to a deficit narrative in this regard (Kearney and Childs, 2021). Clinical profiles must also be considered within a dimensional spectrum of self-corrective, acute, and chronic school attendance problems; such profiles tend to be more salient and appropriate for acute (i.e., less than one calendar year) school attendance problems (Kearney and Albano, 2018).

Risk and protective factors for school attendance/problems

Historical categories

Researchers from systemic and analytic perspectives have long investigated risk factors for school attendance problems as well as factors that may protect against such problems. Risk and protective factors have been historically examined in categorical and circumscribed fashion, often with a separate focus on child, parent, family, peer, school, community/neighborhood, or macroeconomic and other broader factors (Gubbels et al., 2019). *Examples of risk factors:* developmental disorder, poor health, substance use (child-based); ineffective caregiving style, low school involvement, psychopathology (parent-based); conflict, residential movement, stressful transitions (family-based); low social support; proximity to deviant peers, victimization (peer-based); exclusionary discipline, lack of safety and academic support, poor climate (school-based); lack of access to care, school closures, neighborhood violence (community-based); education deprivation, migration, structural economic inequalities and racism (broader-based) see Kearney (2016); Gottfried and Hutt (2019). Conversely, *protective factors* can include those at student (e.g., academic engagement), parent (e.g., involvement in education), peer (e.g., positive

norms), school (e.g., positive student-teacher relationships), and community (e.g., participation in service programs) levels (Zaff et al., 2017).

Stakeholders from various perspectives tend to concentrate on one set (category) of risk (and versus protective) factors for school attendance problems (Kearney, 2021; Singer et al., 2021). A consequence of this approach is a bifurcated view of SA/Ps that tends to be narrowed to categories of *either* (1) broad, systemic factors, especially for geographical areas with very high school absenteeism rates, with a corresponding de-emphasis on proximal variables such as parental involvement, *or* (2) granular, analytic factors, especially for individual cases of school attendance problems, with a corresponding de-emphasis on distal variables such as structural economic inequalities. The plethora of disciplines investigating SA/Ps and the need to help explain at least part of the vast ecology of SA/Ps makes this forked approach understandable from a historical viewpoint. Unfortunately, such an approach impedes grander theories of SA/Ps that consider the entire ecology relevant to this population. As such, evaluation and intervention avenues can be restricted as well (Nation et al., 2020). In related fashion, “blame” for school attendance problems can fall disproportionately either on societal systems or on students and their families, and typically the latter (Baskerville, 2021; Grooms and Bohorquez, 2021).

Postmodern dimensions

A *dimensional* perspective of SA/Ps in a postmodern era moves beyond siloed approaches and focuses on spectra of risk and protective factors that could include linkages of (1) upstream and downstream factors as part of developmental cascade models and/or (2) various ecological levels examined concurrently as part of proximal-distal models. Developmental cascade models involve spectra of upstream risk and protective factors linked to downstream risk and protective factors that may lead to (or prevent) a particular outcome (Hentges et al., 2019). A sample risk cascade for SA/Ps may include early upstream factors (e.g., poverty, lack of access to preschool or psychoeducational assessment services) intersecting with later downstream factors (e.g., residential relocation, lack of home- and school-based supports, peer victimization) that create the stage for possible academic, social, and behavioral problems and/or school disengagement that can elevate risk for school attendance problems. Protective variables in this cascade (e.g., early intervention, tutoring) could help blunt the possibility of later school attendance problems. In similar fashion, ecological models along the classic Bronfenbrenner approach involve a spectrum of relationships involving microsystem (immediate, proximal), mesosystem (interconnections among microsystems), exosystem (interconnections among social systems), macrosystem (geographical, cultural, and community

contexts), and chronosystem (transitions over time) influences that simultaneously impact a particular phenomenon (Hertler et al., 2018). A sample ecological model of SA/Ps could involve concurrent considerations of caregiver responses to a child’s behavior and school attendance problems (microsystem), parent-school official interactions to address these issues (mesosystem), school climate, safety, and educational policies (exosystem), structural economic inequalities, transportation challenges, and racism (macrosystem), and changes in these systems as a child moves into middle and high school (chronosystem). Protective variables in this model (e.g., mentoring, housing support) could occur at each level of influence as well. In these approaches, any discussion of SA/Ps thus requires an examination of *both* systemic and analytic variables.

Longitudinal studies can inform cascade models of SA/Ps. Such studies have revealed patterns as children move from preschool to elementary school (e.g., lower levels of school readiness to chronic absenteeism; Ehrlich et al., 2018); from elementary school to middle school (e.g., increased school disengagement and declining grades to absenteeism; Schoenberger, 2012); and from middle school to high school (e.g., increased psychopathology to absenteeism; Wood et al., 2017). Others have examined longitudinal patterns for SA/Ps with respect to disabilities, emotional difficulties, and academic achievement, among other variables (e.g., Chen et al., 2016; Smerillo et al., 2018; Panayiotou et al., 2021). In addition, application of an ecological system model to SA/Ps has burgeoned in recent years. Such application has included student agency, health, and mobility (Stempel et al., 2017; Welsh, 2018; Kipp and Clark, 2021), school-community collaborations (Childs and Scanlon, 2022; Lenhoff and Singer, 2022), and intervention scope and fit (Sugrue et al., 2016; Melvin et al., 2019), among other areas.

Interventions for school attendance problems

Historical categories

Interventions to enhance school attendance and/or reduce school attendance problems have historically involved those directed either toward schools and their communities more generally *or* toward students and their families more specifically (Kearney, 2021; Eklund et al., 2022). *Systemic or school-based interventions* include broad strategies to improve climate, safety, health, physical/mental health support, and academic and life skills in addition to social services that can be facilitated at a school setting (Keppens and Spruyt, 2020). In addition, interventions have been crafted to address communities that surround schools with high chronic absenteeism rates, with a focus on food and housing

insecurity, transportation challenges, digital divides, and other barriers to school attendance (Montoya-Ávila et al., 2018). However, as mentioned earlier, many systemic, school-based “interventions” for school attendance problems tend to be punitive and not restorative in nature (Weathers et al., 2021). *Analytic or student/family-based interventions* include cognitive-behavioral, contingency management, and family therapies to improve emotional and other mental disorders, caregiver responses, and problematic communication and problem-solving abilities that may be interfering with school attendance (Maynard et al., 2018). Interventions have also been crafted to address ancillary challenges that surround students and families with school attendance problems, with a focus on family-school relationships, academic assistance, psychoeducational assessment, and other targets (Smith et al., 2020).

As with risk and protective factors, researchers and other stakeholders tend to emphasize one categorical set of interventions for SA/Ps exclusive to the other set. School-based interventions, even if well-coordinated, tend to be broad-based and not always focused on individual attendance problems and unique circumstances (Gase et al., 2015). This is especially the case for already overburdened school districts (Balu and Ehrlich, 2018). In related fashion, many schools apply (or do not apply) encompassing or single-component interventions or sanctions (e.g., an automatic administrative or legal response) (Freeman and Simonsen, 2015). Conversely, student/family-based interventions, even if well-resourced, can be narrow-based and not always coordinated with school officials (Elliot and Place, 2019). This is especially the case for already overburdened clinicians (Kearney, 2019). In related fashion, lack of access to specialized care for school attendance and other child-based problems is endemic in many areas (Kohrt et al., 2018). Best practices to address school attendance problems involve synchronized efforts between family, school, and community units, but coordinated systems of care tend to be lacking especially for areas with very high chronic absenteeism rates (Allison et al., 2019).

Postmodern dimensions

A *dimensional* perspective of SA/Ps in a postmodern era would include a spectrum of interventions and/or responses to enhance overall school attendance more broadly and address a wide variety of school attendance problems more specifically. In addition, such a system would involve a coordinated set of service systems (education, medical/mental health, legal, developmental) in a given community to address complex types of school attendance problems (Kearney and Benoit, 2022). Such coordination would require integration of multiple agencies (e.g., housing, financial assistance, and school district), including information sharing for areas of high transience;

community asset mapping to identify key areas of support; and multigenerational responses to school absenteeism (Minier et al., 2018; Green et al., 2019; Lenhoff and Singer, 2022). In addition, such coordination would likely require a focal point, which for SA/Ps could mean utilizing school systems as a primary conduit given that these systems already operate as a *de facto* support system in many areas, as long as such coordination is done in a cost-effective manner (Webber, 2018).

One potential avenue for pursuing this spectrum of interventions and responses and serving as a conduit for coordinated services and information sharing is a multi-tiered systems of support (MTSS) approach, or school-based service delivery system of assessment and intervention strategies targeted toward different levels of student need in various areas of functioning (Stoiber and Gettinger, 2016). MTSS approaches involve preventative (Tier 1), early intervention (Tier 2), and later intervention (Tier 3) strategies to address non-problematic, acute, and chronic issues, in this case to improve school attendance and to ameliorate emerging and intense school attendance problems (August et al., 2018). MTSS approaches also contain several spectra with respect to nuanced and tailored responses that are administered across various settings and providers (O’Brennan et al., 2020). MTSS approaches remain in the nascent stage with respect to SA/Ps, though recommendations for each level have been developed (Kearney and Graczyk, 2014; Chang et al., 2018). Furthermore, the approaches can be tailored across various spectra such as developmental stages, absenteeism severity, and ecological levels; linked to community assets and expertise; and implemented within already existing and culturally responsive frameworks (Kearney and Graczyk, 2020; Graczyk and Kearney, 2022).

School completion

Historical categories

Many educational systems worldwide focus on a well-defined point of school completion, or graduation, that often formally marks the end of primary schooling and, informally, the beginning of adulthood (Fernández-Suárez et al., 2016). For many areas, school completion involves accumulating a certain number of credits or surpassing a series of examinations or categorical benchmarks to qualify for graduation (Macdonald et al., 2019). Students that do not reach this endpoint are considered to have “dropped out” of school and often constitute their own category of study juxtaposed with “graduates” (e.g., Robison et al., 2017). Such comparisons reveal considerable peril for students who drop out of school, many of whom are at substantially increased risk for various occupational, economic, social, and psychiatric problems in adulthood compared to

students who graduate (Ecker-Lyster and Niileksela, 2016; Rumberger, 2020).

School dropout is a complicated phenomenon often marked by an accumulation of multiple and multilayered risk variables (Gubbels et al., 2019). These risk variables are often outside student or family control; school dropout rates worldwide remain elevated and particularly in areas of systemic education deprivation and low quality of education (Adelman and Székely, 2017). School dropout is also related closely to the use of exclusionary discipline and premature diversion of students into the criminal justice system (Leban and Masterson, 2022). School dropout is further amplified by poor school safety and academic support as well as the need for many students to support their families economically or otherwise (Rodríguez et al., 2022). School dropout thus tends to occur disproportionately among students of color, students with disabilities, students who are English language learners, and migrant students, among other vulnerable groups (Garcia and Weiss, 2018; Free and Križ, 2022). Most students who drop out of school do not re-enroll for completion purposes (Barrat et al., 2012). A first response to this situation is to provide sufficient resources, including academic supports to meet the needs of all students, in order to achieve timely school completion. A second response may involve the postmodern dimensions discussed next.

Postmodern dimensions

A *dimensional* perspective of SA/Ps in a postmodern era would involve spectra related to school completion timelines as well as multiple avenues for school completion. With respect to timelines, a more flexible approach involving permissible school completion at different ages could help alleviate key disparities by compensating for some of the push and pull factors encountered by many students (McDermott et al., 2018). In addition, allowing school completion at different ages dovetails with evidence from developmental psychology that many students possess greater maturity and competence during emerging adulthood than during adolescence (Wood et al., 2018). Many students are thus better equipped psychologically and academically, and perhaps economically, to complete primary education in emerging adulthood (Hochberg and Konner, 2020).

With respect to multiple avenues, a dimensional perspective would allow students to pursue flexible and personalized methods of school completion based on individual circumstances and interests (Zhang et al., 2020). Different avenues could include vocational training, community-based learning centers, home-based and virtual programs, portfolio work, extra-year and credit recovery initiatives, and various second-chance and other pliable options (Kearney, 2016). A key consequence of this approach is that more students could achieve readiness for

adulthood in a globalized economy that will increasingly require critical thinking, communication, subject-based and social/emotional competencies, collaboration, innovativeness, problem-solving, entrepreneurship, and digital skills, among other proficiencies (Yoder et al., 2020). In addition, allowing school completion *via* multiple avenues dovetails with researchers who view school dropout as more of a process than as a singular event (e.g., Samuel and Burger, 2020). Many students could thus be diverted from a school dropout process by maintaining an academic training program in continuous and innovative ways (Mardolkar and Kumaran, 2020).

Conclusion

Addressing school attendance and its problems will require an even higher-order set of dimensions than the ones described here in order to fully unlearn calcified historical approaches and implement more inclusive paradigms for a postmodern era. Individualized, compartmentalized, and siloed approaches must yield to a spectrum of multidisciplinary systemic-analytic collaborations and shared alliances across agencies. Such a spectrum must involve various professionals, lay persons, systems of care, and government and educational entities to better conceptualize and manage the *full* ecology of this population. In addition, temptations to engage in small iterative steps for short-term gain will need to be set aside in favor of broader visions of change and future goals for long-term gain. Recent seismic events have provided a rare opportunity to fundamentally realign thought in this area. We encourage stakeholders to take advantage of this open window before the winds of resistance come.

Data availability statement

The original contributions presented in this study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

Both authors have made a substantial, direct, and intellectual contribution to the work, and approved it for publication.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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References

- Adelman, M. A., and Székely, M. (2017). An overview of school dropout in central America: Unresolved issues and new challenges for education progress. *Eur. J. Educ. Res.* 6, 235–259. doi: 10.12973/eu-jer.6.3.235
- Allison, M. A., Attisha, E., Lerner, M., De Pinto, C. D., Beers, N. S., Gibson, E. J., et al. (2019). The link between school attendance and good health. *Pediatr* 143:e20183648. doi: 10.1542/peds.2018-3648
- American Psychiatric Association (2022). *Diagnostic and Statistical Manual of Mental Disorders*. Washington, DC: Author.
- Ansari, A., Hofkens, T. L., and Pianta, R. C. (2020). Absenteeism in the first decade of education forecasts civic engagement and educational and socioeconomic prospects in young adulthood. *J. Youth Adolesc.* 49, 1835–1848. doi: 10.1007/s10964-020-01272-4
- Atkinson, L., Quarrington, B., Cyr, J. J., and Atkinson, F. V. (1989). Differential classification in school refusal. *Br. J. Psychiatry* 155, 191–195.
- August, G. J., Piehler, T. F., and Miller, F. G. (2018). Getting “SMART” about implementing multi-tiered systems of support to promote school mental health. *J. Sch. Psychol.* 66, 85–96. doi: 10.1016/j.jsp.2017.10.001
- Bacon, V. R., and Kearney, C. A. (2020). School climate and student-based contextual learning factors as predictors of school absenteeism severity at multiple levels via CHAID analysis. *Child. Youth Serv. Rev.* 118, 1–9. doi: 10.1016/j.childyouth.2020.105452
- Baldwin, J. J., Groesbeck, D. M., Silver, S., and Dion, C. (2015). *A Study of Student Absenteeism in Pinellas County*. Clearwater, FL: Juvenile Welfare Board.
- Balu, R., and Ehrlich, S. B. (2018). Making sense out of incentives: A framework for considering the design, use, and implementation of incentives to improve attendance. *J. Educ. Stud. Placed Risk* 23, 93–106. doi: 10.1080/10824669.2018.1438898
- Barrat, V. X., Berliner, B., and Fong, A. B. (2012). When dropping out is not a permanent high school outcome: Student characteristics, motivations, and reenrollment challenges. *J. Educ. Stud. Placed Risk* 17, 217–233. doi: 10.1080/10824669.2012.717028
- Baskerville, D. (2021). Mattering: changing the narrative in secondary schools for youth who truant. *J. Youth Stud.* 24, 834–849. doi: 10.1080/13676261.2020.1772962
- Bauer, L., Liu, P., Schanzenbach, D. W., and Shambaugh, J. (2018). *Reducing Chronic Absenteeism Under the Every Student Succeeds Act*. Washington, DC: Brookings.
- Berg, I., Nichols, K., and Pritchard, C. (1969). School phobia: Its classification and relationship to dependency. *J. Child Psychol. Psychiatry* 10, 123–141.
- Bernstein, G. A., and Garfinkel, B. D. (1986). School phobia: The overlap of affective and anxiety disorders. *J. Am. Acad. Child Adolesc. Psychiatry* 25, 235–241.
- Birioukov, A. (2016). Beyond the excused/unexcused absence binary: Classifying absenteeism through a voluntary/involuntary absence framework. *Educ. Rev.* 68, 340–357. doi: 10.1080/00131911.2015.1090400
- Brault, C., Thomas, I., Moro, M. R., and Benoit, L. (2022). School refusal in immigrants and ethnic minority groups: A qualitative study of adolescents' and young adults' experiences. *Front. Psychiatry*. 13:803517. doi: 10.3389/fpsy.2022.803517
- Broadwin, I. T. (1932). A contribution to the study of truancy. *Am. J. Orthopsychiatry* 2, 253–259. doi: 10.1111/j.1939-0025.1932.tb05183.x
- Chang, H. (2018). *Seize the Data Opportunity in California: Using Chronic Absence to Improve Educational Outcomes*. San Francisco: Attendance Works.
- Chang, H. N., Bauer, L., and Byrnes, V. (2018). *Data Matters: Using Chronic Absence to Accelerate Action for Student Success*. San Francisco, CA: Everyone Graduates Center/Attendance Works.
- Chen, C. C., Culhane, D. P., Metraux, S., Park, J. M., and Venable, J. C. (2016). The heterogeneity of truancy among urban middle school students: A latent class growth analysis. *J. Child Fam. Stud.* 25, 1066–1075. doi: 10.1007/s10826-015-0295-3
- Childs, J., and Grooms, A. A. (2018). Improving school attendance through collaboration: A catalyst for community involvement and change. *J. Educ. Stud. Placed Risk* 23, 122–138. doi: 10.1080/10824669.2018.1439751
- Childs, J., and Lofton, R. (2021). Masking attendance: How education policy distracts from the wicked problem(s) of chronic absenteeism. *Educ. Policy* 35, 213–234. doi: 10.1177/0895904820986771
- Childs, J., and Scanlon, C. L. (2022). Coordinating the mesosystem: An ecological approach to addressing chronic absenteeism. *Peabody J. Educ.* 97, 74–86. doi: 10.1080/0161956X.2022.2026722
- Childs, J., Grooms, A., and Mozley, M. P. (2022). Hidden in (virtual) plain sight: A charter district's focus on attendance during COVID-19. *Educ. Urban Soc.* 2022:11065414. doi: 10.1177/00131245211065414
- Chu, E. M., and Ready, D. D. (2018). Exclusion and urban public high schools: Short- and long-term consequences of school suspensions. *Am. J. Educ.* 124, 479–509.
- Coghill, D., and Sonuga-Barke, E. J. S. (2012). Annual research review: Categories versus dimensions in the classification and conceptualisation of child and adolescent mental disorders - implications of recent empirical study. *J. Child Psychol. Psychiatry* 53, 469–489. doi: 10.1111/j.1469-7610.2011.02511.x
- Conry, J. M., and Richards, M. P. (2018). The severity of state truancy policies and chronic absenteeism. *J. Educ. Stud. Placed Risk* 23, 187–203. doi: 10.1080/10824669.2018.1439752
- Coolidge, J. C., Hahn, P. B., and Peck, A. L. (1957). School phobia: Neurotic crisis or way of life? *Am. J. Orthopsychiatry* 27, 296–306.
- Coughenour, C., Kleven, B. C., Gakh, M., Stephen, H., Chien, L. C., Labus, B., et al. (2021). School absenteeism is linked to household food insecurity in school catchment areas in southern Nevada. *Public Health Nutr* 2021, 1–7. doi: 10.1017/S136898002100063X
- De Boeck, P., Wilson, M., and Acton, G. S. (2005). A conceptual and psychometric framework for distinguishing categories and dimensions. *Psychol. Rev.* 112, 129–158. doi: 10.1037/0033-295X.112.1.129
- Deitrick, S., Ye, F., Childs, J., and Zhang, C. (2015). *Connecting People and Place - Improving Communities Through Integrated Data Systems: Chronic School Absenteeism in Public Schools*. Pittsburgh, PA: University of Pittsburgh University Center for Social and Urban Research.
- Díaz-Herrero, Á., González, C., Sanmartín, R., Vicent, M., Martín, L. S., Inglés, C. J., et al. (2018). Profiles of emotional intelligence and demotivation to attend school in Chilean adolescents. *Motiv. Emot.* 42, 947–959.
- Donat, M., Gallschütz, C., and Dalbert, C. (2018). The relation between students' justice experiences and their school refusal behavior. *Soc. Psychol. Educ.* 21, 447–475. doi: 10.1007/s11218-017-9423-9
- Dougherty, S. M., and Childs, J. (2019). “Attending to attendance: Why data quality and modeling assumptions matter when using attendance as an outcome,” in *Absent From School: Understanding and Addressing Student Absenteeism*, eds M. A. Gottfried and E. L. Hutt (Cambridge, MA: Harvard Education Press), 53–66.
- Eaton, M. J. (1979). A study of some factors associated with the early identification of persistent absenteeism. *Educ. Rev.* 31, 233–242. doi: 10.1080/0013191790310305
- Ecker-Lyster, M., and Niileksela, C. (2016). Keeping students on track to graduate: A synthesis of school dropout trends, prevention, and intervention initiatives. *J. Risk Issues* 19, 24–31.
- Ehrlich, S. B., Gwynne, J. A., and Allensworth, E. M. (2018). Pre-kindergarten attendance matters: Early chronic absence patterns and relationships to learning outcomes. *Early Child. Res. Q.* 44, 136–151. doi: 10.1016/j.ecresq.2018.02.012

- Eklund, K., Burns, M. K., Oyen, K., DeMarchena, S., and McCollom, E. M. (2022). Addressing chronic absenteeism in schools: A meta-analysis of evidence-based interventions. *School Psych. Rev.* 51, 95–111. doi: 10.1080/2372966X.2020.1789436
- Elliot, J. G., and Place, M. (2019). School refusal: Developments in conceptualisation and treatment since 2000. *J. Child Psychol. Psychiatry* 60, 4–15. doi: 10.1111/jcpp.12848
- Esterberg, M. L., and Compton, M. T. (2009). The psychosis continuum and categorical versus dimensional diagnostic approaches. *Curr. Psychiatry Rep.* 11, 179–184.
- Estévez, I., Rodríguez-Llorente, C., Piñero, I., González-Suárez, R., and Valle, A. (2021). School engagement, academic achievement, and self-regulated learning. *Sustain* 13:3011. doi: 10.3390/su13063011
- Fernández-Suárez, A., Herrero, J., Pérez, B., Juarros-Basterretxea, J., and Rodríguez-Díaz, F. J. (2016). Risk factors for school dropout in a sample of juvenile offenders. *Front. Psychol.* 7:1993. doi: 10.3389/fpsyg.2016.01993
- Finning, K., Ford, T., and Moore, S. (2022). *Mental Health and Attendance at School*. Cambridge: Cambridge University Press.
- Fornander, M., and Kearney, C. A. (2019). Family environment variables as predictors of school absenteeism severity at multiple levels: Ensemble and classification and regression tree analysis. *Front. Psychol.* 10:2381. doi: 10.3389/fpsyg.2019.02381
- Free, J. L., and Križ, K. (2022). The not-so-hidden curriculum: How a public school system in the United States minoritizes migrant students. *Equity Excell. Educ.* 2022, 1–23. doi: 10.1080/10665684.2022.2047409
- Freeman, J., and Simonsen, B. (2015). Examining the impact of policy and practice interventions on high school dropout and school completion rates: A systematic review of the literature. *Rev. Educ. Res.* 85, 205–248. doi: 10.3102/0034654314554431
- García, E., and Weiss, E. (2018). *Student Absenteeism: Who Misses School and How Missing School Matters for Performance*. Washington, DC: Economic Policy Institute.
- Gase, L. N., Butler, K., Kuo, T., Workgroup, T. F., Bodin, L., Byrdson, K., et al. (2015). The current state of truancy reduction programs and opportunities for enhancement in los angeles county. *Child. Youth Serv. Rev.* 52, 17–25. doi: 10.1016/j.childyouth.2015.02.008
- Gee, K. A. (2018). Minding the gaps in absenteeism: Disparities in absenteeism by race/ethnicity, poverty and disability. *J. Educ. Stud. Placed Risk* 23, 204–208. doi: 10.1080/10824669.2018.1428610
- Gentle-Genitty, C., Taylor, J., and Renguette, C. (2020). A change in the frame: From absenteeism to attendance. *Front. Educ.* 4:161. doi: 10.3389/feduc.2019.00161
- González, C., Díaz-Herrero, Á., Vicent, M., Sanmartín, R., Pérez-Sánchez, A. M., and García-Fernández, J. M. (2020). School refusal behavior: Latent class analysis approach and its relationship with psychopathological symptoms. *Curr. Psychol.* 41, 2078–2088. doi: 10.1007/s12144-020-00711-6
- González, C., Giménez-Mirallas, M., Vicent, M., Sanmartín, R., Quiles, M. J., and García-Fernández, J. M. (2021). School refusal behaviour profiles and academic self-attributions in language and literature. *Sustain* 13:7512. doi: 10.3390/su13137512
- González, C., Inglés, C. J., Kearney, C. A., Sanmartín, R., Vicent, M., and García-Fernández, J. M. (2019a). Relationship between school refusal behavior and social functioning: A cluster analysis approach. *Eur. J. Educ. Psychol.* 12, 17–29. doi: 10.30552/ejep.v12i1.238
- González, C., Inglés, C. J., Sanmartín, R., Vicent, M., and García-Fernández, J. M. (2019b). Child and adolescent social adaptive functioning scale: Factorial invariance, latent mean differences, and its impact on school refusal behavior in Spanish children. *Front. Psychol.* 10:1894. doi: 10.3389/fpsyg.2019.01894
- González, C., Kearney, C. A., Jiménez-Ayala, C. E., Sanmartín, R., Vicent, M., Inglés, C. J., et al. (2018). Functional profiles of school refusal behavior and their relationship with depression, anxiety, and stress. *Psychiatry Res.* 269, 140–144. doi: 10.1016/j.psychres.2018.08.069
- Gottfried, M. A., and Hutt, E. L. (eds) (2019). *Absent From School: Understanding and Addressing Student Absenteeism*. Cambridge, MA: Harvard Education Press.
- Graczyk, P. A., and Kearney, C. A. (2022). *Implementing A Multi-Dimensional, Multi-Tiered System of Supports Framework to Promote School Attendance and Address School Attendance Problems*.
- Green, G., DeFosset, A., and Kuo, T. (2019). Residential mobility among elementary school students in Los Angeles county and early school experiences: Opportunities for early intervention to prevent absenteeism and academic failure. *Front. Psychol.* 10:2176. doi: 10.3389/fpsyg.2019.02176
- Grooms, A. A., and Bohorquez, D. G. (2021). What's your excuse? Sensemaking about chronic absenteeism in a rural, latinx high school. *J. Sch. Lead.* 32, 384–405. doi: 10.1177/10526846211026260
- Gubbels, J., van der Put, C. E., and Assink, M. (2019). Risk factors for school absenteeism and dropout: A meta-analytic review. *J. Youth Adolesc.* 48, 1637–1667. doi: 10.1007/s10964-019-01072-5
- Havik, T., and Ingul, J. M. (2022). Remote education/homeschooling during the COVID-19 pandemic, school attendance problems, and school return-teachers' experiences and reflections. *Front. Educ.* 7:895983. doi: 10.3389/feduc.2022.895983
- Havik, T., Bru, E., and Ertesvåg, S. K. (2015). Assessing reasons for school non-attendance. *Scand. J. Educ. Res.* 59, 316–336. doi: 10.1080/00313831.2014.904424
- Henderson, C. M., and Fantuzzo, J. W. (2022). Challenging the core assumption of chronic absenteeism: Are excused and unexcused absences equally useful in determining academic risk status? *J. Educ. Stud. Placed Risk* 2022, 1–35. doi: 10.1080/10824669.2022.2065636
- Hentges, R. F., Graham, S. A., Plamondon, A., Tough, S., and Madigan, S. (2019). A developmental cascade from prenatal stress to child internalizing and externalizing problems. *J. Pediatr. Psychol.* 44, 1057–1067. doi: 10.1093/jpepsy/jsz044
- Hertler, S. C., Figueredo, A. J., Peñaherrera-Aguirre, M., Fernandes, H. B. F., and Woodley, M. A. (2018). *Life History Evolution: A Biological Meta-Theory for the Social Sciences*. London: Palgrave Macmillan.
- Heyne, D., Gren-Landell, M., Melvin, G., and Gentle-Genitty, C. (2019). Differentiation between school attendance problems: Why and how? *Cogn. Behav. Pract.* 26, 8–34. doi: 10.1016/j.cbpra.2018.03.006
- Heyne, D., Strömbeck, J., Bergström, M., Alanko, K., and Ulriksen, R. (2020). A scoping review of constructs measured following intervention for school refusal: Are we measuring up? *Front. Psychol.* 11:1744. doi: 10.3389/fpsyg.2020.01744
- Hochberg, Z. E., and Konner, M. (2020). Emerging adulthood, a pre-adult life-history stage. *Front. Endocrinol.* 10:918. doi: 10.3389/fendo.2019.00918
- Huck, C., and Zhang, J. (2021). Effects of the COVID-19 pandemic on K-12 education: A systematic literature review. *New Waves Educ. Res. Dev. J.* 24, 53–84.
- Hudziak, J. J., Achenbach, T. M., Althoff, R. R., and Pine, D. S. (2007). A dimensional approach to developmental psychopathology. *Int. J. Methods Psychiatr. Res.* 16, S16–S23. doi: 10.1002/mpr.217
- Hutt, E. L. (2018). Measuring missed school: The historical precedents for the measurement and use of attendance records to evaluate schools. *J. Educ. Stud. Placed Risk* 23, 5–8. doi: 10.1080/10824669.2018.1438899
- Jordan, P. W., and Miller, R. (2017). *Who's In: Chronic Absenteeism Under the Every Student Succeeds Act*. Washington, DC: Future Ed.
- Karlberg, M., Klang, N., Andersson, F., Hancock, K., Ferrer-Wreder, L., Kearney, C. A., et al. (2022). The importance of school pedagogical and social climate to students' unauthorised absenteeism: A multilevel study of 101 Swedish schools. *Scand. J. Educ. Res.* 66, 88–104. doi: 10.1080/00313831.2020.1833244
- Kearney, C. A. (2001). *School Refusal Behavior In Youth: A Functional Approach To Assessment And Treatment*. Washington, DC: American Psychological Association.
- Kearney, C. A. (2007). Forms and functions of school refusal behavior in youth: An empirical analysis of absenteeism severity. *J. Child Psychol. Psychiatry* 48, 53–61. doi: 10.1111/j.1469-7610.2006.01634.x
- Kearney, C. A. (2016). *Managing School Absenteeism At Multiple Tiers: An Evidence-Based And Practical Guide For Professionals*. New York: Oxford University Press.
- Kearney, C. A. (2019). *Helping Families Of Youth With School Attendance Problems: A Practical Guide For Mental Health And School-Based Professionals*. New York: Oxford University Press.
- Kearney, C. A. (2021). Integrating systemic and analytic approaches to school attendance problems: Synergistic frameworks for research and policy directions. *Child Youth Care Forum* 50, 701–742. doi: 10.1007/s10566-020-09591-0
- Kearney, C. A. (2022). Functional impairment guidelines for school attendance problems in youth: Recommendations for caseness in the modern era. *Prof. Psychol. Res. Proc.* 53, 295–303. doi: 10.1037/pro0000453
- Kearney, C. A., and Albano, A. M. (2018). *When Children Refuse School: A Cognitive-Behavioral Therapy Approach/Therapist Guide*, 3rd Edn. New York: Oxford University Press.
- Kearney, C. A., and Benoit, L. (2022). Child and adolescent psychiatry and underrepresented youth with school attendance problems: Integration with systems of care, advocacy, and future directions. *J. Am. Acad. Child Adolesc. Psychiatry* 2022:16. doi: 10.1016/j.jaac.2022.03.016

- Kearney, C. A., and Childs, J. (2021). A multi-tiered systems of support blueprint for re-opening schools following COVID-19 shutdown. *Child. Youth Serv. Rev.* 122:105919. doi: 10.1016/j.childyouth.2020.105919
- Kearney, C. A., and Childs, J. (2022). Improving School Attendance Data And Defining Problematic And Chronic School Absenteeism: The Next Stage For Educational Policies And Health-Based Practices.
- Kearney, C. A., and Graczyk, P. (2014). A response to intervention model to promote school attendance and decrease school absenteeism. *Child Youth Care Forum* 43, 1–25. doi: 10.1007/s10566-013-9222-1
- Kearney, C. A., and Graczyk, P. A. (2020). A multidimensional, multi-tiered system of supports model to promote school attendance and address school absenteeism. *Clin. Child Fam. Psychol. Rev.* 23, 316–337. doi: 10.1007/s10567-020-00317-1
- Kearney, C. A., Childs, J., and Burke, S. (2022). Social forces, social justice, and school attendance problems in youth. *Contemp. School Psychol.* doi: 10.1007/s40688-022-00425-5.
- Kearney, C. A., González, C., Graczyk, P. A., and Fornander, M. (2019a). Reconciling contemporary approaches to school attendance and school absenteeism: Toward promotion and nimble response, global policy review and implementation, and future adaptability (part 1). *Front. Psychol.* 10:2222. doi: 10.3389/fpsyg.2019.02222
- Kearney, C. A., González, C., Graczyk, P. A., and Fornander, M. (2019b). Reconciling contemporary approaches to school attendance and school absenteeism: Toward promotion and nimble response, global policy review and implementation, and future adaptability (part 2). *Front. Psychol.* 10:2605. doi: 10.3389/fpsyg.2019.02605
- Keppens, G., and Spruyt, B. (2020). The impact of interventions to prevent truancy: A review of the research literature. *Stud. Educ. Eval.* 65:100840. doi: 10.1016/j.stueduc.2020.100840
- Keppens, G., Spruyt, B., and Dockx, J. (2019). Measuring school absenteeism: Administrative attendance data collected by schools differ from self-reports in systematic ways. *Front. Psychol.* 10:2623. doi: 10.3389/fpsyg.2019.02623
- Kipp, A. L., and Clark, J. S. (2021). Student absenteeism and ecological agency. *Improv. Schools* 2021:992884. doi: 10.1177/1365480221992884
- Kirksey, J. J. (2019). Academic harms of missing high school and the accuracy of current policy thresholds: Analysis of preregistered administrative data from a California school district. *AERA Open* 5, 1–13. doi: 10.1177/2332858419867692
- Klein, M., Sosu, E. M., and Dare, S. (2022). School absenteeism and academic achievement: Does the reason for absence matter? *AERA Open* 8, 1–14. doi: 10.1177/23328584211071115
- Kline, L. W. (1897). Truancy as related to the migrating instinct. *Pedagog. Semin.* 5, 381–420.
- Kohrt, B. A., Asher, L., Bhardwaj, A., Fazel, M., Jordans, M. J., Mutamba, B. B., et al. (2018). The role of communities in mental health care in low-and middle-income countries: A meta-review of components and competencies. *Int. J. Environ. Health Res.* 15:1279. doi: 10.3390/ijerph15061279
- Kotov, R., Krueger, R. F., Watson, D., Achenbach, T. M., Althoff, R. R., Bagby, R. M., et al. (2017). The hierarchical taxonomy of psychopathology (HiTOP): A dimensional alternative to traditional nosologies. *J. Abnorm. Psychol.* 126, 454–477. doi: 10.1037/abn0000258
- Last, C. G., and Strauss, C. C. (1990). School refusal in anxiety-disordered children and adolescents. *J. Am. Acad. Child Adolesc. Psychiatry* 29, 31–35.
- Leban, L., and Masterson, M. (2022). The impact of childhood school suspension on dropout and arrest in adolescence: Disparate relationships by race and adverse childhood experiences. *Crim. Just. Behav.* 49, 550–569.
- Lee, W. F., McNeely, C. A., Rosenbaum, J. E., Alemu, B., and Renner, L. M. (2020). Can court diversion improve school attendance among elementary students? Evidence from five school districts. *J. Res. Educ. Eff.* 13, 625–651. doi: 10.1080/19345747.2020.1760976
- Lenhoff, S. W., and Pogodzinski, B. (2018). School organizational effectiveness and chronic absenteeism: Implications for accountability. *J. Educ. Stud. Placed Risk* 23, 153–169. doi: 10.1080/10824669.2018.1434656
- Lenhoff, S. W., and Singer, J. (2022). Promoting ecological approaches to educational issues: Evidence from a partnership around chronic absenteeism in Detroit. *Peabody J. Educ.* 97, 87–97. doi: 10.1080/0161956X.2022.2026723
- Lenhoff, S. W., Edwards, E. B., Claiborne, J., Singer, J., and French, K. R. (2020). A collaborative problem-solving approach to improving district attendance policy. *Educ. Policy* 2022, 4402. doi: 10.1177/0895904820974402
- Maas, M. J., and Hughes, J. M. (2020). Virtual, augmented and mixed reality in K–12 education: A review of the literature. *Technol. Pedagog. Educ.* 29, 231–249. doi: 10.1080/1475939X.2020.1737210
- Macdonald, H., Zinth, J. D., and Pompelia, S. (2019). *50-State Comparison: High School Graduation Requirements*. Denver, CO: Education Commission of the States.
- Mahoney, J. (2015). Daily, monthly, yearly attendance data charts: Improved attendance equals improved achievement scores. *Child. Schs.* 37, 125–128. doi: 10.1093/cs/cdv002
- Mallett, C. A. (2016). The school-to-prison pipeline: A critical review of the punitive paradigm shift. *Child. Adoles. Social Work J.* 33, 15–24. doi: 10.1007/s10560-015-0397-1
- Mardolkar, M., and Kumaran, N. (2020). Forecasting and avoiding student dropout using the K-nearest neighbor approach. *SN Comput. Sci.* 1:96. doi: 10.1007/s42979-020-0102-0
- Martin, R., Benoit, J. P., Moro, M. R., and Benoit, L. (2020). A qualitative study of misconceptions among school personnel about absenteeism of children from immigrant families. *Front. Psychiatry* 11:202. doi: 10.3389/fpsyg.2020.00202
- Mauro, C. F., and Machell, K. A. (2019). “When children and adolescents do not go to school: Terminology, technology, and trends,” in *Pediatric Anxiety Disorders*, eds S. N. Compton, M. Villabo, and H. Kristensen (Cambridge, MA: Academic), 439–460.
- Maynard, B. R., Heyne, D., Brendel, K. E., Bulanda, J. J., Thompson, A. M., and Pigott, T. D. (2018). Treatment for school refusal among children and adolescents: A systematic review and meta-analysis. *Res. Soc. Work Pract.* 28, 56–67. doi: 10.1177/1049731515598619
- McDermott, E. R., Anderson, S., and Zaff, J. F. (2018). Dropout typologies: Relating profiles of risk and support to later educational re-engagement. *Appl. Dev. Sci.* 22, 217–232. doi: 10.1080/10888691.2016.1270764
- McFarland, J., Cui, J., and Stark, P. (2018). *Trends In High School Dropout And Completion Rates In The United States: 2014 (NCES 2018-117)*. Washington, DC: National Center for Education Statistics.
- McNeely, C. A., Alemu, B., Lee, W. F., and West, I. (2021). Exploring an unexamined source of racial disparities in juvenile court involvement: Unexcused absenteeism policies in US schools. *AERA Open* 7:23328584211003132. doi: 10.1177/23328584211003132
- Melvin, G. A., Heyne, D., Gray, K. M., Hastings, R. P., Totsika, V., Tonge, B. J., et al. (2019). The kids and teens at school (KiTeS) framework: An inclusive bioecological systems approach to understanding school absenteeism and school attendance problems. *Front. Educ.* 4:61. doi: 10.3389/feduc.2019.00061
- Minier, M., Hirshfield, L., Ramahi, R., Glasgow, A. E., Fox, K., and Martin, M. A. (2018). Schools and health: An essential partnership for the effective care of children with chronic conditions. *J. Sch. Health* 88, 699–703. doi: 10.1111/josh.12671
- Mireles-Rios, R., Rios, V. M., and Reyes, A. (2020). Pushed out for missing school: The role of social disparities and school truancy in dropping out. *Educ. Sci.* 10:108. doi: 10.3390/educsci10040108
- Montoya-Ávila, A., Ghebream, N., and Galindo, C. (2018). “Toward improving the educational opportunities for black and latinx young children: Strengthening family-school partnerships,” in *Academic Socialization Of Young Black and Latino Children*, eds S. Sonnenschein and B. Sawyer (New York: Springer), 209–231.
- Moodley, R., Chiclana, F., Carter, J., and Caraffini, F. (2020). Using data mining in educational administration: A case study on improving school attendance. *Appl. Sci.* 10:3116. doi: 10.3390/app10093116
- Narrow, W. E., and Kuhl, E. A. (2011). Dimensional approaches to psychiatric diagnosis in DSM-5. *J. Ment. Health Policy Econ.* 14, 197–200.
- Nation, M., Christens, B. D., Bess, K. D., Shinn, M., Perkins, D. D., and Speer, P. W. (2020). Addressing the problems of urban education: An ecological systems perspective. *J. Urban Aff.* 42, 715–730. doi: 10.1080/07352166.2019.1705847
- National Forum on Educational Statistics (2018). *Forum Guide To Early Warning Systems (NFES2019035)*. U.S. Department of Education. Washington, DC: U.S. Department of Education.
- National Forum on Educational Statistics (2021). *Forum Guide To Attendance, Participation, And Engagement Data In Virtual And Hybrid Learning Models (NFES2021058)*. Washington, DC: U.S. Department of Education.
- Newman, I., Ligas, M. R., Hecht, S., Starratt, G. K., Clement, R., Ney, E., et al. (2019). Mixed methods assessment of the dimensionality of risk indicators of school failure: A collaborative approach to bridge a research-to-practice gap. *Int. J. Mult. Res. Appro.* 11, 156–182. doi: 10.29034/ijrma.v11n2a3
- O’Brennan, L. M., Suldo, S. M., Shaunessy-Dedrick, E., Dedrick, R. F., Parker, J. S., Lee, J. S., et al. (2020). Supports for youth in accelerated high school curricula: An initial study of applicability and acceptability of a motivational interviewing intervention. *Gift. Child Q.* 64, 19–40. doi: 10.1177/0016986219886933
- Olson, L. S. (2014). *Why September Matters: Improving School Attendance*. Baltimore, MD: Baltimore Education Research Consortium.

- Owen, M. J. (2014). New approaches to psychiatric diagnostic classification. *Neuron* 84, 564–571. doi: 10.1016/j.neuron.2014.10.028
- Panayiotou, M., Finning, K., Hennessey, A., Ford, T., and Humphrey, N. (2021). Longitudinal pathways between emotional difficulties and school absenteeism in middle childhood: Evidence from developmental cascades. *Dev. Psychopathol.* 2021, 1–12. doi: 10.1017/S095457942100122X
- Patnode, A. H., Gibbons, K., and Edmunds, R. R. (2018). *Attendance and Chronic Absenteeism: Literature Review*. Saint Paul, MN: University of Minnesota, College of Education and Human Development, Center for Applied Research and Educational Improvement.
- Patrick, S., and Chambers, A. (2020). *Determining Attendance And Alternatives To Seat-Time: Issue Brief*. Vienna, VA: Aurora Institute.
- Pyne, J., Grodsky, E., Vaade, E., McCready, B., Camburn, E., and Bradley, D. (2021). The signaling power of unexcused absence from school. *Educ. Policy* 2021:49428. doi: 10.1177/08959048211049428
- Rapee, R. M., Bögels, S. M., Van Der Sluis, C. M., Craske, M. G., and Ollendick, T. (2012). Annual research review: Conceptualising functional impairment in children and adolescents. *J. Child Psychol. Psychiatr.* 53, 454–468. doi: 10.1111/j.1469-7610.2011.02479.x
- Robison, S., Jagers, J., Rhodes, J., Blackmon, B. J., and Church, W. (2017). Correlates of educational success: Predictors of school dropout and graduation for urban students in the Deep South. *Child. Youth Serv. Rev.* 73, 37–46. doi: 10.1016/j.childyouth.2016.11.031
- Rocque, M., Jennings, W. G., Piquero, A. R., Ozkan, T., and Farrington, D. P. (2017). The importance of school attendance: Findings from the Cambridge study in delinquent development on the life-course effects of truancy. *Crime Delinq.* 63, 592–612. doi: 10.1177/0011128716660520
- Rodriguez, D., Carrasquillo, A., Garcia, E., and Howitt, D. (2022). Factors that challenge English learners and increase their dropout rates: Recommendations from the field. *Int. J. Biling. Educ. Biling.* 25, 878–894. doi: 10.1080/13670050.2020.1722059
- Rumberger, R. W. (2020). “The economics of high school dropouts,” in *The Economics of Education: A Comprehensive Overview*, 2nd Edn, eds S. Bradley and C. Green (Cambridge, MA: Academic), 149–158.
- Samuel, R., and Burger, K. (2020). Negative life events, self-efficacy, and social support: Risk and protective factors for school dropout intentions and dropout. *J. Educ. Psychol.* 112, 973–986. doi: 10.1037/edu0000406
- Schoenberger, J. A. (2012). Longitudinal attendance patterns: Developing high school dropouts. *Clear. House* 85, 7–14. doi: 10.1080/00098655.2011.603766
- Singer, J., Pogodzinski, B., Lenhoff, S. W., and Cook, W. (2021). Advancing an ecological approach to chronic absenteeism: Evidence from Detroit. *Teach. Coll. Rec.* 123, 1–36. doi: 10.1177/016146812112300406
- Skedgell, K. K., and Kearney, C. A. (2018). Predictors of school absenteeism severity at multiple levels: A classification and regression tree analysis. *Child. Youth Serv. Rev.* 86, 236–245. doi: 10.1016/j.childyouth.2018.01.043
- Smerillo, N. E., Reynolds, A. J., Temple, J. A., and Ou, S. R. (2018). Chronic absence, eighth-grade achievement, and high school attainment in the Chicago longitudinal study. *J. School. Psychol.* 67, 163–178. doi: 10.1016/j.jsp.2017.11.001
- Smith, T. E., Sheridan, S. M., Kim, E. M., Park, S., and Beretvas, S. N. (2020). The effects of family-school partnership interventions on academic and social-emotional functioning: A meta-analysis exploring what works for whom. *Educ. Psychol. Rev.* 32, 511–544. doi: 10.1007/s10648-019-09509-w
- Stempel, H., Cox-Martin, M., Bronsert, M., Dickinson, L. M., and Allison, M. A. (2017). Chronic school absenteeism and the role of adverse childhood experiences. *Acad. Pediatr.* 17, 837–843. doi: 10.1016/j.acap.2017.09.013
- Stoiber, K. C., and Gettinger, M. (2016). “Multi-tiered systems of support and evidence-based practices,” in *The Handbook Of Response To Intervention: The Science And Practice Of Multi-Tiered Systems Of Support*, 2nd Edn, eds M. K. Jimerson, A. M. Burns, and A. M. VanDerHeyden (New York, NY: Springer), 124–141.
- Sugrue, E. P., Zuel, T., and LaLiberte, T. (2016). The ecological context of chronic school absenteeism in the elementary grades. *Child. School.* 38, 137–145. doi: 10.1093/cs/cdw020
- Teasley, M., and Homer, B. (2020). “Racial disparities in the education system,” in *Encyclopedia of Social Work*, ed. C. Franklin (New York: Oxford).
- U.S. Department of Education Office of Civil Rights (2016). *Chronic Absenteeism In The Nation's Schools: A Hidden Educational Crisis*. Washington, DC: Author.
- Warne, M., Svensson, Å, Tirén, L., and Wall, E. (2020). On time: A qualitative study of Swedish students, parents’ and teachers’ views on school attendance, with a focus on tardiness. *Int. J. Environ. Res. Public Health* 17:1430. doi: 10.3390/ijerph17041430
- Weathers, E. S., Hollett, K. B., Mandel, Z. R., and Rickert, C. (2021). Absence unexcused: A systematic review on truancy. *Peabody J. Educ.* 96, 540–564. doi: 10.1080/0161956X.2021.1991696
- Webber, K. C. (2018). A qualitative study of school social workers’ roles and challenges in dropout prevention. *Child. School.* 40, 82–90. doi: 10.1093/cs/cdy003
- Welsh, R. O. (2018). Opposite sides of the same coin? Exploring the connections between school absenteeism and student mobility. *J. Educ. Stud. Placed Risk* 23, 70–92. doi: 10.1080/10824669.2018.1438204
- Widakowich, C., Hubain, P., Jurysta, P. F., and Linkowski, P. P. (2012). P-960-dimensional approach vs. categorical approach in psychiatric diagnosis: Historical and epistemological aspects. *Eur. Psychiatry* 27:1. doi: 10.1016/S0924-9338(12)75127-1
- Wood, D., Crapnell, T., Lau, L., Bennett, A., Lotstein, D., Ferris, M., et al. (2018). “Emerging adulthood as a critical stage in the life course,” in *Handbook of Life Course Health Development*, eds N. Halfon, C. B. Forrest, R. M. Lerner, and E. M. Faustman (New York: Springer), 123–143.
- Wood, L., Kiperman, S., Esch, R. C., Leroux, A. J., and Truscott, S. D. (2017). Predicting dropout using student- and school-level factors: An ecological perspective. *School. Psychol. Q.* 32, 35–49. doi: 10.1037/spq0000152
- World Economic Forum (2020). *Schools of the Future: Defining New Models Of Education For The Fourth Industrial Revolution*. Geneva: Author.
- World Health Organization (2019). *ICD-11: International classification of diseases*. Geneva: World Health Organization.
- Yoder, N., Atwell, M. N., Godek, D., Dusenbury, L., Bridgeland, J. M., and Weissberg, R. (2020). *Preparing Youth for the Workforce of Tomorrow: Cultivating the Social and Emotional Skills Employers Demand*. Chicago: Collaborative for Academic, Social, and Emotional Learning.
- Zaff, J. F., Donlan, A., Gunning, A., Anderson, S. E., McDermott, E., and Sedaca, M. (2017). Factors that promote high school graduation: A review of the literature. *Educ. Psychol. Rev.* 29, 447–476. doi: 10.1007/s10648-016-9363-5
- Zhang, L., Basham, J. D., and Yang, S. (2020). Understanding the implementation of personalized learning: A research synthesis. *Educ. Res. Rev.* 31:100339. doi: 10.1016/j.edurev.2020.100339