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School attendance and school absenteeism: A primer for the past, present, and theory of change for the future

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School attendance and school absenteeism have been studied for over a century, leading to a rich and vast literature base. At the same time, powerful demographic, climate, social justice/equity, and technological/globalization forces are compelling disparate stakeholders worldwide to quickly adapt to rapidly changing conditions and to consider new visions of child education for the next century. These overarching forces are utilized within a theory of change approach to help develop such a vision of school attendance/absenteeism for this era. This approach adopts key long-range outcomes (readiness for adulthood for all students; synthesized systemic and analytic approaches to school attendance/absenteeism) derived from thematic outputs (reframing, social justice, and shared alliances) that are themselves derived from contemporary inputs (movement of educational agencies worldwide toward readiness for adulthood, technological advances, schools, and communities as one). As with theory of change approaches, the purpose of this discourse is not to provide a roadmap but rather a compass to develop multi-stakeholder partnerships that can leverage shared resources and expertise to achieve a final mutual goal.

KEYWORDS

school attendance, school absenteeism, truancy, school dropout, theory of change, readiness for adulthood

Introduction

School attendance and school absenteeism were one of the first areas of study for emerging disciplines such as education, psychology, and criminal justice in the late 19th and early 20th centuries. With the advent of the labor rights movement, new employment laws, and the needs for an educated workforce and greater social order, children were

increasingly moved from industrial and agricultural settings to more formalized school settings (Rury and Tamura, 2019). School absenteeism thus became viewed as a legal as well as a societal problem in need of remediation, with a concurrent focus on illegal truancy as well as delinquency as a primary cause (Williams, 1927; Kirkpatrick and Lodge, 1935; Gleeson, 1992). Around the mid-20th century, however, psychological approaches focused on other possible causal mechanisms of school absenteeism such as child fear/anxiety, problematic separation from caregivers, family dysfunction, and proximity to deviant peers (e.g., Johnson et al., 1941; Waldfogel et al., 1957; Kennedy, 1965). Many of these approaches centered on students and their families, a predominant focus of many professionals even today. Only later in the 20th century, and especially following the civil rights movement of the 1960s as well as a revival of Marxist theory *via* the emergence of social stratification research, did researchers and other stakeholders more intensely examine broader contexts of school absenteeism that included the school environment, the surrounding community, and economic, cultural, political, and other macro influences (Bourdieu and Passeron, 1977; Willis, 1977; Weinberg, 1991; Sleeter, 2014).

Today, the study of school attendance/absenteeism comprises many disciplines such as child development, criminal and juvenile justice, economics, education, epidemiology, law, leadership, nursing, medicine, political science, program evaluation, psychiatry, psychology, public and educational policy, school counseling, social work, and sociology, among others. These approaches can be divided generally into *systemic* perspectives that focus on overarching contexts and structural concerns as well as *analytic* perspectives that focus on specific contexts and individual concerns (Kearney, 2021). Together these approaches have produced a rich and vast repository of knowledge over the past century regarding the conceptualization of school attendance/absenteeism with respect to domains such as definition, classification, risk/protection, trajectory, measurement, and intervention. At the same time, however, the breadth and multifaceted nature of these varied systemic and analytic approaches has led to myriad avenues of investigation that are not always well-coordinated or integrated. In addition, geographical and cultural differences in systems of education, including areas where education does not exist at all, further complicate the current landscape of school attendance/absenteeism (Porto, 2020).

On top of all of this are relatively recent revolutionary and fundamental changes in human communication and interaction that are spurred in part by climate change, demands for equity and social justice, demographic and migration shifts, globalization, health crises, political movements, and technological advancements (Krishnamurthy et al., 2019; Mao et al., 2019; Cleveland-Innes, 2020; Rapanta et al., 2021). As such, the very nature of educating children is being radically altered and will continue to evolve (or devolve) quickly over the next decades. The challenge before us in the next century is thus not only to assimilate the different systemic/analytic and geographic/cultural approaches to school attendance/absenteeism but also to meld this assimilation process with rapidly changing undercurrents of essential human functioning.

The purpose of this article is to provide a *primer* for stakeholders in this area regarding the past and next century vis-à-vis school attendance/absenteeism. As such, *broad strokes are emphasized* at the expense of greater detail regarding specific investigations. The article is divided into three main sections. The first section outlines key conclusions that can be drawn from a century's worth of study of school attendance/absenteeism. The second section outlines how some of the revolutionary and fundamental changes noted above are impacting child education as well as traditional notions of school attendance/absenteeism. The third section, a theory of change approach, outlines a potential mutual vision for what the study of school attendance/absenteeism could look like in the coming decades.

The past: What is known?

A more than century's worth of study allows for several broad conclusions about what is known regarding school attendance/absenteeism. Six such conclusions are presented next that are drawn from communal themes across the many disciplines in this area. First, *school attendance/absenteeism are global issues but ones that are studied primarily within geographically limited areas*. Less than three-quarters of children worldwide complete at least a lower secondary school education (UNESCO, 2019). This rate is particularly restricted for sub-Saharan Africa (38%), northern Africa and western Asia (72%), central and southern Asia (75%), and Latin America and the Caribbean (76%). Unfortunately, the vast majority of research regarding school attendance/absenteeism comes from continental areas that have the highest completion rates in this regard: Europe and North America (98%) and Oceania (92%). Although emerging research is emanating from places such as South America, Asia, and Africa (e.g., Momo et al., 2019; Gonzálvez et al., 2020), not nearly enough is known in these areas about the domains of school attendance/absenteeism noted earlier.

Second, *rates of school attendance/absenteeism differ substantially and disproportionately affect vulnerable student groups*. Approximately 17% of children worldwide do not attend school, and many of these students are deliberately deprived of an education on the basis of gender, disability, and/or ethnicity. Students in low-income countries also experience greater barriers to an education such as food and housing insecurity, lack of instructors and academic materials, large class sizes, long distances to school, poor infrastructure, and violence (UNESCO, 2019). Health crises and limited economic opportunities in these regions also drive students out of school and into premature labor roles (Mussida et al., 2019; Reimers, 2022). Even in developed countries, elevated school absenteeism and dropout rates occur among vulnerable groups such as impoverished students, migrant students, students of color, students with disabilities, and students less familiar with the

dominant cultural language (Garcia and Weiss, 2018; Koehler and Schneider, 2019; Sosu et al., 2021).

Third, *school attendance is generally associated with student benefit and school absenteeism is generally associated with student harm*. One could contend that formal schooling is one of the best interventions ever designed for children, or at least for many children. Regular school attendance and school completion have been linked to adaptive functioning in many child developmental domains (e.g., academic, behavioral, health, psychological, and social; Rocque et al., 2017; Ehrlich et al., 2018). These effects have both short-term (e.g., educational achievement) as well as long-term (e.g., enhanced lifetime earning potential) positive impacts. Conversely, school absenteeism and school dropout have been associated with less adaptive functioning in these domains, with both short-term and long-term negative impacts (Ansari et al., 2020; Rumberger, 2020). Caveats apply to this general conclusion, however. For many students, particularly vulnerable students, school is an environment associated with biased exclusionary discipline, racism, oppression, systemic discrimination, and victimization (Kohli et al., 2017; Sanders, 2022). In related fashion, many students miss school as a *more adaptive* choice, such as to support a family economically (Chang et al., 2019; Ricking and Schulze, 2019).

Fourth, *school attendance/absenteeism are complicated constructs that require innovative measurement strategies*. School attendance/absenteeism represents more than just physical presence or absence in a brick-and-mortar building. Many forms of school attendance/absenteeism exist across multiple instructional formats, including virtual or distance learning formats, that demand new and broader metrics (e.g., log-ins, completed assignments, student-teacher interactions, and mastery of skills) for measuring these constructs (National Forum on Education Statistics, 2021). In addition, school absenteeism comprises a spectrum of attendance problems that can include full or partial day absences, missing classes, tardiness, student/family problems in the morning, and distress, somatic complaints, and other psychological problems that interfere with school attendance (Li et al., 2021; Kearney and Gonzálvez, 2022). This has led to broader definitions of school attendance/absenteeism that focus less on physical presence/absence and more on engagement (Patrick and Chambers, 2020; Kearney, 2021). Greater sophistication with respect to systemic evaluation (e.g., early warning systems) and analytic assessment (e.g., clinical protocols) methods also allows for more sensitive data analytic strategies to define problematic school absenteeism for certain student groups and across geographical regions (Balfanz and Byrnes, 2019; Gonzálvez et al., 2021; Kearney and Childs, 2022).

Fifth, *school attendance/absenteeism remains associated with multiple risk and protective factors across ecological levels*. One advantage of the contemporary era is that a historical, singular focus on either student/family or other narrow-band risk/protective factors *or* on school-related or other broad-band risk/protective factors is yielding to more integrated approaches for understanding the complex ecology of school attendance/absenteeism (Kim, 2020; Singer et al., 2021). Stakeholders now understand that interconnected risk/protective factors in this area range from granular to immense levels; examples include disability/academic achievement (student level), psychopathology/academic involvement (caregiver level), residential movement/cohesion (family level), victimization/positive norms (peer level), negative/positive climate quality (school level), neighborhood violence/safe avenues to school (community level), and structural economic inequalities/well-financed educational agencies (macro level; e.g., Zaff et al., 2017; Gubbels et al., 2019). In addition, stakeholders increasingly view school attendance/absenteeism from a comprehensive Bronfenbrenner-like ecological approach; examples include linkages between student-caregiver interactions (microsystem), caregiver-school staff communications (mesosystem), educational policies (exosystem), transportation vulnerabilities (macrosystem), and changes in these systems as children move from preschool to elementary, middle, and high school and beyond (chronosystem; e.g., Melvin et al., 2019; Childs and Scanlon, 2022).

Sixth, *positive interventions to enhance school attendance and to reduce school absenteeism are generally though perhaps only moderately effective*. Positive interventions are defined here as those that are empirically supported, intentional, and designed to foster well-being (Tejada-Gallardo et al., 2020). Systematic reviews and meta-analyses reveal that positive interventions from both systemic and analytic perspectives are modestly effective at boosting school attendance and reducing school absenteeism (refer to, for example, Maynard et al., 2018; Keppens and Spruyt, 2020; Eklund et al., 2022). Key limitations, however, include insufficient integration of these various intervention strategies as well as incomplete dissemination and implementation across schools, community support agencies, and student groups (Heyne et al., 2020; Kearney and Benoit, 2022). In contrast, negative interventions, defined here as punitive measures to suppress certain behaviors, paradoxically exacerbate school absenteeism and are disproportionately and perniciously applied to vulnerable student groups (Mireles-Rios et al., 2020; Weathers et al., 2021). Examples include exclusionary discipline (e.g., arrests, expulsion, and suspension) and zero tolerance laws that often focus on deprivation of resources (e.g., *via* fines or restrictions on financial assistance or licenses) for absenteeism (Conry and Richards, 2018; Rubino et al., 2020).

A century of work has produced a prodigious amount of knowledge regarding school attendance/absenteeism. But, the world is changing fast. As mentioned, revolutionary and fundamental changes in human communication and interaction will alter the course of child education and thus the study of school attendance/absenteeism for decades to come. A complete summary of all possible future effects on education is beyond the scope of this paper. Instead, we concentrate on some of the broadest and perhaps most wide-ranging influences in this regard: demographic shifts, climate change, demands for social justice and equity, and technological advancements and globalization. These

influences, discussed next, are naturally complex, often subsuming other themes, and are naturally interwoven with one another.

The present: What is changing?

As stakeholders develop new visions of child education and school attendance/absenteeism for the future, several key fundamental shifts must be considered. One key fundamental shift worldwide involves *demographic changes* such as uneven (rising and declining) birthrates, more frequent migration patterns between regional countries and especially from south to north, and increased urbanization. Population growth is expected to largely emanate from African and Indo-Pacific countries and population decline is expected to be most acute for European and eastern Asian countries (United Nations Department of Economic and Social Affairs, Population Division, 2022). In addition, older age groups will grow fastest and will eventually outnumber children and adolescents. Migration is expected to expand considerably due to violence, persecution, deprivation, and natural disasters. Urbanization will increase from 55 to 68 percent of people by 2050, especially in Asia and Africa (United Nations Department of Economic and Social Affairs, Population Division, 2018).

These demographic shifts have many ramifications for child education and the study of school attendance/absenteeism. First, *school closures* in areas of population decline, a phenomenon already present in many countries, would be expected to accelerate. School closures create interrupted learning and measurements of learning, lengthy distances to new schools, compromised nutrition, social isolation, economic costs for families, and burden on existing schools (Hanushek and Woessmann, 2020). Learning losses due to school closures are particularly negatively impactful for disadvantaged students (Maldonado and De Witte, 2022). Conversely, education infrastructure for fastest-growing areas, already a problematic situation in areas noted above, will need to be prioritized. Second, *increased migration* means the need to integrate different student groups into a dominant educational culture. Challenges with respect to interrupted schooling, language, seasonal work, community isolation, socioeconomic disadvantages, fears of deportation, stigma, discrimination, and family separation thus apply (Martin et al., 2020; Osler, 2020; Rosenthal et al., 2020; Brault et al., 2022). Increased migration will also magnify brain drain of highly skilled educational professionals (Docquier and Rapoport, 2012) that contributes to international student performance gaps (Hanushek et al., 2019). Third, *increased urbanization* often means more concentrated economic disadvantage, racial segregation, affordable housing shortages, educational inequalities, and transportation vulnerabilities (Shankar-Brown, 2015).

A second key fundamental shift worldwide involves *climate change*. Climate change affects migration, as noted above, forcing students to change schools, adapt to new curricula, and potentially experience greater trauma (Prothero, 2022). Greater pressure to drop out of school to support families economically may occur as well (Nordengren, 2021). Climate change can also affect the physical structure of schools with limited air conditioning or ventilation or ability to withstand extreme weather, forcing cancellation of school days and reducing the availability of safe water and school-based meals (Sheffield et al., 2017). Schools in many parts of the world have closed for lengthy periods or been destroyed by cyclones, typhoons, floods, drought, landslides, and sea level rise. Related climate change risks include parent mortality, food insecurity, and increased air and water pollution in part due to lack of access to electricity and modern fuels (UNICEF, 2019). Environmental activism appears to buffer climate change anxiety and may be a protective factor for mental health in the climate crisis (Schwartz et al., 2022). Accordingly, students question the purpose of school attendance when their schools fail to provide curricular innovation regarding climate change, or to mitigate their environmental impact (Benoit et al., 2022).

Such changes in climate, already rapidly accelerating, may demand abrupt shifts between in-person and distance learning, enhanced methods for student tracking and records transfer, and improvements in educational infrastructure (Chalupka and Anderko, 2019). School buildings are also large energy consumers and may need to transition toward a reduced carbon footprint by shifting education to home- or community-based settings and/or by adopting energy efficient appliances, electric vehicles, and elimination of single use plastics, among other measures (Bauld, 2021). Education will also need to shift to careers of the future that intersect with a changing climate, such as renewable energy, environmental engineering, and emergency management (Kovacs, 2022). Basic education about the climate crisis, especially in developing countries, will need to be prioritized as well (Rousell and Cutter-Mackenzie-Knowles, 2020). The transition to sustainable development starts with pedagogical strategy and teacher training involving an Education for Sustainable Development program that emphasizes a concordant balance between societal, economic, and environmental imperatives (Ferguson et al., 2021).

A third key fundamental shift worldwide involves an increased demand for, as well as pushback against, *social justice and equity in educational systems*. Calls are growing to reduce or eliminate barriers to school attendance such as digital divides, disparities in school discipline, inequities in school funding, lack of access to school- and community-based care, oppressive school climates, transportation vulnerabilities, and victimization, all of which disproportionately impact vulnerable youth (Kearney et al., 2022). In addition, efforts to integrate themes of social justice and equity into education include revising school curricula toward multiple perspectives, addressing personal biases, supporting vulnerable students with respect to school completion, and matching the demographic characteristics of school staff and students (Spitzman and Balconi, 2019; Gottfried et al., 2021). Such efforts will also include a greater recognition that the surrounding community

must be a target of intervention, especially in areas of high chronic absenteeism (Grooms and Bohorquez, 2022; Kearney and Graczyk, 2022).

At the same time, however, an active global anti-science movement coupled with laws to restrict access to education, certain academic materials, and LGBTQ and gender rights in many countries serve as powerful counterweights to enhancing social justice and equity in educational systems (Hotez, 2020; Horne et al., 2022). Political movements emphasizing meritocracy but simultaneously depriving the means for equitable educational and social mobility also remain active and influential (Owens and de St Croix, 2020). Growing dissatisfaction with traditional educational settings and methods also means that many constituents are emboldened to attack educational system components such as school boards and curricula (Borter et al., 2022). More caregivers are thus seeking alternative choices, including home-based education, and many schools are facing critical teacher and leadership shortages (Eggleston and Fields, 2021; Wiggan et al., 2021).

A fourth key fundamental shift worldwide involves an ongoing modification of pedagogical goals and instructional formats for child education due to *globalization and technological advancements*. The pedagogical goals of education will depart from the historical Industrial Revolution model of memorization and standardization and toward a whole child/citizen approach where learning is accessible, collaborative, competency-based, inclusive, personalized, self-paced, and in part focused on student well-being. Such learning will emphasize skills needed for adult readiness that surround communication, creativity, innovation, and problem-solving (World Economic Forum, 2020). In addition, such learning will extend into emerging adulthood and be lifelong in nature as necessary skills require continual upgrades (Kim and Park, 2020).

Technological advancements also mean that the nature of education will be changing rapidly over the next decades. Some of these advancements will involve existing avenues such as cloud computing, hand-held devices and their applications, multi-touch surfaces, and social media (Polly et al., 2021). Other advancements will involve currently nascent avenues such as artificial intelligence, augmented reality, biometrics, robots, and metaverse (Aggarwal et al., 2022). As such, myriad alterations are expected with respect to instructional formats and settings, student-teacher communications, and strategies for learning (Yang et al., 2021). Less distinction will be made between traditional schools and other home and community settings, and the classroom of tomorrow may represent more of a digital network than a physical space (Kearney, 2016).

All of these changes demand consideration of new and more integrative visions for the future study of school attendance/absenteeism. Stakeholders in this area are often incentivized to pursue iterative processes or incremental changes; examples include researchers and clinicians beholden to outmoded conceptualization systems, granting agencies that reward piecemeal advancements, and policymakers searching for rapid and simple (and usually punitive) responses to a complex problem. Instead, a proactive approach is needed that integrates all stakeholders in part by establishing a mutual vision for the future. Such a vision would itself demand a focus on what is already known, what is changing, and what long-term goals must be pursued. One attempt to craft such a vision is presented next.

The future: What is the vision?

In this section, we make observations and recommendations for the future study of school attendance/absenteeism in light of the changing world and educational landscape noted in the previous section. We adopt two main perspectives in this regard. One perspective, a *constructivist* approach, means that stakeholders across the globe would be expected to view, develop, and apply these observations and recommendations quite differently based on their unique challenges, experiences, communities, viewpoints, and evolving life circumstances. In related fashion, areas of the world have vastly different systems, laws, and resources regarding education and thus school attendance/absenteeism. A second perspective, a *theory of change* approach, means that, despite these many global differences, a mutual vision could be developed to serve as a compass over the next decades for myriad global stakeholders. Such an approach toward a mutual vision may also be helpful for synthesizing systemic/analytic as well as geographic/cultural approaches to school attendance/absenteeism.

Theory of change

One avenue for integrating various approaches for a complex problem is the development of multi-stakeholder partnerships that leverage shared resources and expertise to achieve an eventual final goal in a postmodern era. Such partnerships involve establishing a *mutual vision* that sets the stage for ongoing interactions among the partner entities. Indeed, the sustainability of an alliance among partner entities is often enhanced by belief in a collective outlook, use of similar strategies, and some prior success working together (D'Aunno et al., 2019). Key partner entities for school attendance/absenteeism that meet these criteria include those representing both systemic and analytic approaches, such as educators, health-based professionals, policymakers, researchers, students, caregivers, state agencies, and national and international organizations.

One mechanism for creating a mutual vision among disparate partner entities involves *theory of change*, which is a "participatory process whereby groups and stakeholders in a planning process articulate their long-term goals and identify the conditions they believe have to unfold for those goals to be met" (p. 2, Taplin and Clark, 2012). Theories of change are typically designed in *backward fashion* around desired long-term goals (outcomes), intermediate steps and interventions that can produce those

outcomes (outputs), and current conditions and initiatives that serve as the impetus for the outputs (inputs; Guarneros-Meza et al., 2018). Theory of change helps inform overarching long-term vision and strategic planning by producing assumptions that can be tested by research. Theory of change is "method-neutral," relying on many informational sources (e.g., grey/published literature, program/policy evaluation, stakeholder feedback), which makes the approach particularly amenable to the disparate area of school attendance/absenteeism (Breuer et al., 2015).

The following sections introduce a futuristic, broad-strokes theory of change for school attendance/absenteeism that coalesces systemic and analytic approaches and assumes a mutual long-term (postmodern) goal of *readiness for adulthood for all students*. Although such a goal may pertain to quality of education more broadly, a specific focus on school attendance/absenteeism is chosen here because these constructs are better defined operationally, underpin education, and serve as a proxy for variables such as behavioral school engagement. Theory of change for a postmodern era seems particularly salient given substantial demographic, climate, social justice, pedagogical, technological, globalization, and other forces in the contemporary era that are compelling educators and other stakeholders to re-examine historical assumptions about instructional formats, equity of systems, and economic sustainability in adulthood (Atiku and Boateng, 2020).

The theory of change framework introduced here is not a final blueprint but rather a starting point for discussion. All aspects of a theory of change framework, including its fundamental assumptions, are subject to debate, analysis, modification, and refutation. As such, the theory of change framework introduced here is a fundamental model of action and not an advanced log frame approach that articulates specific indicators for success, measurement milestones, and mechanisms for causal connections (De Silva et al., 2014). The framework described here (Figure 1) is instead presented in a flexible, constructivist format without a rigid, predefined structure in order to allow for multiple causal pathways and interlocking systems that may progress toward a mutual goal in various ways.

Outcomes

The first step in designing a theory of change for a given issue is to define the primary long-term goals or outcomes. With respect to school attendance/absenteeism, the primary outcome utilized here is readiness for adulthood for all students. The secondary outcome is a synthesis of systemic/analytic and geographic/cultural approaches to school attendance/absenteeism to enhance multi-stakeholder partnerships that leverage shared resources and expertise to achieve full school attendance and thus readiness for adulthood for all students.

One overarching purpose of youth-based education, and thus school attendance, is to ensure *readiness for adulthood for all students* (Pimentel, 2013). Readiness is a multifaceted construct that includes career and life skills necessary to be successful in postsecondary education and employment (Mishkind, 2014). Career (or academic) readiness can include variables such as critical thinking, problem solving, learning strategies, and organizational/study skills, among others (Monahan et al., 2018). Life skills (or nonacademic) readiness can include variables such as communication abilities, interpersonal skills, self-management, creativity/innovation, and conscientiousness, among others (Morningstar et al., 2017). In addition, broader factors such as student motivation/engagement, growth mindset, understanding of postsecondary requirements, and opportunities and supports for post-high school development enhance career and life skills readiness (Morningstar et al., 2018). All of these domains overlap considerably with one another, have been ensconced in educational policies, initiatives, and mandates (e.g., Common Core State Standards; Every Student Succeeds Act), and are considered crucial for employment in a globalized economy (Malin et al., 2017).

Readiness for adulthood also hinges on evolving developmental theory that defines adolescence and emerging adulthood as overlapping, extended phases of growth that precede formal adulthood. Adolescence includes youth in pubertal years as well as youth up to age 24 years who have not yet assumed adult roles due to slower behavioral maturation (e.g., impulsivity; Hochberg and Konner, 2020). Emerging adulthood represents youth up to age 28 years who progress toward independence, complex interrelationships, and career trajectories within a volatile period of emotional, neurodevelopmental, and social development (Wood et al., 2018). Evolving concepts of adolescence and emerging adulthood have important ramifications for K-12 educational systems, and thus school attendance, in that many students are not prepared to complete high school with respect to readiness at legally predefined ages (e.g., age 18 years; Duncheon, 2018). Instead, many students, and particularly those with disabilities, require extended time for school completion, transition services, and/or continuing academic and vocational training programs to successfully bridge adolescence, emerging adulthood, and formal adulthood (Lombardi et al., 2020).

School attendance relevant to both K-12 and continuing education is a key cornerstone and positive consequence of readiness initiatives (Hemelt et al., 2019). Unfortunately, as mentioned, school attendance problems remain stubbornly elevated among vulnerable student groups worldwide (Garcia and Weiss, 2018). Key reasons for this include, from a systemic perspective, early structural disparities and achievement gaps that are exacerbated over time; and, from an analytic perspective, fewer home-based academic activities and greater mental health challenges and adverse experiences that impede learning. As such, large swaths of youth are ill-prepared for employment and have considerably lower lifetime earning potential than peers who at least completed high school (Pfeffer, 2008; U.S. Department of Education, National Center for Education Statistics, 2020).

Readiness for adulthood for *all* students is the primary outcome chosen here for a theory of change regarding school

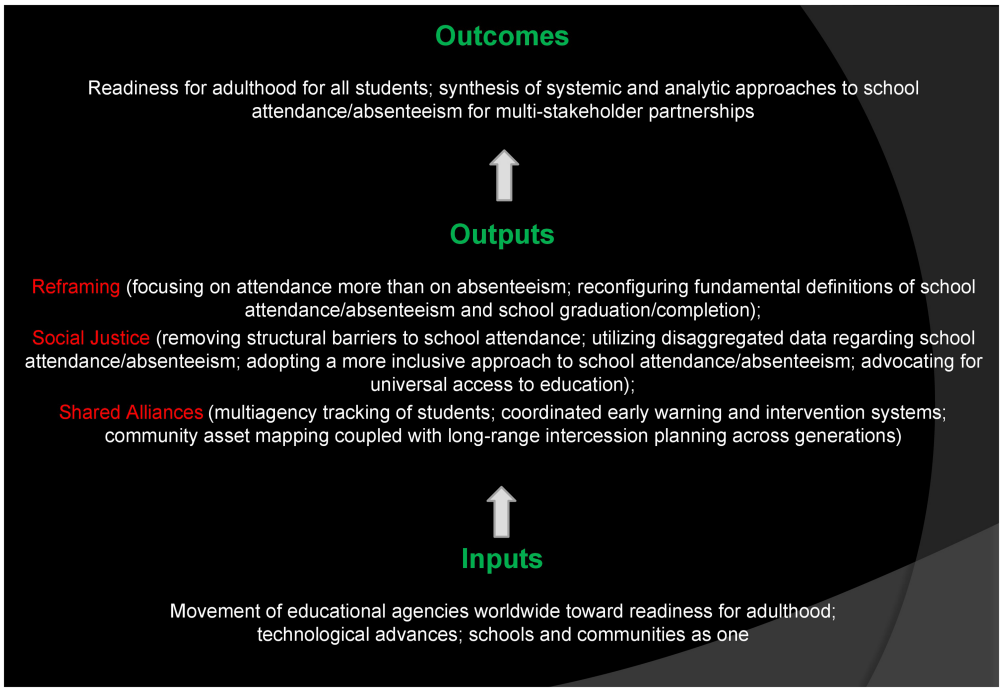

FIGURE 1
Theory of change for school attendance and its roblems. This figure shows how contemporary inputs could lead to key outputs that could produce outcomes in a postmodern era.

attendance/absenteeism. Such an outcome will require ample resources, will, and creative educational efforts such as dual enrollment programs, reconfigured high school curricula, sectoral employment strategies, and revised graduation policies to essentially blur the line between completing high school and beginning the adult readiness process (e.g., *via* vocational training, community college, military service; Spangler and O'Sullivan, 2017). Such an outcome also requires a revised approach to understanding school attendance/absenteeism over the next decades. This revised approach involves viewing the readiness transition from adolescence to adulthood as a process and to ensure that this process is equitable for all students and informed by systemic and analytic perspectives.

Outputs

As mentioned, a theory of change is typically designed in backward fashion; as such, the outputs, or intermediate steps and interventions that can produce identified outcomes, are discussed next. Outputs toward a vision of readiness for adulthood for all students, with specific reference to school attendance/absenteeism, intersect with the present changes described earlier and are arranged according to themes of *reframing*, *social justice*, and *shared alliances*. Each output involves a focus on transitional process, equity, and synthesis of systemic and analytic perspectives to school attendance/absenteeism.

Reframing

Over the next decades, reframing with respect to school attendance/absenteeism will involve (1) focusing on attendance more than on absenteeism and (2) reconfiguring fundamental definitions of school attendance/absenteeism and school graduation/completion. Such reframing is necessary to accommodate an overall goal of readiness for adulthood for all students by emphasizing inclusivity and school engagement, allowing for an extended developmental period of preparatory education into emerging adulthood, and accounting for massive technological changes in instructional formats expected in the next decades (Dimitrova and Wiium, 2021). Such reframing also requires synthesis of systemic and analytic approaches to school attendance.

The first aspect of reframing involves *focusing on attendance more so than on absenteeism*. Contemporary school and policy approaches often emphasize punitive measures for absenteeism such as exclusionary discipline (arrest, suspension, and expulsion) and referral to juvenile and criminal justice systems (McNeely et al., 2021). In addition, as mentioned, absenteeism policies are often used to perniciously exclude students with behavioral and academic problems from the educational process (Mireles-Rios et al., 2020). These policies thus derail an overall outcome of readiness for adulthood for many vulnerable students. A focus on absenteeism also tends to place burden for remediation on families and neglects more systemic reasons why many students cannot attend school, such as school

closures, lack of timely bus and school assignments, limited access to educational technology, and health-based disparities in services (U.S. Department of Education, 2018). Long-range early warning systems that focus more on absenteeism and dropout are also unstable across student groups and are unlinked to interventions to improve school attendance (Newman et al., 2019).

In contrast, a focus on *restorative practices and attendance* augments connection and engagement with school. These efforts can do so *via* systemic school-family-community partnerships as well as analytic health-based strategies to enhance safety, academic growth, mental health, social relationships, family resources, and career development (Gentle-Genitty et al., 2020). These efforts are further supported by large-scale data analytic/mining models in this area that often reveal greater specificity than sensitivity, meaning the models are better at predicting which students *attend* school rather than which students are *absent* from school (Chung and Lee, 2019). As such, early warning systems can be designed in accordance with these models to provide a more nuanced, localized, and real-time analysis of attendance patterns. Such systems can be linked as well to attendance dashboards that absorb information from multiple agencies such as housing or public health to better track student attendance (refer also to the shared alliances section; Childs and Grooms, 2018; Kearney and Childs, 2022).

The second aspect of reframing involves *reconfiguring fundamental definitions of school attendance/absenteeism as well as school graduation/completion* by adopting broader and more flexible characterizations of these constructs to account for fast-moving changes in educational formats and to better synthesize systemic and analytic perspectives. Contemporary school and policy approaches in this area emphasize traditional metrics such as in-seat class time in a physical building and point-in-time graduation, which are becoming obsolete for many students given expansions in teaching and learning formats as well as evolving developmental theory regarding emerging adulthood. These approaches also rely on archaic, derogatory, and confusing terminologies. For example, the terms "truancy" and "unexcused absences" are rife with multiple and stigmatizing meanings that are applied disproportionately to vulnerable students and include negative connotations regarding delinquency and poverty (Kearney et al., 2019a; Martin et al., 2020; Pyne et al., 2021). In addition, school completion is often viewed more as a singular event (graduation) in adolescence rather than as an ongoing preparatory process into emerging adulthood, thus disenfranchising students who require additional supports. These approaches insufficiently promote an overall outcome of readiness for all students.

Broader and more flexible characterizations of school attendance/problems have been proposed. Patrick and Chambers (2020) redefined school attendance as time on task, participation or evidence of student work, and competency-based attainment with demonstrations of knowledge and skill-building. Kearney (2021) redefined school attendance/problems as involvement in teaching and learning practices that augments or subverts the prospect of school graduation or completion. Both revised definitions broaden school attendance toward *engagement* that can include cognitive, behavioral, and emotional investment in academic work and progression. The revised definitions also allow for growth metrics such as school achievement that focus on on-track instead of off-track status for students (Bauer et al., 2018). The revised definitions further allow for greater understanding of whether engagement, or lack thereof, could be informed by impairment in school (e.g., academic achievement), social (e.g., interpersonal skills, relationships), and family (e.g., financial cost) domains (Kearney, 2022). Both examples eschew traditional emphases on timeline and physical location and synthesize systemic and analytic perspectives by adopting a mutual language to define school attendance/ absenteeism, incorporating multiple instructional formats (e.g., in-person, hybrid, and online), and allowing for categorical distinctions better informed by dimensional aspects (Kearney and Gonzálvez, 2022).

Broader and more flexible characterizations of school *graduation* will also be necessary for the next decades. In particular, graduation will need to be viewed more as a *process* extending potentially into emerging adulthood than as a singular event in adolescence and with an emphasis more on school *completion* without, necessarily, a predefined timeline. An analogy is the systemic conceptualization of school dropout as an elongated process of school disengagement, declining academic performance, and premature departure from school as opposed to a singular event (Rumberger and Rotermund, 2012). As mentioned, systemic and flexible educational programs that blur the line between end of high school and beginning of adulthood are emerging (Kearney, 2016). In addition, analytic health-based protocols for school attendance problems increasingly incorporate an extended developmental focus such as competencies for emerging adulthood (e.g., independent living skills) that may have been compromised by school absenteeism (e.g., Kearney and Albano, 2018). Extension of the school completion process allows for greater transition to readiness in emerging and later adulthood for a greater number of students and assimilates key systemic and analytic developments that emphasize flexibility for conceptualizing school attendance/absenteeism.

Social justice

Over the next century, social justice with respect to school attendance/problems will involve mechanisms and processes ensuring that *all* students have access to opportunities to achieve readiness for adulthood, in this case *via* school attendance. Such mechanisms and processes involve (1) removing structural barriers to school attendance, (2) utilizing disaggregated data regarding school attendance/absenteeism, (3) adopting a more inclusive and less deficit- and reductionistic-oriented approach to school attendance/absenteeism among key stakeholders, and (4)

advocating for universal access to education. Such mechanisms and processes must involve a synthesis of systemic and analytic perspectives on school attendance/absenteeism.

The first aspect of social justice is *removing structural barriers to school attendance*, especially for vulnerable students. Recall that barriers in less developed countries include systematic deprivation of educational opportunity for all students often based on gender, ethnic status, poverty, and disability as well as limited qualified instructors and learning materials. Barriers in more developed countries include school closures, inequities in school funding, racial disparities in school discipline, oppressive school climate, victimization, lack of access to school counselors/nurses and mental health care, transportation vulnerability, and restricted access to technological supports for academic endeavors (Kearney et al., 2022).

Over the next decades, efforts to remove structural barriers to school attendance will involve a coordinated effort among school officials, community partners, health professionals, and researchers from systemic and analytic perspectives to examine localized patterns of absenteeism and conditions that contribute most to that absenteeism. A key part of this effort will be to utilize sophisticated data analytic strategies for large data sets to pinpoint root causes of absenteeism for a given community, school, or student group (Hough, 2019). These strategies include algorithm- and model-based strategies designed to reveal predictive patterns or outcomes.

Algorithm-based models establish predictive rules for a given outcome such as absenteeism that can also identify key barriers to attendance. These models have been used to identify specific barriers such as delays in assigning new schools following residential changes, safety concerns at school, lack of transportation, grade retention, teacher turnover, and lack of certain courses needed for graduation (e.g., Deitrick et al., 2015). These analyses can also be used to provide predictive information for certain developmental levels/grades, student groups, and schools and classrooms (Newman et al., 2019). Model-based analyses identify relationships or clusters among variables related to absenteeism. Such approaches have also helped identify key barriers to school attendance in certain locations such as food and housing insecurity, elevated school suspension rates, and entry into juvenile/criminal justice systems (e.g., Coughenour et al., 2021).

The second aspect of social justice is *focusing on disaggregated data regarding school attendance and absenteeism*. Contemporary school and policy approaches emphasize aggregated data across various student groups to evaluate progress in a given area, such as overall graduation rates across schools or districts. A frequent tactic is to rely on cutoffs to determine acceptable levels of overall attendance rates for a school or district, such as 90% (Durham et al., 2019). Reliance on aggregated data and cutoffs, however, discounts nuanced sources of information pertinent to targeted intervention efforts, such as timing of absences, information from other relevant agencies (e.g., housing and public health), qualitative data, and information on long-range attendance patterns (Falissard et al., 2022; Kearney and Childs, 2022; Keppens, 2022). Reliance on aggregated data and cutoffs also discounts broader factors related to absenteeism such as lack of safe transportation to school, ignores attendance rates parsed by student group, and fails to inform effective interventions (Hutt, 2018). Reliance on aggregated data also fails to capture important, nuanced, historical information for a given community that can be critical for addressing broader issues related to school attendance and absenteeism.

Over the next decades, efforts to address school attendance/absenteeism will focus on disaggregated data to better identify high-risk groups, focus on a continuum of school attendance/absenteeism, and include growth metrics to enhance school accountability efforts (Bauer et al., 2018). Disaggregated data as opposed to cutoffs will help identify specific student groups, often those with intersecting risk factors, most in need of services. Examples include students of various racial and ethnic groups with certain health problems, students who are English language learners living in impoverished neighborhoods, students with disabilities without transportation to school, and migrant students with varying degrees of assimilation into a particular school (Childs and Grooms, 2018). Alternatives to cutoffs will require synthesis of systemic and analytic approaches by adopting diverse disaggregation strategies such as conducting needs assessments, data system reconfigurations, and case studies in educational agencies (National Forum on Education Statistics, 2016).

The use of disaggregated data also allows for greater consideration of a continuum of school attendance/absenteeism. Although many schools rely on full-day presence or absence from school, school attendance/absenteeism more accurately also includes partial absences (e.g., tardiness, skipped classes, or parts of a school day) and difficulties attending school (e.g., morning behavior problems to miss school and distress during a school day; Kearney et al., 2019a). Reliance on full-day absences also penalizes students who are late to school due to transportation and other problems outside their control (Chang, 2018). A focus on a continuum as opposed to full-day absences allows for more granular attendance coding, especially for online or hybrid learning environments and for vulnerable students, that supports a standards-based or competency-oriented progression with respect to academic progress and eventual school completion (National Forum on Education Statistics, 2021).

A focus on disaggregated data also permits greater use of growth or on-track metrics to enhance school accountability regarding specific student groups (Leventhal et al., 2022). Growth metrics can include school metrics related to climate and academic quality, achievement metrics related to academic progress (including attendance), and protective metrics related to school engagement and other variables that propel students toward school completion (Zaff et al., 2017). These metrics are better suited for proactive practices to identify specific students drifting off track and in need of resources and moving away from reactive, punitive, and often discriminatory absenteeism policies that exclude students from the educational process (Spruyt et al., 2017;

Bauer et al., 2018). Growth metrics also synthesize systemic and analytic approaches in this area by emphasizing academic and non-academic variables.

The third aspect of social justice is *adopting a more inclusive and less deficit- or reductionistic-oriented approaches among key stakeholders*. Contemporary research, policy, and educational practices emphasize specific risk factors for school attendance problems involving youth and caregivers (Conry and Richards, 2018). Examples include mental, behavioral, and learning challenges; caregiver strategies; and family dynamics (e.g., Roué et al., 2021). As such, researchers and other stakeholders disproportionately place blame and burden for remediating school attendance problems on students and their families, especially for vulnerable groups (Grooms and Bohorquez, 2022). Less attention is paid to broader factors outside a family's control such as structural barriers to school attendance or school and community factors (Gubbels et al., 2019). Indeed, students often report that problems with the physical and social school environment impact their attendance more so than home-based experiences (Corcoran and Kelly, 2022). School attendance/absenteeism constructs are instead, however, often framed within a deficit narrative.

Over the next decades, a more inclusive approach to school attendance/problems will include better recognition of broader contextual factors other than student and family variables that contribute to separation from the educational process. This will include consideration of various ecological levels associated with school attendance and absenteeism that involve both proximal and distal factors. Microsystem-level or proximal factors are often the focus of researchers and school personnel and are valid predictors of school absenteeism; examples include mental health challenges, limited parent involvement, and learning disorders. A more inclusive and less stigmatizing approach to school attendance/problems will involve greater analysis of, and integration with, broader ecological levels. Examples include interactions among microsystem variables such as caregiver-teacher communications (mesosystem), indirect influences of social structures such as caregiver unemployment and housing insecurity (exosystem), and cultural and policy influences such as neighborhood violence and exclusionary disciplinary practices (macrosystem; Singer et al., 2021). Developmental cascade models can also blend systemic/proximal and analytic/distal variables of causation for school attendance/absenteeism across multiple ecological levels (Kearney, 2021).

Key stakeholders will also better recognize that missing school is often an *adaptive option* for many students. Examples include pursuing employment or caring for siblings to assist one's family, avoiding victimizing or repressive school environments, or rejecting an academic system biased against certain student groups with respect to academic and social opportunities and disciplinary policies (Kohli et al., 2017). Absence from school is thus not "disordered" in nature for many students. In related fashion, epistemic injustice in many educational institutions worldwide means that student knowledge and expression of local/indigenous contexts, practices, and culture are suppressed in favor of a dominant and oppressive orientation (Elicor, 2020). Adopting an ecological, developmental, and equitable approach to school attendance/absenteeism thus requires synthesizing systemic and analytic perspectives with respect to racial inequality, implicit bias, and structural disadvantage.

The fourth aspect of social justice is *advocating for universal access to education*. Stakeholders in the next decades must pursue a more active advocacy agenda, in particular for vulnerable students worldwide who are deprived of an education. Such advocacy can occur at a systemic level, as when national and international organizations denounce educational oppression and promote the basic right to education. Such advocacy can also occur at the individual level, as when various professionals help students reconnect with the educational process after having been derailed by injustices and exclusionary and biased policies.

Shared alliances

Over the next decades, school absenteeism will be increasingly and accurately viewed as a wicked problem that is highly intertwined and relentless across communities and generations (Childs and Lofton, 2021). Contemporary approaches to school attendance/problems are quite siloed across disciplines, but progression toward a postmodern era involves shared alliances among key agencies and stakeholders to address the complexities inherent in school attendance/absenteeism. Manifestations of these shared alliances include (1) multiagency tracking of students, (2) coordinated early warning and intervention systems, and (3) community asset mapping coupled with long-range intercession planning across generations. Shared alliances with respect to these manifestations necessarily involve partnerships among those from systemic and analytic perspectives, such as between policymakers who mandate school attendance practices and researchers and others who generate data to inform best practices in education and school attendance (Iftimescu et al., 2020).

Multiagency tracking of students refers to collaboration among educational, governmental, public health, and other key community entities to better trace students who are separated from the educational process. Frequent reasons for separation include housing insecurity and residential mobility. Mechanisms of multiagency tracking include sharing data, liaisons, and office spaces among departments, meeting regularly to define appropriate metrics, and expanding criteria for those selected for assistance programs (Welsh, 2018). Multiagency collaboration can also address key drivers of absenteeism related to housing insecurity *via* rental assistance and transportation to a previous school. Such collaboration can align with existing multiagency efforts for adult readiness (Sambolt and Balestreri, 2013) and requires coalitions among those from systemic (e.g., public housing) and analytic (e.g., school counselor) perspectives.

Coordinated early warning and intervention systems refer to mechanisms by which students are identified as at-risk for

short-range absenteeism or long-range school dropout, coupled with strategies to ameliorate risk and enhance school attendance for these students. Short-term risk for a given academic year can be quantified based on local conditions such as a particular school, whereas long-term risk over several years can be quantified for larger educational agencies across districts or states/provinces (Balfanz and Byrnes, 2019). Risk factors thus often include broader variables such as school disengagement and academic progress as well as specific variables such as accommodation plans and newness to a school, thus blending systemic and analytic approaches (Chu et al., 2019). Early warning/intervention systems can be also linked to adult readiness programs by incorporating readiness indicators such as enrollment in career/technical programs or dual high school/college courses (National Forum on Education Statistics, 2018).

Community asset mapping with long-range intercession planning across generations refers to identifying and obtaining resources from businesses, individuals, and service and educational agencies to form family-school-community partnerships to enhance school attendance and adult readiness, particularly for vulnerable students (Kearney and Graczyk, 2022). Key mechanisms include mentoring, tutoring, skills development, mental health support, and academic enrichment and adult readiness programs. Such partnerships are particularly useful for high-risk groups such as students who are homeless or those with disabilities (Griffin and Farris, 2010) and can include support for families across generations. The partnerships blend systemic and analytic approaches to school attendance/absenteeism and support a developmental focus with respect to college and career readiness programs for underserved adolescents (Gee et al., 2021).

Inputs

As mentioned, a theory of change is typically designed in backward fashion; as such, the inputs, or current conditions and initiatives that can serve as the impetus for the outputs, are discussed next. Key inputs in the contemporary era include (1) movement of educational agencies worldwide toward readiness for adulthood, (2) technological advances, and (3) schools and communities as one. Each input directly supports avenues toward reframing, social justice, and shared alliances as well as increased synthesis of systemic and analytic perspectives with respect to school attendance/absenteeism.

Movement of educational agencies toward readiness for adulthood

The World Economic Forum Education 4.0 Framework emphasizes skills (global citizenship, innovation and creativity, technology, and interpersonal) and forms of learning (personalized and self-paced, accessible and inclusive, problem-based and collaborative, lifelong, and student-driven) necessary for adult readiness (World Economic Forum, 2020). As mentioned, education and pedagogy are moving away from the Industrial Revolution model of memorization and standardization to a whole child/citizen education approach for postmodern globalization. Movement of educational agencies in this direction has implications for school attendance/absenteeism vis-à-vis the outputs described above.

With respect to *reframing*, school attendance is increasingly viewed as participation and engagement in instructional formats, including online and hybrid formats, that augment readiness for adulthood in more flexible and accessible ways. Alternative codes for attendance in this new context include number of hours per day; log-ins to virtual learning; student-teacher interactions; completion of assignments; measures of competency, mastery, and achievement (skills and knowledge); and meeting timelines for course objectives (National Forum on Education Statistics, 2021). In addition, the proliferation of online, technical, skills training, and other nontraditional education programs available to those in emerging adulthood, including mechanisms to address the needs of students with disabilities and to simultaneously complete primary education while initiating these programs, propels a greater focus on participation/attendance than on absenteeism and set graduation times (U.S. Department of Education, 2012). Moreover, ongoing educational disciplinary reforms recognizing the disparate punitive nature of truancy and related policies require a shift in emphasis from absenteeism to participation/ attendance (Gentle-Genitty et al., 2020).

With respect to *social justice*, school attendance is increasingly framed as an access issue and as a key pathway to address entrenched inequalities. A key foundational principle in this regard is assuring the right to quality education throughout the lifespan, including the right to access and contribute to bodies of knowledge and to participate in discussions about education (UNESCO, 2021). Learning frameworks are moving toward enhanced student agency to remove barriers to education, provide personalized learning environments to boost access to education, and ensure literacy and numeracy for as many as possible (OECD, 2018). Researchers have also begun integrating global social justice variables in their models of school attendance/absenteeism, particularly with respect to migration, racial and income inequality, economic policies and opportunities, labor markets, violence, food insecurity, and healthcare (Keppens and Spruyt, 2018; Kearney et al., 2019b).

With respect to *shared alliances*, the emergence of family-school-community partnerships to address the needs of vulnerable students also allows for mechanisms to coordinate tracking, assessment, and early intervention services (Benoit et al., 2018). Such partnerships often involve incorporating a set of community agencies into the school setting to reduce stigma, transportation problems, cost, wait time, and other barriers and thus draw students and their families. Such a process enhances the ability to identify families absent from this process, address family needs that supersede school attendance, and map community assets tailored best to a school's jurisdiction (Iftimescu et al., 2020).

Technological advances

As mentioned, myriad technological changes are occurring in education and include augmented reality, metaverse, artificial intelligence, social media, biometrics, cloud computing, multi-touch surfaces, 3D printing, hand-held devices, applications, blockchain, and gamification. Such changes obviously impact instructional formats and settings, learning strategies, communications, student-teacher relationships, and other core aspects of the educational process. These changes carry risks, such as unequal access to equipment and connectivity, as well as benefits such as reduced barriers and extension of education on a continuum from childhood to adolescence to emerging and later adulthood. Technological advances also have important ramifications for school attendance/absenteeism over the next decades.

With respect to *reframing*, technological advances that include remote learning are necessarily compelling educational agencies to reconfigure metrics for school attendance/absenteeism, as noted above. In addition, technological advances allow for enhanced attendance tracking, feedback to caregivers, and data accumulation for learning analytic practices, though privacy concerns remain relevant. The advances also allow for more nimble interventions and pinpointed root cause analyses of attendance and absenteeism patterns for a given jurisdiction (Center for Education Policy Research, 2021). Various technologies also facilitate real-time communications between school counselors, caregivers, and mental health professionals at an analytic level or for designing proactive measures to boost school attendance at a systemic level (Cook et al., 2017).

With respect to *social justice*, technological advances certainly have the potential to reinforce oppressive systems as well as a digital divide (Elena-Bucea et al., 2021). Constructed properly, however, technological advances have the potential to increase access to education and reduce barriers to school attendance *via* mechanisms that provide students with multiple ways of engaging the same material, expressing academic work, and accessing options to learn a particular competency or skill, even into emerging and later adulthood (U.S. Department of Education, 2017). Technological advances also enhance cross-cultural classrooms to build relationships and exchange skills while empowering and drawing more youth into the educational process (Marx and Kim, 2019).

With respect to *shared alliances*, technological advances allow multiple agencies to better coordinate data systems by enhancing value and mitigating risk and friction that inhibit sharing. Advances in cloud computing, encryption, interoperability, data directories, execution environments, and artificial intelligence are used in this regard. Such developments will be particularly necessary for those agencies most pertinent to school attendance/absenteeism that have historically not collaborated and thus have quite disparate data sets, such as schools, medical centers, public housing agencies, legal systems, and developmental services (Kearney and Benoit, 2022).

Schools and communities as one

As mentioned, the future of education will increasingly involve a blending and shifting of traditional school-based with home and community settings. Various mechanisms already exist for this process, sometimes derived from emergency and disaster contingency planning (such as following climate change events), that include formats for blended and self-learning, multiple learning modalities, online social networking, media broadcasts, and home- and nonprofit agency-based instruction (Lennox et al., 2021). Other mechanisms include a greater reliance in education on community-based service and experiential learning, internships, practicum placements, portfolios, vocational and field work, and other applied demonstrations of academic competency that do not require traditional attendance in a physical building (Filges et al., 2022).

Systemic and analytic approaches have also been moving toward school-based service delivery frameworks based on levels of support for different student needs that integrate school and community resources. Integrated multi-tiered systems of support (MTSS) models emphasize Tier 1 universal or primary prevention practices to promote adaptive behavior and deter maladaptive behavior; Tier 2 early, selective intervention or secondary prevention practices to address emerging and less severe problems; and Tier 3 intensive intervention or tertiary prevention practices to address chronic and severe problems. Strategies for school attendance/problems include systemic and analytic elements such as school dropout prevention and screening practices (Tier 1), mentoring and clinical practices (Tier 2), and alternative educational and specialized care practices (Tier 3; Kearney and Graczyk, 2020).

With respect to *reframing*, MTSS models themselves represent a transformative change by adopting sustainable school improvement practices and outcomes and eschewing "wait-to-fail" achievement-discrepancy frameworks to assess student growth. As such, interactive environmental factors (e.g., curricula and school responses) receive as much if not more emphasis than student factors for academic progress, behavior, and skills. Such an approach allows for a broader reframing of school absenteeism toward efforts to enhance school attendance *via* incentives, positive climate, and policy review as well as growth metrics for school accountability purposes. MTSS models are also amenable to long-term educational initiatives such as transition services that enhance readiness into emerging adulthood for all students (Osgood et al., 2010).

With respect to *social justice*, MTSS models can be a means to enhance equity among student groups because the models (1) rely on data-driven processes to drive continuous improvements to instruction and other outcomes, (2) include all students in a given school, and (3) specifically provide intensive services for at-risk students (Fien et al., 2021). MTSS models are compatible with disaggregated data and learning analytic approaches to personalize learning experiences for individual students and include proactive preventative approaches instead of reactive, often punitive approaches. The models are also amenable to culturally responsive

practices by welcoming traditionally marginalized students, validating student home cultures and communities, nurturing student cultural identities, promoting advocacy, and resisting deficit-oriented constructions of student performance (Khalifa et al., 2016).

With respect to *shared alliances*, MTSS models depend on cross-system collaborations that include members of systemic and analytic approaches. Systems of care for youth and their families often include educational, primary care/community mental health, legal, and developmental systems. MTSS models utilize team-based approaches across these systems; examples include community mental health professionals within schools, hybrid truancy court practices, and linkage of preschool supports with early grade accommodations, especially for students with disabilities (Kearney, 2016). Other key collaborators include researchers for expertise and technical support, external participating agencies for student tracking and progress monitoring (early warning) and service provision, and community stakeholders for asset mapping. Indeed, a key shared alliance for the future will involve partnerships between academia, industry, and other stakeholders (e.g., Heyne et al., 2020; Rocha et al., 2022).

Conclusion

Much is known about school attendance/absenteeism but we live in unprecedented times of rapid systemic shifts in basic human functioning. New visions are needed. The theory of change for school attendance/absenteeism presented here offers one possible compass that outlines how contemporary forces could shape key outputs that themselves could produce desirable long-range outcomes over the next decades. The theory is designed as a starting point for discussion among various stakeholders in this area, particularly those from disparate systemic and analytic perspectives. Agreement on long-term outcomes can help crystallize cohesive narratives that can then influence policy and educational and health-based practice. Such agreement also allows for frameworks specifically crafted to include *all* youth in the educational process. At the same time, the theory of change outlined here is designed to be flexible enough in a constructivist fashion to be fitted to jurisdictions worldwide that differ tremendously in their approaches to education, law, research, and child development. We invite commentary and input into the crystal ball.

Author contributions

All authors listed 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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