

Title: Identifying and Addressing Social Determinants of Learning During the COVID-19 Pandemic

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[H1]Abstract

The COVID-19 pandemic has negatively impacted the health of people from communities of color and people of limited socioeconomic means in a disproportionate way due to social determinants of health (SDoH). The Centers for Disease Control defines SDoH as the “conditions in the places where people live, learn, work, and play that affect a wide range of health and quality-of-life-risks and outcomes.” A related construct, social determinants of learning (SDoL), includes contextual conditions and variables that impact students’ ability to optimally participate in their education, including academic and clinical development. SDoL directly impact students’ ability to participate in the educational process. During the COVID-19 pandemic, students struggling with SDoH and, by extension SDoL, may be more likely to have sick family members, caregiving responsibilities, food and housing insecurity, and obligations to supplement lost family wages. SDoL are also influenced by individual experiences within and outside of the classroom. Beyond bringing this matter to the attention of our profession, especially clinical and academic educators, we must take action to reach and support students who are at higher academic risk due to the SDoL. The purpose of this paper is to: (1) define SDoL, (2) explain how SDoL are impacting DPT and physical therapist assistant students, and (3) discuss actions that physical therapists and physical therapist assistants can take to mitigate the effects of SDoL on current DPT and physical therapist assistant students.

Impact. This Perspective is one of the first explorations of how SDoL affect physical therapy students during the pandemic and provides concrete suggestions on how educators in both academic and clinical settings can help students succeed when they are negatively affected by SDoL.

[H1]Background

The COVID-19 pandemic has negatively impacted the health of people from communities of color and people of limited socioeconomic means in a disproportionate way due to social determinants of health (SDoH) (Tab. 1).¹⁻⁷ The Centers for Disease Control and Prevention defines SDoH as “conditions in the places where people live, learn, work, and play that affect a wide range of health and quality-of-life risks and outcomes.”⁸ Public health literature describes SDoH as having 5 subcategories: education access and quality, health care access and quality, neighborhood and built environment, economic stability, and social and community context.⁹ Understanding SDoH is critical to physical therapy professionals as the vision of the American Physical Therapy Association calls for “transforming society by optimizing movement to improve the human experience.”¹⁰ The connection between SDoH, physical therapy, and the society it seeks to serve are inseparable. This paper will explain SDoH, and a related concept, social determinants of learning (SDoL) as they apply to students of physical therapy and the larger physical therapy community.

It has been established that the educational setting is one of acculturative stress for a diverse range of students, particularly those of minority communities, lower socioeconomic means, and first-generation college students.^{11,12} For the purposes of this paper, minority students may include students of an underrepresented race, ethnicity, disability, gender, sexual orientation, socioeconomic status, or academic background, including first-generation students (students who are the first in their family to earn an associate or undergraduate degree). These students are less inclined to self-refer for help and are less likely to respond to faculty attempts at intervention. On the contrary, they are more likely to “fly below the radar” so as not to draw

attention to themselves as “different.”¹³⁻¹⁵ The authors (a DPT educator, a physical therapist assistant educator, a DPT student, and a physical therapist assistant student), have identified issues related to specific subcategories of SDoH impacting current DPT and physical therapist assistant students. While these issues may seem anecdotal, we believe this is explained by what we call SDoL. The goals of this paper are to: (1) define SDoL, (2) explain how SDoL are impacting DPT and physical therapist assistant students, and (3) discuss actions that all physical therapists and physical therapist assistants can take to mitigate the effects of SDoL on current DPT and physical therapist assistant students.

The authors define SDoL as contextual conditions and variables that interfere with students’ ability to optimally participate in their education, including both their academic and clinical experiences. SDoL are closely related to SDoH, and incorporate aspects of the 5 SDoH subcategories. Since SDoL connects concepts involving the disciplines of Public Health, Education, and in this case, Physical Therapy, the authors created a conceptual framework (Fig. 1) guided by Jabareen’s recommendations.¹⁶ Each of the 5 subcategories of SDoH are related to SDoL, and SDoL have a direct impact on students’ ability to attend class, participate in instructional activities, and consolidate information both in and out of the classroom. As such, the authors contend that SDoL must be recognized and addressed separately from SDoH to meet students’ needs. However, viewing and understanding SDoL in the context of the larger concept of SDoH is useful to comprehend and appreciate the wide-ranging scope of these issues. Based on our review of the literature, the term SDoL has been published once before,¹⁷ but the concept has not been well defined in the literature until now.

SDoL directly impact students' ability to participate in the educational process, including educational access and quality as noted in the SDoH literature.^{8,12,15,18} Social and community context and economic stability contribute to SDoL. Structural barriers in education are another concern related to SDoL. "Structural barriers are obstacles that collectively affect a group disproportionately and perpetuate or maintain stark disparities in outcomes. Structural barriers can be policies, practices, and other norms that favor and advantage one group while systematically disadvantaging a marginalized group."⁵ When social, economic, and policy barriers are compounded by another SDoH, such as access to quality healthcare, the toll on students becomes greater. There are some positive impacts of the SDoL, for example, students living in multi-generational settings may benefit from the emotional support of siblings, parents, grandparents, etc. However, these same students may be struggling with SDoH as they are more likely to have sick family members, caregiving responsibilities, food and housing insecurity, and obligations to supplement lost family wages.¹⁹⁻²⁵ They must balance the time demands of being a student with those of being a reliable family member. They may have additional factors that make it more difficult to study outside of their classroom or clinic time. Additionally, these students may bear the burden of anxiety and depression that may coincide with these stressors.²⁶ Issues of educational accessibility, including access to consistent and stable internet connections, further complicate learning, especially during situations like the pandemic.^{12,27-30}

Figure 2 illustrates these concepts using an ecological model³¹ to show the relationship from the individual to the societal level. At the individual level, the student must acknowledge their learning needs and accept assistance when needed. Faculty, classmates, and already licensed

physical therapists and physical therapist assistants can provide human resources including mentorship and encouragement. These efforts must be supported at the program and institutional levels to be successful. At the societal level, policies and resources can be implemented to provide equity and support learning. Each level has impacts on SDoL, and each may positively or negatively influence student outcomes.

In summary, SDoL can detract from students' time, energy, and mental focus available to devote to their studies, which creates further disparity at individual and societal levels.

Compared to peers without these variables, students may be at increased risk for academic probation or dismissal, difficulties during the clinical education phase of their program, and higher risk for not passing the NPTE or NPTE-physical therapist assistant on the first attempt.³²

physical therapist assistant students are particularly affected. Many are career-changers who enter physical therapist assistant school with lived experience that provides added diversity and perspective to the field of physical therapy. That said, many physical therapist assistant students are attending community colleges due to limited financial means, often necessitating continued employment during their educational endeavors. Many live in rural communities with limited access to high quality healthcare, requiring that they drive a significant distance to participate in their education, as well as to fulfill their duties as caregivers to their family members or to get healthcare for themselves. One author has personally worked with students experiencing these and other issues that complicate their educational process. These include limited access to medical records including immunization records, and positive background check results from late childhood or early adulthood, both of which complicate the ability to participate in clinical experiences (Fig. 1). Further, given the understandable mistrust of the

academic system that some students have, they often hesitate to ask faculty for help without prompting.³³

SDoL are also influenced by individual experiences within the classroom. An example of a social determinant that contributes significantly to classroom climate is race.^{34,35} Students of color frequently experience uncomfortable situations due to racism and eurocentrism in learning environments that should be designed to uplift and empower. Many of these situations are inadvertently created by well-meaning classmates and faculty. These may include microaggressive behaviors that are usually unrelated to class concepts and skills.

Microaggressions were originally described by Pierce as interpersonal insults and dismissals directed at African Americans.³⁶ The term has since been used in other minoritized populations.³⁷ An example of a microaggressive behavior would be telling a student with textured hair that their hair is “unprofessional”. Frequently, individuals on the receiving end of microaggressions experience feelings of isolation, embarrassment, and discomfort that may go unnoticed and therefore unaddressed by programs and institutions.^{34,35} Due to the hierarchical structure of academia, students often feel powerless to raise these issues for fear of drawing attention or creating an even more negative learning environment. Unless the recipient of these types of behaviors is willing to risk creating an uncomfortable learning environment for themselves to speak up, they are often left unheard, and the offender may remain unaware of their harmful behavior. Students may also experience the emotional fatigue of repeatedly explaining themselves or educating their microaggressors about why certain language, behaviors, or actions are triggering and insulting.

Last year, not only were all students struggling to cope with the effects of a global pandemic, but Black students were also wrestling with emotional fatigue and trauma related to the events that led to the social justice movements in summer of 2020. Communities of color were at increased risk of being adversely affected by COVID-19,^{1,7} and the pandemic was happening concurrently with a highly politicized social justice movement that was receiving significant pushback. This type of climate makes it even more unsettling for students to call out microaggressive behaviors for fear of the pushback they might receive. Academic and clinical faculty who are unaware of these harmful effects on learning inadvertently set a negative example that contributes to how all students may interact with their future patients of diverse communities. Negative SDoL result in harm to members of marginalized communities and should be acknowledged and handled appropriately to promote equitable scholastic experiences for all.

[H1]Call to action

Beyond bringing this matter to the attention of our profession, especially clinical and academic educators, we must act to reach and support students who may be at higher academic risk due to SDoL. Being able to identify students affected by SDoL is the first step. Many of the same strategies used to screen for and address SDoH in healthcare may be adaptable to SDoL in education.^{33,38,39} Depending on the student body and program characteristics, action could take many forms. These may include a combination of information sharing including group and individual meetings, strengthening mentoring relationships, monitoring for changes in student

behavior, and reaching out to students who may need additional guidance with the process of obtaining licensure and their first professional job.

Academic educators can hold class meetings with students to hear general concerns and relay supportive information. The students should be invited to submit questions in advance, which allows students with work and family responsibilities to contribute to the meeting even if they cannot be present. Even in geographical areas in which current public health recommendations allow for face-to-face meetings, the meetings should be offered virtually as well. These should be recorded whenever possible to allow students who cannot attend (virtually or face-to-face) to hear the information at a later time. Individual meetings with students could also be helpful to build the mentoring relationship and should be utilized before a student begins to demonstrate academic decline. Maintaining face-to-face or virtual office hours (or both) and allowing students to self-refer for additional assistance is one option. Additionally, programs should capitalize on pre-existing mentor-mentee relationships and reach out to students on a regular basis. Programs without a formal mentoring program should seize this opportunity to pair students with faculty and offer faculty training to support both the mentor and the mentee, as this is well-supported in the literature.⁴⁰⁻⁴³ Reinforcing other mentoring relationships, such as those between upper-level students and newer students is also encouraged. While we generally try to respect our students as adult learners and help them to develop self-directed behaviors to address their needs, the additional stresses associated with SDoL and the pandemic may mean that mentors need to follow up with students who do not reply to meeting requests or other communications to ensure that SDoL are not precluding the student from receiving much-needed help.^{14,44}

Improving SDoL requires a commitment from all faculty and students, not only the ones who are negatively impacted (Fig. 3). Institutional support is crucial to ensure initiatives have the appropriate resources to be successful. Too often the faculty work of improving SDoL falls to a select few, and many times these are minoritized faculty who experience similar struggles as their students. The authors recommend a universal approach involving all faculty and students; the workload of addressing SDoL will require a collective, collaborative approach.

All faculty and students who are not negatively impacted by SDoL should be educating themselves on these issues and contributing to meaningful solutions.⁴⁵ This may involve further reading or videos, attending workshops, and listening to the voices of minoritized students and faculty. This may sound like common sense, but as this paper has already explained, the academic setting can be intimidating for students who may already feel unwelcome and afraid to raise these issues.

Students who are negatively impacted by SDoL will be further stigmatized and stereotyped if we are not careful in our approach. Not all students who have factors that *can* contribute to SDoL will perceive a negative impact, and therefore these issues must be explored and addressed at a truly individual level to avoid unintentionally creating new problems. Proactive steps that offer a safe and welcoming space for students to be heard normalizes the process and builds trusting relationships that reveal true problems, not simply those perceived by well-meaning, but uninformed faculty and students.

Once problems are identified, institutional support is integral to the development and active response. Without institutional recognition of SDoL, any solutions to address these issues will

be difficult to enact. Involving institutional leadership early in the process helps to procure the appropriate resources to solve or mitigate problems associated with SDoL. Involving all faculty and students, and institutional leadership provides an educational opportunity for all to become more familiar with SDoL and their significant impacts, as well as how to be part of the solution (Fig. 3). Unless this work includes all faculty, students, and institutional leaders, the goal of optimizing SDoL cannot be realized.

Bringing these issues to the forefront highlights the importance of education for the physical therapist community to recognize and address these issues. Table 2 depicts the above steps and links examples of SDoH with related SDoL and ideas for how to identify^{38,46-48} and address them. While this is not an exhaustive list, it provides a framework for reflecting on these concepts that may be utilized by physical therapists and physical therapist assistants who seek to improve SDoL. There are many tools for addressing SDoH that can add depth to therapists' understanding, but this assortment may also contribute to variability in our efforts to measure these constructs.

Although not the focus of this paper, many patients also struggle with SDoL. The authors contend that this framework could be expanded for use in healthcare when considering and addressing SDoH and SDoL that impact patient education relevant to physical therapy. Patient education is foundational to patient success in physical therapy so it is plausible that patient outcomes may also be impacted by SDoL. Thus, this model may be considered in the context of patient care in the future.

Developing trust and understanding is foundational for beginning to solve these problems.

Trust is best realized when multiple aspects of students' needs are taken into account. This begins with creating a culture and environment in which students are encouraged to reflect on and value all forms of diversity (ie, race, ethnicity, gender, sexuality, geographic, socioeconomic status). As that foundation is laid, it allows for students and faculty to open a dialogue on what the program and institution can do to support them. This can be through informal conversation and using screening tools.^{38,46-48} The next step is to connect students to program, institutional, and community resources that can improve SDoL. As noted in Table 2, these can be as diverse as the student body, and will vary by program. While some ideas in Table 2 may not seem directly linked to SDoL, or may seem to be generally good practice, many are unutilized or under-utilized due to the previously mentioned barriers, and most importantly, a lack of awareness of some of the SDoL. Seeking to understand the diverse needs of our students is integral to this process, and often neglected.^{27,37,45}

Educators in clinical settings also play an important role in SDoL. Clinical instructors have robust interactions with students due to the low teacher-to-learner ratio and the amount of time spent with the student. Most clinical instructors are side-by-side with their student for at least 8 hours a day and are well-positioned to notice small changes in student behavior such as punctuality and attendance, timeliness of assignments, quality of work, emotional reactions with patients and colleagues, and the student's ability to attend to their work. Changes in any or all of these categories can be warning signs that the student may be experiencing stresses outside the workplace. Opening a conversation with the student can be the first step toward addressing these challenges. Examples of such a conversation might sound like:

“I’ve noticed that you have been late three times this week and I’m concerned this could impact your learning. Could you help me understand any factors that are contributing to this situation?”

or

“I’d like to discuss the documentation from this week. There were some items omitted that you’ve consistently included in the past. I want to support you and understand why this might be happening.”

Setting the tone for these conversations as supportive and not punitive can create an environment that will help the student feel comfortable to share difficulties that may be interfering with their education. Also, similar to how patients are sometimes not ready to discuss personal matters at first, clinical educators should be prepared that the student may deny any problems are present. Some students will eventually reflect on the educator’s offer to talk and re-start the conversation independently at a later time. Other students may prefer not to discuss the personal aspects of their life. Either is fine, but if the behavior persists, the educator must make continued efforts to address the behavior—ignoring it will not likely result in change to the behavior or any underlying issues.

Pressure to take the NPTE at the earliest possible date can be influenced by pressure to quickly get a job upon graduating. While this has always been a potential stressor for students, the pandemic has added new levels of importance for employment, especially for students whose SDoL are impacted by reduced or absent family wages during the pandemic, and the student’s sense of duty to supplement or replace family income to make ends meet. Some physical

therapists or physical therapist assistants may assist by offering volunteer exam review sessions in their area of clinical practice or contributing to scholarship funds as they are able. Likewise, anyone who has been through the licensure process can help to guide a student through the steps to obtain licensure. Also, any physical therapist or physical therapist assistant can offer advice or reassurance to a physical therapist or physical therapist assistant student about to go on their first round of professional job interviews. Programs may also offer opportunities to participate in mock interviews, which can benefit students less familiar with the professional interview process. While students with SDoL may have had past part- or full-time jobs, many of these vocational roles were likely in non-professional sectors of the workforce. Students struggling with SDoL are more likely to be first-generation college students and less likely to have professional role models in their family or other support networks.¹³ State chapters of APTA or special interest groups (SIGs) could organize outreach efforts with the local physical therapist or physical therapist assistant program. SIGs could target students whose area of interest aligns with the SIG and help the student to make vital connections that could assist with the transition to the professional workforce. Again, students with SDoL are less likely to have time to attend meetings or formal events surrounding networking, so mentors should facilitate these interactions and follow up as needed to promote student success.

[H1]Learn, reflect, change

Finally, remember that students who are negatively impacted by SDoL may feel embarrassed or reluctant to discuss these matters. As physical therapist and physical therapist assistant mentors, we can help by learning more about SDoL and reflecting on their impact, and changing our thoughts, actions, and policies to help the next generation of physical therapists and

physical therapist assistants. This begins by educating ourselves about issues of racism, microaggressions, and social injustice within the physical therapy education community and how to contribute to positive change.^{49,50}

Next, we should self-reflect on our implicit biases about students impacted by SDoL. Similarly, it behooves us to reflect on our own professional journey, privileges, and challenges to develop empathy and encourage action. Some of these issues are associated with politics and have other social underpinnings making them difficult or potentially uncomfortable to discuss. Separating facts from feelings and other subjective interpretations can help to develop a cohesive action plan that unites instead of divides.

After considering our biases and any feelings we have about these issues, we should consider if we have been subconsciously applying any monolithic ideologies (rigid ideas) or engaging in cultural glossing (making presumptions about a person simply because they belong to a particular culture or group). Deconstructing such ideologies takes time and persistence as these thoughts and presumptions are often deeply rooted in our worldview. While dismantling these can be uncomfortable, it is important to focus on the harm caused by insensitive microaggressions and behaviors instead of focusing on the discomfort of addressing these issues.

Once we've considered our underlying thoughts and feelings, we can begin the work of promoting intentional interactions that acknowledge these issues with open discussions. Discussions can lead to advocating for and achieving meaningful changes in policies and procedures. Until evidence-based strategies are developed, utilize the strategies currently in use for identifying SDoH.⁵¹ A simple example of this is taking time to learn about your students

as individuals: Students will notice when academic and clinical instructors are taking note and caring about their situations and backgrounds. Asking questions like: “*I have noticed _____ and _____ recently with you. How are things going for you lately?*” Students generally appreciate an instructor whose approach is collaborative instead of punitive. This also provides an opportunity to recognize potential SDoL in their learning/lifestyle without making assumptions or engaging in cultural glossing. To structure these conversations, we can use the explanatory model⁵² with students, similar to how we would with patients.

Do not automatically attribute academic or clinical deficits to SDoL; develop a mentoring relationship and use screening tools^{38,46–48} as indicated to understand the situation more fully and provide appropriate supports. This allows physical therapists and physical therapist assistants to provide appropriate resources. Academic educators may already be acclimated to on-campus resources, many of which can now accommodate virtual communication (telehealth counseling, virtual academic coaching, online library assistance,⁵³ etc.) for students who are off-campus due to clinical education locations or pandemic-related campus closures. Adequate internet connectivity can mitigate some difficulties experienced by students.⁵⁴ Scholarships usually cover expenses such as tuition, or room and board. Those expenses are only incurred after costly application fees, SAT and GRE exam fees, and travel to admissions interviews. These additional costs are significant barriers for potential students of modest means. Consider contributing to scholarship funds that will allow students to take their first steps toward admission.^{55,56} Once in school, encourage students to apply for scholarships such as those sponsored by APTA (<https://www.apta.org/apta-and-you/honors-and-awards/minority-scholarship-award>)

In addition to these types of programs, we can all familiarize ourselves with educational diversity, equity, and inclusion recruitment strategies for increasing representation and retention of people from underrepresented minorities into physical therapy.⁵⁷

Supporting students from diverse communities and backgrounds will result in professionals who represent the society we serve. This will be an arduous process, but it is worthy of our attention as professionals who seek to improve societal health. If we reflect on how we got to our place in the profession today, it is likely someone helped to get us there. During the COVID-19 pandemic, which is particularly challenging for students impacted by SDoL, it is imperative that each of us pays back some of our professional debt by reaching out to help the next generation of physical therapists and physical therapist assistants. However, that should be only the beginning of this important work, which must endure to confront SDoL in the physical therapy profession.

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Table 1. SDoH on Education During the COVID-19 Pandemic

Social Determinant of Health Category	Negative Impacts During COVID-19 on Student Learning
Education access and quality	<p>Lack of adequate electronic devices to participate in online learning</p> <p>Limited or non-existent access to internet connections</p> <p>Loss of support services (school-based meal distribution)</p> <p>Housing insecurity for students displaced due to closure of dorms and other school housing</p>
Healthcare access and quality	<p>Widespread job loss and resulting loss of insurance coverage</p> <p>School as an access point for basic healthcare and referrals (pre-K through post-secondary)</p> <p>Access to COVID-19 vaccination: appointments, locations, insurance/payment misinformation</p> <p>Limited access to preventative care including masks and hand sanitizer</p> <p>Access to COVID-19 testing</p>
Neighborhood and built environment	<p>Reliance on public transportation and congregate housing increases risk of COVID-19 exposure</p> <p>Underlying rates of asthma and other conditions that increase likelihood of COVID-19 severity/death</p> <p>Zip code and demographic data demonstrating positivity rates, death rates</p>
Economic stability	<p>Reduced income or complete loss of income</p> <p>Limited resources to navigate the unemployment application process</p> <p>Higher prevalence of jobs that do not allow for “work-from-home” options</p>
Social and community context	<p>Conflicting information about COVID-19 spread and prevention</p> <p>Vaccine hesitancy</p>

Table 2. Recognizing SDoH and Addressing Related SDoL: Examples for Educational Settings^a

Stage	SDoH Construct(s)	Strategies to Address Related SDoL
Develop trust and understanding	<p>Social and community context, educational access and quality</p> <p>Social and community context, economic stability</p> <p>Social and community context</p> <p>Social and community context, educational access and quality, economic stability</p>	<p>Develop trust</p> <ul style="list-style-type: none"> Model behavior that is welcoming to minority and first-generation college students Welcome statement at new student orientation reflecting on the value of all forms of diversity and explaining how the program will involve all students and faculty in addressing SDoL <p>Assign purpose</p> <ul style="list-style-type: none"> As with any adult learning – highlight the meaning/purpose of each assignment for their future career so students don't perceive any of it as "busy work," which would be neglected if competing with family and social responsibilities <p>Focus</p> <ul style="list-style-type: none"> On the end-goal of completion and improving life for their entire family, while encouraging/teaching self-care and seeking assistance when needed <p>Develop</p> <ul style="list-style-type: none"> Financial models that drive economic support and improve SDoL for students Scholarship resources available from external sources Work with fundraising arm of the academic institution to develop targeted scholarships within the institution
Assess/re-assess	<p>Social and community context, educational access and quality, economic stability, healthcare access and quality, neighborhood and built environment</p>	<p>Assess SDoL risk factors</p> <ul style="list-style-type: none"> Use of a screening tool to identify students at risk for SDoL. See screenings for SDoH and adapt Students self-identify through the screening tool including mental and physical healthcare, transportation, support systems. Sample screening tool³⁸ and guide to addressing social needs from the EveryONE Project,⁴⁶ and other resources^{47,48} may be adapted to educational settings based on specific program needs <p>Re-assess</p> <ul style="list-style-type: none"> Re-evaluate and revise as needed based on feedback Include a mixture of feedback sources: anonymous, in-person (interview/focus group, informal discussion), survey, town-hall meetings (support virtual and in-

		person)
Engage in collaborative problem solving	Social and community context, educational access and quality, economic stability, healthcare access and quality, neighborhood and built environment	<p>Link students to institutional resources</p> <ul style="list-style-type: none"> • Universal mentoring or check-in programs: some students are averse to the “system” and “asking for help” • Pair graduates with new students: all students receive a mentor to avoid stigma of “needing additional assistance” • Help students identify quiet areas available for study on- and off-campus • Develop professional skills (ie, considering public transportation relationship to tardiness): start class with independent (entrance) activities allowing students to arrive without highlighting tardiness as students develop clinical readiness over time • Food pantry as well as snacks available in the classroom in a grab-and-go fashion <p>Increase student awareness of community resources</p> <ul style="list-style-type: none"> • Reduced-cost childcare, support networks, food-assistance programs, affordable housing

^aAddressing SDoH and SDoL in educational settings requires extensive collaboration and a multifaceted approach. SDoH = social determinants of health; SDoL = social determinants of learning.

**Social Determinants of Learning
within the
Social Determinants of Health Framework⁸**

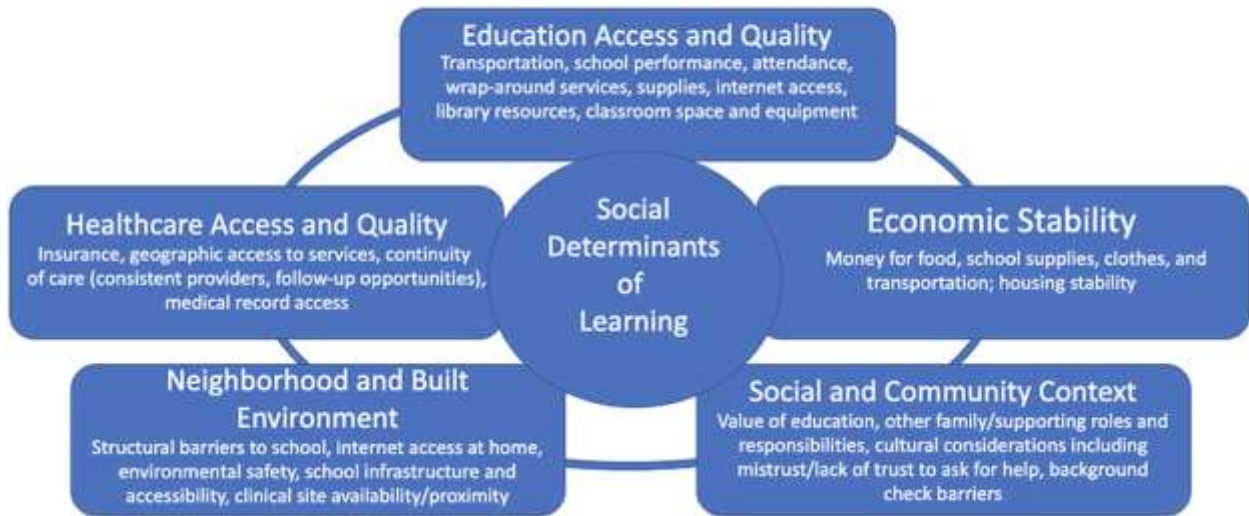


Figure 1. This model demonstrates the intersections of SDOL with each of the SDoH subcategories. Just as all SDoH have interconnections, they each overlap with SDOL.



Figure 2. Ecological model³¹ of student support for social determinants of learning.



- Encourage students to develop self-help skills and accept assistance
- Model a culture of excellence in education, in which all faculty and students are invested in student success and education about SDoH/SDoL is universally expected
- Incentivize participation in DEI activities by reinforcing the importance in class and clinic activities
- Invite diverse guest speakers to discuss the impacts educators had on their lives to energize the faculty and students toward change and improvement
- Utilize graduates and campus student groups to support faculty efforts
- Advocate for societal change to minimize SDoL

Figure 3. Shared responsibility for social determinants of learning.

UNCORRECTED MANUSCRIPT