

# School Screening of Social Determinants of Health: A Scoping Review

Jessica B. Koslouski, PhD

Sandra M. Chafouleas, PhD

Rabbecca C. Torres, PhD Student



# Presenter Disclosure



**2023 Annual Conference on Advancing School Mental Health**

**There are no relationships to disclose.**

# Acknowledgments

## Contributors:

- Amy Briesch, Professor, Northeastern
- Jacqueline M. Caemmerer, PhD, Assistant Professor, UConn
- Hannah Perry, Graduate Student, UConn
- Julia Oas, Graduate Student, UConn
- Sijia Scarlett Xiong, Graduate Student, Northeastern
- Natalie Charamut, Graduate Student, UConn

The research reported here was supported by the Institute of Education Sciences, U.S. Department of Education, through Grant R305A220249 to University of Connecticut. The opinions expressed are those of the authors and do not represent views of the Institute or the U.S. Department of Education.

# Introduction

- 1 in 5 adolescents experience severe impairment due to social, emotional, or behavioral challenges
- Although multiple factors contribute to the development of mental health challenges, a growing research base shows strong connections between contextual conditions and children's physical, cognitive, behavioral, and emotional health

(Merikangas et al., 2010; Garg et al., 2007; Gottlieb et al., 2016; Hackman & Farah, 2009; Viner et al., 2012)

# Introduction

One way to explore contexts that shape child development is by looking at social determinants of health (SDOH).

- Conditions in which people are born, live, learn, work, play, worship, and age
- Associated with a wide range of health, functioning, and quality-of-life outcomes

SDOH recognize the bidirectional influence of environmental, cultural, and historical outcomes on development and outcomes

# Social Determinants of Health



Economic Stability



Neighborhood and Physical Environment



Education



Social and Community Context









Health and Clinical Care



Food

# Social Determinants of Health

	SDOH Domain	Constructs
	<b>Economic stability</b>	Employment, income, expenses, including utilities, debt, medical bills, & financial support
	<b>Education</b>	Early childhood education and development, high school graduation, enrollment in higher education, language, literacy, including health literacy, vocational training
	<b>Health and clinical care</b>	Access to health care/ primary care, health coverage, provider availability, provider linguistic and cultural competency, quality of care
	<b>Neighborhood and physical environment</b>	Safety, crime, and violence, environmental conditions, quality of housing, including housing instability, transportation, parks, playgrounds, walkability
	<b>Social and community context</b>	Discrimination, incarceration, social integration, support systems/ loneliness, community engagement, immigration/refugee status
	<b>Food</b>	Hunger/food insecurity, access to healthy options

# Introduction

- SDOH screening has begun in healthcare settings
- Many questions remain about how to do this screening
- Although reviews have explored use in pediatric healthcare settings, they point to the potential utility of screening in school settings

(Henrikson et al., 2019; Moen et al., 2020; Morone, 2017; Sokol et al., 2019)



# Introduction

SDOH are believed to be malleable factors we have influence over, thus SDOH screening in schools may be beneficial

- Mitigate social risk by connecting students to resources to address root causes of issues (e.g., providing basic needs)
- Could inform resource allocation in schools
- Increasing empathy and understanding among educators

However, need to confirm that these positive, intended consequences are realized, and negative unintended consequences do not occur

(Bierman & Dunn, 2006; Kruse et al., 2020; National Center for School Mental Health, 2020; Okonofua et al., 2016; Messick, 1995, 1998)

# Study Purpose

If school-based  
SDOH screening  
has occurred

How school-based  
SDOH screening  
has occurred

Reported results  
of that screening

# Research Questions

What measures of social determinants of health have been developed or adapted for use in school settings, and what are the characteristics of these measures?



With whom, in what settings, and for what purposes have these measures been used?



What outcomes and consequences have been reported from use of these measures?

# Methods: Search Strategy and Terms

Databases: PsycInfo, ERIC, CINAHL Plus

## Group A: SDOH

"social determinants of health" OR "health-related social conditions" OR "social condition" OR "social risk" OR sdoh OR "determinant of health" OR "structural determinant" OR "social factor" OR "health equity" OR "health inequity" OR "health inequities" OR "health inequality" OR "social inequity" OR "social inequities" OR "social inequality" OR "social disparity" OR "social disparities" OR "behavioral determinant" OR "social determinant" OR "social determinants" OR "sbd" OR "social and behavioral determinants" OR "social need" OR "social needs" OR sbdohs

## Group B: Instruments

measure\* OR assessment\* OR "self-report" OR "self report" OR rating\* OR scale\* OR questionnaire\* OR survey OR instrument OR screen\* OR test\* OR batter\* OR inventor\* OR checklist\* OR interview\*

## Group C: School settings

educator OR "k-12" OR k12 OR school OR prekindergarten OR "pre-kindergarten" OR "head start" OR "reengagement program" OR "re-engagement program" OR classroom OR college OR university

# Methods:

# Inclusion and Exclusion Criteria

## Article Inclusion Criteria

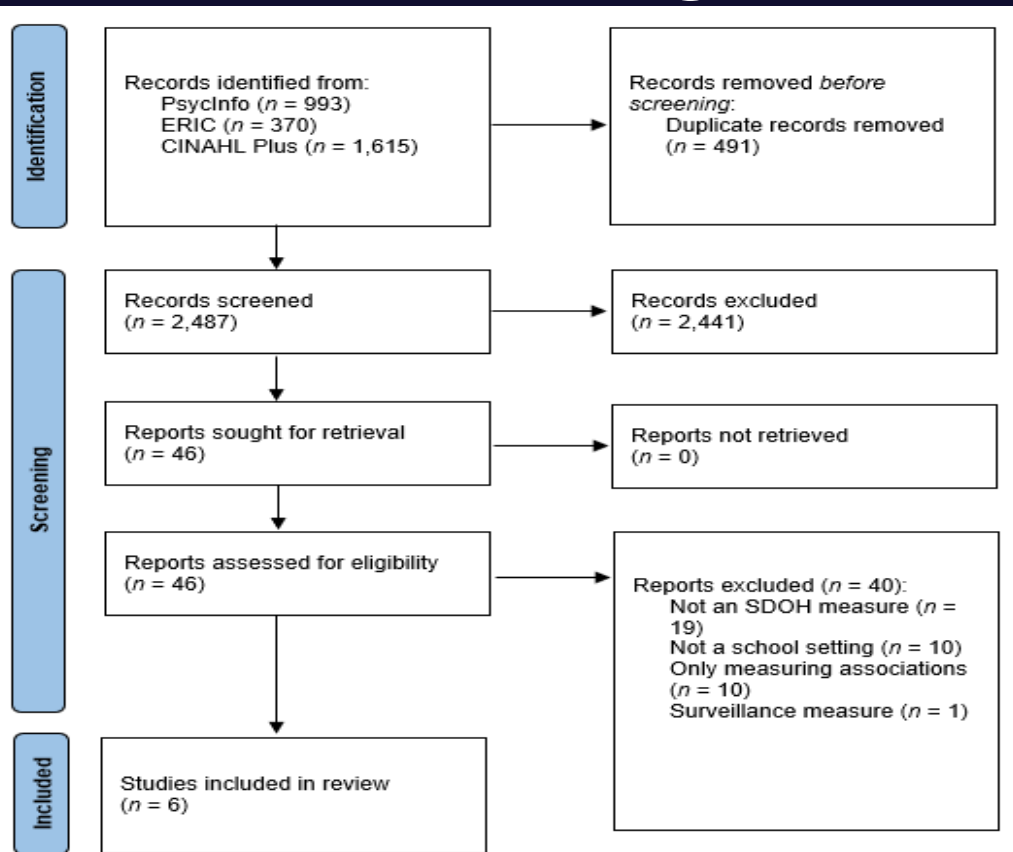
1. The article described the development or use of an SDOH measure in a school setting.
2. The SDOH measure assessed at least two SDOH domains.
3. The SDOH measure was designed for or used to assess youth ages 0-25.
4. The SDOH measure relied on self, caregiver, or school personnel report.
5. Measure items were available in the public domain.

Search limited to articles published in peer reviewed journals, published in English (any nation), and published in the year 2000 or later.

## Article Exclusion Criteria

1. Book chapters
2. Book reviews, case studies, qualitative studies
3. Unavailable full texts or abstract-only papers
4. Dissertations, thesis, conference papers, or perspective papers
5. Surveillance measures.
6. Studies using an SDOH measure to solely answer a researcher's question.

# PRISMA Diagram




# Methods: Data Extraction


Research Question	Data extracted from articles
1. <b>What measures</b> of social determinants of health have been developed or adapted for use in school settings, and what are the <b>characteristics</b> of these measures?	Measure names, measure authors, intended audience (e.g., age, setting), informants, reference period, languages, administration method, any reported psychometric or usability information
2. <b>With whom</b> , in what <b>settings</b> , and for <b>what purposes</b> have these measures been used?	Study settings, sample characteristics (e.g., racial demographics, socioeconomic status, age), purposes for measure use
3. What <b>outcomes</b> and <b>consequences</b> have been reported from use of these measures?	Reported outcomes, including consequences of measure implementation for students, families, and schools; authors' lessons learned, recommendations, or cautions related to school-based SDOH screening

# Methods: Analysis

 Content analysis (Hsieh & Shannon, 2005) and descriptive statistics

 Coded each measure item to Henrikson et al.'s SDOH domains



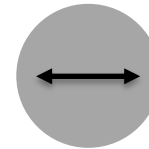
 Coded valence of each measure item



Positive valence:  
assessing assets,  
strengths, or  
access



Negative valence:  
assessing barriers,  
challenges, or lack  
of access



Neutral: sought  
information that was  
neither assessing  
assets or barriers



# RQ1 Results:

# SDOH Measures

Accountable Health Communities (AHC) Health-Related Social Needs (HRSN) Screening Tool (Billioux et al., 2017; Sokol et al., 2022)

Priorities and Experiences of Racism Among Black Male Youth and their Caregivers (Brady et al., 2018)

COVID-19 Survey of Low-Income Households with Children (Sharma et al., 2020)

Student Perception Appraisal Revised (Jeffreys, 2001, 2012; Kruse, 2020)

LIFESCREEN-C (Johnson et al., 2022)

The Social and Behavioral Determinants of Health (SBDOH) Screening Bundle (Barton et al., 2019)

# RQ1 Results: Attributes of Measures



33.3% high school student self-report



33.3% college student self-report



16.7% caregiver report



16.7% dual informant: upper elementary & matched caregiver




































2 available in English & Spanish  
1 available in several languages



One measure used a consistent reference period for all items

# RQ1 Results: Domain Analysis

						
Accountable Health Communities Health-Related Social Needs Screening Tool						
COVID-19 Survey of Low-Income Households with Children						
Student Perception Appraisal Revised						
The LIFESCREEN-C						
Priorities and Experiences of Racism Among Black Male Youth and their Caregivers						
The Social and Behavioral Determinants of Health Screening Bundle						



# RQ1 Results: Domain Analysis

5 out of 6 measures:

- Economic stability (1-5 items)

4 out of 6 measures:

- Social and community context (2-11 items)
- Food (1-10 items)



# RQ1 Results: Domain Analysis

2 measures: Health and clinical care  
(1 item each)



# RQ1 Results: Item Analysis



Measures included 16-28 items ( $M = 22.6$ )

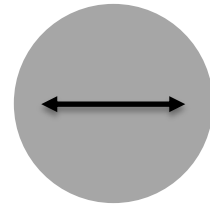
- 6-25 of these items were SDOH focused ( $M = 16.1$ )
- Remaining items were demographics, health behaviors, or mental health



56.6% of SDOH  
items were  
negatively valanced



22.1% of SDOH  
items were  
positively valanced



21.2% of SDOH  
items were  
neutrally worded

## Results:

# Outcomes of Measure Implementation

- Dual informant approach: (Barton et al., 2018; Sokol et al., 2022)
  - Sokol et al:
    - Caregivers under-reported social and mental health concerns of adolescents
    - Adolescents under-reported family material needs
  - Brady et al:
    - Caregivers reported significantly higher levels of perceived discrimination towards their student than students did for themselves
- Difficulties gathering caregiver report data
  - 9% caregiver vs. 73% student response rate (Sokol et al., 2022)



# RQ1 Results: Reported Psychometric and Usability Testing

## Two studies investigated psychometrics

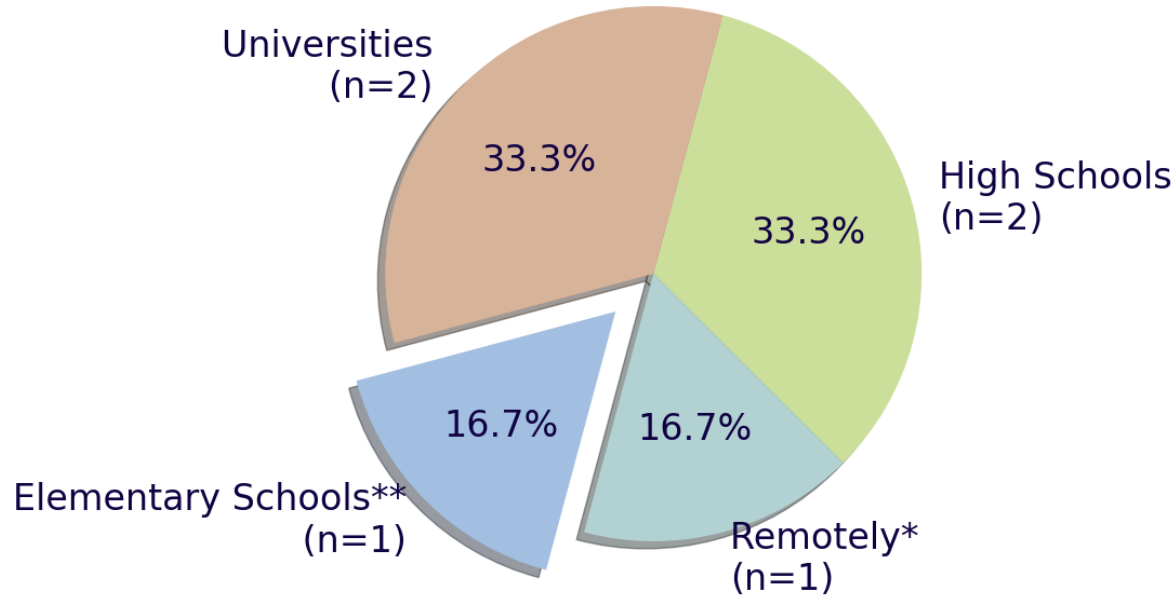
### Feasibility:

- Barton et al. (2019): administered screener to 13 nursing students prior to implementing high-school aged participants to assess length and acceptability of items

### Usability:

- Time to complete:
  - Three studies reported < 5-10 minutes

# RQ2 Results: In What Settings?



\*Delivered to those enrolled in a coordinated school-based nutrition program (Sharma et al., 2020)

\*\*Measure had different sections for children and their caregiver (Brady et al., 2018)

# RQ2 Results: With Whom?

## Racial and Ethnic Categories

Study	American Indian or Alaska Native	Asian or Pacific Islander	Black or African American	White	Multiracial	Another race not provided	Hispanic or Latino
Sokol et al. (2022)	3%	1%	8%	21%	74%		87%*
Sharma et al. (2020)			7.1%				85.9%
Johnson et al.(2020)			19.5%	54.4%	14.6%	11.4%	
Brady et al.(2018)			100%				
Barton et al.(2019)							73%
Kruse et al.(2020)	n/a						

\*Race and ethnicity were classified and counted separately (Sokol et al., 2022)

## RQ3 Results:

# Outcomes of Measure Implementation

## Increased Referrals and Connection to Services

Sharma et al., 2020	Kruse et al., 2020	Barton et al., 2019
<ul style="list-style-type: none"><li>• <b>Online resources</b> developed and shared with families</li><li>• Examples: Where to get tested for COVID-19, how to register for government assistance programs, connections to physical activity resources, mental health resources, etc.</li><li>• Masks distributed to families</li></ul>	<ul style="list-style-type: none"><li>• Nursing students and their families <b>referred</b> for services as indicated<ul style="list-style-type: none"><li>• Emergency assistance for food, clothing, &amp; utilities</li><li>• Housing assistance</li><li>• Legal services</li><li>• Counseling &amp; behavioral health</li><li>• Childcare</li></ul></li></ul>	<ul style="list-style-type: none"><li>• Increased number of high school students in school-based clinic received <b>referrals</b></li><li>• Examples: Mental &amp; behavioral health, social services, nutritional health services</li></ul>

RQ3 Results:

# Considerations & Lessons Learned

Tailoring screeners to local settings?

Feasibility of data collection

# Discussion

- Six empirical articles describing the development or use of an SDOH measure for use in elementary, secondary, or university settings
- Breadth and depth of domain coverage varied; limited psychometrics
- Notable omissions in SDOH domains and items

# Discussion

- Most items were negatively valanced – may induce negativity bias and deficit thinking about students and families
- Measure informants varied; interesting lessons learned from studies using dual-informants
- Many reported positive outcomes related to improved conversations with students, referrals to services and care, and implementation of school-based supports (e.g., food pantry)

# Limitations

- May not have captured all SDOH measures implemented in school settings
- Measures implemented solely for researchers' purposes were excluded
- Dissertations or theses may have yielded additional measures
- Some items were challenging to code



# Future Directions

- Evaluating intended and unintended consequences of school-based SDOH screening
  - Families' and students' comfort with sharing sensitive SDOH information
  - Cause or reinforce bias?
- Ensure that supports can be provided if risks are identified

# Thank you!

Jessica Koslouski, PhD

[jessica.koslouski@uconn.edu](mailto:jessica.koslouski@uconn.edu)

Sandy Chafouleas, PhD

[sandra.Chafouleas@uconn.edu](mailto:sandra.Chafouleas@uconn.edu)

<https://equitable-school-screening.education.uconn.edu/>