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Education Policy: Addressing Racial Health Disparities in Educational Contexts

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Abstract

Race, ethnicity, and Socioeconomic Status (SES) influence physical and mental health throughout the life course. Institutional and interpersonal discrimination is particularly detrimental, especially for children, and is associated with poor health outcomes. One of the most important determinants of long-term health is lifelong educational attainment. Center-based Early Childhood Education (ECE) and School-Based Health Centers (SBHCs) can help overcome educational obstacles and increase medical services in disadvantaged populations while fostering health equity. Educators involved in ECE programs and SBHCs for poor and minority youth must be involved in the policy making process in order to ensure that educational quality is considered essential to the long-term effects of health equity.

Keywords

race, ethnicity, socioeconomic status, health, equity, early childhood education, school-based health centers

1. Introduction

Racially and ethnically stigmatized people experience higher rates of illness, impairment, and death than the average society in the U.S. and globally (Assari, 2018; Phelan, Link, & Tehranifar, 2010; Williams & Anderson, 2016). Across multiple health outcomes, these disparities are seen in early onset of illnesses, severe diseases, and poor quality of care for minorities (Williams & Anderson, 2016). Socioeconomic Status (SES) is one of the most robust determinants of variations in health outcomes in almost every society throughout the world (Assari, Nikahd, Malekahmadi, Lankarani, & Zamanian,

2017; WHO Health Commission, 2008; Williams & Anderson, 2016). Understanding the complex ways in which race, ethnicity, and SES influence health outcomes is a critical task in addressing disparities across the socioeconomic spectrum (Assari, Nikahd, Malekahmadi, Lankarani, & Zamanian, 2017; Williams & Anderson, 2016).

The categorization of social groups into races has historically reflected oppression, exploitation, and social inequality (Assari, 2018; Williams & Anderson, 2016). The identification of specific racial categories has been driven by historical circumstances and social and political factors. We consider "race" as primarily a social category that encompasses what is commonly referred to as ethnicity - common geographic origins, ancestry, family patterns, cultural norms and traditions, and the social history of specific groups (Williams & Anderson, 2016).

2. Race, SES, and Health Outcomes

SES is a complex and multi-dimensional concept that includes economic resources and power that can influence health at different times throughout the life course (Braveman et al., 2005; Williams & Anderson, 2016). According to the 2014 U.S. Census Bureau, for every dollar of wealth that Whites have, Asian households have 83 cents while Blacks have 6 cents and Hispanic/Latinos have 7 cents (Ryan & Siebens, 2012). Race and SES reflect distinct processes of stratification that can affect health outcomes (Williams & Anderson, 2016). However, income can diminish racial differences in economic status in some social contexts.

Race matters for health after SES is considered. In addition to being influenced by current SES, health is also affected by exposure to adversity throughout the life-course. Early life adversity, such as poverty, abuse, and traumatic stress, vary by race and SES, and has been shown to influence multiple indicators of physical and mental health later in life, including cardiovascular, metabolic and immune function (Williams & Anderson, 2016; Shonkoff, Boyce & McEwen, 2009). Race matters to health disparities due to the lack of equity of SES indicators across racial groups. Compared to Whites, Blacks and Hispanic/Latinos receive less income at the same education levels, have less wealth at equivalent income levels, and have less purchasing power due to higher costs of goods and services in the residential environments where they are disproportionately located (Massey, 1990; Williams, Mohammed, Leavell, & Collins, 2010).

Racism is one of the most critical distinctive social exposures experienced by racial minorities. Discrimination across both institutional and interpersonal levels remains ubiquitous in contemporary societies (Pager & Shepherd, 2008; Quillian, 2006; Williams & Anderson, 2016). Residential segregation by race, an example of an institutional racism, has created racial differences in education and employment opportunities which produces racial differences in SES (Massey, 1990; Williams & Anderson, 2016). Self-reported experiences of discrimination have been associated with a broad range of disease outcomes, preclinical indicators of disease and health risk behaviors (Lewis, Cogburn, &

Williams, 2015; Williams & Anderson, 2016). As with other forms of early life adversity, discrimination is particularly detrimental to children, with associated poor health outcomes reported in childhood and adolescence increasingly documented internationally (Byrd & Mirken, 2011; Priest et al., 2013; Williams & Anderson, 2016). Institutional and cultural racism can also harm health through stigma, stereotypes, and prejudice all of which can contribute to stunted socioeconomic mobility and reduced access to a broad range of societal resources and opportunities required for health (Williams & Mohammed, 2013).

Racial minorities have a higher risk of exposure to a broad range of psychosocial stressors as well. Institutional discrimination and socioeconomic disadvantages lead to the overrepresentation of minorities in toxic residential and occupational environments that can lead to risks of exposure to major hardships, conflicts and disruptions such as crime, violence, material deprivation, loss of loved ones, recurrent financial strain, relationship conflicts, unemployment and underemployment (Pager & Shepherd, 2008; Williams & Anderson, 2016). Children from low-income and racial or ethnic minority populations in the U.S. are less likely to have a conventional source of medical care and more likely to develop chronic health problems than are more-affluent and non-Hispanic white children (Knopf et al., 2016).

3. Educational Interventions

In the U.S., inequities by race, ethnicity, and income in key health outcomes and educational achievement are well documented (Bloom, Cohen, & Freeman, 2012; Hahn et al., 2016). Lifelong educational attainment is one of the most important determinants of long-term health (WHO, 2008; Hahn et al., 2016). Incomplete or poor-quality education can jeopardize a child's prospects for health and well-being. Inequities in health by race and SES highlight the urgent need for a renewed research focus of identifying interventions at multiple societal levels that will be effective in reducing and ultimately eliminating racial inequities in health (Williams & Anderson, 2016).

Center-based Early Childhood Education (ECE) can potentially foster the larger public health goal of health equity, with a focus on low-income and racial and ethnic minority populations in the United States (Hahn et al., 2016). The term *health equity* refers to a widespread, systematic, achievable equality in health and in the major social determinants of health that benefit all social divisions of a population (Arcaya, M. C., Arcaya, A. L., & Subramanian, 2015; Hahn et al., 2016).

ECE programs are defined as programs designed to improve the cognitive or social development of 3- and 4-year-old children prior to kindergarten enrollment (Goerge et al., 2015; Hahn et al., 2016). Programs include an educational component that addresses one or more of the following learning objectives: literacy, numeracy, cognitive development, socio-emotional development, and motor skills. Eligible programs may offer additional components including recreation, meals, health care, parental supports, and social services. Some programs enroll children younger than 3 years (Hahn et al., 2016).

State and district programs and the federal Head Start program are publicly financed, whereas model programs often have been implemented in well-funded research projects, closely monitored for fidelity of implementation, and staffed by highly trained staff (Goerge et al., 2015; Hahn et al., 2016).

ECE programs can affect education and health by several interrelated intermediate determinants. The programs can increase motivation and readiness of children for formal schooling by engaging with caring teachers and other same-age children. Engagement with teachers and peers promotes social behaviors that facilitate learning and enhance the long-term life skill of positive social interaction (Goerge et al., 2015; Hahn et al., 2016). Teacher contact also increases early identification of social, health, and cognitive challenges of individual children and enables early referral for intervention when needed. Interactions among teachers and ECE parents strengthen parents' capacities, including their ability to reinforce the education and socialization of their children (Goerge et al., 2015; Hahn et al., 2016).

By enhancing social and educational skills before children enter formal schooling, ECE programs strengthen the foundation for ongoing learning, with substantial long-term health benefits. ECE programs are critical for low-income and minority children who have not been exposed to the learning environments generally more available to higher-income families (Hahn et al., 2016; Yen & Lee, 2019). High-quality ECE programs that increase participation of low-income and racial and ethnic minority children are expected to improve long-term educational and health outcomes and reduce disparities (Goerge et al., 2015; Hahn et al., 2016; Yen & Lee, 2019).

Children from low-income and racial or ethnic minority populations in the U.S. are more often chronically stressed, tired, and hungry, and more likely to have impaired vision and hearing—obstacles to lifetime educational achievement and predictors of adult morbidity and premature mortality (Knopf et al., 2016). School-Based Health Centers (SBHCs) can help overcome educational obstacles and increase medical services in disadvantaged populations (Love, Schlitt, Soleimanpour, Panchal, & Behr, 2019; Knopf et al., 2016). SBHCs improve educational and health-related outcomes in disadvantaged students and they can be effective in advancing health equity (Knopf et al., 2016; Ran et al., 2016).

Health outcomes and educational achievement are related to each other in several ways. Health problems (e.g., vision and oral health problems, asthma, teen pregnancy, malnutrition, obesity, chronic stress, and inattention and hyperactivity disorders) and risk-taking behavior (e.g., aggression and violence, unsafe sexual activity, unhealthy eating, physical inactivity, and substance use) are associated with low scholastic performance (Basch, 2010; Bradley, & Greene, 2013; Knopf et al., 2016). Low academic achievement is positively associated with risk-taking behavior, compromised health status, and reduced longevity (Braveman, Egerter, & Williams, 2011; Fiscella & Kitzman, 2009). Children from low-income and racial or ethnic minority populations in the U.S. are more likely to develop chronic health problems than are more-affluent and non-Hispanic white children and less likely to have a usual source of medical care (Bloom, Cohen, & Freeman, 2012; Knopf et al., 2016) SBHCs are

defined as clinics that provide health services to students in pre-Kindergarten through Grade 12. Services may be offered onsite (i.e., school-based centers) or offsite (i.e., school-linked centers) and are often established in schools that serve predominantly low-income communities (Knopf et al., 2016; Riley, Laurie, Plegue, & Richardson, 2016).

SBHCs can improve educational and health outcomes through several pathways. Specifically, increased access to and satisfaction with health-related services are expected to increase receipt of recommended services that lead to early detection and treatment or prevention of disease (Knopf et al., 2016). Increases are expected in school achievement and the proportion of students with a usual place of care, along with reductions in illness, injury, and healthcare overuse (Knopf et al., 2016). When SBHCs offer health education and counseling, reductions in risk behavior are also expected. Overall, SBHCs are expected to improve the health prospects of low-income and racial and ethnic minority students (Bersamin et al., 2016; Knopf et al., 2016).

Substantial educational benefits associated with SBHCs include reductions in rates of school suspension or high school non-completion, and increases in grade point averages and grade promotion (Bersamin et al., 2016; Knopf et al., 2016). Healthcare utilization improves, including substantial increases in recommended immunizations and other preventive services, and a small increase in the proportion of students who reported a regular source of health care (Bersamin et al., 2016; Knopf et al., 2016). Regarding sexual and reproductive behaviors associated with SBHCs, contraceptive use among females increases, childbirth decreases, and prenatal care improves (Bersamin et al., 2016; Knopf et al., 2016).

SBHCs are effective in improving an array of educational and health-related outcomes. Increased effectiveness is associated with extended hours of availability and increased range of offered services (Knopf et al., 2016). Because SBHCs aim to meet the needs of disadvantaged populations, address the health-related obstacles to educational achievement, and address the cultural, financial, and privacy- and transportation-related barriers to clinical, preventive, and healthcare services, they have the potential to promote social mobility and improve health equity (Duncan & Murnane, 2011; Knopf et al., 2016).

Increased parental work time and reduced child care, transportation needs, time, and costs have been identified as additional benefits of SBHCs (Hutchinson, Carton, Broussard, Brown, & Chrestman, 2012; Knopf et al., 2016; Tai & Bame, 2011). Since many SBHCs are open to others in the community, improvements in health (and education) in the broader community are also expected. SBHCs provide more-sensitive care such as reproductive health and mental health than may be available in other settings,and improve quality of care and patient satisfaction with and acceptability of care (Keeton, Soleimanpour, & Brindis, 2012; Klein et al., 2007; Knopf et al., 2016).

Additionally, benefit is anticipated to extend beyond SBHC users, as many SBHCs offer health education and promotion activities to the entire student body, and non-users may adopt some of the

promoted health behaviors such as abstaining from drugs and alcohol (Knopf et al., 2016; McNall, Lichty, & Mavis, 2010). SBHCs also have been reported to improve student academic expectations, safety and respect, and school engagement; to increase adolescents' responsibility for and awareness of their health; and to strengthen connections between community and school (Keeton, Soleimanpour, & Brindis, 2012; Knopf et al., 2016; Strolin-Goltzman, 2010). Due to improved vaccination uptake, reduced transmission of vaccine-preventable diseases is also expected. Additionally, most SBHCs help children and families enroll in Medicaid and the State Children's Health Insurance Program (Knopf et al., 2016).

4. Education Policy: Massachusetts

Political support is needed to utilize the best available research to reduce social inequalities in health. Interventions should focus on improving the health of disadvantaged groups more rapidly than the rest of the population so that progress can be made in eliminating inequalities. Many education policies that promise the greatest benefit in improving population health are sometimes likely to actually widen disparities (Mechanic, 2002; Williams & Anderson, 2016).

In Massachusetts, state aid for education is determined by a calculation outlined in Chapter 70 of the Massachusetts General Law. Collectively referred to as "Chapter 70", the statute includes a formula for determining an "adequate" amount of money each district must spend on education, called the foundation budget, and the "equitable" division of state funds to assist each district in meeting their mandated spending level (Britt & Hall, 2009). Chapter 70 is designed to provide "adequate and equitable funding for public schools in the Commonwealth". This funding has become the most significant and only growing source of local aid to Massachusetts cities and towns and is heavily scrutinized by a variety of stakeholders due to a perceived lack of transparency (Britt & Hall, 2009; DeCosta-Klipa, 2019).

Massachusetts had historically relied on local property taxes to finance education, which created significant inequities in school funding between wealthy and poorer communities. Growing concerns about the disparities in public education across the Commonwealth coincided with the State Supreme Court case McDuffy v. Secretary of the Executive Office of Education, prompting legislators to enact the Education Reform Act in 1993 (Britt & Hall, 2009). The Act included provisions intended to reform public education in Massachusetts to meet the state's Constitutional mandate to provide a quality public education to all of its citizens (Britt & Hall, 2009; DeCosta-Klipa, 2019).

Crucial to these reforms was a dramatic revision of the way public schools were financed. In order to provide equal access to quality public education across the Commonwealth, the state first needed to determine what constituted a quality education by identifying the minimum level of spending required to meet that standard. (Britt & Hall, 2009; DeCosta-Klipa, 2019). Additionally, in recognition that not all districts could meet an expanded financial obligation on their own, the state needed to provide

additional funding to those communities. These premises form the basis of what is known today as Chapter 70 (Britt & Hall, 2009).

The program calculates a "foundation budget" for each school district—based on enrollment, student demographics (including grade levels, low-income students, and English language learners), inflation, and local wage levels—to determine the minimum funding needed to provide an adequate education to each student (DeCosta-Klipa, 2019). Every school district then gets a mix of local and state funding. Based on each municipality's wealth (using property values and personal income), the formula establishes a goal for how much each city or town should be contributing to its foundation budget. All districts are guaranteed some minimum funding from the state (DeCosta-Klipa, 2019).

Although the 1993 reform bill did help improve the achievement gap in Massachusetts and close some of the inequalities that existed at the time, there are still wide disparities in school funding between rich and poor communities. Those disparities have led cities like Brockton and Worcester—in the wake of teacher layoffs and increasing class sizes—to consider bringing new lawsuits challenging the Chapter 70 formula (DeCosta-Klipa, 2019).

In 2015, state lawmakers established the Foundation Budget Review Commission to review the Chapter 70 formula—and its shortfalls. In a report, the commission found that some of the formula's assumptions can become outdated, resulting in underfunding. The commission found that an achievement gap persisted for low-income students and English Language Learners (ELL). The report stated that many school districts, particularly those with high concentrations of low-income and ELL students, faced "unique costs" and needed additional funding to close the achievement gaps for those group (DeCosta-Klipa, 2019).

Along with a number of additional tweaks to the formula, the PROMISE Act intends take the 2015 commission's recommendations and phase them into law. This bill would increase the base rate of funding schools get for low-income and ELL students by 50 percent to 100 percent per student, depending on the wealth of the district. The legislation would create a data advisory committee made up of education experts and officials focused on streamlining and strengthening school-level staffing, spending, and student demographics "to better inform future policy decisions". Gov. Charlie Baker was expected to introduce legislation to amend the Chapter 70 formula in 2018 and is optimistic that lawmakers will get something passed (DeCosta-Klipa, 2019).

5. Discussion

In 2015, The National Network of State Teachers of the Year released an important new report, "Engaged: Educators and the Policy Process", which applauded the ways in which teachers are involved in policy decisions today. The number of opportunities through which teachers can engage in education policy has grown significantly in recent years. In addition to the National Education Association and the American Federation of Teachers, which have represented teachers in policy

conversations for decades, the National Network of State Teachers of the Year, Teach Plus, Hope Street Group, America Achieves, Educators 4 Excellence, Leadership for Educational Equity, and Teach For America have launched initiatives to train current or former teachers in policy analysis and content and to provide them with opportunities to use their voices to influence policy (Brown, 2015). By bringing teachers into the conversation, programs and processes improve the likelihood that policy will be well-designed, well-received, and well-implemented in the classroom. By providing teachers with new challenges and new opportunities, new professional growth opportunities for teachers are created, helping them to receive recognition for their contributions and to stay energized by their profession (Brown, 2015).

There are some important lessons that policymakers should take from the National Network of State Teachers of the Year report. First, policymakers should be selective about the perspectives they seek. One great aspect of the network of teachers in policy conversations is that all the teachers involved have demonstrated excellence in their field. Second, trust is essential and relationships take time. Policymakers who seek teachers' input after policies have been formulated are likely to be less well-received than those who put in the time on the front end to cultivate a bond. Third, policy can be complex, and teachers need training to understand how policy shapes their classrooms. Simply asking teachers for their perspective without a strong foundation of knowledge about the frameworks of local, state and federal law is not always going to result in a productive conversation (Brown, 2015).

Racism is an organized system of social stratification that combines with, and even transforms SES to influence health. Action is critically required to address how the health of socially disadvantaged groups is determined by exposures to risks and resources linked to living and working conditions, and how intervening in these contexts can lead to improvements in health.

Educators involved in ECE programs and SBHCs for poor and minority youth must speak with policy makers to address educational quality as an important modifier of the long-term effects of health equity. Since poor and minority children are likely to live in poor neighborhoods, they are also more likely to attend lower-quality schools. ECE programs and SBHCs improve both educational and health outcomes and must be supported by bills such as the PROMISE Act. Since ECE programs and SBHCs are commonly implemented in low-income communities and communities with high proportions of racial and ethnic minority populations, this source of student health care may be a prominent means of advancing health equity.

References

Arcaya, M. C., Arcaya, A. L., & Subramanian, S. V. (2015). Inequalities in health: Definitions, concepts, and theories. *Global Health Action*, *8*(1), 27106. https://doi.org/10.3402/gha.v8.27106

Assari, S. (2018). Health disparities due to diminished return among black Americans: Public policy solutions. *Social Issues and Policy Review*, *12*(1), 112-145. https://doi.org/10.1111/sipr.12042

Assari, S., Nikahd, A., Malekahmadi, M. R., Lankarani, M. M., & Zamanian, H. (2017). Race by gender group differences in the protective effects of socioeconomic factors against sustained health problems across five domains. *Journal of Racial and Ethnic Health Disparities*, *4*(5), 884-894. https://doi.org/10.1007/s40615-016-0291-3

Basch, C. E. (2010). Healthier Students Are Better Learners: A Missing Link in School Reforms to Close the Achievement Gap. Equity Matters. Research Review No. 6. *Campaign for Educational Equity, Teachers College, Columbia University*.

Bersamin, M., Garbers, S., Gold, M. A., Heitel, J., Martin, K., Fisher, D. A., & Santelli, J. (2016). Measuring success: Evaluation designs and approaches to assessing the impact of school-based health centers. *Journal of Adolescent Health*, *58*(1), 3-10. https://doi.org/10.1016/j.jadohealth.2015.09.018

Bloom, B., Cohen, R. A., & Freeman, G. (2012). Summary health statistics for US children. *National Health Interview Survey, 2011*.

Bradley, B. J., & Greene, A. C. (2013). Do health and education agencies in the United States share responsibility for academic achievement and health? A review of 25 years of evidence about the relationship of adolescents' academic achievement and health behaviors. *Journal of Adolescent Health*, *52*(5), 523-532. https://doi.org/10.1016/j.jadohealth.2013.01.008

Braveman, P. A., Cubbin, C., Egerter, S., Chideya, S., Marchi, K. S., Metzler, M., & Posner, S. (2005). Socioeconomic status in health research: One size does not fit all. *JAMA*, *294*(22), 2879-2888. https://doi.org/10.1001/jama.294.22.2879

Braveman, P., Egerter, S., & Williams, D. R. (2011). The social determinants of health: Coming of age. *Annual Review of Public Health*, *32*, 381-398. https://doi.org/10.1146/annurev-publhealth-031210-101218

Britt, M., & Hall, A. (2009). *Massachusetts Chapter 70: Findings and Recommendations*. Boston, MA: Harvard Kennedy School.

Brown, C. (2015). Making classrooms work: Why teachers need to be involved in education policy decisions. *USNews.com*.

Byrd, D., & Mirken, B. (2011). *Post racial? Americans and race in the age of Obama*. The Greenlining Institute, Oakland, CA.

DeCosta-Klipa, N. (2019). *Here are the basics on the bill to reform how Massachusetts schools are funded*. Boston. Com.

Duncan, G. J., & Murnane, R. J. (Eds.). (2011). *Whither opportunity?: Rising inequality, schools, and children's life chances*. Russell Sage Foundation.

Fiscella, K., & Kitzman, H. (2009). Disparities in academic achievement and health: The intersection of child education and health policy. *Pediatrics*, *123*(3), 1073-1080. https://doi.org/10.1542/peds.2008-0533

Goerge, R., Datta, A. R., Xia, K., Witte, A. D., Gennetian, L. A., Milesi, C., ... Zanoni, W. (2015). Identifying Head Start and Public Pre-K Participation in NSECE Data on Center-Based ECE Programs. NSECE Technical Report Supplement. OPRE Report 2015-92b. *Administration for Children & Families*.

Hahn, R. A., Barnett, W. S., Knopf, J. A., Truman, B. I., Johnson, R. L., Fielding, J. E., ... Community Preventive Services Task Force. (2016). Early childhood education to promote health equity: A community guide systematic review. *Journal of Public Health Management and Practice: JPHMP*, *22*(5), E1. https://doi.org/10.1097/PHH.0000000000000378

Hutchinson, P., Carton, T. W., Broussard, M., Brown, L., & Chrestman, S. (2012). Improving adolescent health through school-based health centers in post-Katrina New Orleans. *Children and Youth Services Review*, *34*(2), 360-368. https://doi.org/10.1016/j.childyouth.2011.11.005

Keeton, V., Soleimanpour, S., & Brindis, C. D. (2012). School-based health centers in an era of health care reform: Building on history. *Current Problems in Pediatric and Adolescent Health Care*, *42*(6), 132-156. https://doi.org/10.1016/j.cppeds.2012.03.002

Klein, J. D., Handwerker, L., Sesselberg, T. S., Sutter, E., Flanagan, E., & Gawronski, B. (2007). Measuring quality of adolescent preventive services of health plan enrollees and school-based health center users. *Journal of Adolescent Health*, *41*(2), 153-160. https://doi.org/10.1016/j.jadohealth.2007.03.012

Knopf, J. A., Finnie, R. K., Peng, Y., Hahn, R. A., Truman, B. I., Vernon-Smiley, M., ... Hunt, P. C. (2016). School-based health centers to advance health equity: A community guide systematic review. *American Journal of Preventive Medicine*, *51*(1), 114-126. https://doi.org/10.1016/j.amepre.2016.01.009

Lewis, T. T., Cogburn, C. D., & Williams, D. R. (2015). Self-reported experiences of discrimination and health: Scientific advances, ongoing controversies, and emerging issues. *Annual Review of Clinical Psychology*, *11*, 407-440. https://doi.org/10.1146/annurev-clinpsy-032814-112728

Love, H. E., Schlitt, J., Soleimanpour, S., Panchal, N., & Behr, C. (2019). Twenty years of school-based health care growth and expansion. *Health Affairs*, *38*(5), 755-764. https://doi.org/10.1377/hlthaff.2018.05472

Massey, D. S. (1990). American apartheid: Segregation and the making of the underclass. *American Journal of Sociology*, *96*(2), 329-357. https://doi.org/10.1086/229532

McNall, M. A., Lichty, L. F., & Mavis, B. (2010). The impact of school-based health centers on the health outcomes of middle school and high school students. *American Journal of Public Health*, *100*(9), 1604-1610. https://doi.org/10.2105/AJPH.2009.183590

Mechanic, D. (2002). Disadvantage, inequality, and social policy. *Health Affairs*, *21*(2), 48-59. https://doi.org/10.1377/hlthaff.21.2.48

Pager, D., & Shepherd, H. (2008). The sociology of discrimination: Racial discrimination in employment, housing, credit, and consumer markets. *Annu. Rev. Sociol*, *34*, 181-209. https://doi.org/10.1146/annurev.soc.33.040406.131740

Phelan, J. C., Link, B. G., & Tehranifar, P. (2010). Social conditions as fundamental causes of health inequalities: Theory, evidence, and policy implications. *Journal of Health and Social Behavior*, *51*, S28-S40. https://doi.org/10.1177/0022146510383498

Priest, N., Paradies, Y., Trenerry, B., Truong, M., Karlsen, S., & Kelly, Y. (2013). A systematic review of studies examining the relationship between reported racism and health and wellbeing for children and young people. *Social Science & Medicine*, *95*, 115-127. https://doi.org/10.1016/j.socscimed.2012.11.031

Quillian, L. (2006). New approaches to understanding racial prejudice and discrimination. *Annu. Rev. Sociol.*, *32*, 299-328. https://doi.org/10.1146/annurev.soc.32.061604.123132

Ran, T., Chattopadhyay, S. K., Hahn, R. A., & Community Preventive Services Task Force. (2016). Economic evaluation of school-based health centers: A community guide systematic review. *American Journal of Preventive Medicine*, *51*(1), 129-138. https://doi.org/10.1016/j.amepre.2016.01.017

Riley, M., Laurie, A. R., Plegue, M. A., & Richardson, C. R. (2016). The adolescent "expanded medical home": School-based health centers partner with a primary care clinic to improve population health and mitigate social determinants of Health. *J Am Board Fam Med*, *29*(3), 339-347. https://doi.org/10.3122/jabfm.2016.03.150303

Ryan, C. L., & Siebens, J. (2012). Educational Attainment in the United States: 2009. Population Characteristics. Current Population Reports. P20-566. *US Census Bureau*.

Shonkoff, J. P., Boyce, W. T., & McEwen, B. S. (2009). Neuroscience, molecular biology, and the childhood roots of health disparities: Building a new framework for health promotion and disease prevention. *JAMA*, *301*(21), 2252-2259. https://doi.org/10.1001/jama.2009.754

Tai, T., & Bame, S. I. (2011). Cost-benefit analysis of childhood asthma management through school-based clinic programs. *Journal of Community Health*, *36*(2), 253-260. https://doi.org/10.1007/s10900-010-9305-y

WHO Health Commission. (2008). Final Report of the CSDH. Geneva, Switzerland: World Health Organization. *Closing the gap in a generation: Health equity through action on the social determinants of health*.

Williams, D. R. (2012). Miles to go before we sleep: Racial inequities in health. *Journal of Health and Social Behavior*, *53*(3), 279-295. https://doi.org/10.1177/0022146512455804

Williams, D. R., & Mohammed, S. A. (2013). Racism and health II: A needed research agenda for effective interventions. *American Behavioral Scientist*, *57*(8), 1200-1226. https://doi.org/10.1177/0002764213487341

Williams, D. R., Mohammed, S. A., Leavell, J., & Collins, C. (2010). Race, socioeconomic status and health: Complexities, ongoing challenges and research opportunities. *Annals of the New York Academy of Sciences*, *1186*, 69. https://doi.org/10.1111/j.1749-6632.2009.05339.x

Williams, D. R., Priest, N., & Anderson, N. B. (2016). Understanding associations among race, socioeconomic status, and health: Patterns and prospects. *Health Psychology*, *35*(4), 407. https://doi.org/10.1037/hea0000242

Yen, S. C., & Lee, A. Y. (2019). Jumpstart program efficacy: The impact of early childhood education advancement initiatives on low-income preschool children's literacy, agency, and social relations. *Cogent Education*, *6*(1), 1592063. https://doi.org/10.1080/2331186X.2019.1592063