

RESEARCH ARTICLE

Racial Disparities Among the Physical and Mental Health of Head Start Staff

Adam T. Blancher

Michelle M. Yetman

Tyler Reekes

Louisiana State University Health Sciences Center– Shreveport (LSUH-S)

Racial disparities have been found to exist within the health care setting; this paper investigates the existence of such differences among Head Start (HS) staff in terms of health and wellness. The purpose of the study was to compare physical health indicators from a Louisiana HS sample to a previously published data set of Pennsylvania HS staff (Whitaker et al., 2013). We surveyed a predominately Black (85.6%) group of HS teachers (N = 195) using a modified questionnaire developed by a Pennsylvania research team. The responses were analyzed against a national reference and Pennsylvania group of HS teachers (Whitaker et al., 2013). Results indicated that HS teachers have a higher prevalence of health-related problems than the national sample. However, our sample of Black teachers in HS start classrooms experienced worse physical health than White women with similar characteristics (age, marital status). These results have profound implications regarding health disparities and the physical well-being of HS teachers.

Keywords: Head Start; racial disparities; health outcomes; Louisiana

HEAD START

Head Start (HS) is the largest, federally funded program among early childhood education programs in the United States. HS was established in 1965 to promote school readiness in children from low-income families (Bergeron, 2020). As of 2020, HS's 10.6 billion dollar budget provided educational, nutritional, and social services to one million children preschool-aged children (3-5 years of age) and their families who live in underserved communities across the United States (Stage, et al., 2020; Bergeron, 2020). Nationwide, HS employs around 1, 436, 008 teachers; the vast majority are women (Bergeron, 2020).

PRESCHOOL TEACHER HEALTH AND WELLNESS

While the benefits of early childhood education have been well documented, there is less clear research being done on the educators who deliver services to young children. There is a paucity of research in terms of preschooler teacher well-being, both from a physical and emotional perspective. Preschool teachers are fundamental to the development of young children, as their actions have direct implications on the children they serve (LoCasale-Couch et al., 2007). In a review of the literature pertaining to preschool teacher well-being, the field of published research was described as "deeply fragmented", "narrow", and "limited" (Hall-Kenyon et al., 2013). Although there has been a national emphasis on improving the quality of educational experiences for children in underserved populations, it is important to understand the characteristics of the individuals educating this population.

Preschool teachers are fundamental in the developmental of young children, and their mental health can directly impact the children they work with. For example, previous research found that teachers who have struggled with depression were more likely to request that students be expelled from the preschool environment (Silver & Zinsser, 2020). When HS teachers do not have access to specific interventions such as institutional support or social-emotional support, they are more likely to report burnout (Sandilos et al., 2020). A lack of job control, poor relationships with co-workers, and teaching a higher number of children, perceived as challenging, have been found to negatively affect early childhood teachers' mental health (Schaack & Stedron, 2020). Additionally, teacher-related stress has negatively impacted the quality of the teacher-student relationship and classroom dynamics, namely the emotional climate within the classroom (Penttinen et. al, 2020).

These factors led researchers in Pennsylvania to investigate the health status of HS staff (Whitaker et al., 2013). Specifically, they sought to compare a group of women working in HS to a national sample of those with similar sociodemographic characteristics (e.g., age, education, race/ethnicity, and marital status). They were interested in determining if there was a higher prevalence of reportedly poor health, sick days, depression, and specific health-related variables such as obesity, asthma, hypertension, and diabetes. The results suggested that the HS sample had a significantly increased prevalence of overall health indicators compared to the national sample (Whiter et al., 2013). These findings could indicate that higher levels of physical health problems would impair a teacher's ability to participate in classroom activities and their ability to model good health habits (Whitaker et al., 2013). Furthermore, a higher incidence of mental health problems (e.g., depression) could lower a teacher's sensitivity to the child-teacher relationship and interfere with promoting healthy emotional regulation in children (Harding et al., 2018). Moreover, these health and wellness indicators suggest undesirable effects on school readiness and overall child development.

In the Pennsylvania study, HS teachers reported higher rates of depression, severe headache or migraine, lower back pain, obesity, asthma, high blood pressure, and diabetes or prediabetes (Whitaker et al., 2013). These results were concerning, given that teacher-related stress (physical or mental) negatively impacts quality interactions with students (Penttinen et al., 2020). The current study used the questionnaire designed by the Pennsylvania study (Whitaker et al., 2013) to compare a sample of predominately Black HS teachers to that of a predominately white HS sample. The study examined the two sample's current health status, number of physical health conditions,

number of unhealthy days, number of work absences due to illness, and the presence of depressed mood. The questions in both the current study and the Pennsylvania comparison study were modeled on similar items using either the National Health Interview Survey (NHIS; 2011) or the Behavioral Risk Factor Surveillance System (BRFSS, 2011; Pickens et al., 2018). These two surveys were chosen for their capacity to compare findings between the current study results and those of the national surveys.

METHOD

Study Design

A major health sciences center in the southern US partnered with the Mental Health Services Department of Head Start to develop an agency-wide health and wellness program. As part of this program, teachers were surveyed about their pre-existing health conditions and current physical health status (see questionnaire). Appendix A contains the modified version of the Pennsylvania study (Whitaker et al., 2013) administered to a sample of Head Start teachers from Louisiana. Both groups contained exclusively female subjects; this was an expected finding as HS employs over 84% of women (Head Start, n.d.). The Pennsylvania and Louisiana samples were similar in composition, with the only difference being race. The Pennsylvania sample was predominately white, whereas our study was predominantly Black. The purpose of comparing these samples was to determine if the Louisiana sample experienced a higher prevalence of health-related problems when compared to the Pennsylvania sample as well as to the national comparison group. We also wanted to ascertain if Head Start teachers have different health conditions and access to health care based on their race.

Participants

HS staff from 11 centers in a medium-sized city in Louisiana were surveyed. Paper and pencil surveys were used due to the lack of consistent access to the internet across centers. A total of 195 valid surveys were returned and utilized for analysis purposes. Completed surveys represented an 86.6% completion rate. The surveys were administered during a back-to-school orientation training when all 11 separate HS Centers gathered for training. The survey was administered to the group as a whole, so individual Center response rates were not calculated. This survey was part of an ongoing Health & Wellness project in Year III and continued to receive positive feedback and participation from staff.

Study Questionnaire

The study we replicated for our current study created the "Pennsylvania Head Start Staff Wellness Survey" in order to obtain information regarding the physical and mental health of HS teachers (Whitaker et al., 2013). The Pennsylvania study used questions from the 2011 versions of the National Health Interview Survey (NHIS) (Radloff, 1977) and the Behavioral Risk Factor Surveillance System (BRFSS) (Comstock & Helsing, 1976), which allowed them to compare their

results to national data the two questionnaires collected. Basic demographic questions, which were part of the original study, were also included. A modified version of the Pennsylvania survey was used in the present study. Since the original survey required 30-40 minutes to complete, several questions were removed to shorten the completion time for our sample. Since we could not follow up on results, we did not administer the 20-item Center for Epidemiologic Studies Depression Scale (Radloff, 1977) (CES-D), administered in the study by Whitaker and colleagues (2013). Additionally, follow-up questions on specific conditions such as depression were removed because it would have been difficult to obtain adequate responses. Instead of surveying for these specific conditions, the examiners opted to survey the overall mental health of the participants. These modifications resulted in 7 comparable prevalence variables: obesity, asthma, diabetes three, more physical health conditions, fair or poor health, ≥ 14 unhealthy days, and physician access. The current survey included demographic variables and questions regarding physical and mental health, healthcare access, and how these factors affected work. The present sample was compared to the 2011 version of the NHIS (CDC, 2011) and the Pennsylvania study (Whitaker et al., 2013) sample. The University's Institutional Review Board approved all study materials. A copy of the final questionnaire is provided in Appendix A.

Questionnaire Administration

The questionnaire was administered during a mandatory back-to-school in-service. Before a scheduled break, the questionnaires were administered to participants, and instructions were provided. The research team left the room and collected the completed surveys as teachers left for their break.

Data Analysis. The Statistical Package for Social Science (SPSS) 26.0 and Microsoft Excel were used to analyze descriptive statistics and percentages. Z-tests of two independent proportions were conducted using the statistical calculator provided by Epitools. We compared our sample to the National Reference group provided by the Pennsylvania study (Whitaker et al., 2013) and the Pennsylvania group of HS teachers. According to the Pennsylvania study's data analysis: "survey commands in Stata/SE (version 12) were used to take into account the sample weights and variance estimates based on the complex sampling design of these surveys" (Whitaker et al., 2013, p.4). These commands determined whether there was a significant difference in reported percentages of the variables in the present study. Additionally, individual p-values were calculated using z-tests of two independent proportions using the online z-test calculator (Epitools, n.d.).

RESULTS

Demographics

Among the Louisiana questionnaire participants, 85.6% were Black/African American, 52% were 45 years or older, 73.8% had an associate's degree or higher, and 29.7% were married. By position,

39% were lead teachers, 19% were assistant teachers, 26.2% were teacher's aides, and the remaining 6.1% were listed as other (e.g., administrators, clerical, or nursing). Table 1 displays the demographic variables for the Louisiana sample, Pennsylvania sample, and national reference sample for comparison purposes.

TABLE 1. Sociodemographic Characteristics of Louisiana, Pennsylvania, and National Reference Groups

Characteristic	Louisiana (N = 195)		Pennsylvania (N = 2122)		National Reference (N = 9118)	
	n	% [95% CI]	n	% [95% CI]	n	% [95% CI]
Highest Education						
High School/GED	43	22.1 [16.2–27.9]	421	20.0 [18.3–21.7]	2,098	23.3 [22.2–24.4]
Associate	73	37.4 [30.6–44.2]	-	-	-	-
Bachelor or higher	71	36.4 [29.7–43.2]	1,270	60.3 [58.2–62.4]	3,468	38.3 [36.9–39.8]
Race/Ethnicity						
Black	166	85.6 [80.7–90.5]	126	6.0 [5.0–7.0]	1,532	12.8 [11.9–13.7]
Non-Hispanic white	3	1.5 [0.21–3.2]	1,804	85.7 [84.2–87.2]	5,535	70.5 [69.2–71.8]
Non-Hispanic other	6	3.1 [0.67–5.5]	53	2.5 [1.8–3.1]	737	6.2 [5.6–6.8]
Hispanic (any)	3	1.5 [0.21–3.2]	123	5.8 [4.8–6.8]	1,314	10.5 [9.8–11.2]
Relationship Status						
Married	58	29.7 [23.3–36.1]	1,310	62.4 [60.3–64.4]	3,902	52.9 [51.6–54.2]
Not married	112	57.4 [50.5–64.3]	791	37.6 [35.6–39.7]	5,195	47.1 [45.8–48.4]
Position						
Lead Teacher	76	39.0 [32.1–45.9]	-	-	-	-
Assistant Teacher	37	19.0 [13.5–24.5]	-	-	-	-
Teacher’s Aide	51	26.2 [20.0–32.4]	-	-	-	-
Other	12	6.1 [8.5–18.0]	-	-	-	-

National Reference Comparison

The National reference sample was 12.8% Black/African American, whereas the Louisiana sample was 85.6% Black. As noted above, z-tests for independent proportions compared each health indicator. Table 2 displays percentages and p-values for each comparison. Four of the five health indicator variables were more common among the Louisiana sample than the national reference group. Asthma was the only non-statistically significant difference; however, similar to the

Pennsylvania comparison, the national reference group had higher reported asthma rates (13.6%) than the Louisiana sample (11.3%).

Regarding Health-Related Quality of Life indicators, 24.6% of the Louisiana sample reported fair to poor health status, whereas only 5.1% of the national reported such health status. The Louisiana sample had significantly higher rates of unhealthy days (27.8) compared to the National Reference (12.6%). Finally, mirroring the results of the Pennsylvania Sample, significantly fewer Louisiana teachers reported a personal doctor (75.4%) than the National Reference sample (86.4%).

TABLE 2. Prevalence of Health Indicators Among Louisiana HS Staff and National HS Staff Participants

	Louisiana (N =210) % [95% CI]	National Reference (N = 9118) % [95% CI]	Sig.
Health Indicator			
Obesity	68.2 [61.7–74.7]	27.3 [26.0–28.6]	<.01 *
Asthma	11.3 [6.7–15.7]	13.6 [12.5–14.7]	.35
High blood pressure	46.7 [39.7–53.7]	18.1 [17.0–19.2]	< .01 *
Diabetes or prediabetes	13.3 [8.5–18.1]	7.8 [7.1–8.6]	< .01 *
≥ 3 physical health conditions	27.3 [21.1–33.5]	12.6 [11.7–13.5]	< .01 *
Health-Related Quality of Life			
Fair or poor health status	24.6 [18.6–30.6]	5.1 [4.5–5.6]	< .01 *
Frequent physically unhealthy days (≥ 14 d/mo)	27.8 [21.5–34.1]	12.6 [11.7–13.5]	< .01 *
Health Care Access			
Has personal doctor	75.4 [69.4–81.4]	86.4 [86.0–86.8]	< .01 *

Note. The national reference population was surveyed in 2011; the Louisiana population was surveyed in 2019

* Indicates significant findings.

Pennsylvania Sample Comparison

The Louisiana sample was composed of 85.6% Black/African American, whereas the Pennsylvania sample was only 6% Black. The Pennsylvania sample was overwhelmingly white (85.7%) versus the Louisiana sample, which was majority black; therefore, race was the main difference. Z-tests for two independent proportions were used to determine the significance level for the comparison. Table 3 displays percentages and p-values for each comparison. Overall, the comparison between the Louisiana sample and the Pennsylvania sample yielded statistically significant differences among obesity (68.2% [LA] vs. 37.1% [PA]), asthma (11.3% vs. 18.7%), high blood pressure (27.3% vs. 21.8%), fair to poor health (24.6% vs. 14.6%), frequent unhealthy days (≥ 14 days; 27.8% vs. 21.8%), and access to a personal doctor (75.4% vs. 96.5%). Although there was a significant difference in reported asthma rates, the Louisiana sample had significantly

lower reported rates than the Pennsylvania sample. The Louisiana sample did not differ significantly on the physical conditions of diabetes and ≥ 3 physical conditions; however, the Louisiana sample reported slightly higher rates in each category.

TABLE 3. Prevalence of Health Indicators Among Louisiana HS and the Pennsylvania HS Participants

	Louisiana (N =195) % [95% CI]	Pennsylvania (N = 2122) % [95% CI]	Sig.
Health Indicator			
Obesity	68.2 [61.7–74.7]	37.1 [34.9–39.3]	< .01*
Asthma	11.3 [6.7–15.7]	18.7 [17.0–20.3]	.01*
High blood pressure	46.7[39.7–53.7]	22.3 [20.5–24.0]	< .01*
Diabetes or prediabetes	13.3 [8.5–18.1]	11.9 [10.5–13.3]	.57
≥ 3 Physical health conditions	27.3 [21.1–33.5]	21.8 [20.0–23.6]	.08
Health-Related Quality of Life			
Fair or poor health status	24.6 [18.6–30.6]	14.6 [13.1–16.1]	< .01*
Frequent physically unhealthy days (≥ 14 d/mo)	27.8 [21.5–34.1]	21.8 [20.0–23.6]	.05
Health Care Access			
Has personal doctor	75.4 [69.4–81.4]	96.5 [95.7–97.3]	< .01*

Note. The national reference population was surveyed in 2011; the Louisiana population was surveyed in 2019.

* Indicates significant findings.

Teacher Mental Health

In the present study, teachers were asked to describe their mental health regarding poor, fair, good, very good, and excellent. Of the 195 respondents, 9.8% reported poor to fair, 38.5% reported good, 32.8% reported very good, and 18.5% reported excellent. For comparison purposes, the Whitaker and colleagues (2013) sample had 23.5% of respondents endorse depression as diagnosed by a health professional. Due to the different wording in questioning, depression, and the description of mental health, it is not a direct comparison. Despite the inability to compare the variables of depression and mental health between the samples, it is noteworthy to identify that the minority (18.5%) of HS women in the Louisiana sample consider their mental health excellent.

DISCUSSION

Replicating the findings of the Pennsylvania study (Whitaker et al., 2013), the Louisiana HS teachers experienced higher levels of physical health conditions and poorer health-related quality of life indicators than the national reference sample. Furthermore, our findings suggest that when compared to HS staff from Pennsylvania with similar age, education, and job position, our sample

had significantly higher rates of obesity and high blood pressure and reported higher rates of fair to poor health. Our sample generally had less access to a personal physician. This significant discrepancy highlights a racial disparity in health care. It is important to note that both the national and HS Pennsylvania samples were majority white, while the HS Louisiana sample was majority black. Racial disparities in health and health care arise from institutional discrimination, the unequal geographic distribution of medical resources, pathophysiology, economic status, insurance coverage, and differences in trust, knowledge, and familiarity with medical procedures (Horner et al., 1995; Smith, 1998). This racial health disparity can affect not only the teachers' well-being but also the children they serve. The Pennsylvania study suggested that the poor health status of preschool personnel may ultimately affect the healthy development of the students (Whitaker et al., 2013). Previous research suggested that education and health are interconnected (Cutler & Lleras-Muney, 2014). It is posited that higher education levels create opportunities for better health (e.g., better jobs, higher pay) and improves social (e.g., increased social connectedness and conscientiousness) and emotional health (e.g., better stress management, higher self-esteem; Cutler & Lleras-Muney, 2014). Their research also suggests that early education experiences (i.e., interactions with teachers) can profoundly impact the development of social skills, adjustment and emotional regulation, and learning skills (Cutler & Lleras-Muney, 2014). Therefore, given the connection between teachers' health and children's development, our findings are alarming. The higher rate of health problems in our predominantly Black HS teacher sample places the children they serve, who are already considered disadvantaged, at even more risk for opportunity gaps and poor developmental (health and educational) outcomes.

Critical indicators of opportunity gaps for children of color include poverty and school readiness (Dobbins et al., 2016). Furthermore, it was discovered that only 26% of Head Start programs that provide educational experiences to black children are considered "high-quality," in contrast to 48% of white children (Barnett et al., 2013). These issues have led the US Department of Health and Human Services (DHHS), which governs the Office of Head Start to issue policies and standards to address these concerns. The DHHS created the Head Start Performance Standards and Standard 1302.93 (Staff Health and Wellness part b (US Department of Health and Human Services, 2015), which states:

A program must make mental health and wellness information available to staff regarding health issues that may affect their job performance and must provide regularly scheduled opportunities to learn about mental health, wellness, and health education. (p. 64)

The Pennsylvania study highlighted the need for professional development to improve Head Start teachers' health due to the direct link between teachers' health quality and positive children's educational outcomes (Whitaker et al., 2013). Furthermore, the National Head Start Association (NHSA) established a toolkit to support HS programs by implementing a health and wellness intervention program targeting the staff (NHSA, n.d). Only one study to date implemented these specific guidelines to target teacher health and wellness (Yetman et al., 2020). Those researchers developed a ten-month program that included health education, health promotion, disease prevention, and utilization of behavioral-change technologies directed at health habit improvements. They found that a health and wellness program could effectively be implemented within a Head Start organization using this toolkit (Yetman et al., 2020).

Furthermore, the results suggested more positive attitudes toward a "culture of wellness" as rated by the teachers, and approximately 88% of participants reported making healthier lifestyle choices (Yetman et al., 2020). The study did not investigate how a successful health intervention program improved or affected children's educational outcomes. Therefore additional research is necessary to determine the effect of the intervention on children's learning. However, a study conducted in 2016 found that teachers' movements toward better health influenced that of the classroom environment related to health (e.g., obesity) (Esquivel et al., 2016). Taken together, continued advocacy for improvements in preschool teachers' health and wellness is important given its impact on children's developmental trajectories.

The Pennsylvania study noted higher rates of depression compared to the rates seen in the national reference sample. Specifically, 23.5% of the Pennsylvania sample reported being diagnosed with depression by a healthcare professional, whereas the national reference sample only reported 17.6% (Whitaker et al., 2013). In comparison, only 9.8% of our sample reported poor to fair mental health, suggesting that 90% had at least good mental health. Although our sample was not explicitly asked about depression, this low prevalence of mental health problems was unexpected. According to the National Institute of Mental Health (NIMH), individuals with chronic physical conditions experience an increased risk of mental health conditions (NIMH, 2021). Therefore, we expected our sample's problematic mental health status to be rated higher than the Pennsylvania sample. Future studies may wish to explore buffering factors, such as the role of community and religion in certain regions, such as in the south, that insulate individuals against negative mental health stressors.

Limitations and Strengths

The current study had limitations and strengths that should be acknowledged. Since the HS teachers in this study were 100% female and primarily African American, gender and ethnic diversity limitations may apply. While this is a limitation, it is simultaneously a strength in that it highlights the importance of minority research as the teachers in this study differed from the white counterparts in a previously published comparable study. Thus, the importance of considering race and cultural and regional factors should be considered in future studies. Race and gender continue to be important variables for consideration when examining health care disparities. This study targeted 195 HS employees. Due to the relatively small sample size and the regional nature of the data collection, extrapolation to HS, in general, is limited. Future studies may wish to randomly sample HS teachers across the country to gain a balanced health status profile as a total group. An additional limitation of the study was the use of self-report data. The reliance on a single form of assessment, which is subjective in nature, is inherently limited in the data it will produce (Steene-Johannessen et al., 2021). However, based on the results, it did not appear the HS staff were attempting to portray their health status in an overly positive light. Future versions of similar studies may want to employ objective measures of health such as biometrics (e.g., weight, BMI, blood pressure, diabetes screening, etc).

While it is possible that other more nuanced differences between the two regional groups exist, such as use of religion for support, or regional / cultural differences that could also impact health outcomes, such subtle differences would require deep investigation to uncover. Since HS teachers

in general are a very homogeneous group (HS Teacher Demographics, n.d.), the current study examines the obvious main difference between the groups, which was race, and significant differences were found.

Conclusion and Future Directions

This study provides additional evidence for the need to address HS teachers' health. Our predominantly black sample is at risk for multiple health-related problems that could potentially impact the already disadvantaged children they educate. Continued efforts are needed at the local, state, and national levels to improve access and education regarding the importance of health and a healthy lifestyle. However, the research is still quite limited on the effects of interventions targeted to improve teachers' health. In addition, more research must be conducted to uncover what specific teacher health behaviors (i.e., exercise, healthy diets) have the greatest impact on children's development. Standardization of wellness programs across HS centers is lacking, and additional guidance is needed. The Performance Standard 1302.93 (Staff Health and Wellness Part b) acknowledged the importance of and need for teacher wellness. While this was a good beginning, it has not yet been widely adopted in any type of formal manner across all HS centers, and much in the way of improving teachers' health and wellness needs to be done.

REFERENCES

- Barnett, S., Carolan, M., & Johns, D. (2013). Equity and excellence: African-American children's access to quality preschool. *National Institute for Early Education Research*, 1–14. https://nieer.org/wp-content/uploads/2016/08/Equity20and20Excellence20African-American20ChildrenE28099s20Access20to20Quality20Preschool_0.pdf
- Bergeron, D. (2020) Head Start funding increase (Log No. ACF-PI-HS-20-20). United States Department of Health and Human Services, Administration for Children and Families. <https://eclkc.ohs.acf.hhs.gov/sites/default/files/pi/downloads/acf-pi-hs-20-02.pdf>
- Centers for Disease Control and Prevention (2011). *BRFSS Questionnaires*. <https://www.cdc.gov/brfss/questionnaires/index.htm>.
- Cutler, D., & Lleras-Muney, A. (2014). Education and Health (A. J. Culver, Ed.). *Encyclopedia of Health Economics*, 1, 232–245. Elsevier. <https://doi.org/10.1016/B978-0-12-375678-7.00309-6>
- Comstock, G. W., & Helsing, K. J. (1977). Symptoms of depression in two communities. *Psychological medicine*, 6(4), 551-563. <https://doi.org/10.1017/S0033291700018171>
- Dobbins, D., McCreedy, M., Rackas, L. (2016). Unequal access: Barriers to early childhood education for boys of color. https://www.childcareaware.org/wp-content/uploads/2016/10/UnequalAccess_BoysOfColor.pdf
- Epitools. (n. d.) *2-sample z-test to compare a sample proportion*. <https://epitools.ausvet.com.au/ztesttwo>
- Esquivel, M. K., Nigg, C. R., Fialkowski, M. K., Braun, K. L., Li, F., & Novotony, R. (2016). Influence of teachers' personal health behaviors on operationalizing obesity prevention policy in Head Start preschools: A project of the Children's Healthy Living Program (CHL). *Journal of Nutrition Education and Behavior*, 48(5), 318–325. <https://doi.org/10.1016/j.jneb.2016.02.007>.
- Hall-Kenyon, K. M., Bullough, R. V., MacKay, K. L., & Marshall, E. E. (2013). Preschool teach well-being: A review of the literature. *Early Childhood Education Journal*, 42, 153–162. <https://doi.org/10.1007/s10643-013-0595-4>
- Harding, S., Morris, R., Gunnell, D., Ford, T., Hollingworth, W., Tilling, K., ... & Kidger, J. (2019). Is teachers' mental health and wellbeing associated with students' mental health and wellbeing?. *Journal of affective disorders*, 242, 180-187. <https://doi.org/10.1016/j.jad.2018.08.080>

- Head Start Teacher Demographics and Statistics in the US (n.d.). Zippia.com. <https://www.zippia.com/head-start-teacher-jobs/demographics/>
- Horner, R., Oddone, E., & Matchar, D. (1995). Theories explaining racial differences in the utilization of diagnostic and therapeutic procedures for cerebrovascular disease. *The Milbank Quarterly*, 73(3), 443-462. <https://doi.org/10.2307/3350374>
- LoCasale-Crouch, J., Konold, T., Pianta, R., Howes, C., Burchinal, M., Bryant, D., Clifford, R., Early, D., & Barbarin, O. (2007). Observed classroom quality profiles in state-funded pre-kindergarten programs and associations with teacher, program, and classroom characteristics. *Early Childhood and Research Quarterly*, 22(1), 3–17. <https://doi.org/10.1016/j.ecresq.2006.05.001>
- National Head Start Association (n.d.) Nurturing Staff Wellness: *Seven Steps to Establishing a Staff Wellness Program*. https://nhsa.org/files/resources/qi_toolkit_nurturing_staff_wellness.pdf.
- National Health Interview Survey. (2011) *Centers for Disease Control and Prevention National Health Interview Survey, questionnaires, datasets, and related documentation, 1997 to the present*. <https://www.cdc.gov/nchs/nhis1997-2018.htm#2011>
- Pickens, C. M., Pierannunzi, C., Garvin, W., & Town, M. (2018). Surveillance for certain health behaviors and conditions among states and selected local areas — behavioral risk factor surveillance system, united states, 2015. *MMWR. Surveillance Summaries*, 67(9), 1-90. <https://doi.org/10.15585/mmwr.ss6709a1>
- Penttinen, V., Pakarinen, E., von Suchodoletz, A., & Lerkkanen, M.K. (2020). Relations between kindergarten teachers' occupational well-being and the quality of teacher-child interactions. *Early Education and Development*, 31(7), 944–1010. <https://doi.org/10.1080/10409289.2020.1785265>
- Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, 1(3), 385-401. <https://doi.org/10.1177/014662167700100306>
- Sandilos, L., Goble, P., & Schwartz, S. (2020). Burnout and teacher-child interactions: The moderating influence of SEL interventions in Head Start Classrooms. *Early Education and Development*, 31(7), 1169–1185v. <https://doi.org/10.1080/10409289.2020.1788331>
- Schaack, D., Le, V., & Stedron, J. (2020). When fulfillment is not enough: Early childhood teacher occupational burnout and turnover intentions from a job demands and resources perspective. *Early Education and Development*, 31(7), 1011–1030. <https://doi.org/10.1080/10409289.2020.1791648>
- Silver, H. C., & Zinsser, K. M. (2020). The interplay among early childhood teachers' social and emotional well-being, mental health consultation, and preschool expulsion. *Early Education and Development*, 31(7), 1133–1150. <https://doi.org/10.1080/10409289.2020.1785267>
- Smith, D. B. (1998). Addressing racial inequities in health care: Civil rights monitoring and report cards. *Journal of Health Politics, Policy and Law*, 23(1), 75-105. <https://doi.org/10.1215/03616878-23-1-75>
- Stage, V. C., Jones, L., Bayles, J., Hegde, A. V., Dev, D. A., & Goodell, L. S. (2020). Eastern North Carolina Head Start Teachers' personal and professional experiences with healthy eating and physical activity: a qualitative exploration. *Public Health Nutrition*, 16, 1–17. <https://doi.org/10.1017/S1368980020003687>
- Steene-Johannessen, J., Anderssen, S. A., van der Ploeg, H. P., Hendriksen, I. J. M., Donnelly, A. E., Brage, S., & Ekelund, U. (2016). Are self-report measures able to define individuals as physically active or inactive? *Medicine & Science in Sports & Medicine*, 48(2), 235–244. <https://doi.org/10.1249/MSS.0000000000000760>
- United States Department of Health and Human Services, Administration for Children and Families, (2015). *Office of Head Start Program Information Report 2014–2015*. Department of Health and Human Services. <https://www.govinfo.gov/content/pkg/FR-2016-09-06/pdf/2016-19748.pdf>
- Whitaker, R. C., Becker, B. D., Herman, A. N., & Gooze, R. A. (2013). The physical and mental health of Head Start staff: The Pennsylvania Head Start staff wellness survey, 2012. *Preventing Chronic Disease: Public Health Research, Practice, and Policy*, 10, 1–9. <http://dx.doi.org/10.5888/pcd10.130171>
- Yetman, M., Blancher, A., Reekes, A. (2020). Establishing a health and wellness intervention program for Head Start Teachers and Staff. *International Journal of Health, Wellness, and Society*, 11(1), 1–12. <https://doi.org/10.18848/2156-8960/CGP/v11i01>

APPENDIX A

1. How would you describe your overall physical health?

- Poor
- Fair
- Good
- Very Good
- Excellent

2. During the past 30 days, for about how many days have you felt very healthy and full of energy?

0 to 30 days = _____

3. How would you describe your overall mental health?

- Poor
- Fair
- Good
- Very Good
- Excellent

4. In the Past 7 Days, how often have you been physically active for a minimum of 30 minutes per day outside of work?

0 to 7 days = _____

5. How often do you typically you engage in moderate to strenuous exercise? (Examples include walking fast, jogging, dancing, swimming, biking or other activities that cause a light or heavy sweat.

- daily
- 5 or more times per week
- 3 to 4 times per week
- 1 to 2 times per week
- Occasionally
- Never

6. How often have you engaged in an activity to relax or manage stress? (Examples include hobby, stretching, yoga).

- daily
- 5 or more times per week
- 3 to 4 times per week
- 1 to 2 times per week
- Occasionally
- Never

7. How often have you used breathing activities to calm, reduce stress or let go?

- Daily
- Several times a week
- Occasionally
- Never

8. How often have you eaten 2 servings of fruits per day? (A serving equals half a cup of fruit or one medium fruit or ¾ cup of 100% juice).

- Daily
- Several times a week
- Occasionally
- Never

9. How often have you eaten 2 servings of vegetables per day? (A serving equals half a cup of vegetables or one cup of green leafy vegetables. Does NOT include fried potatoes).
- Daily
 Several times a week
 Occasionally
 Never
10. How often have you drank one or more sugar sweetened beverages? (Examples include soda, energy drinks, sports drinks, flavored coffee).
- Daily
 Several times a week
 Occasionally
 Never
11. How often have you eaten a well-balanced lunch at work?
- Daily
 Several times a week
 Occasionally
 Never
12. How often do you smoke cigarettes?
- Daily
 Several times a week
 Occasionally
 Never
13. How often do you smoke electronic cigarettes (E-cigarettes)?
- Daily
 Several times a week
 Occasionally
 Never
14. How often does pain limit your life or work activities?
- Daily
 Several times a week
 Occasionally
 Never
15. In the past year, how often have you missed work due to illness or injury? (Do not include maternity leave)
- Never
 Rarely
 Once a month
 A few days a month
 At least once a week
16. In the last month, how often have you felt: That you were unable to control the important things in your life?
- Never
 Almost never
 Sometimes
 Fairly often

17. Confident about your ability to handle your personal problems?

- Never
- Almost never
- Sometimes
- Fairly often

18. That things were going your way?

- Never
- Almost never
- Sometimes
- Fairly often

19. Difficulties were piling up so high that you could not overcome them?

- Never
- Almost never
- Sometimes
- Fairly often

20. It seems I am "running on automatic" without much awareness of what I'm doing.

- Almost Never
- Very infrequently
- Somewhat infrequently
- Somewhat frequently
- Very frequently
- Almost always

21. I rush through activities without being really attentive to them.

- Almost Never
- Very infrequently
- Somewhat infrequently
- Somewhat frequently
- Very frequently
- Almost always

22. I get so focused on the goal I want to achieve that I lose touch with what I am doing right now to get there.

- Almost Never
- Very infrequently
- Somewhat infrequently
- Somewhat frequently
- Very frequently
- Almost always

23. I do jobs or tasks automatically, without being aware of what I'm doing.

- Almost Never
- Very infrequently
- Somewhat infrequently
- Somewhat frequently
- Very frequently
- Almost always

24. I find myself doing things without paying attention
 Almost Never
 Very infrequently
 Somewhat infrequently
 Somewhat frequently
 Very frequently
 Almost always
25. During the past 12 months, have you seen or talked to a doctor or other health care professional about your health?
 Yes
 No
 Unsure
26. Do you have one person you think of as a personal doctor or health care provider?
 Yes
 No
 Unsure
27. How hard is it for you to pay for the very basics like food, housing, medical care and heating?
 Not hard at all
 Somewhat hard
 Very hard
28. How often do you get the social and emotional support you need?
 Always
 Usually
 Sometimes
 Rarely
 Never
29. Has a doctor or health care provider told you that you have one of the following chronic conditions? (Check all that apply).
 Arthritis
 Asthma
 High blood Pressure (hypertension)
 High blood sugar (diabetes)
 High cholesterol
 Heart disease
 Overweight
 None
 Choose not to answer
30. The work I do serves a greater purpose.
 Strongly Disagree
 Disagree
 Agree
 Strongly Agree
31. I am confident with the overall direction of the agency. (This includes vision, culture, leadership, finances).
 Strongly Disagree
 Disagree
 Agree
 Strongly Agree

32. I really feel a part of a team.
 Strongly Disagree
 Disagree
 Agree
 Strongly Agree
33. If I were in trouble, there are lots of people on this team that could help me.
 Strongly Disagree
 Disagree
 Agree
 Strongly Agree
34. Most people on this team (organization) can be trusted.
 Strongly Disagree
 Disagree
 Agree
 Strongly Agree
35. Most people on this team (organization) are friendly.
 Strongly Disagree
 Disagree
 Agree
 Strongly Agree
36. The topic of health is present in our team meetings and other team events.
 Strongly Disagree
 Disagree
 Agree
 Strongly Agree
37. In our team, it is expected that one takes care of his/her health.
 Strongly Disagree
 Disagree
 Agree
 Strongly Agree
38. In our team, we exchange ideas about healthy living.
 Strongly Disagree
 Disagree
 Agree
 Strongly Agree
39. I feel comfortable encouraging children I work with to try unfamiliar foods.
 Strongly Disagree
 Disagree
 Agree
 Strongly Agree
40. I feel comfortable encouraging children I work with to be physically active.
 Strongly Disagree
 Disagree
 Agree
 Strongly Agree

41. I feel comfortable talking to parents about a child's eating habits.
 Strongly Disagree
 Disagree
 Agree
 Strongly Agree
42. I feel comfortable in talking to parents about a child's physical activity.
 Strongly Disagree
 Disagree
 Agree
 Strongly Agree
43. My health habits are an example for the children I work with.
 Strongly Disagree
 Disagree
 Agree
 Strongly Agree
44. My habits are an example for other staff / coworkers
 Strongly Disagree
 Disagree
 Agree
 Strongly Agree
45. How would you describe your interest in workplace programs that can help members reach personal health goals?
 Highly Interested
 Interested
 Somewhat Interested
 Not Interested
46. How long have been employed at Head Start?
 Less than 1 Year
 1 – 5 years
 6-10 years
 11-20 years
 21 or more years
47. Which of the following best describes your educations?
 Less than High School
 High School Graduate / GED
 Technical Certificate
 Child Development Associate (CDA)
 Associate's Degree
 Bachelor's Degree
 Graduate Degree
48. What is your gender?
 Female
 Male
49. How old are you?
 24 or younger
 25-34
 35-44

- 45-54
- 55-64
- 65 or older
- Choose not to answer

50. What is your race / ethnicity?

- Asian-American
- African American
- Hispanic
- Multi-Racial
- Native American
- White
- Choose not to answer
- Other

51. Which of the following best describes your position at Head Start?

- Lead Teacher
- Assistant Teacher
- Teacher's Aide
- Family Support Specialist / Home Visitor
- Supervisor or Operations Manager
- Bus Driver / Monitor
- Nutrition or Health Staff
- Administrative, Clerical or Central Office Staff
- Other (please specify) _____

52. Which of the following best describes your marital status?

- Married
- Divorced
- Widowed
- Separated
- Never Married
- Member of an unmarried couple
- Choose not to answer

53. Including yourself, how many people are living in your household? _____

54. What is your gross income?

- less than \$20,000
- \$20,000 to 34, 999
- \$35,000 to 49, 000
- \$50,000 to 74, 999
- \$76, 000 to 99, 999
- Over \$100,000