

## **Changes in Personal Wellness Habits Among Newer New Jersey Teachers During COVID-19 Impacted School Years**

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### **Abstract**

New Jersey Safe Schools Program (NJSS) provides work-based learning (WBL) trainings to certified teachers who supervise students in school-sponsored work placements. Some newer teachers shared existing and adopted new physical health habits during the COVID-19 pandemic. Surveys were provided to teachers who completed NJSS WBL supervisory trainings between October 2021-June 2022, with a follow-up survey Fall 2022. This cross-sectional study focused on a subset of questions on their self-reported behavioral habits regarding processed food/snack consumption, aerobic exercise, and sleep health. Of 114 teachers, approximately 3-in-5 (62.1%) woke up during the night and 1-in-3 (36.8%) found difficulty waking up in the morning on a school/workday; 1-in-10 (10.5%) sleep less than five hours per night. Regarding personal nutrition, 1-in-3 participants (37%) consumed processed snacks/foods daily. Concerning physical health, 2-in-5 participants (43.8%) decreased aerobic exercise habits during the initial survey but increased at follow-up. Data suggest NJ teachers adapted personal nutrition, sleep, and aerobic exercise habits during the COVID-19 pandemic. Data offer guidance to help schools better address teacher needs, including healthy eating, wellness, and physical activity.

**Keywords:** Nutrition, Physical Activity, Safety, Secondary Schools, Sleep, Teachers

Lockdowns during the COVID-19 pandemic reduced physical activity and increased sedentary behaviors, compromising the physical and mental well-being of individuals (Ng et al., 2022). Chronic work-related stress is known as burnout, which can be detrimental to a teacher's physical health. Those who experience frequent burnout symptoms (i.e. emotional exhaustion, cynicism, and reduced professional efficacy) can be prone to unhealthy behaviors such as a poor diet or a lack of exercise, leading to chronic disease and health-related issues (Madigan et al., 2023). Unresolved stress among teachers and education professionals may result in them leaving their positions. Despite this concern, most school districts nationwide have not offered new mental health services to staff, nor have they enhanced existing mental health support (Will & Superville, 2022). An analysis of the United States (U.S.) Centers for Disease Control and Prevention's Behavioral Risk Factor Surveillance System shows data on leisure-time physical inactivity among adults in the U.S. A small decrease in the prevalence of inactivity from 24.5% in 2018 to 23.8% in 2020 was reported, but larger reductions were seen in rural-dwelling women, rural dwelling men, and non-Hispanic White women (Van Dyke et al., 2023). The World Health Organization has recommended a specific amount of weekly aerobic physical activity for adults, and individuals with chronic diseases, to limit the risk of health issues.

Natural and societal disasters can influence eating behaviors, which can lead to an increased drive for unhealthy eating because of faulty coping strategies, such as less aerobic physical activity and more calorie rich food consumption (Coulthard et al., 2021). This became more prevalent during the COVID-19 pandemic (Mejova & Manikonda, 2023). The link between diet and cardiovascular disease is widely recognized in the U.S.; specifically, diets that are rich in sodium and lacking in vegetables, whole grains, and fatty acids are strongly correlated with conditions such as hypertension, cardiovascular disease, stroke, and type 2 diabetes (Nobakht et al., 2022).

It has been previously reported how an unhealthy diet may stem from a lack of access and availability to nutritious foods (Food Research & Action Center, 2022). These disparities increased during the COVID-19 pandemic. According to the 2021 U.S. Census Household Pulse Survey data for the State of New Jersey (NJ), it was suggested 14% of Black households and 18% of Latino households reported occasional or frequent insufficient access to food compared to only 5% of white households (NJ Department of Health, 2024). The areas with the highest rates of food insecurity are concentrated in southern NJ, as well as in and around Newark and Jersey City in northern NJ. Food insecurity is one factor influencing public health and requires a comprehensive range of programmatic, systemic, and policy-level strategies to address barriers to food security.

In addition to physical activity and dietary changes, the COVID-19 pandemic impacted various aspects of sleep health, such as changes in sleep timing, and the duration and quality of sleep. Numerous studies have reported a

decline in sleep quality among frontline essential workers resulting in heightened levels of insomnia and stress (Yuan et al., 2022). A lack of sleep is associated with various chronic health issues such as heart disease, kidney disease, high blood pressure, diabetes, stroke, obesity, and depression. These findings call for effective public health policies and strategies that influence positive behavioral change to offset the results of lockdowns, especially for individuals with chronic diseases.

Throughout the academic years of 2021-2022 and 2022-2023, NJ Safe Schools Program (NJSS) at Rutgers School of Public Health conducted a survey among newly appointed secondary school teachers in NJ who had completed the state mandated work-based learning (WBL) supervisory teacher/administrator courses. The online survey, administered by NJSS, consisted of questions about their physical activity patterns before, during, and after the COVID-19 pandemic, as well as their daily nutritional habits and sleeping routines, considering distinctions between weeknights and weekend nights. This study's data can help recognize and address the health needs of NJ newer teachers to establish a positive and thriving school environment.

## Methods

To better understand the health behaviors of NJ teachers during the COVID-19 pandemic, NJSS conducted a series of safety and health (S&H) surveys between October 2021 and June 2023. A copy of the complete set of surveys can be found in the supplemental material of other published papers from the same study (Aggarwal, Campbell, et al., 2024; Aggarwal, Shendell, et al., 2024). The overall design is also detailed in those same other published papers; the present study provides extra details particular to its data. During the 2021-2022 and 2022-2023 school years, NJSS offered WBL trainings to 163 eligible teachers who held a Career and Technical Education (CTE) certificate in NJ. The eligible teachers completed six safety and health related courses as part of their WBL trainings, and upon completion were asked to participate in two or three surveys through PsychData (Psych Data LLC, State College, PA). The teachers who completed their trainings between 2021-2022 school year (SY) were given an additional survey in the fall of 2022. This allowed for a total of 205 survey entries which were collected through PsychData, but it should be noted how not every participant filled out every survey. Specifically, this cross-sectional study focuses on participant answers to questions included in the second survey and the fall 2022 follow up survey, for a total of 114 responses (of 205 total survey entries including the first survey) (Campbell et al., 2024). An incentive of a \$10 e-gift card per survey was offered to teachers to encourage completion of the surveys. Participants were able to maintain anonymity as NJSS did not link identifying information to survey responses submitted.

The questions asked within the surveys and focused on in this paper pertained to personal nutrition, physical activity, and sleep health. Questions related to personal nutrition consisted of, but were not limited to, participant

consumption of processed snacks/foods for breakfast, lunch, and dinner. Questions pertaining to physical health consisted of, but were not limited to, if participants maintained consistent aerobic exercise habits prior, during, and after the pandemic. Lastly, questions about sleep health consisted of, but were not limited to, the number of hours participants slept during school nights and weekends, waking up during the night, and any difficulty waking up in the morning. Responses are self-reported data.

In this study, survey responses were stratified by gender, race/ethnicity, county of work, age, and training year. Due to the relatively small sample size, the stratification of race/ethnicity was conducted to have only two groups, including not non-Hispanic white (defined as those who identify as non-Hispanic black, Hispanic black, Hispanic white, etc.), and non-Hispanic white. County of work was stratified as North (N), Central (C), and South (S) NJ (Campbell et al., 2024), and 19 of 21 counties in NJ were represented in this sample (Shendell et al., 2021). Age was stratified into two categorical variables, younger than 42 and 42 and above, this is justified as 42 is the average age for teachers in NJ (National Center for Education Statistics, 2021). In addition, the stratification of survey responses by training year was conducted to have two categories, including 2021-2022 and 2022-2023 school years. Categorical variables were presented as percentages and compared using Fisher's Exact Test and Kruskal-Wallis Tests due to small sample sizes. Missing data were excluded. Computed p-values below 0.05 were considered

statistically significant. Data analyses were conducted with Microsoft Excel and SAS Analytics Software version 9.4 (Cary, NC).

The Institutional Review Board (IRB) at Rutgers, the State University of New Jersey, granted approval for this study (IRB protocol code: 2021001559).

## Results

### Demographics

The survey questions of focus in this study were included in two of three surveys NJSS administered, resulting in 114 survey entries. Of the participants who took the surveys, 52.5% taught in N.NJ, 20.2% taught in C.NJ, and 27.3% taught in S.NJ. In addition, 68.7% of the participants were white, with 59.6% identifying as non-Hispanic white (NHW). Those who identified as Hispanic white (9.1%), Hispanic Black (2.0%), non-Hispanic Black (12.1%), and other (6.1%) are grouped as not-NHW (29.3%) in this paper. Regarding gender identity, 41.5% of survey participants identified as male, while 58.5% identified as female. Over half of the teachers, 68.2%, held a master's degree. The participants had an average of 13.8 years of teaching experience in NJ and an average of 14.1 years of teaching experience overall. The average age of the participants was 46 years old (average year of birth was reported as 1977) (See Table 1).

Table 1: Demographics of Study Participants

	Total <sup>a</sup> (n=114)	% of Total	% of Answered
<b>School County region</b>			
North	52	45.6%	52.5%
Central and Statewide	20	17.5%	20.2%
South	27	23.7%	27.3%
Missing	15	13.2%	
<b>Race and Ethnicity <sup>b</sup>:</b>			
<b>White</b>	<b>68</b>	<b>59.6%</b>	<b>68.7%</b>
Non-Hispanic White	59	51.8%	59.6%
<b>Not Non-Hispanic White</b>	<b>29</b>	<b>25.5%</b>	<b>29.3%</b>
Hispanic White	9	7.9%	9.1%
Hispanic Black	2	1.8%	2.0%
Non-Hispanic Black	12	10.5%	12.1%
I prefer not to answer this question	11	9.6%	11.1%
Other	6	5.3%	6.1%
Missing	15	13.2%	
<b>Gender Identity</b>			
Male	39	34.2%	41.5%
Female	55	48.2%	58.5%
Missing/NA/I prefer not to answer	20	17.5%	
	Total <sup>c</sup> (n=35)	% of Total	% of Answered
<b>Number of Years Teaching in NJ (mean+-SD)</b>	13.8+-6.3		
Missing	12		
<b>Number of Years of Teaching Overall (mean+-SD)</b>	14.1+-6.2		
Missing	12		

<b>How many years of post-secondary education (after high school) have you completed? (mean+-SD)</b>	6.2+-2.3		
Missing	12		
<b>What is the highest education degree completed?</b>			
Bachelor's degree	6	17.1%	27.3%
Master's degree	15	42.9%	68.2%
Doctoral degree	1	2.9%	4.5%
Other	0	0.0%	0.0%
IPNA/Missing	13	37.1%	
<b>Birth Year (mean+-SD)</b>	1977+-9.5		
Missing	12		

<sup>a</sup> Includes questions/participants from Survey #2 and Follow up survey.

<sup>b</sup> One participant identified as American Indian or Alaskan Native, one identified as Native Hawaiian or Other Asian-Pacific Islander, and one identified as Middle Eastern/North African. Race and Ethnicity does not add to 100% as some people may have selected more than one option.

<sup>c</sup> Includes questions/participants from Follow up survey.

### Aerobic Exercise Habits

About half of participants maintained consistent aerobic exercise habits during the COVID-19 pandemic in both 2021-2022 SY (51.2%) and 2022-2023 SY (52.6%). However, when stratified by race, the majority of not-NHW (55.3%) reported they did not keep consistent aerobic exercise habits during the COVID-19 pandemic, while over half (60.3%) of NHW participants reported they did. A

50.0% increase in aerobic exercise habits during the COVID-19 pandemic was reported by not-NHW participants, while a 37.5% increase was reported by NHW participants. Not-NHW participants (43.8%) reported a decrease in aerobic exercise habits during the COVID-19 pandemic compared to 37.5% of NHW participants (See Table 2).

Table 2. Exercise Habits Reported by Participants Before and During the Pandemic, 2021-2023 School Years, by Self-Reported Race/Ethnicity.

	Not Non-Hispanic White (n=39)	% of Answered <sup>a</sup>	Non-Hispanic White (n=58)	% of Answered <sup>a</sup>	Fisher's Exact Test	Total (n=97)	% of Total	% of Answered <sup>a</sup>
<b>Did you maintain consistent aerobic exercise habits during the course of the COVID-19 pandemic? <sup>a,b,c</sup></b>					0.17			
<b>Yes</b>	16	42.1%	35	60.3%		51	52.6%	53.1%
<b>No</b>	21	55.3%	21	36.2%		42	43.3%	43.8%
<b>Have you maintained similar aerobic exercise habits during the pandemic when compared to before the pandemic? <sup>a,b,d</sup></b>					0.07			
<b>Yes</b>	16	42.1%	35	60.3%		51	52.6%	53.1%
<b>No</b>	22	57.9%	21	36.2%		43	44.3%	44.8%

<b>Was there an increase or decrease in your aerobic exercise habits during the pandemic when compared to before the pandemic?</b> <sup>a,b,c</sup>					0.38			
<b>Increase</b>	8	50.0%	12	37.5%		20	39.2%	41.7%
<b>Decrease</b>	7	43.8%	12	37.5%		19	37.3%	39.6%

<sup>a</sup> Missing responses were not included in percentage calculation.  
<sup>b</sup> Please note <2 number of participants did not answer this question.  
<sup>c</sup> One not-NHW (Non-Hispanic White) and two NHW participants were “not sure” if they maintained consistent exercise habits during the pandemic.  
<sup>d</sup> Zero not-NHW and two NHW participants were “not sure” if they maintained similar aerobic exercise habits during versus before the pandemic.  
<sup>e</sup> Respondents who answered "yes" to prior questions were directed to the subsequent question; that explains the reduced sample size (n) for not-NHW and NHW.

When asked about maintaining consistent aerobic exercise habits, 49.0% of teachers in N. NJ, 55.0% in C. NJ, and 59.3% in S. NJ answered “yes.” When comparing current aerobic exercise habits to habits before the COVID-19 pandemic affected years, 51.0%, 50.0%, and 59.3% answered “yes” in N. NJ, C. NJ, and S. NJ, respectively. Participants in N. NJ (33.3%) reported an increase in aerobic exercise habits during the COVID-19 pandemic when compared to before the COVID-19 pandemic; 30.0% of participants in C. NJ and 60.0% in S.NJ reported an increase in aerobic exercise habits during the COVID-19 pandemic. Conversely, 33.3% in both N. NJ and S. NJ reported a decrease in aerobic exercise habits, compared to 70.0% in C. NJ. These findings highlighted regional variations within one mid-Atlantic U.S. state in self-reported exercise habits during the COVID-19 pandemic (See Supplemental Table 1).

### Processed Snacks/Foods Consumption

Participants were asked how often they ate processed snacks/foods. In this study, 47.4% of participating teachers answered daily in 2022-2023 SY, an increase from the 37.0% reported in 2021-2022 SY. Snacks and processed foods were consumed most often at dinner. Additionally, 69.0% of NHW participants consumed processed foods one to two times a week, compared to 56.8% of the not-NHW participants (See Table 3). Those in S. NJ consumed more snacks and processed foods daily (48.1%) than those in N. NJ (38.0%) and C. NJ (36.8%) (See Supplemental Table 2). In N. NJ, 70.6% of teachers reported consuming processed snacks/foods one to two times weekly during dinner, compared to 45.0% in C. NJ and 69.2% in S.NJ.

**Table 3.** Participant Reported Processed Snacks/Foods Consumption Before and During the Pandemic.

	Not-Non-Hispanic White (n=39)	% of Answered <sup>a</sup>	Non-Hispanic White (n=58)	% of Answered <sup>a</sup>	Fisher’s Exact Test	Total (n=97)	% of Total	% of Answered <sup>a</sup>
<b>How often do you now eat processed snacks/foods?</b> <sup>a,b</sup>					0.53			
<b>Rarely</b>	11	28.9%	9	16.1%		20	20.6%	21.3%
<b>Daily</b>	14	36.8%	25	44.6%		39	40.2%	41.5%
<b>Weekly</b>	12	31.6%	19	33.9%		31	32.0%	33.0%
<b>Breakfast?</b> <sup>a,b,c,d</sup>					0.09			

<b>Daily</b>	5	13.5%	3	5.2%		8	8.2%	8.4%
<b>One to two times a week</b>	11	29.7%	13	22.4%		24	24.7%	25.3%
<b>NA</b>	18	48.6%	41	70.7%		59	60.8%	62.1%
<b>Lunch? <sup>a,b,c</sup></b>					0.10			
<b>3 or more times a week</b>	5	13.5%	4	6.9%		9	9.3%	9.5%
<b>One to two times a week</b>	12	32.4%	17	29.3%		29	29.9%	30.5%
<b>NA</b>	16	43.2%	36	62.1%		52	53.6%	54.7%
<b>Dinner? <sup>a,b,c</sup></b>					0.16			
<b>3 or more times a week</b>	4	10.8%	5	8.6%		9	9.3%	9.5%
<b>One to two times a week</b>	21	56.8%	40	69.0%		61	62.9%	64.2%
<b>NA</b>	9	24.3%	13	22.4%		22	22.7%	23.2%

<sup>a</sup> Missing responses were not included in percentage calculation.

<sup>b</sup> Please note <2 number of participants did not answer this question.

<sup>c</sup> Three participants answered, “3 or more times a week.”

<sup>d</sup> The option “3 or more times a week” is not shown due to small cell size.

<sup>e</sup> The option “daily” is not shown due to small cell size.

### Sleep Health

In the 2021-2022 SY, 45.8% of participants reported sleeping 5-6 hours on an average school night, which increased to 57.9% in 2022-2023 SY. There was an increase of participants reported sleeping 7-8 hours between 2021-2022 SY and 2022-2023 SY (39.8% versus 42.1%). When stratified by race, 52.6% of not-NHW participants reported sleeping 5-6 hours per night on average on an average

school night, compared to 46.6% of NHW participants. On the weekends and holidays/vacations, 65.8% of not-NHW participants slept 7-8 hours per night, compared to 53.4% of NHW participants. About 3-in-5 participants reported waking up in the middle of the night (62.1%) and yet not finding waking up in the morning difficult (58.9%) (See Table 4).

**Table 4.** Participated Reported Estimated Total Hours of Sleep on School Days and Weekends/Holidays.

	<b>Not-Non-Hispanic White (n=39)</b>	<b>% of Answered <sup>a</sup></b>	<b>Non-Hispanic White (n=58)</b>	<b>% of Answered <sup>a</sup></b>	<b>Fisher’s Exact Test</b>	<b>Total (n=97)</b>	<b>Total %</b>	<b>% of Answered <sup>a</sup></b>
How many hours do you sleep per night on average on regular school days? <sup>a</sup>					0.88			
Less than 5 hours	4	10.5%	8	13.8%		12	12.4%	12.5%
5-6 hours	20	52.6%	27	46.6%		47	48.5%	49.0%
7-8 hours	14	36.8%	23	39.7%		37	38.1%	38.5%
9 hours or more	0	0.0%	0	0.0%		0	0.0%	0.0%
How many hours do you sleep per night on average on weekends and holidays/vacation days? <sup>a</sup>					0.49			
5-6 hours	9	23.7%	16	27.6%		25	25.8%	26.0%
7-8 hours	25	65.8%	31	53.4%		56	57.7%	58.3%
9 hours or more	4	10.5%	8	13.8%		12	12.4%	12.5%
I wake up in middle of night. <sup>a</sup>					0.30			
Yes	21	55.3%	38	66.7%		59	60.8%	62.1%

No	13	34.2%	17	29.8%		30	30.9%	31.6%
I'm not sure	4	10.5%	2	3.5%		6	6.2%	6.3%
I find it difficult to wake up in the morning on a work/school day. <sup>a</sup>					0.57			
Yes	14	36.8%	24	42.1%		38	39.2%	40.0%
No	23	60.5%	33	57.9%		56	57.7%	58.9%
<sup>a</sup> Missing responses for some questions were <2 and excluded.								

When stratified by region, 52.9% of participants teaching in N. NJ reported getting 5-6 hours of sleep on an average school night, compared to 50.0% of participants in C. NJ and 40.7% of participants in S. NJ. Less than half of participants in each region reported 7-8 hours of sleep on an average school night. More than half of participants reported 7-8 hours of sleep per night on average on the weekends and holidays/vacation days (54.9% in N. NJ, 55.0% in C. NJ, and 66.7% in S. NJ). More participants reported waking up in the middle of the night from both N. NJ (62.0%), and S. NJ (77.8%), compared to 32.1% in C. NJ. More than half of all participants in each region did not find it difficult to wake up in the morning (See Supplemental Table 3).

In this study, variables were stratified by age; however, there were no significant findings with this stratification.

### Discussion

The findings in this study pertaining to secondary school teachers in NJ were similar to existing research, with notable distinctions based on race and region. Increased processed snack/food consumption, especially in S. NJ, may worsen disparities within households around urban NJ areas, like Newark and Jersey City. Implementing effective behavior change interventions could be beneficial for educational staff (U.S. Department of Health and Human Services, 2022). A recent study on obesity prevention strategies highlighted successful behavioral interventions administered by experts via phone or through online platforms showed improved weight-related results. Similar strategies may be integrated into educational and workplace environments for teachers, such as modifying cafeteria choices to offer healthier food options or organized group walking sessions (Nathan et al., 2020).

This study's findings were also consistent with global trends which emphasized a decline in sleep quality and sleep duration during the COVID-19 pandemic. In 2021, NJ experienced its third-warmest year ever recorded, with temperatures rising approximately four degrees Fahrenheit since 1900—roughly twice the global average increase (Rutgers University, 2022). As nighttime temperatures rise, exposure to heat while sleeping may lead to disruptions and may decrease the duration of the rapid eye movement (REM) sleep cycle, which is the deepest stage of sleep (Altenda et al., 2023). Addressing the disparities in physical activity, dietary patterns, and sleep health require a

comprehensive approach which considers regional variations in climate, racial inequities, and the socioeconomic status of teachers and education professionals.

### Strengths and Limitations

This study had several strengths and limitations. A strength was the method of survey distribution because it was conducted online with data collected, stored, managed, and analyzed anonymously, allowing participants to complete surveys without fear of repercussions, which may have increased the likelihood of them expressing their true opinions openly. A limitation of this study was its small sample size of 114 and its specific selection of secondary school CTE teachers across two academic years, limiting the generalizability beyond NJ secondary schools. Another limitation was the anonymous nature of the survey preventing detection of potential multiple entries from the same school computer in shared spaces, as well as whether the participants completed all surveys.

### Conclusions

In this study, the general and COVID-19 specific declines in physical activity among U.S. residents, consistent with prior research, was mirrored in the self-reported experiences of secondary school teachers in NJ, with distinctions influenced by race and county or region. The data presented in this paper suggested educational staff experienced challenges regarding nutrition, aerobic exercise habits, and sleep health during the COVID-19 pandemic, which require immediate attention as they return to full-time in-person learning. If the well-being of teachers and education professionals is left unaddressed, then many of them may consider leaving their positions (Garcia & Weiss, 2020; Madigan et al., 2023). However, only a few school and district leaders nationwide have expanded resources for staff since the start of the COVID-19 pandemic (Will & Superville, 2022). Implementation of environmental and behavioral interventions for improvement in diet and physical activity within workplace settings should be prioritized as they have been successful (Nathan et al., 2020; UNICEF, n.d.). Information analyzed by this paper provides valuable data, but future research with a larger sample size is needed to better understand the impact of the COVID-19 pandemic on the health and wellness of general K-12 teachers and education professionals across the U.S.

### Human Subjects Approval Statement:

The study involved data collection involving human subjects and was conducted in accordance with the Declaration of Helsinki and approved by the Institutional Review Board (IRB or Ethics Committee) of Rutgers, the State University of New Jersey (IRB protocol code: 2021001559).

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### Data Availability Statement:

Data were obtained via three surveys named “Rutgers NJ Safe Schools Program New Work-Based Learning Supervising Teachers Cohort - 1st Survey (Parts I and II, and Demographics)”, “Rutgers NJ Safe Schools Program New Work-Based Learning Supervising Teachers Cohort - 2nd Survey [Follow-up on Safety, Health and Wellness (physical and mental)]”, and “Late 2022/2022-2023 School Year Follow-up (v.1 Aug2021) Rutgers NJ Safe Schools Program New Work-Based Learning Supervising Teachers Cohort – Survey”, which were delivered by New NJ teachers in the 2021-2022 and 2022-2023 school year.

### Conflicts of Interest:

Authors of this paper have no financial or nonfinancial conflicts of interest to disclose.

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Supplemental Table 1: Exercise Habits Reported by Participants Before and During the Pandemic, by Region of NJ. (Note: There are seven counties per defined region.) (Shendell et al., 2020).

	North (n=52)	% of Answered <sup>b</sup>	Central (n=20)	% of Answered <sup>b</sup>	South (n=27)	% of Answered <sup>b</sup>	Kruskal -Wallis Test	Total (n=99)	% of Total	% of Answered <sup>b</sup>
<b>Did you maintain consistent aerobic exercise habits during the course of the COVID-19 pandemic?</b> <sup>a,b,c</sup>							0.62			
Yes	25	49.0%	11	55.0%	16	59.3%		52	52.5%	53.1%
No	24	47.1%	8	40.0%	11	40.7%		43	43.4%	43.9%
<b>Have you maintained similar aerobic exercise habits during the pandemic when compared to before the pandemic?</b> <sup>a,b,d</sup>							0.70			
Yes	26	51.0%	10	50.0%	16	59.3%		52	52.5%	53.1%
No	23	45.1%	10	50.0%	11	40.7%		44	44.4%	44.9%
	North (n=26)	% of Answered <sup>b</sup>	Central (n=10)	% of Answered <sup>b</sup>	South (n=16)	% of Answered <sup>b</sup>	Kruskal -Wallis test	Total (n=52)	% of Total	% of Answered <sup>b</sup>
<b>Was there an increase or decrease in your aerobic exercise habits during the pandemic when compared to before the pandemic?</b> <sup>a,b,e</sup>							0.11			
Increase	8	33.3%	3	30.0%	9	60.0%		20	38.5%	40.8%
Decrease	8	33.3%	7	70.0%	5	33.3%		20	38.5%	40.8%
<sup>a</sup> Please note <2 number of participants did not answer this question. <sup>b</sup> Missing responses were not included in percentage calculation. <sup>c</sup> Two participants from N.NJ, one from C.NJ, and zero from S.NJ were “not sure” if they maintained consistent aerobic exercise habits during the pandemic. <sup>d</sup> Zero participants from C.NJ and S.NJ, and two from N.NJ were “not sure” if they maintained similar aerobic exercise habits during the pandemic when compared to before the pandemic. <sup>e</sup> Respondents who answered "yes" to the preceding questions were directed to this subsequent question, which explains the reduced sample size (n) for each region.										

Supplemental Table 2: Participant Reported Processed Snacks/Foods Consumption, by Region of NJ. (Note: There are seven counties per defined region.) (Shendell et al., 2020).

	North (n=52)	% of Answered <sup>b</sup>	Central (n=20)	% of Answered <sup>b</sup>	South (n=27)	% of Answered <sup>b</sup>	Kruskal- Wallis test	% of Total (n=99)	% of Answered <sup>b</sup>
<b>How often do you now eat processed snacks / foods?</b> <sup>a,b</sup>							0.28		
Rarely	9	18.0%	4	21.1%	7	25.9%		20	20.8%
Daily	19	38.0%	7	36.8%	13	48.1%		39	40.6%
Weekly	21	42.0%	5	26.3%	7	25.9%		33	34.4%
<b>Breakfast?</b> <sup>b,c,d,e,j,k</sup>							0.52		
One to two times a week	15	29.4%	1	5.0%	9	34.6%		25	25.8%
NA	29	56.9%	15	75.0%	16	61.5%		60	61.9%
<b>Lunch?</b> <sup>b,c,f,g,j,k</sup>							0.08		
One to two times a week	17	33.3%	6	30.0%	6	23.1%		29	29.9%
NA	23	45.1%	12	60.0%	18	69.2%		53	54.6%
<b>Dinner?</b> <sup>b,c,h,i,j,k</sup>							0.01		
One to two times a week	36	70.6%	9	45.0%	18	69.2%		63	64.9%
NA	6	11.8%	9	45.0%	7	26.9%		22	22.7%

<sup>a</sup> Please note <3 participants did not answer the question.

<sup>b</sup> Missing responses were not included in percentage calculation.

<sup>c</sup> Please note <2 number of participants did not answer this question

<sup>d</sup> Six participants from N.NJ, two from C.NJ, and zero from S.NJ ate breakfast “daily.”

<sup>e</sup> One participant from N.NJ, two from C.NJ, and one from S.NJ ate breakfast “3 or more times a week.”

<sup>f</sup> Four participants from N.NJ, zero from C.NJ, and one from S.NJ ate lunch “daily.”

<sup>g</sup> Seven participants from N.NJ, two from C.NJ and one from S.NJ ate lunch “3 or more times a week.”

<sup>h</sup> Three participants from N.NJ, zero from C.NJ and S.NJ ate dinner “daily.”

<sup>i</sup> Seven participants from N.NJ, two from C.NJ and one from S.NJ ate dinner “3 or more times a week.”

<sup>j</sup> The option “three or more times a week” is not shown due to small cell size.

<sup>k</sup> The option “daily” is not shown due to small cell size.

Supplemental Table 3: Participated Reported Estimated Total Hours of Sleep on School Days and Weekends/Holidays Reported by Region of New Jersey. (Note: There are seven counties per defined region.) (Shendell et al., 2020).

	North (n=52)	% Answered	Central (n=20)	% Answered	South (n=27)	% Answered	Kruskal -Wallis test	Total (n=99)	Total %	% Answered
<b>How many hours do you sleep per night on average on regular school days? <sup>a</sup></b>							0.49			
Less than 5 hours	4	7.8%	4	20.0%	4	14.8%		12	12.1%	12.2%
5-6 hours	27	52.9%	10	50.0%	11	40.7%		48	48.5%	49.0%
7-8 hours	20	39.2%	6	30.0%	12	44.4%		38	38.4%	38.8%
<b>How many hours do you sleep per night on average on weekends and holidays/vacation days? <sup>a</sup></b>							0.69			
5-6 hours	15	29.4%	5	25.0%	5	18.5%		25	25.3%	25.5%
7-8 hours	28	54.9%	11	55.0%	18	66.7%		57	57.6%	58.2%
9 hours or more	7	13.7%	4	20.0%	2	7.4%		13	13.1%	13.3%
<b>I wake up in middle of night. <sup>a</sup></b>							0.15			
Yes	31	62.0%	9	32.1%	21	77.8%		61	61.6%	62.9%
No	17	34.0%	10	35.7%	3	11.1%		30	30.3%	30.9%
<b>I find it difficult to wake up in the morning on a work/school day. <sup>a</sup></b>							0.76			
Yes	18	36.0%	9	32.1%	12	44.4%		39	39.4%	40.2%
No	32	64.0%	11	39.3%	14	51.9%		57	57.6%	58.8%

<sup>a</sup>Missing responses for some questions were <2 and excluded.  
 Shendell DG, Aggarwal J, Campbell MLF, Gonzalez LN, Kaplun E, Koshy K, Mackie TI. Fall 2020 COVID-19 Needs Assessment among New Jersey Secondary School Educational Professionals. *International Journal of Environmental Research and Public Health*. 2021; 18(8):4083. <https://doi.org/10.3390/ijerph18084083>