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## How Physical Activity Implementation Strategies Changed During the COVID-19 Pandemic in Schools Enrolled in the Let's Go! Program

Alexandra Peary

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HOW PHYSICAL ACTIVITY IMPLEMENTATION STRATEGIES CHANGED  
DURING THE COVID-19 PANDEMIC IN SCHOOLS ENROLLED IN THE LET'S  
GO! PROGRAM

by

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A Thesis Submitted in Partial Fulfillment of  
the Requirement for a Degree with Honors  
(Nursing)

The Honors College

University of Maine

December 2021

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## ABSTRACT

Childhood obesity is a serious public health issue in the United States. Many children fail to meet the recommended daily physical activity of 60 minutes. Poor metabolic health at a young age puts children and adolescents at a significantly higher risk of developing chronic health issues in adulthood. With the potential to further exacerbate the obesity epidemic, the onset of the Covid-19 pandemic challenged students' abilities to participate in structured physical activity, such as recess and physical education, due to school closures, strict social distancing guidelines, and hybrid or remote models of learning. This lack of structure and opportunities for physical activity warrants further investigation into how the Covid-19 pandemic has impacted physical activity opportunities for school-aged children in the United States. The purpose of this qualitative secondary analysis was to determine how the pandemic shaped physical activity implementation strategies. The sample included 360 schools who participated in the Let's Go! Program, a nationally recognized obesity prevention program serving Maine and Mount Washington Valley, New Hampshire. Results indicate that staff demonstrated their commitment to students' welfare and education during the 2020-2021 school year by not only attempting to maintain normalcy under strict Covid-19 guidelines, but also creating innovative opportunities for students to participate in physical activity and demonstrating optimism in the face of adversity.

*Keywords:* exercise, physical education, child, obesity

## ACKNOWLEDGEMENTS

I would like to express my sincerest gratitude to each member of my thesis committee for guiding me through the research process and nurturing my growth in this field. As Mark Van Doren once said, “the art of teaching is the art of assisting discovery.” I would also like to thank the Let’s Go! Program for making this research study possible through their willingness to share data captured by their evaluation survey from the 2020-2021 school year.

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## INTRODUCTION

### Background

In the United States, childhood obesity has become a grave problem of epidemic proportions, with nearly 17% of children and adolescents being classified as obese (BMI > 95th percentile) (Styne et al., 2017). According to the Centers for Disease Control and Prevention (2018), in children and adolescents that are obese, many risk factors for heart disease, such as high blood pressure, insulin resistance, and fats in the blood have become increasingly prevalent. In addition, having poor cardiovascular health at a young age puts children and adolescents at a significantly higher risk of developing heart disease and other related complications in adulthood. Interventions to prevent childhood obesity are essential (CDC, 2018).

Already battling a long-term obesity crisis of epidemic proportions on one front, the United States healthcare force was further stretched thin by the onset of Covid-19, declared a global pandemic by the World Health Organization in March of 2020. Immediately thereafter, schools and businesses across the nation were forced to shut down, leaving many children without the necessary support from in-person schooling to stay physically, mentally, and emotionally healthy. With schools temporarily closed, staff and students alike were forced to navigate the unfamiliar territory of virtual learning without a traditional in-person school day structure. The transition promoted obesogenic behaviors, including increased sedentary time, increased student autonomy with food and activity choices, and less regulated sleeping patterns (Storz, 2020). The long-experienced effects of the obesity epidemic in the United States coupled with the highly acute nature of the Covid-19 pandemic has created a uniquely stressful environment for students that warrants further investigation.

Maine schools re-opened for in-person student learning in the fall of 2020 with pandemic-related restrictions in place. Students, parents, teachers, and staff engaged in Covid-19 symptom screening, social distancing, mask-wearing, hand-hygiene, and home isolation and quarantine regulations (Maine Department of Education, 2020). The Maine Department of Education created three categories based on Covid-19 transmission risk: “red, yellow, and green” (2020). Counties in the “red” category indicated a high risk of Covid-19 transmission and in-person classes were not advisable. Counties in the “yellow” category indicated an increased risk of Covid-19 spread and schools in this category were advised to consider hybrid learning models. Counties in the “green” category indicated a low risk of Covid-19 transmission. These schools were able to consider in-person instruction, so long as they could meet health and safety guidelines.

Students spent the academic year moving in and out of quarantine based on positive Covid-19 tests. Hybrid and remote learning became the new norm, and many children lost access to supervised physical activity, such as team sports, physical education, and recess (Storz, 2020). Both recess and physical education are beneficial to students’ health and wellbeing as they promote leadership in groups, decision-making, creation of positive relationships with others, improved psychological and emotional development, and improvements in students’ concentration, which can indirectly lead to improved academic performance (Bailey et al., 2009; The Centers for Disease Control, 2017).

According to the Centers for Disease Control’s Physical Activity Guidelines for Americans (2018), regular physical activity promotes higher cardiovascular fitness and stronger muscles, lower body fat, stronger bones, improved cognition and academic performance, and reduces symptoms of depression. School-aged youth (6-17 years old) are advised to exercise at a

moderate or vigorous intensity for periods that add up to 60 minutes a day or more, engaging in aerobic, muscle strengthening, and bone-strengthening activities (CDC, 2018). Yet, despite these guidelines, only 24% of children ages 6-17 years old are participating in one hour of physical activity daily before the pandemic (CDC, 2018).

The pandemic created an environment where social distancing, isolation, and uncertainty became the norm. Students were at an increased risk of experiencing detrimental effects on their mental health (Ravens-Sieberer et al., 2020). Children ages 11-17 experienced increased psychosomatic symptoms, such as irritability and sleeping problems, increased feelings of exhaustion related to schoolwork, deterioration of social relationships, and an overall increased rate of self-reported low health-related quality of life during the onset of the pandemic (Ravens-Sieberer et al., 2020). Adolescents with psychiatric disorders have more difficulty with unhealthy eating, physical activity, and screen time compared to adolescents without psychiatric disorders, highlighting the important role that mental health plays in protecting against obesity (Chao, Wadden, & Berkowitz (2019).

Although many schools in Maine were able to shift to mostly in-person learning by the end of the 2020-2021 school year, virtual learning and hybrid model plans were still put in place for most of the year, meaning they had the potential to create lasting detrimental effects on students' mental, physical, social and emotional health and wellbeing. With school-aged children across the United States at an increased risk of obesity now more than ever, it is especially important to identify how physical activity strategies were implemented during the 2020-2021 school year to provide evidence that will give direction to future physical activity practices during the pandemic and beyond.

## Literature Review

There is significant evidence that the Covid-19 pandemic has decreased the physical activity of school-aged children around the world (Dunton, Do, & Wang, 2020; Mitra et al., 2020; Moore et al., 2020; Fröberg, 2020; Ng, Cooper, McHale, Clifford, & Woods, 2020; Pavlovic et al., 2020). Although most of the research to date believes the Covid-19 pandemic has been a barrier to physical activity, it may also be considered a facilitator of physical activity due to its potential to provide more free time for play with the shutdown of schools across the world (Ng et al., 2020; Mitra et al., 2020).

A review of current literature addressing the Covid-19 pandemic and its role in changing school-aged children's physical activity opportunities was conducted. The following combination of terms was used in PubMed, Google Scholar, and CINAHL databases to collect literature used in this synthesis in conjunction with the Boolean term 'and' and 'or': Covid-19 or Coronavirus or Covid-19 pandemic, physical activity, recommendations or strategies, childhood, youth, adolescent, barriers, socioeconomic status, race or ethnicity, gender, and physical activity differences. Articles for inclusion had to be from 2016 or later but had to be from 2020 or later if they were specific to Covid-19 physical activity recommendations and were required to involve only children between 5-18 years old. Research articles were the main source of literature but perspective articles from medical experts were also used due to lack of studies on physical activity and recommendations during Covid-19. Two articles pertaining to children less than five years old or more than 18 years old and three articles pertaining to children that were generally unhealthy were excluded because they were not specific to the population examined in this study. The 39 articles used were made up of eleven literature reviews, seventeen quantitative research articles, two qualitative research articles, one nonexperimental correlational study, two

mixed-method studies and six perspective pieces synthesized in preparation for this research article.

Evidence of Covid-19 and its impact on children's physical activity is still emerging. The three most prevalent themes across 39 research studies were: 1) differences in activity levels among various demographic groups, 2) barriers and facilitators of physical activity during the Covid-19 pandemic, and 3) recommendations for physical activity implementation during Covid-19. The concurrence of the pandemic with this research study provides a unique opportunity to explore a widely unknown and evolving field.

#### Differences in Physical Activity Levels Among Various Demographic Groups

Age. In five out of 39 articles, it was concluded that adolescents participate in less physical activity than children (Dunton, Do, & Wang, 2020; Mitra et al., 2020; Nelson, Masacol & Asif, 2019; Pontes, Williams, & Pontes, 2021; Barr-Anderson et al., 2017; Haughton, Wang, & Lemon, 2016). Dunton, Do, and Wang (2020) and Mitra et al. (2020) suggest that the pattern of children becoming less physically active as they get older has carried over into the pandemic, as adolescent participants reported that they engage in less physical activity during the pandemic than their primary school-aged counterparts. Chauffee et al. (2021) found that adolescents' physical activity sharply during the pandemic compared to pre-pandemic baselines ( $P < 0.001$ ), suggesting that this age group may be especially vulnerable to losing physical activity opportunities during the pandemic and may need physical activity strategies tailored to their age group to best promote their physical health.

Gender. Four of the 39 articles cited that male youth get more physical activity than female youth (McGovern et al., 2020; Nelson, Masacol, & Asif, 2019; Pontes, Williams, &

Pontes, 2021; Telford et al., 2016). McGovern et al. (2021) suggested that this discrepancy in physical activity levels between males and females can be partially attributed to differences in perceptions surrounding competency and relationships. Telford et al. (2016) found that lower physical activity among females was associated with weaker influences at the school and family levels and through lower participation in after-school sports. Recognizing these differences is important in tailoring physical activity strategies to males and females both during the pandemic and after.

Race and ethnicity. Three of the 39 articles cited differences in physical activity levels among various racial and ethnic groups (Barr-Anderson et al., 2017; Haughton et al., 2016; Pontes, Williams, & Pontes, 2021). Barr-Anderson et al. (2017) found that Black youth had higher physical activity levels than non-Hispanic White youth in both fifth and sixth grade. At the high-school level, Pontes, Williams, & Pontes (2021) found that of the female group reporting less physical activity than males, minority female students were more likely to report no physical activity participation on any given day than white female students. Asian students had the least physical activity participation (Pontes, Williams, & Pontes, 2021). Haughton et al. (2016) found that adolescents of Hispanic, Black, and Asian races/ethnicities had greater odds of not meeting healthy-eating and activity goals compared to adolescents that were non-Hispanic White. These findings indicate that race and ethnicity may impact physical activity levels in both negative and positive ways and should be considered when creating physical activity strategies for students to reduce disparities.

Socioeconomic status. Five out of the 39 articles cited socioeconomic status as an indicator of children's physical activity levels (Hankonen et al., 2017; Hasson et al., 2021; Mitra et al., 2020; Peralta et al., 2019; Reis et al., 2020). Both Peralta et al. (2019) and Reis et al. (2020) found that children attending a school with higher enrollment of students with free and reduced lunch were more likely to have lower physical activity levels or increased obesity. This pattern continues into high school as Hankonen et al. (2017) cites that high school-aged students from lower socioeconomic status (SES) self-reported fewer intentions of being physically active and less access to resources than those of higher SES. Both primary and high school-aged students from low SES backgrounds cited lack of access to resources such as facilities and equipment as a barrier to participating in physical activity (Mitra et al., 2020; Hankonen et al., 2017; Peralta et al., 2019). Mitra et al. (2020) determined that during the ongoing Covid-19 pandemic, youth participants determined to have decreased participation in outdoor activities were more likely to be classified as low income. Under strict social distancing guidelines during the pandemic, many people had to exercise at home, which may be more difficult for children from low-income families to do, as they are more likely to live in dense, urban areas with little green space (Hasson et al., 2021). It's important to recognize this gap between SES and physical activity to determine how the Covid-19 pandemic may further exacerbate this disparity.

#### Perceived Barriers of Physical Activity Opportunities During the Covid-19 Pandemic

The three main barriers to promoting physical activity during the Covid-19 pandemic were 'school-related closures', 'lack of access to environmental resources', and 'the nature of remote learning'.

School-related closures. In seven out of the 39 articles, school and sports club closures were cited as a barrier to physical activity for children during the early months of the pandemic in 2020 (Halabchi et al., 2020; Hudson & Sprow, 2020; Ng et al., 2020; Pavlovic et al., 2020; Riazi et al., 2020; Rothstein & Olympia, 2020; Storz, 2020). During the 2020-2021 school year, schools reopened to varying extents of fully remote, hybrid, and fully in-person learning. The return to some degree of in-person learning is essential as school helps children incorporate physical activity into their daily routines through participation in physical education, recess, sports, and other extracurricular activities (Rothstein & Olympia, 2020). After-school sports were shut down due to social distancing guidelines (Halabchi et al., 2020; Hudson & Sprow, 2020; Pavlovic et al., 2020; Rothstein & Olympia, 2020). Ng et al. (2020) found that the cancellation of sports practice was a primary barrier to participating in physical activity.

Access to environmental resources. Access to environmental resources such as parks and open spaces were cited as facilitators of physical activity both before and during the pandemic in seven out of the 39 articles (Clary et al., 2020; Hasson et al., 2021; Hobbs et al., 2020; Mitra et al., 2020; Riazi et al., 2020; Rothstein & Olympia, 2020; Sallis et al., 2018). In three articles, increased walkability of a neighborhood and access to parks and facilities were associated with decreased obesity levels and increased physical activity (Clary et al., 2020; Hobbs et al., 2020; Sallis et al., 2018). Hasson et al. (2021) cited that low-income individuals disproportionately live in dense urban areas with limited green space, which creates an additional barrier to physical activity for them.

When schools reopened in the fall of 2020, social distancing guidelines were put in place which may restrict students' access to indoor and outdoor environments where they usually participate in physical activity (Fröberg, 2020). These findings may translate to the school setting

as schools' access to facilities and open spaces could determine physical activity strategies they are able to implement. Assessing schools' ability to utilize spaces could provide guidelines for physical activity during the 2020-2021 pandemic school year and prevent significant repercussions for children's physical health.

The Nature of Remote Learning. With remote learning, children may lack structure and access to resources, resulting in decreased physical activity, increased sedentary time, and a higher average body mass index (BMI) (Rothstein & Olympia, 2020; Storz, 2020). When students are learning at home without the supervision of a teacher, they may feel like they don't need to be as accountable for their classes. Centeio et al. (2020) found that lack of student accountability during remote learning was a barrier to physical education participation along with lack of school prioritization of physical education in general. These findings warrant further investigation into how remote learning may have served as a barrier to implementing physical activity strategies during the 2020-2021 school year.

### Recommendations For Physical Activity Strategies During Covid-19

In six out of the 39 articles, a need for physical activity recommendations during the Covid-19 pandemic was identified (Chen et al., 2020; Dwyer, 2020; Jurak et al., 2020; Margaritis et al., 2020; Mitra et al., 2020; Pavlovic et al., 2020). While children are learning remotely, Chen et al. (2020) and Jurak et al. (2020) suggest a focus on aerobic and muscle-strengthening activities that include stretching, brisk walking, jogging, running, yoga, tai chi, dance-based activities, and completing household tasks.

Physical Activity Strategies at School. While at school, integration of movement into learning may be a strategy to promote student physical activity. Riley et al. (2016) found that

teachers who incorporated movement-based learning into their math classes after receiving one day of formal training had higher physical activity levels during the day compared to those who did not have movement integrated into their curriculum. According to the Centers for Disease Control (2021), Covid-19 spreads less easily outdoors, meaning that the utilization of outdoor spaces may be an important strategy for promoting physical activity during the 2020-2021 school year.

Virtual Physical Activity Strategies. Providing virtual physical activity opportunities to students is essential during the Covid-19 pandemic, as students who participate solely in remote learning have been found to have decreased physical activity, decreased time spent outside, less social time with friends, and worsened emotional and mental health as compared to those with children participating in hybrid or fully in-person learning (Verlenden et al., 2021). Technologies such as videos, wearable sensors, online communication, or smartphone applications with guided exercise programs could all be used to facilitate children's physical activity while they are at home (Chen et al., 2020; Hudson & Sprow, 2020; Lippi, Henry, & Sanchis-Gomar, 2020; Mattioli et al., 2020; Woods et al., 2020). With hybrid or remote learning and social distancing guidelines in place during the 2020-2021 school year, virtual platforms could be a key strategy to facilitate physical activity opportunities.

## METHODS

### Purpose

The purpose of this research study was to assess how physical activity implementation strategies have changed in elementary schools, middle schools, and high schools during the Covid-19 pandemic. This study answered the following research questions: How have physical activity implementation strategies of schools in Maine and New Hampshire enrolled in the Let's Go! Program changed during the Covid-19 pandemic? What barriers and silver linings to physical activity during the Covid-19 pandemic exist?

### Population

The population recruited for this qualitative secondary analysis are known as 'site champions', who are designated staff members at Let's Go! Program school sites that have volunteered to promote the goals of the program. The Let's Go! Program is a nationally recognized obesity prevention program that aims to improve healthy eating and active living in schools, health practices, and out-of-school-programs across Maine and in Mount Washington Valley, New Hampshire through evidence-based strategies (Vine, 2019). The program uses the acronym '5-2-1-0' to describe students' daily goals of eating five fruits or vegetables, engaging in under two hours of screen time, participating in one hour of physical activity, and consuming zero sugary drinks (Vine, 2019). There are 17 'Dissemination Partners' who are described as "community coalitions that engage sites across multiple settings" (Vine, 2019, 3). Each Dissemination Partner has a coordinator that provides training and resources to site champions in their area (Vine, 2019). The site champions then coordinate the implementation of Let's Go! related work at their school.

360 site champions in school settings received an invitation to complete a survey using the Survey Monkey digital platform between April 26 and May 21, 2021, and 246 responded. Because a secondary data analysis was conducted, the sample size was pre-determined by the number of schools enrolled in the program.

### Measurement

A 34-question survey included questions such as “what type of instruction did your school provide this year due to COVID?”, “what position or role do you have at your school?”, and “does staff at your school provide opportunities for students to get physical activity during every school day whether virtually or in-person (not including recess)?”. Three open-ended survey questions were used in this study. The first question asked site champions to describe physical activity strategies being used to encourage physical activity at their school. The second and third questions were specific to engagement in physical activity during the Covid-19 pandemic and asked site champions to provide examples of barriers to physical activity during the pandemic and silver linings they observed in relation to Let’s Go! related work. If site champions chose to participate in the survey, non-open-ended questions were required to be completed but the open-ended questions were optional to complete. After the survey window was complete, the data were de-identified and four survey questions, one quantitative and three qualitative, were sent via email to the primary investigator of the study.

### Analysis

The demographic data were assessed using statistical analysis. The three qualitative questions were analyzed using NVivo qualitative coding software to determine patterns and

themes among the sample data. The data set was reviewed once before coding began to get a general understanding of the data. The responses were examined a second time and placed into general “codes” with other responses that had similar ideas. Once the general codes were created, each code was given sub-codes to narrow down themes in the data. The researcher went through this process two to three more times in non-consecutive sessions to increase depth of data understanding. To minimize personal bias in the data, the researcher utilized journaling if negative feelings toward a response in the data were experienced (Ortlipp, 2008). After each coding session, reflections on the coding session were written down and sent to other members of the research team. Peer review was utilized after analysis of each qualitative question to reduce bias by ensuring that the primary investigator’s perspective on the data was generalizable.

## RESULTS

### Recruitment

On April 26, 2021, the Let's Go! Program disseminated a 34-question survey via email using the platform "Survey Monkey" to 360 in-school site champions to evaluate Let's Go!-related work in schools during the 2020-2021 school year. After receiving Institutional Review Board (IRB) exemption for this study, a subset of de-identified, decluttered data was sent to the primary investigator. The file included demographic data, three qualitative questions, and one quantitative question. The quantitative question "does staff at your school provide opportunities for students to get physical activity during every school day whether virtually or in-person (not including recess)?" was excluded from analysis because responses required speculation from the site champion on other staff's choices regarding physical activity. A demographic question regarding the extent schools participated in in-person, hybrid, and remote learning was also excluded due to unclear response choices.

Out of the 360 in-school site champions surveyed for the 2020-2021 Let's Go! Program Annual Evaluation Survey, 68% responded. Response rates for each question included in this analysis are listed below. No responses were excluded from the data analysis.

**Table 1.** Survey Question Response Rate (%)

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Survey question	Response rate (%)
1. During Covid-19 pandemic restrictions, we understand that your work with students looks different in many ways. Please share examples of strategies staff at your school are using to encourage daily physical activity.	89.4
2. We know it's been a challenging year, but despite this unique school year, what silver linings have you observed with any Let's Go! related work? Please share your thoughts even if your school met virtually with students for most or all of the school year.	78.9
3. Please share anything that your site was not able to do this year around healthy eating and physical activity because of COVID or barriers to success because of COVID.	71.1

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### Demographics

The demographic data outlined in Table 2 below describe the primary position held by site champions responding to the survey, types of schools enrolled in the Let's Go! Program, level of education at the school site, which state the site champions were reporting from, and the size of the school. The table shows that site champions are largely nurses and teachers. Most schools enrolled in the Let's Go! Program are public schools and nearly half of participants represent elementary schools. Almost all participants reported from Maine with most schools having fewer than 400 students enrolled.

**Table 2.** Demographic Data of Sites Enrolled in the Let’s Go! Program that Participated in the Annual Evaluation Survey

Position of Site	Number of Responses	Percent of Total Responses (%)
<b>Champion at School<sup>a</sup></b>		
Nurse	87	35.2
Physical Education Teacher	47	19.0
Classroom Teacher	37	15
Other <sup>b</sup>	76	30.8
<b>Type of Schools Enrolled In the Let’s Go! Program</b>		
Public	240	97.2
Private	5	2.02
Charter	2	0.78
<b>Level of Education at Site</b>		
Elementary School	116	47
Middle School	35	14.1
High School	34	13.8
Combination <sup>c</sup>	62	25.1
<b>State Reporting From</b>		
Maine	241	97.6
New Hampshire	6	2.4
<b>School Size (# students enrolled)</b>		
1-200	99	40.1
201-400	95	38.5
401-600	31	12.6
600+	22	8.8

<sup>a</sup>The site champion is the participant responding to the survey that is responsible for promoting the goals of the Let’s Go! Program at their school of employment.

<sup>b</sup>Other includes librarians, special education staff, health education teachers, principals or other administrative positions, guidance counselors, or reading specialists.

<sup>c</sup>Combination includes any combination of elementary, middle, or high school levels represented by the site champion.

As seen in Table 3 below, out of every county represented by site champions, Piscataquis, Somerset, and Sagadahoc counties had the highest response rate. Penobscot, Aroostook, and Hancock counties were among the lowest response rates of participants by county. The average Title 1 Status eligibility, also known as the percent of students who qualify for free or reduced lunch, of all the counties represented by participants was 44%, with Piscataquis, Somerset, and Waldo counties ranking among the highest eligible. Cumberland and York counties ranked among the lowest eligible, reporting 28% and 30% respectively.

**Table 3.** Survey Response Rate and Title 1 Status Eligibility by County

County	Number of Responses	Percent of Responses (%)	Number of Sites Enrolled	Response Rate (%)	Percent of School Eligible for Free Lunch (Title 1) (%)
Androscoggin	14	5.7	20	70.0	46
Aroostook	17	6.9	32	53.1	36
Carroll	6	2.4	9	66.7	49
Cumberland	29	11.7	51	56.9	28
Franklin	11	4.45	16	68.8	40
Hancock	2	0.8	4	50.0	42
Kennebec	23	9.3	30	76.7	38
Knox	9	3.6	10	90	41
Lincoln	8	3.2	14	57.1	30
Oxford	9	3.6	15	60.0	54
Penobscot	7	2.8	21	33.0	51
Piscataquis	7	2.8	7	100	64
Sagadahoc	14	5.7	15	93.3	25
Somerset	23	9.3	24	95.8	65
Waldo	15	6.1	22	68.2	58
Washington	9	3.6	16	56.3	52
York	44	17.8	54	81.5	30

### Findings

Analysis of qualitative data led to the emergence of the overarching theme “public health comes first: ensuring students’ welfare and education remain intact during the Covid-19 pandemic crisis” with subsequent themes of “maintaining normalcy while adapting to change,”

“employing innovative strategies to keep students engaged in their education,” and “optimism in the face of adversity: how contemplating what matters most drove adaptive and innovative success during the Covid-19 pandemic.”

### Public Health Comes First: Ensuring Students’ Welfare and Education Remain Intact During the Covid-19 Pandemic Crisis

The Covid-19 pandemic created a crisis in which schools were responsible for implementing strict social distancing, masking, and cleaning policies to prevent Covid-19 transmission while also preserving students’ welfare and education. One participant reported that “moving forward with any plans from previous years was difficult. Time was spent making sure pandemic needs were being met.” A classroom teacher cited the increased responsibilities placed on school staff, writing:

Honestly, just keeping my head above water with my own classroom work and stress meant that I did not have time or energy to put into outreach... the year was very stressful, from daily emails of covid cases and people that needed to quarantine, to mask wearing, complete rearrangement of classroom routines and organization, increased cleaning, social distancing and the management around that, to learning and implementing new technology in the classroom.

With the focus on creating strategies to keep students safe, many health-related initiatives, such as learning how to make healthy snacks, after school club meetings, and wellness fairs, were pushed to the background. One participant wrote “we had planned a ‘walk to school’ event and a morning walk/run program that we were not able to implement this year due to Covid.” Despite these extenuating circumstances, however, schools in Maine and New

Hampshire were able to employ many strategies that promoted the physical, mental, and emotional well-being of their students.

### Maintaining Normalcy by Adapting to Change

School districts were left with the task of altering traditionally structured school days to meet the needs of students during the 2020-2021 pandemic school year. To minimize education disruption, administrators and other staff focused on keeping the school experience as “normal” as possible. One participant stated, “we carried on safely and as normally as possible, we just had to get creative.” The main avenue for adapting to new norms under pandemic guidelines was manipulation of the learning environment and transforming the school day structure. Using alternative strategies, school staff were able to hold onto some semblance of traditional school activities while also meeting pandemic needs.

Transforming the School Day Structure. Schools met Covid-19 pandemic guidelines by creating alternate learning settings and limiting the number of children present in school at one time. Many participants referenced their use of cohorts to alternate in-person and remote learning participation which split up the student population in various ways to maintain social distancing during the school day. Teachers and other staff members were able to create physical activity opportunities by organizing virtual field days, wellness days, and providing online resources for physical activity at home. One participant explained virtual gym classes, stating “students can tune in for gym class, and are given different workouts they can do at home. Remote students can also tune in for movement breaks in classrooms.” School-wide events were also moved online, with one participant reporting “[we’ve explored] a few new initiatives to try and continue some healthy traditions (sock hop themed bingo night, virtual field day, virtual wellness day).”

Limitations of Transforming the School Day Structure. There were many barriers to promoting physical activity under the new school day structure. Many participants reported that virtual learning limited student outreach. As stated by one participant, “Covid has made the work this year especially challenging, especially in regard to being able to reach students (as they have been remote mostly).” Another participant mentioned that “those students who were remote: teachers could suggest being physically active, but [there was] no way to enforce [it].” Because teachers had less control over the learning environment when students were remote, engagement was difficult. A physical education teacher stated, “our remote PE had lower than expected participation and I can't guarantee all kids got the message.”

Another participant highlighted the social importance of being in school, stating, “students learning remotely have limited social opportunities to just play.” Even when students were learning in-person, they were limited by social distancing measures. One participant mentioned that in their school “to maintain cohorts, recess on the playground was limited to only scheduled classes”, meaning there was no extra time for free play on the playground.

Manipulating the Learning Environment to Increase Physical Activity Opportunities. Being outside decreases the risk of Covid-19 transmission, so many schools increased physical activity opportunities outside during the school year. Many participants cited that staff have taken more opportunities to go outside with their students. Some staff created outdoor physical activity opportunities by “using extra recess as a reward instead of other activities that are normally done inside.” Although Covid placed many restrictions on school children’s abilities to move freely, students were actually “given more opportunity to get outside and walk around the building than they did before [the pandemic]”, and another participant stated, “most kids doubled their outdoor unstructured play.”

To further decrease the risk of Covid-19 transmission, many schools modified outdoor spaces by either changing game rules or physically separating activity spaces. One school wrote that they “played basketball-related games that allowed for appropriate distancing” and another school stated they made a “gaga game<sup>1</sup> pit and then modified the rules for social distancing.” When children were outside, many schools created sections of space for physical activity. One participant explained their use of “recess stations” which included “a basketball hoop, kickball, four square, hula hoops... and walks during recess time.” Other outdoor activities included incorporation of more recess periods, be it as a reward for good behavior or to get students moving regardless of behavior, hiking, biking, story walks, and snowshoeing and sledding during the winter.

When students were in their classrooms, the same physical distancing measures applied. To promote physical health, many teachers integrated physical activity into learning. For example, one teacher wrote “movement breaks are part of our literacy block, and we encourage hula hooping.” During movement breaks, many teachers chose to utilize online interactive platforms such as “GoNoodle<sup>2</sup>” and “Brain Breaks<sup>3</sup>.” Others created “sensory paths<sup>4</sup>”, a type of obstacle course used in schools to help children to stay on task.<sup>5</sup>

Decreasing the use of shared equipment in schools decreases the risk of Covid-19 transmission, so some schools were able to purchase more physical activity equipment. One participant stated, “all classrooms received new playground equipment, including balls, chalk,

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<sup>1</sup> Gaga is variant of dodgeball that involves dodging, striking, running and jumping, while trying to get players out by hitting below their knees (Gaga Center, 2021).

<sup>2</sup> Research-based activities on a virtual platform designed for K-5 students to take part in inside the classroom (GoNoodle, 2021).

<sup>3</sup> Planned learning activity shifts that use different parts of the brain to increase student attention, allow the brain to rest, and improve mood and memory (Willis, 2016).

<sup>4</sup> Sensory-based interventions, such as incorporation of a balance beam, that facilitates the regulation of behaviors and helps students stay on task (Fitch, 2020).

jump ropes, red light green light games.” Another site champion wrote they were “able to get a grant to purchase individual bags of outdoor toys that encourage movement to use in the park across the street.” By taking these measures, staff members ensured that school children were able to use equipment for play while still adhering to pandemic guidelines.

Limitations of Adaptive Strategies Employed by Schools. Although outdoor spaces were heavily utilized for physical activity during the 2020-2021 school year, their use was weather dependent and restricted by social distancing. One participant reported that “to maintain cohorts, recess on the playground was limited to only scheduled classes.” With cold weather and rain being the most frequently listed barriers to utilizing outdoor spaces, one school “used a grant to start a winter clothing closet that provided the ability to get outside no matter the weather for students.” Indoor spaces were also limited due to social distancing. In one school, “gym class was in the classroom with students standing at their desks.”

### Finding Innovative Ways to Maintain Students’ Health and Wellbeing

Many strategies were implemented to adapt to students’ changing needs during the Covid-19 pandemic, and during that process, innovative ways of promoting physical activity emerged. Implementation of unconventional physical activity strategies included mask breaks and incorporation of walking into the school day.

Mask Breaks. Wearing masks for the entire school day was challenging for students, so classroom teachers frequently brought students outside for “mask breaks”. One participant detailed the concept of mask breaks, stating, “teachers take their students outside for socially distanced mask breaks. During these mask breaks, students are given the opportunity to move around and stretch, as long as they maintain their social [distance].” Seeing that students were

using these opportunities to move around, mask breaks became a mainstay for physical activity during the school day. One participant expressed positive remarks, stating, “I loved the increased effort we made to get students moving with mask breaks. I think this is the most organized school-wide activity we have ever done during the school day.”

Incorporation of Walking into the School Day. Many schools utilized outdoor spaces for learning. Outdoor classrooms provided new opportunities for physical activity because “the walk to [the students’] outdoor classroom spaces provided activity that they would not normally incorporate.” One school had “a large group of students that walk to an alternate pick-up location at the end of each day” which provided additional opportunities for students to stay active. Other staff helped create “story walks”, which featured pieces of a story exhibited on signs at various points along a trail, allowing children to engage in physical activity as they learned. The incorporation of walking into daily school activities provided additional physical activity opportunities for students during the school day.

Using Virtual Opportunities to Stay Engaged. Despite the difficulties associated with alternative forms of learning, students stayed engaged in their health and education by staying connected. One participant wrote, “we love the innovation we've seen even with our remote kids. Sharing on social media the videos of them being outside and being active.... making snowmen, walking in the woods; etc..”. Other participants highlighted that virtual learning provided another avenue to get information out to students during the pandemic. One participant stated that staff members “found more ways [for students] to be active at home, encouraging them to exercise in different ways than they had done before” despite difficulties faced by virtual learners.

Optimism in the Face of Adversity: How Contemplating What Matters Most Drove Adaptive and Innovative Success

The Covid-19 pandemic created a common, relatable stressor that accelerated collaboration and mindfulness practices among students and staff to adapt to pandemic-related changes.

**Table 4.** How Changing Perspectives Influenced Adaptive and Innovative Success During the 2020-2021 School Year

Discourse and Dimension	Example Quotes
Reflecting on the importance of physical health	
Increased student interest in physical activity	<p>“Many more kids participated in our after-school skiing program and/or our Nordic ski team than in years past. Kids were eager to get outside with friends.”</p> <p>“Many students sought out ways to be able to engage in physical activities despite the [pandemic] restrictions imposed upon schools.”</p>
Students and staff practicing mindfulness	<p>“I was able to do a wellness unit with my elementary students where we covered yoga and meditation. The pandemic provided me with an example of stressors that all students found relatable. In years past, my younger classes struggled with the wellness/mindfulness unit.”</p> <p>“Our students have spent lots of time outside and have a new appreciation for the outdoors.”</p> <p>“As a building, our teachers share a common goal to help kids stay active and healthy throughout the school day and understand the benefits [those practices have] on their overall learning experience.”</p> <p>“With this year's funds, we focused on staff wellness providing friendly competition to staying active during the holiday season.”</p>
Recognizing collaboration as a means of adapting to pandemic-related changes in the school setting	<p>“[There were] lots of innovative ideas shared with our P.E. district team at the beginning of the school year, so that classroom could borrow and conduct throughout the school year. This was very</p>

well received and communications were kept on-going for more ideas.”

“I loved the increased effort we made to get students moving with mask breaks. I think this is the most organized school-wide activity we have ever done during the school day.”

“[The] PE instructor pushes out videos with new games and activities to teachers and parents on a regular basis.”

### Barriers to maintaining optimism

#### Employee responsibility overload

“Honestly, just keeping my head above water with my own classroom work and stress meant that I did not have time or energy to put into outreach.”

“The very high workload we had this year, with teachers in charge of both in-person, and virtual instruction, was the biggest barrier.”

“Again, it was survival mode... and teaching time was at a premium, so extra stuff didn't happen.”

#### Covid-19 guidelines restricted student outreach

“The barrier really was time and meeting.”

“Covid has made the work this year especially challenging, especially regarding being able to reach students (as they have been remote mostly).”

“Much of the year [was spent] without the ability to hold meetings outside of the school day with students (extracurriculars were canceled for most of the year), so we did not work on any Let's Go [related] activities.”

“[A barrier was] no parent connections to reinforce 5-2-1-0 [goals] at open house, as that was not permitted with Covid [guidelines].”

## DISCUSSION

### Discussion

The purpose of this study was to examine how the Covid-19 pandemic has shaped physical activity implementation strategies in elementary, middle, and high schools served by the Let's Go! Program during the 2020-2021 school year. The findings provide insights into ways staff engaged students in physical activity, both in-person and online, and serve as preliminary guidance for integrating these alternative physical activity strategies into schools' future practice.

Schools enrolled in the Let's Go! Program prioritized physical activity through alternative strategies during the pandemic to promote the health and wellbeing of their students. According to the Centers for Disease Control (2018), physical activity improves cardiovascular fitness, promotes strong muscles and bones, controls weight, reduces symptoms of anxiety and depression, reduces risks of chronic health conditions, and improves academic and cognitive performance. Despite this, however, only 24% of children six to seventeen years of age participate in 60 minutes of physical activity daily (CDC, 2018). New strategies implemented during the 2020-2021 school year, such as increasing the amount of time students spent outside and purchasing new equipment to meet Covid-19 safety guidelines, received positive feedback from students and should therefore be capitalized on for future planning as a move toward improved student health in the academic setting.

With the onset of the Covid-19 pandemic, school closures, and strict accompanying social distancing guidelines, it's likely that the ability for children to participate in physical activity for 60 minutes daily was even more challenging. In a literature review conducted by Yomoda and Kurita (2021), 13 out of the 21 studies reported a decrease in physical activity with

the onset of the Covid-19 pandemic. In the fall of 2020, schools reopened in accordance with federal pandemic guidelines from the Centers for Disease Control and were able to implement planned physical activity strategies. It is possible that children's physical activity levels may have improved during the 2020-2021 school year as compared to the initial shutdown period in the spring of 2020.

### Student Health Benefits of Going Outside

During the school year, this study found that students and staff spent more time outside and developed a greater appreciation for what the outdoors has to offer during the 2020-2021 academic year. Cooper et al. (2010) found that time spent outdoors was a significant predictor of children's physical activity levels. This study had similar findings as many participants reported the use of outdoor activities to engage students in physical activity without the space limitations of being indoors. Furthermore, Cooper et al. (2010) found that children spent more time outside during warmer months than colder months. In this research study, cold and inclement weather were also barriers to participating in physical activity, but some participants discussed ways to overcome this barrier, such as purchasing winter play equipment and using grants to supply children with warm clothes. Because of the cold climates in Maine and New Hampshire during the winter, increased funding for warm clothes and winter play equipment may be especially important to keeping students active throughout the school year.

Being outside is critical to children's physical health, but it may also be significant in improving students' mental health. In a study conducted by Jackson et al. (2021), outdoors and nature-based activities were found to be protective factors against declines in wellbeing for children and were able to provide relief from stress associated with the pandemic. With site

champions reporting increased student and staff stress levels in this study, Jackson et al. (2021) provides further evidence that increased outdoor time is a critical strategy to promote both the physical and mental health of school-aged children during the pandemic and beyond.

### School Funding During the Pandemic

In response to barriers posed by Covid-19 restrictions, many schools were able to purchase new equipment through grants or other direct funding, allowing them to decrease the use of shared equipment and prevent Covid-19 transmission. According to the Maine Education Association (2021), schools received both standard and emergency funding during the pandemic from the Elementary and Secondary School Emergency Relief fund (ESSER) and the American Rescue Plan (ARP). In Maine, the ESSER fund contributed funding that equated to an additional \$3,540 per student and the ARP contributed an additional \$525 per student in Maine. This additional funding may have helped schools gather the necessary PPE, recess equipment, and other resources needed for safe physical activity opportunities during the school year.

Although schools in Maine received government funding, if they needed additional funding, they had to seek it out on their own. To receive additional funding, a school must apply for grants. According to Boyer and Cockriel (1998), barriers to applying for grants at the college level include professors' lack of training in writing grants, lack of knowledge of the development of budgets, and lack of knowledge regarding where to seek out funding. Applying this to the primary and secondary education level, if staff have no formal training to write grants and are unsure where to begin the process, they may be less apt to seek out additional funding for their schools. Furthermore, schools with higher enrollment of students from low SES backgrounds are less likely to have well-qualified teachers who have experience writing grants than schools of

high socioeconomic status, meaning those schools may have less staff competent in writing grants (Clotfelter, Ladd & Vigdo, 2006) Those schools in Maine without the resources to apply for grants may have had less success in providing physical activity opportunities as compared to schools with the ability to apply for and receive grants. These findings suggest the need to provide extra funding and resources to schools with students of lower SES backgrounds.

### Influence of Hybrid and Remote Learning on Students' Health

This study's findings demonstrate the importance of students being able to participate in physical activity in-person and highlight the potential benefits of virtual physical activity opportunities as a *complement* to traditional physical activity strategies. During the 2020-2021 school year, students experienced a combination of virtual and in-person learning. According to Brazendale et al. (2017), consistent structure, routine, and regulation provided by going to school in-person decreases children's' obesogenic behaviors such as overeating, decreased physical activity, and increased screen time. While learning in-person, students have access to structured opportunities to play, including recess, physical education, extracurriculars, and walking in between classes that are not available to the same extent at home (Brazendale et al., 2017).

Participating in solely virtual learning may be detrimental to students' wellbeing. Verlenden et al. (2021) found that parents of children participating solely in virtual learning were more likely to report that their child had decreased physical activity, decreased time spent outside, less social time with friends, and worsened emotional and mental health compared to those with children participating in hybrid or fully in-person learning. In a position statement, the American Academy of Pediatrics (2021) strongly supported in-person learning, stating "remote

learning – which exacerbated existing educational inequalities – was detrimental to the educational attainment of students of all ages and worsened the growing mental health crisis among children and adolescents.” These findings raise the ethical question: Considering the Covid-19 pandemic, how do we define what is best for the ‘common good’? Remote and hybrid model learning protect children from the Covid-19 virus, but it may do so at the expense of students’ health and wellbeing, suggesting a need to examine whether remote and hybrid model learning could be long-term solutions.

Under constraints of social distancing guidelines, schools reported that they integrated movement activities, such as “GoNoodle”, into the classroom during the school day. Riley et al. (2016) found that teachers who incorporated movement-based learning into their math classes after receiving one day of formal training had increased student physical activity levels and improved on-task behavior in their classrooms as compared to those without the intervention. This study provides further evidence that incorporating movement into learning activities has positive effects on students and should be emphasized as a key physical activity strategy in schools moving forward.

In this study, participants cited many barriers to getting children moving around, such as lack of physical education (PE) and health-related goals prioritization, lack of accountability on students’ ends if they were remote, and social distancing guidelines that limited effective PE. In a study conducted by Centeio et al. (2020), participants had similar responses to those in our study, explaining the lack of student engagement in physical education and citing that the lack of clear school, district and state-level policies specific to PE along with lack of PE prioritization and guidance on how to improve PE were to blame. However, there were supportive health-related programs that were beneficial to staff during the school year. Participants in this study

consistently reiterated the benefits of having access to the Let's Go! Program during the pandemic as it provided numerous supplemental resources accessible to staff throughout the year. A similar program created by Whalen, Barcelona, and Centenio (2020) was implemented in some Michigan schools during the pandemic school year and staff found the curricular guidance on remote physical activity and education to be beneficial to themselves and their students. This study, along with Whalen, Barcelona and Centenio (2020), reiterates the need for schools to incorporate health-focused supplemental programs like the Let's Go! Program both during the pandemic and in the future as a way of providing more opportunities for students to partake in healthy behaviors. These studies also suggest the need to prioritize physical education in schools and the need to formally train staff on virtual physical education and activity programming if virtual schooling is to exist in any capacity moving forward.

### Move Toward Policy Changes

This study's findings show that recess was one of the main physical activity strategies implemented during the pandemic, but schools' approaches to recess greatly varied, suggesting a need to standardize the structure of recess at the state policy level. According to the Centers for Disease Control (2017), recess increases physical activity, improves memory, attention, and concentration, helps students stay on task, reduces disruptive behavior, improves social and emotional connection, can reduce bullying behavior, and helps students feel safe and more engaged in class which contributes to overall school connectedness. Some site champions in the study reported that recess was used as a reward for good behavior during the school year. According to CDC guidelines (2017), punishing students for bad behavior or academic

performance should be prohibited, although in a survey they conducted only 54% of schools across the country were discouraging staff from excluding students from recess as a punishment.

Although more than 90% of schools in the United States report K-5 students receive daily recess, only eight states require elementary schools to provide daily recess as of 2019 (CDC, 2019). There has been some effort to mandate recess in Maine, such as the 2017 bill that would have required 30 minutes of daily physical activity in Maine schools and prohibited taking recess away as a punishment. Key leaders of education in Maine, such as the Department of Education, the Maine School Board Association, and the Maine School Management Association opposed the bill because they claimed, “it was a mandate that would take away from local decision-making and would require schools to take the time to document that they were fulfilling the requirement” (Portland Press Herald, 2017). Having the state’s top education leaders turn down this bill effectively sent the message to Maine citizens that public schools’ rights to autonomy are more valued than ensuring students are getting the physical activity they need.

Public schools serve to educate students, but also serve as a critical role in children’s mental, physical, social, and emotional wellbeing. In healthcare, another field that works to promote the health and wellbeing of specific populations, any interaction a provider has with their patient must be thoroughly documented to ensure the health and safety of the patient. Why should public schools be exempt from documenting that they are ensuring the health and safety of their students when it’s a requirement in other fields with similar goals? With such great variation in duration, frequency, and types of recess implemented during the pandemic, mandating a minimum amount of recess at the state level would not only be beneficial in standardizing approaches to recess, but also show Maine families that our schools recognize the critical role recess plays in their children's development and wellbeing.

### Move Toward Physical Literacy

Students and staff demonstrated an unintentional move toward physical literacy during the pandemic, which should be capitalized on to promote physical health and wellbeing through their lifespan. Serving as the gold standard for teaching physical education in schools, physical literacy can be defined as the motivation, confidence, physical competence, knowledge and understanding to value and take responsibility for engagement in physical activities throughout the lifespan (International Physical Literacy Association, 2018). Jefferies et al. (2019) found that elementary students' physical literacy was positively correlated with resilience, also known as the ability of someone to recover from adverse events. The Covid-19 pandemic created a common, relatable stressor that allowed students to engage in and develop a greater appreciation for health practices in ways they hadn't before, such as increasing interest in physical activities and awareness that physical activity plays a significant role in overall health. By making physical literacy a priority in schools, students would be better prepared to engage in health practices that work to challenge the difficulties they will inevitably face throughout their lives.

### Students and Staff Engaged in Mindfulness Practices

Changes in school day structure related to the Covid-19 pandemic created new challenges for students and staff alike, emphasizing the importance of adapting coping strategies to reduce stress and burnout. Many participants in this study reported feeling overwhelmed by their job responsibilities and other stressors during the pandemic. Pressley (2020) found that teacher burnout was associated with anxiety related to Covid-19, communicating with parents, and a lack of administrative support. Some schools in this study described ways they attempted to combat burnout and stress, such as engaging staff in "wellness challenges". Although this is a great start,

more needs to be done for staff members because burnout leads to worse relationships with students, lower academic outcomes, and an increased likelihood of teachers leaving their profession (Herman et al., 2018).

Numerous studies have attempted to improve symptoms of burnout, including Zadok-Gurman et al. (2020) where Israeli teachers engaged in a 20-week Inquiry-Based Stress Reduction (ISBR)<sup>6</sup> intervention. Teachers demonstrated a marked improvement in psychological wellbeing, showing the effectiveness of stress reduction methods in improving mental health (Zadok-Gurman et al., 2020). In another study from Jennings (2011), participants received Cultivating Awareness and Resilience in Education<sup>7</sup> (CARE) training which led to an increase in their psychological well-being, improvement in their classroom environments, and an increase in their confidence to manage their classrooms. Looking toward these methods of reducing stress in teachers and promoting optimal classroom environments could be incredibly beneficial to schools as they adjust to new realities in the post-pandemic period.

This study indicates that many students engaged in mindful practices such as yoga, “mindful minutes”<sup>8</sup>, and relaxation techniques. According to Meiklejohn et al. (2012), practicing mindfulness improves memory and on-task behavior, academic performance, social skills, and may improve mood and decrease anxiety in children. Studies of mindfulness programs in schools are currently limited, but one study from Broderick and Metz (2009) that implemented a school mindfulness program found that those who practiced mindfulness demonstrated a significant reduction in negative affect and a significant increase in calm, relaxed, and self-accepting

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<sup>6</sup> ISBR is a method of stress relief that focuses on awareness and personal realization based on the presumption that dysfunctional beliefs are the main cause of distress (Zadok-Gurman et al., 2020).

<sup>7</sup> CARE is an intervention designed to improve teachers' well-being and ability to provide support to students, improve teacher-student relationship and increase students' prosocial behavior (Jennings, 2011).

<sup>8</sup> “Mindful minutes” is a strategy used in schools that uses relaxation and awareness of surroundings to support mindfulness.

feelings. By adopting these practices, students will be better prepared to cope with stressful or unexpected events both inside and outside of the classroom.

### Limitations

This study is a secondary analysis of the evaluation survey conducted by the Let's Go! Program, meaning that investigators did not design the survey. After receiving the data, the investigators had to remove a few survey questions from the analysis because the wording was unclear, which would have resulted in inaccurate responses. The data received by investigators was also cleaned up beforehand, meaning that judgments on which data to include and omit were made by someone else not directly involved with my study. The survey itself was completed by site champions of the school, not students themselves, meaning that responses to the survey were influenced by the position held by the site champion (classroom teacher, PE teacher, school nurse, etc). Because the site champions may have represented both an elementary and middle school, the primary investigator was unable to clearly stratify the data into various age groups. As well, site champions may have left out information that students found important to their experiences during the 2020-2021 school year. While analyzing the data, one investigator coded it and periodically reviewed the codes with members of the research team. The primary investigator also kept a journal to reflect on moments they felt were judging a participant's response.

### Further Research

First and foremost, because there were decreases in physical activity at the start of the pandemic in early 2020, future studies should aim to quantify whether physical activity increased again once schools went back to some form of in-person learning. Because the primary

investigator was unable to stratify the data, a new study that stratifies the data into age, gender, race and ethnicity would be valuable in assessing how each demographic group was affected by the Covid-19 pandemic. A study addressing the relationship between SES and access to physical activity opportunities, given that people of lower SES have been found to have less access to physical activity opportunities, would be beneficial in further understanding the role of the pandemic among various demographic groups (Hankonen et al., 2017; Mitra et al., 2020; Peralta et al., 2019; Reis et al., 2020). It was found that remote students had less interaction with schools than in-person learners did, highlighting the need to better understand how remote learning may have impacted students' health and wellbeing during this time. With so many adaptive strategies and innovative strategies employed during the 2020-2021 school year, a longitudinal study assessing whether these strategies continue to be used in schools would be beneficial to understanding the Covid-19 pandemic's impact on this generation's students. Finally, it's important to measure the long-term health outcomes associated with the challenges and innovations in physical activity during the Covid-19 pandemic.

### Conclusion

This study aimed to address the question: How have physical activity implementation strategies changed in elementary, middle, and high schools during the Covid-19 pandemic? It provides new insight into how schools were able to create opportunities for students to stay active despite the challenges of the pandemic. Administrators attempted to maintain normalcy as much as possible and employed innovative strategies to meet pandemic guidelines whenever possible. They worked to create spaces that met social distancing guidelines, integrated movement not only into outside time but also into student learning and employed numerous other

strategies that addressed the psychosocial needs of their students. Physical activity during the pandemic came with many barriers, including decreased student interaction when learning remotely, social distancing guidelines limiting in-person physical activity participation, and inclement weather decreasing schools' abilities to stay active outdoors. These findings suggest a need for schools to integrate strategies that adequately address the health and wellbeing of students into a standardized practice. Despite the many challenges faced during the Covid-19 pandemic, however, schools enrolled in the Let's Go! Program were able to demonstrate one invaluable thing: their commitment to students' welfare and education during an unprecedented time.

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Alexandra Peary grew up in Cumberland, Maine and graduated from Greely High School in 2018. She is majoring in nursing and is a member of the Honors College at the University of Maine with plans to graduate in December of 2022. In addition, she is a member of both the Alpha Lambda Delta and Phi Kappa Phi honor societies. Her research gained her a fellowship from the Center of Undergraduate Research (CUGR) from UMaine, which will fund her travel to Washington D.C. to present her findings at Sigma Theta Tau International Honors Society of Nursing's Conference titled "Creating Healthy Work Environments" in the spring of 2022.

Upon graduation, she plans to begin her career as a nurse on an in-patient hospital floor with the goal of pursuing a Master of Science in Nursing with a Family Nurse Practitioner concentration soon after.