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Family Media Use Plan Implementation for School-Age Children

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A Dissertation Submitted to The Graduate School at the University of Missouri-St.
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Doctor of Nursing Practice with a Psychiatric-Mental Health Nurse Practitioner
emphasis

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Abstract

Background: This paper poses to discuss and examine the concern of unmonitored and excessive internet use by school-age children, ages eight years to 11 years old, along with the importance of employing a Family Media Use Plan, which is recommended by the American Family of Pediatrics (AAP). This issue, although not often studied, is a common occurrence today and is associated with physical and mental health concerns for this vulnerable population.

Method: This quality improvement project was accomplished through educating and surveying the parent population of the Intermediate building of a rural, Southeast Missouri Public School District. The involved parent population completed a pre-education Qualtrics survey, reviewed an education module, then completed an immediate post-education and 3-month post-education Qualtrics survey. Following the completion of the education module and Qualtrics surveys by the parent population survey data was collected and analyzed utilizing paired t-tests which were completed through the Statistical Package for Social Sciences (SPSS) software version 29.0.

Results: The resulting data of comparing the pre-education survey and the immediate post-education survey did offer statistical significance in parental knowledge gain demonstrated by a p value of .018 attained through a paired t-test. Further completion of paired t-testing regarding use and awareness of the Family Media Use Plan, as well as parental knowledge retention, also resulted in findings that are statistically significant as noted by p-values.

Conclusion: This quality improvement project resulted in findings that support continual and increased involvement of parents in monitoring of their school age child/children's

daily internet use. Changes noted in the pre vs. immediate post education survey were found to be statistically significance, and all result findings are clinically significant in the school-age child's overall health and well-being.

Family Media Use Plan Implementation for School-Age Children

Due to the ease in accessing the internet, there have been many advancements which have changed the way people interact and communicate. Included in these changes are types of devices that are available for accessing the internet, the vast number of websites available, and the information shared by individuals utilizing the internet each day. In the 1980s the early internet was employed by scientists and researchers to exchange data from one computer to another (Naughton, 2016). Increased internet access now means it is continuously accessible to a wide array of users including children (Naughton, 2016). Current research finds that by the age of four years old, 75% of children have their own mobile device for accessing the internet (Paudel, Jancey, Subedi, & Leavy, 2017). An area of little research, but of high concern, is the unmonitored, school-age children internet users, as they may be unaware and more susceptible to risks and dangers associated with excessive daily internet and media device usage.

Unmonitored and excessive use of internet and media devices by school-age children is of concern for multiple reasons. Children lack maturity, and are more susceptible to risks, scams, predators, and dangers while utilizing the internet (Teimouri, Benrazavi, Griffiths, & Hassan, 2018). School- aged children may not be equipped with awareness, knowledge and coping skills required to safely navigate the internet. In addition, excessive use of the internet and media devices by school-age children is shown to negatively impact their physical, mental, and social well-being (Isik & Alkaya, 2017). Even though many school-

age children will assure adults that their use of the internet and social media sites is not excessive or harmful, they are frequently underestimating the impact that these activities have on their over-all health and well-being (Chassiakos et al., 2016).

Parents and guardians need to be aware of, and involved in, their children's daily use of internet and media devices to ensure the safety, and overall well-being of young technology users (Livingstone et al., 2017). School age children using the Internet need rules and boundaries to ensure safe and effective use (AAP Council on Communications and Media, 2016). Although they may feel unsure about how to set and enforce internet use rules for their children, parents and guardians are not alone in this challenge (Gabrielli, Marsch, & Tanski, 2018). The American Academy of Pediatrics (AAP) offers guidance and resources in this important area of parenting (Chassiakos et al., 2016). The AAP recommends implementing and utilizing a family media plan in all households for all children ages 18 months to 18 years of age (AAP Council on Communications and Media, 2016). The AAP offers an online Family Media Plan toolkit that, when implemented, results in an individualized, printable plan for each child in the household (Chassiakos et al., 2016).

The purpose of this quality improvement project is to implement a parental education program regarding the Family Media Use Plan to increase awareness regarding the impact of daily internet usage for school-aged children in a school. The aim of this project is to increase parental awareness of proper internet monitoring of their children by 10% by conclusion of the education program and to increase use of the Family Media Use Plan by 20%. In conducting this project, the Plan-Do-Study-Act (PDSA) Cycle Model was employed. This model was chosen as it is considered cost effective and easy

to implement, in addition, it is noted in current literature that in learning about change on a small scale the PDSA cycle offers an effective approach (Melnyk & Fineout-Overholt, 2019).

This project answered the following study questions:

- 1) What, if any change, was noted in the retention of knowledge following the media use education module for parents of school-age children?
- 2) What change, if any, was noted in the initiation and use of a family media plan following the parent educational module?

Literature Review

In conducting a literature search, the following eight databases were utilized: Academic Search Complete, Cinahl, E-Journals, ERIC, Medline, Primary Search, APA Psych Articles, and APA Psych Info. Key search terms applied in performing the literature search included: *parental monitoring*, *internet use*, and *media plan* with Boolean operator AND. Initial results produced 287 articles. Inclusion criteria included articles pertaining to school age children, published between 2016 and 2021, peer reviewed with full text availability and exclusion criteria including articles not pertaining to school age children, published before 2016, and those that were not peer reviewed or did not have full text availability. Application of these criteria resulted in 70 articles. After reviewing and considering the abstracts of the 70 articles, 20 were retained for use in this literature review.

Concerns

There is overwhelming consensus in the literature about concerns associated with excessive and unmonitored internet use by school-age populations. In addition, much of

the literature includes recommendations for further research regarding this specific age group. The use of internet and media devices among school-age children eight to eleven years old continues to be on the rise across the globe (Isik & Alkaya, 2017). There are multiple concerns associated with this population's physical health, mental health, and overall well-being, in relation to excessive and unmonitored time spent accessing and utilizing the internet in the various available formats (Cerrutti, 2017). American Academy of Pediatrics (AAP) recommends less than two hours per day of media use for children, and currently less than 8% of nine- to eleven-year-old children meet this recommendation (Lee, Kubik, & Fulkerson, 2018).

Physical and Mental Health

The literature notes that some physical health concerns associated with school-age children's excessive and unmonitored use of the internet include sleep issues, daytime tiredness and fatigue, vision issues, amount of physical activity concerns, headaches, weight status issues, and musculoskeletal pain (Cerrutti, 2017). It is noted that excessive use of the internet by children is linked to increased cardiovascular risks and lifetime obesity (Mustafaoglu, Zirek, Yasaci, & Ozdincler, 2018). In addition, the sedentary lifestyle that is associated with excessive internet use has become a factor of concern with the onset of childhood diabetes (Alsehaima & Alanazi, 2018). One study indicates that computer use within the hour before bed increased the chances of the child becoming overweight by 20% and doubled the child's odds of becoming obese (Dube et al., 2017). Since some of these described physical health concerns are vague and may be attributed to other health issues, parents without education on child media use risks may be unable to correlate these complaints with their school-age child's daily unmonitored internet

usage (AAP and Council on Communications and Media, 2016).

Research finds that mental health concerns associated with school-age children's excessive and unmonitored use of internet include, but are not limited to, depression, anxiety, fear, increased aggression, loneliness, and a decrease in the child's ability to form interpersonal relationships (Isik & Alkaya, 2017). Evidence gained from eight studies spanning 10,099 participants found that there is a significant association between excessive internet use and the occurrence of depression (Sohn et al., 2019). It is noted that depression can be related to excessive media use taking the place of interpersonal contact thus resulting in social isolation (Hoge, Bickham, & Cantor, 2017). In a review of seven studies that spanned 9,359 participants, Sohn et al. (2019) reported a significant positive association between excessive internet use and anxiety among six of the studies, with one study reporting a negative association. Feelings of anxiety are also a concern related to excessive internet use and can be a result of an unwanted disruption in the child's use of technology and cyberbullying (Hoge, Bickham, & Cantor, 2017). In addition, studies have indicated that frequent internet use by children increased their risk for displays of depressive symptoms, and, research demonstrating correlations between internet use and feelings of low self-esteem, increased risk of self-harm, and loneliness (McCrae, Gettings, & Pursell, 2017). There is also increased concern that excessive use of the internet by children may stimulate addictive personality traits early in life (McCrae, Gettings, & Pursell, 2017). One study indicates that children who utilize the internet more than 60 minutes per day were noted to demonstrate significantly more behavioral and emotional problems (Hosokawa & Katsura, 2018). There is evidence to suggest that excessive and unmonitored use of the internet by children contributes to an

increase in social isolation and diminishes chances for positive social interactions with friends and family that promote development of social competence (Hosokawa & Katsura, 2018).

Academic Performance

Takeuchi et al. (2018) found that excessive and unmonitored use of internet and media devices by school-age populations contribute to less effective study habits, an increase in school absences, increased tardiness from classes, and an overall decrease in the child's academic performance. It is noted that academic performance of a child can be negatively impacted by excessive media use through displacing activities that positively impact academic performance including adequate sleep, participation in physical activity, and completion of homework (Mundy et al. 2020). Studies in this area indicate that the length of time spent accessing the internet greatly impacts a child's academic performance, with excessive internet use being associated with learning and attention deficits, and negative attitudes toward attending school (Mineshita et al., 2021). It is noted in research that an eight to nine -year-old child who participates in two or more hours of media use per day demonstrated a modest reduction in their reading performance at age ten to 11 (Mundy et al., 2020). Parents and these school-age students may not be making the connection between these negative school related issues and their excessive and unmonitored use of the internet and media devices each day (Mundy et al. 2020).

Sleep

Another area of concern is that of media devices being located or allowed within children's bedrooms (Lee, Kubik, & Fulkerson, 2018). There are concerns that excessive screen time replaces time that a child spends sleeping and contributes to 30% of

preschool children and 90% of school age children suffering from sleep insufficiency (Solecki, 2020). Research notes having access to a television and electronic media devices within the bedroom is associated with sleep issues and goes against recommended sleep hygiene practices (Chassiakos et al., 2016). It is noted in one study that 61% of children are allowed at least one media device in their bedroom, and this correlates with increased internet use as compared to those children who are not allowed media devices in their bedrooms (Lee, Kubik, & Fulkerson, 2018). Literature in this area finds that sleep duration, quality, and efficiency are negatively impacted by the child's increased use of media devices (Dube et al., 2017). Studies indicate that excessive internet use interferes with a child's needed sleep by delaying bedtimes and causing nervous system arousal, making it more difficult for the child to fall asleep (Zhang, Tillman, & An, 2017). This disruption to needed sleep can easily have negative impacts on the school-age child's overall daily health and well-being (Dube et al., 2017).

Future Concerns

Furthermore, a more recent issue within this age group that is of concern include internet addiction and internet gaming disorder, which have been included in the Diagnostic and Statistical Manual of Mental Disorders as conditions that require further investigation (Cerruti et al. 2017). Parents and their school-aged internet users may feel these concerns do not apply to them; however, excessive, and unmonitored internet use contributes to these issues. It is noted that problematic internet use among children and adolescents is between 4% and 8%, and that 8.5% of United States youth meet criteria for internet gaming disorder alone (AAP and Council on Communications and Media, 2016). There are multiple warning signs associated with internet addiction in the school-age

population and some of these include: preoccupation with using the internet, being on-line longer than was originally intended, using the internet to escape problems or concerns, loss of interest in hobbies previously enjoyed, taking steps to hide and or lying about their amount of internet use, reduction in involvement with family or friends, negative effects on academic performance and behaviors, and feelings of moodiness when unable to use the internet (Jun, 2016). Without being educated regarding the impact of internet use on school-age populations, many parents may miss these and other warning signs of negative associations and possible outcomes.

Monitoring

It is noteworthy that some parents and guardians do currently attempt to monitor and control their school-age children's internet usage in an unstructured manner; however, this chore is undertaken without using the AAP's recommended family media plan (Coyne et al., 2017). It is noted that these parents and guardians fall into certain categories in their ways and means of monitoring and controlling their children's daily internet usage (Coyne et al., 2017). These monitoring categories include restrictive mediation, active mediation, and co-viewing (Coyne et al., 2017). Restrictive mediation involves specific rules that are set regarding time spent viewing media and content allowed to be viewed, while active mediation involves parent-child discussions regarding media use and important viewing skills, and co-viewing occurs when parents actively view or use media devices with their children (Coyne et al. 2017).

Family Media Use Plan

Not all internet usage by this school-age group is negative or detrimental. There are positive aspects to be found as well, which is why parenterally monitored use of the

internet by school-age children is the recommendation of the American Academy of Pediatrics (AAP Council on Communications and Media, 2016). To assist parents and guardians with controlling and monitoring their child's media and internet use the AAP has created the Family Media Use Plan (Chassiakos et al., 2016). Families create a personalized plan for each child in the household and are able to customize guidelines for media use time according to what is appropriate for each child (AAP Council on Communications and Media, 2016). Creating and utilizing the plan allows families to designate screen-free areas and times in the home, as well as determining device curfews and selecting charging spots outside of bedrooms (AAP Council on Communications and Media, 2016). The Family Media Use Plan is accessed online and offers families a check box worksheet to customize and complete for each child in the family. The worksheet is initiated by choosing a child's age range and typing in their name. To continue, the first section is completed to determine screen free zones in the household. The next step allows for determination of screen free times to which the child will adhere. Moving through the worksheet provides for setting device curfews and designating which apps and games the child will be allowed to access during their recreational time on the internet. The next section fosters discussion and determination of how the child will balance their time on and off the internet by choosing activities that can be done in place of being online. The final sections of the worksheet focus on internet safety and how the child will exercise appropriate manners in being a good digital citizen while spending their time online. To close the worksheet, there are recommendations as to how much sleep and exercise the child should be participating in each day. In addition to outlining the child's time spent on the internet, use of the plan fosters positive parenting activities

that promote health and development, and include talking to one another, engaging in play time together, reading books, and teaching (AAP Council on Communications and Media, 2016).

Plan, Do, Study, Act (PDSA)

The PDSA cycle is a systematic process that applies a four-step problem solving model to improve a process or initiate a change in practice and is widely utilized in healthcare quality improvement (Knudsen et al., 2019). Significant features of the PDSA cycle include continuous data collection, iterative cyclic method, theoretical rationale, and small-scale testing (Knudsen et al., 2019). Step one is the planning phase in which the problem is identified, objectives are determined, and ways to collect data are decided (Prentiss & Butler, 2018). Step two is the do phase in which an action plan begins to be implemented and data collection is initiated (Prentiss & Butler, 2018). Step three is the study phase in which collected data is analyzed, and the occurrence and sustainment of improvement is determined (Prentiss & Butler, 2018). Step four is the act phase in which what is learned from the test is determined and communicated to stakeholders, and if changes are required the PDSA cycle will begin again (Prentiss & Butler, 2018). Specific to this QI project, the plan phase involved meeting with key stakeholders of the proposed project and creation of the education module was completed. The do phase was carried out through collection of a pre data set, provision of the education module and collection of the post data sets. The study phase included analysis of collected data along with determination of goal achievement. The act phase was completed with communication of study results to key stakeholders.

Methods

Design

The approach utilized in this quality improvement project is an observational descriptive design with a pre- post-survey with educational module. Primary outcomes for this project include parent self-reported choice to make a behavior change and initiate a household family media plan post education module. Secondary outcomes include parent self-reported increase in awareness and education regarding risks associated with their school-age child's excessive and unmonitored internet use post education module.

Setting

The setting for this QI project is an Intermediate Building of a rural public-school district in South-Eastern Missouri. This Intermediate Building educates 219 students aged eight to eleven years old in third through fifth grades. This rural, public, Pre-K through twelfth grade school district has a total student population of approximately 1,100 primarily Caucasian students.

Sample

The purposive sample population for this quality project included the parent population of the students within the Intermediate Building of a rural public-school district in South-Eastern Missouri. This rural community is comprised of a diverse socio-economic population of approximately 11,500 individuals who are predominantly of Caucasian descent.

Inclusion criteria applied to the participant sample included being a parent of student/students at the Intermediate Building of the district, being of any gender, any race or ethnicity, and of any socio-economic status. Exclusion criteria applied to the

participant population included not being a parent of a student at the Intermediate Building of the district.

Procedures

Key project stakeholders including the Intermediate building school nurse, principal, guidance counselor, and superintendent of the Southeast Missouri rural public-school district were convened to discuss the project plan. The onsite committee for this project includes the aforementioned key project stakeholders with the addition of the school librarian who is in charge of technology needs and issues for staff, student, and parent populations. The Intermediate building guidance counselor and librarian actively engage the student population in activities that focus on use of safe internet practices, but the parent population is difficult to reach and educate on this important topic. Thus, it was decided that a school nurse led, virtual parental education classroom providing key issues regarding risks of excessive and unmonitored internet use by this school-age population would be beneficial. Methods applied in this quality improvement project included collection of a pre data set, a school nurse education program via on-line virtual classroom and collection of a post education data set immediately and at three-months post education in which the parents self-reported their likelihood of behavior change in initiating a household family media plan, as well as, assessing knowledge retention of childhood media use risks and a variety of demographic factors.

The school nurse led parental education module was accomplished through creating a virtual, on-line classroom via “Seesaw” application of which this parent population is already familiar and to which they had access. The parental education module provided information regarding risks associated with their school-age student’s

excessive and unmonitored use of the internet and media devices. In addition, information regarding the American Academy of Pediatrics (AAP) recommended Family Media Use Plan was discussed in detail with a link to the website and toolkit provided. This virtual module was made available for access to the parent population during the month of July 2022. Following the education access period, the parent population was surveyed as previously discussed.

Data Collection and Analysis

The data collected in this research project was obtained by pre-education, post-education, and 3-month post-education electronic Qualtrics survey that parent participants accessed via an electronic link sent via the “Seesaw” application. This pre, post, and 3-month post education survey was a multiple-choice survey assessing demographics and parental knowledge of risks associated with child media use. The survey also questioned the parents’ likelihood of initiating a household family media use plan based upon knowledge gained through the virtual education module. Data analysis was conducted using paired *t*-tests to determine if parental knowledge gain was statistically significant after the educational module, as well as descriptive statistics regarding the demographic factors of parents utilizing the Family Media Use Plan.

Approval Processes

Approvals involved in this QI project included on site approval to conduct by the Southeast Missouri rural public-school district superintendent. In addition, approval from the Institutional Review Board of the University of Missouri-St. Louis was obtained.

Results

As previously stated, the aim of this quality improvement project was to increase parental awareness of proper internet monitoring of their children by 10% by conclusion of the education program. The demographics of the participating parent population included all females, predominately 31yrs. – 50yrs old, and reported a wide range of annual income, with the majority of those being \$100,000 and above annually. (see figures 1-3).

Figure 1

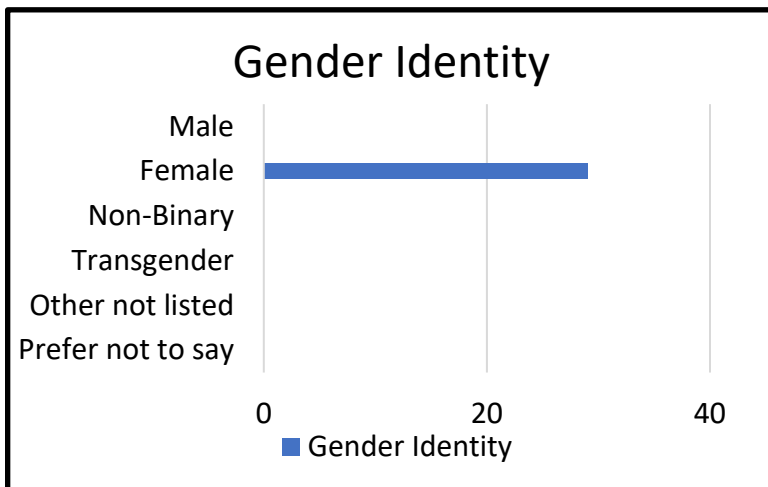


Figure 2

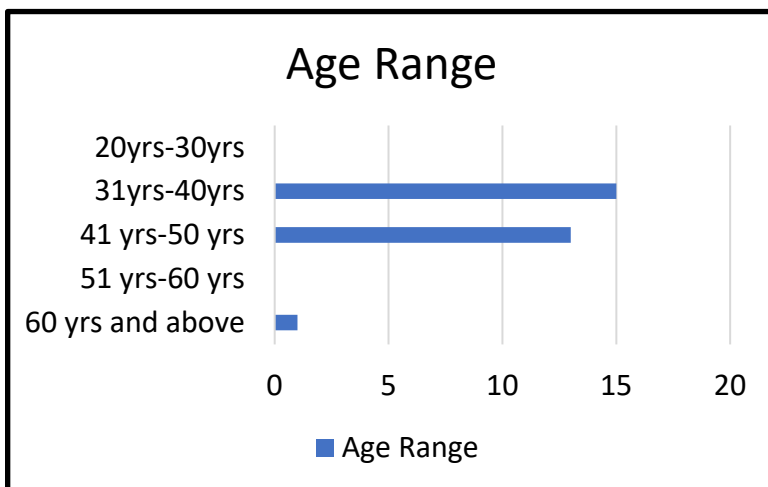
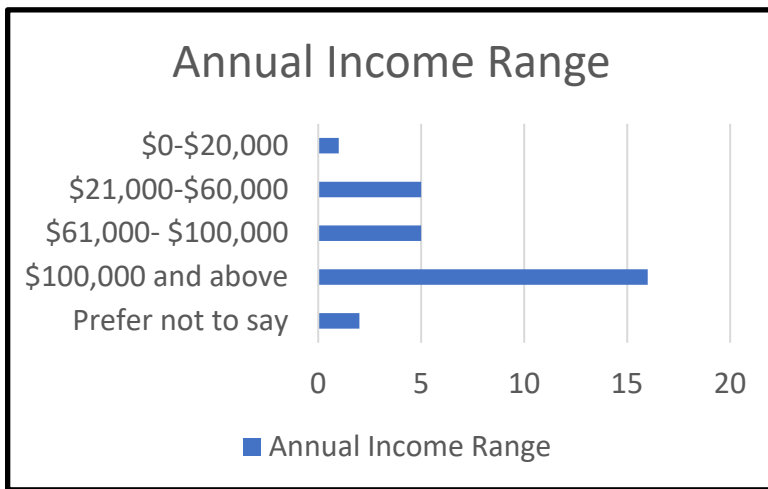


Figure 3

The collected survey results included 33 total responses from the parent population. However, some parents did not complete all three surveys, so end results for analysis included eight parents that had participated in all three surveys. This resulted in an attrition rate of 75.8% for project participation. A paired *t*-test was completed utilizing the Statistical Package for Social Sciences (SPSS) software version 29.0. The paired *t*-test was completed three times comparing overall results from the pre-education survey and the immediate post-education survey which resulted in statistical significance demonstrated by a p-value of .018, then comparing the immediate post-education survey and the three-month post-education survey with results that were not statistically significant demonstrated by the p-value of .081, and lastly comparing the pre-education survey and three-month post-education survey with results that were also found to be statistically significant, demonstrated by a p-value of .017. (see tables 1-3).

Table 1

Paired Samples Test 1

	Mean	Paired Differences				t	df	Significance	
		Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				One-Sided p	Two-Sided p
				Lower	Upper				
Pair1 AllParticipant S1 - Allparticipant S2	-147.0	301.3	65.76	-284.2	-9.90	-2.237	20	.018	.037

Paired Samples Test 2

	Mean	Paired Differences				t	df	Significance	
		Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				One-Sided p	Two-Sided p
				Lower	Upper				
Pair 2 AllparticipantS2 - AllparticipantS3	10.09	31.93	6.967	-4.43	24.63	1.449	20	.081	.163

Table 2

Table 3

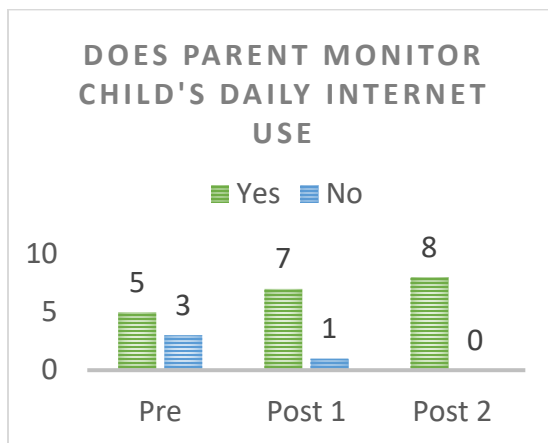
Paired Samples Test 3

Mean	Paired Differences				t	df	Significance	
	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				One-Sided p	Two-Sided p
			Lower	Upper				

Pair 3	AllParticipantS1 -	-137.0	277.2	60.50	-263.2	-10.78	-2.264	20	.017	.035
	AllparticipantS3									

The difference between pre and immediate post survey were found to be statistically significant, which is expected immediately after an educational intervention, clinical significance was found in the parent self-reported monitoring of their child’s/children’s daily internet use. The pre-education survey data reported that three out of eight parents, or 37.5%, were not monitoring their child’s/children’s daily internet use. The three-month post-education survey data reported that all eight, or 100%, of parents were monitoring their child’s/children’s daily internet use (see Figure 4).

Figure 4



In addition to the increase in monitoring of their child’s/children’s daily internet use, there was also a noted increase from pre-education to post-education and three-months post-education in parental awareness of the Family Media Use Plan with 37.5%, 100%, and 100% were aware of it at each time point respectively (see Figure 5). Further data analysis was conducted through paired t-testing to assess statistical significance in parental awareness of the Family Media Use plan. The completed paired t-tests compared results from survey 1 vs survey 2 and survey 1 vs survey 3. Paired t-testing was not performed on the results of survey 2 vs survey 3 as the survey results are the same. The

Table 5

Paired Samples Test 2

		Mean	Paired Differences				t	df	Significance	
			Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				One-Sided p	Two-Sided p
					Lower	Upper				
Pair 2	Awareness S1 vs S3	.6250	.5175	.1829	.1923	1.057	3.416	7	.006	.011

To continue, it is noted that a clinically significant increase in use of the Family Media Use Plan was noted with 12.5%, 75%, and 87.5% using the tool at each survey timepoint respectively (see Figure 6). To further analyze the data regarding use of the Family Media Use Plan, paired t-testing was completed comparing survey 1 vs survey 2, survey 2 vs survey 3 and survey 1 vs survey 3. The comparison of survey 1 vs survey 2 and survey 1 vs survey 3 both reflected statistical significance with p-values of .006 and .001 (see tables 6 and 8). The paired t-test conducted comparing survey 1 vs survey 2 did not reflect statistical significance with a p-value of .175 (see table 7).

Figure 6

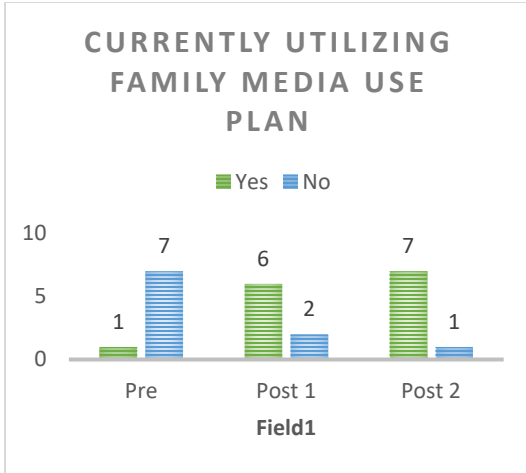


Table 6

Paired Samples Test 1

		Mean	Std. Deviation	Paired Differences		t	df	Significance		
				Std. Error	95% Confidence Interval of the Difference			One-Sided p	Two-Sided p	
					Mean					Lower
Pair 1	UseFMPS1 - UseFMUPS2	.6250	.5175	.1829	.1923	1.057	3.416	7	.006	.011

Table 7

Paired Samples Test 2

		Mean	Std. Deviation	Paired Differences		t	df	Significance		
				Std. Error	95% Confidence Interval of the Difference			One-Sided p	Two-Sided p	
					Mean					Lower
Pair 2	UseFMUPS2 - UseFMUPS3	.1250	.3535	.1250	-.1705	.4205	1.000	7	.175	.351

Table 8

Paired Samples Test 3

		Mean	Paired Differences				t	df	Significance	
			Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				One-Sided p	Two-Sided p
					Lower	Upper				
Pair 3	UseFMPS1 - UseFMUPS3	.7500	.4629	.1636	.3630	1.137	4.583	7	.001	.003

Lastly, parental knowledge retention was assessed per pre-education and post-education Qualtrics surveys. With 8 parents participating in all three surveys, the possible total correct answers were 168. Results for the pre-education survey provided 145 correct answers, the immediate post-education survey noted 166 correct answers, and the 3-month post-education survey offered 167 correct answers (see figure 7). To further describe the results, parental knowledge retention was noted at 86.3%, 98.8%, and 99.4% based on utilization of the tool at each time point respectively (see figure 8).

Figure 7

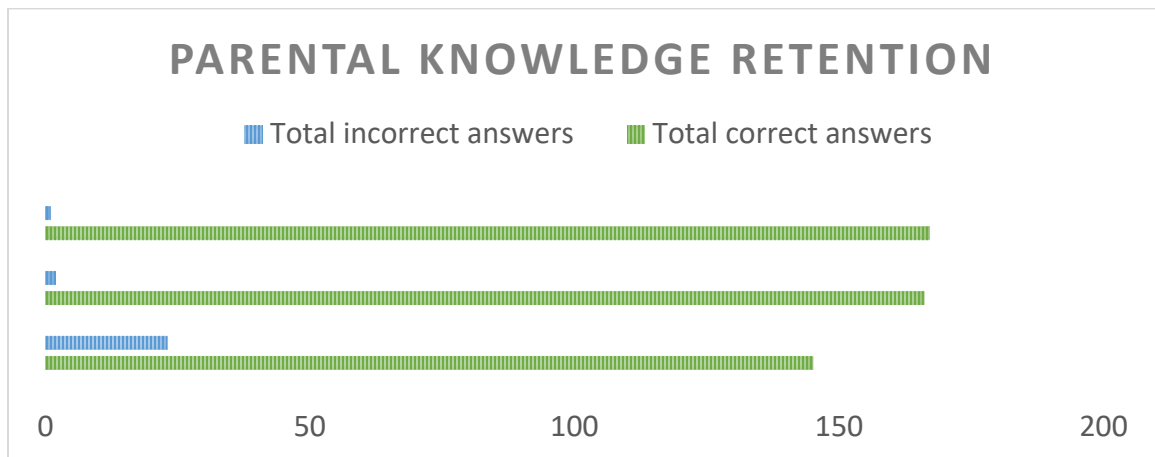
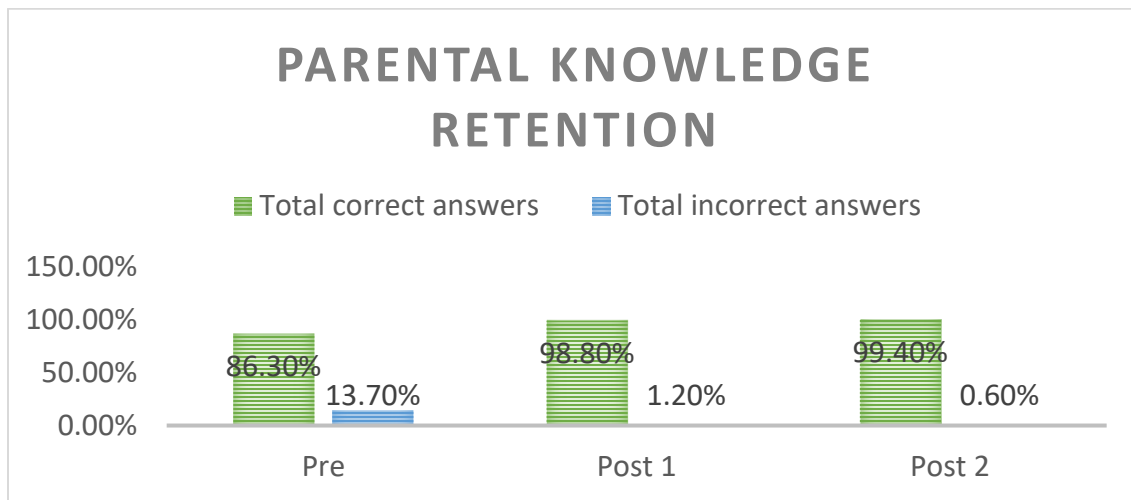


Figure 8



To further analyze the knowledge retention of the surveyed parental population, paired t-tests were performed comparing survey 1 vs survey 2, survey 2 vs survey 3, and survey 1 vs survey 3. The paired t-tests determined there was statistical significance in parental knowledge retention in comparison of survey 1 vs survey 2 with a p-value of .021, and in comparison of survey 1 vs survey 3, with a p-value of .008 (see tables 9 and 11). The t-test comparison of survey 2 vs survey 3 did not result in statistical significance of parental knowledge retention as noted by the p-value of .342 (see table 10).

Table 9

Paired Samples Test 1

		Mean	Std. Deviation	Paired Differences			t	df	Significance	
				Std. Error	95% Confidence Interval of the Difference				One-Sided p	Two-Sided p
					Mean	Lower				
Pair 1	Correct answers S1 vs S2	-2.625	2.973	1.051	-5.110	-.1394	-2.497	7	.021	.041

Table 10

Paired Samples Test 2

		Mean	Std. Deviation	Paired Differences			t	df	Significance	
				Std. Error	95% Confidence Interval of the Difference				One-Sided p	Two-Sided p
					Mean	Lower				
Pair 1	Correct answers S2 vs S3	-.1250	.8345	.2950	-.8226	.5726	-.424	7	.342	.685

Table 11

Paired Samples Test 3

		Mean	Std. Deviation	Paired Differences			t	df	Significance	
				Std. Error	95% Confidence Interval of the Difference				One-Sided p	Two-Sided p
					Mean	Lower				
Pair 1	Correct answers S1 vs S3	-2.75	2.492	.8813	-4.834	-.6659	-3.120	7	.008	.017

Discussion

To answer the two questions associated with this quality improvement project the collected data identified that there was statistical significance found in the parental knowledge retention of concerns for children associated with excessive and unmonitored internet use. In addition, there was also statistical significance noted in parental awareness and use of the Family Media Use Plan. In addition to data analysis resulting in statistical significance, changes noted in the data also have clinical significance for those children whose parents made modifications in their internet monitoring practices.

Keeping these results in mind parents who made positive changes in their internet monitoring practices may find that they are more engaged in their child's/children's exposures while using the internet. Awareness of these exposures may impact their child's/children's safety and security during their time using the internet. Additionally, making these positive changes and utilizing the Family Media Use Plan may help to create healthy boundaries for their child/children to be mindful of when using the internet. Parents may also have the added benefit of an increase in quality family time away from screens with the employment of the Family Media Use Plan. Although the Family Media Use Plan will not prevent all dangers from the internet to children, it does offer parents a guide to increase their engagement with their child's internet use and thus can result in an increase in overall health and wellness for their child/children.

Upon review and consideration of the findings, this information can be applied to practice through continual efforts in educating parent populations regarding the importance of internet monitoring and safety for their children. School nurses are responsible for the provision of health of their student populations, and this should not only be limited to their health status while at school. As noted in the data, there are

multiple concerns associated with excessive and unmonitored internet use by school-age children that can impact a student's overall health status. Thus, it is imperative for school nurses to remain current in their knowledge, be aware and participate in prevention efforts that can positively impact their student population. Parent populations may feel that they are prepared for, and are properly monitoring their child's daily internet use, but could be positively impacted by information given regarding internet safety concerns. This arena of internet and media use by school age children is one that is ever changing and progressing, so the provision of education to parent populations should certainly not be limited to a one-time education session.

There is currently a dearth of research available regarding the implementation and use of the Family Media Use Plan and risks to school-age children associated with excessive and unmonitored internet use. Since the use of media devices and internet access by school age children will only continue to rise, the focus of this project is of great importance and should be a high priority for further investigation, research and study activities. Specifically, it would be beneficial to have studies regarding the amount of time that school age children are spending recreationally using the internet each day, the internet websites and pages that are being accessed by the school age children, the use of social media by school age children, and the employment of parental controls on school age children's media devices. Lastly, future research should also be focused upon the matter of the increase in problematic internet use and internet gaming disorder in this school age population.

In order to maintain and increase parental changes that have occurred with this study it is advisable for school districts to provide annual education to parent populations

of school-age children with focused instruction that informs and updates parents on risks, concerns, and possible threats associated with their child's/children's daily internet use. As with this study, the parental education should provide information regarding the Family Media Use Plan as well as supplying a link for the parents to initiate a Family Media Use Plan. Parent populations could also be educated on ways their child/children could make use of their time on the internet engaging in sites that stimulate learning, connecting, and developing.

Conclusion

In summary, media device and internet use by the school-age population continues to be on the rise. There are concerns that excessive and unmonitored use of the internet by this population can negatively impact their physical and mental health. Issues of concern include inadequate sleep, interrupted sleep patterns, daytime tiredness or fatigue, lack of physical activity, increased sedentary behavior, depression, anxiety, fear, cyberbullying, and decreases in academic performance. There is a need for parental involvement and monitoring of school-age children's internet use. Some types of monitoring that are currently being utilized by parent populations include: restrictive mediation, active mediation, and co-viewing. To assist parents in this task of controlling and monitoring their child's internet use the AAP developed the Family Media Use Plan. A plan for each child is created by the family and offers guidance with determining screen-free zones and times in the household, designating device curfews, and selecting charging spots outside of bedrooms. The creation of the plan also fosters a balance in media use as well as promoting sleep and exercise. This quality improvement project resulted in findings that support continual and increased involvement of parents in the

monitoring of their child/children's daily internet use. The resulted findings were found to be significant enough to the Intermediate Building principal in that she would like to share these results with staff and parent populations at a future back to school night. Furthermore, changes noted in comparing the pre-education surveys and post-education surveys did result in statistical significance and all result findings are clinically significant in the school-age child's overall health and well-being. The collected data reflects some positive changes in parental monitoring efforts and use of the Family Media Use Plan, but more work and research are needed in this important area. The study findings also noted some positive changes in parental awareness of health risks to their children as well as positive findings in their knowledge retention. The risks and dangers to school-age children that are inherent with their media and internet use will only be increasing and progressing, so education of parental populations needs to do likewise.

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Appendix A

Family Media Use Plan

Child's Name's Media Plan

Mobile devices & TVs are not allowed in the following screen-free zones in our home:

- Bedroom
- Kitchen or dining room table

We will not use mobile devices or other screens during the following times:

- While walking across the street
- While doing homework
- While at school
- Meal times

Devices will charge overnight in:

- Parent's bedroom

When we have recreational screen time, we will:

- Co-view (watching media with a parent or adult)
- Co-play (playing video games & using apps with a parent or adult)
- Video chat with friends or relatives
- Play apps that are creative, educational & promote healthy interactions with others
- NOT play video games that are against our family's rules both at home & at someone else's house
- Watch age appropriate & educational shows & videos
- Play videos, shows & apps with adults
- NOT download apps, movies, games without permission & asking an adult if they are appropriate for my age
- NOT visit new websites or video sites without asking permission

By decreasing screen time, we will have more time for:

- Reading
- Sleeping
- Being with friends
- Playing board games, having creative time
- Playing outside

We will show good media manners by:

- Not looking at the phone or texting while talking with someone, or during mealtime
- Not keeping the phone on (or under) the table during meals

We will be good digital citizens by:

- Respecting the privacy of others
- Not being rude or bullying anyone online
- Telling a parent or other trusted adult if we or others are being bullied, disrespected, attacked or treated badly online
- Telling a parent or other trusted adult if we get messages or photos that make us uncomfortable

We will follow these digital safety rules:

- Do not give out personal information online
- Do not use a phone or text while crossing a street
- Do not share private photos online
- Review Privacy Settings on all sites with your children