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COMPREHENSIVE REVIEW OF SCREEN TIME RELATED FEDERAL BILLS

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## ABSTRACT

An increasing body of research has found that exposure to electronic screens during early childhood leads to shorter attention spans, reduced sleep and a host of other negative outcomes. In particular, screen time has also been associated with peer rejection, less social interaction, lower math scores, and a higher Body Mass Index. Despite these potential harms, many young children are exposed to screens too early and too often. As a result, policymakers are increasingly recognizing that young children's access to screens is a potential social and public health problem. Despite growing interest and importance of this topic, little work has sought to understand the federal legislative response to children's overexposure to screens. This work provides the first comprehensive analysis of federal bills that reference "screen time" up to date (February, 2019). This included reviews of all federal bills that were introduced to congress since 1990 ( $N = 174,894$ ) to identify any direct reference to screen time. Once identified, they were analyzed in order to understand the purpose of their usage of screen time. Ninety percent of the bills focused on childhood obesity and physical wellbeing, mentioning screen time limitations only as a way to promote healthier living habits in children. 23% of sponsors and cosponsors of these "screen time bills" were Republicans. Sixty percent of bills were introduced in the House of Representatives and 25 states were absent in representation. Despite the mention of screen time in some federal bills, it can be concluded that there is no true effort by the federal government to reduce screen time usage in children. Therefore, Congress must be made aware of the need for change so they are then more pressed to push bills supporting the reduction of screen time and better development of the country's children.

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## **Chapter 1**

### **Introduction**

Research on the effects of screen time on children is a relatively new area due to the rapid increase in the use of electronic devices. Because of this, the extent of these effects is slowly coming into focus as researchers start to see the impact of increased screen time, and they are proven detrimental in various ways. While some electronic companies are exploring action to help parents decrease the screen time, policymakers have the power to enact change. In order to understand the importance of reaching Congress, it is important to understand the power and specific roles of Congress and legislators.

#### **Screen Time in Early Childhood**

It is important to understand the specific effects of screen time and possible interventions to decrease their impact. In 2013, Dr. Kristin Anderson Moore, president of the nonprofit, Child Trends, led a panel to discuss the harms of screen time with guest panelists Lisa Guernsey, Director of the Early Education Initiative at the New America, Dr. Kathryn Hirsh-Pasek, Director of the Infant and Child Lab at Temple University and author of *Einstein Never Used Flashcards*, and Dr. Rosemarie Truglio, Senior Vice President of Curriculum and Content at Sesame Workshop. Dr. Kristin Moore and her colleagues emphasized the importance of educating parents on the harms related to screen time as one possible intervention (Moore et al., 2013). However, the way researchers attempt to educate parents could determine whether parents

actually listen and take action to lessen the harms. Dr. Kathryn Hirsh-Pasek discussed the lack of knowledge parents have on this subject. She, along with the other panelists, emphasized that there is a right way to incorporate screen time in a child's life, parents just do not know what that is. Furthermore, they discussed ways a caretaker can moderate a child's interaction with screens. For instance, Dr. Rosemarie Truglio shared how Sesame Workshop, the nonprofit behind Sesame Street but also other programs focusing on the betterment of child development, focuses on positive qualities of educating through media and encourages parents to be active participants. Furthermore, throughout the lecture, each panelist discussed the ways technology harms a child. Dr. Lisa Guernsey stated that even background screen time (i.e. a parent watching the news while the child plays with toys in the same room) could lead to a decrease in a child's attention span and ability to focus on a toy for a long period. While this is just one example, it emphasizes how powerful screen time can be (Moore et al., 2013).

In conjunction with this work, Hale and Guan (2015) supported the findings of negative effects when they conducted a literature review to assess the impacts it has on sleep. They found that increased screen time results in adverse effects on sleep outcomes, such as delaying when a child went to sleep as well as how long that child stayed asleep. While results varied throughout the study based on factors such as gender and types of screen time, it was still almost unanimous that the more screen time a child experiences, the more his/her sleep patterns would be affected. It was also discovered that while television alone may not strongly impact sleep, the use of multiple screens could. Computer use, video games, and mobile devices were all found to also be strongly related to negative sleep outcomes. It is likely that children and adolescents have access to more than one of these technologies, making this issue even more pressing. However, Hale and Guan point out that a majority of the studies they looked at did not specify the content of the

screens or if there were multiple screens being used. This serves as one limitation, along with the lack of proof for causality and some measurement errors. Understanding the limitations is important in order to see where future studies need to improve. One of the most important acknowledgments made by Hale and Guan is the rapid increase of screen-based technologies and utilizations will outpace the research. With that being said, they agreed that it is urgent for further research to be conducted in order to stay up to date on new technologies and their harmful effects on sleep and other consequences. Lastly, Hale and Guan acknowledge the need for policymakers to design and implement messages and interventions in order to prevent and/or reduce the detrimental effects of screen time. (Hale & Guan, 2015)

Twenge et al. (2017) took this literature review a step further by conducting their own study showing the negative outcomes associated with screen time. They studied the amount of time adolescents spent on new media (such as social media and smartphones) and its effect on their mental health. They found that those who spent more time with these technologies are more likely to have mental health issues, such as depressive symptoms and suicide-related outcomes. Those who spent more on non-screen activities, such as playing outside and in-person interactions, etc. had a lesser chance of experiencing these negative effects (Twenge et al., 2017).

Unlike the previous studies, Pagani and colleagues (2010) focused on screen time during infancy and toddlerhood. Looking at this age is important because the American Academy of Pediatrics has set specific guidelines that encourage no screen time for those under the age of two; yet, most parents are unaware of this and more than 50% of infants exceed this limitation (American Academy of Pediatrics, 2016). Pagani and colleagues acknowledge that the more time spent in front of screens means less time infants spend engaging in “developmentally enriching activities”. These activities include, but are not limited to, those that foster cognitive, behavioral,

and motor development. Being that the first few years of life are sensitive times in which these things are rapidly developing, copious amounts of screen time can be detrimental to proper growth. Using the Quebec Longitudinal Study of Child Development, researchers examined the timing and amount of exposure and then the academic, psychosocial, and lifestyle characteristics present in the fourth grade. They found that, as predicted, early exposure to screens leads to shorter attention spans. Furthermore, their results suggested that such exposure could also lead to learning that is more passive rather than active. More screen time was also associated with peer rejection, less social interaction, lower math scores, and a higher BMI. Pagani and colleagues were able to demonstrate that not only does screen exposure during early/middle childhood and adolescence have harmful effects, but even screen time as early as infancy can also lead to negative consequences. (Pagani et al., 2010)

### **Screen Time and Childhood Obesity**

One of the most apparent and relevant correlations with too much screen time is the likelihood of obesity. In most recent decades, their growth has paralleled one another, making this an increasing problem in the United States (Mitchell et al., 2013). In their longitudinal study, Mitchell and colleagues found that not only was there a clear relationship between BMI and levels of screen time, but children in the 90<sup>th</sup> percentile for BMI were affected the most by meeting, or not meeting, the screen time guideline of two hours or less a day. This means that targeting screen time reduction in overweight and/or obese adolescents could be the best solution for managing their weight.

While looking at the association between childhood and adolescent obesity and screen time usage, it is also important to look at other related factors such as sedentary time or MVPA (moderate to vigorous physical activity). It is important to note this because often times as sedentary time increases, screen time increases, and weight and/or BMI increases. It may be assumed by some that more sedentary time is more highly associated with obesity because of the lack of physical activity. However, according to a 2012 study by Maher and colleagues, screen time is more strongly associated with obesity compared to physical activity. This information was supported by the 2002 study conducted by Duncan and colleagues that found while MVPA increases with childhood obesity, the latter and high levels of screen time are much more closely correlated.

To combat childhood obesity throughout the country, targeting screen time usage may be a better start than promoting increased MVPA, as most policies suggest. By acknowledging this major aspect of the research, there could be a major shift in policy away from physical activity and towards screen time, which would be a significant step in combatting the screen time epidemic our country is facing. There are 167 federal bills that target either childhood obesity or adolescent obesity, yet only ten target screen time. By acknowledging the incredibly powerful relationship between the two as well as the strong influence screen time has on child development, the door to policy specifically addressing screen time as its own issue may be opened.

This research identifies important information related to the topic of screen time and young kids. These findings are increasingly influencing not only public thinking and behavior around when and how much screen time children are exposed to, but also those of policymakers. For instance, on May 15, 2018 U.S. Senators Brian Schatz (D-Hawai'i), Ranking Member of the

Senate Subcommittee on Communications, Technology, Innovation, and the Internet, and Michael Bennet (D-Colo.), and member of the Senate Committee on Health, Education, Labor and Pensions requested the National Institutes of Health (NIH) provided more information to their committees about technology addiction and its effect on childhood development.

Understanding the federal response to the growing issue of children's over exposure to screens is increasingly important if society is going to reduce this problem.

### **The Importance of Translating Research into Public Policy**

While Congress holds many powers in the United States, their overall, general position is to legislate. Whether it is taxes or post offices or the military, they are the ones thinking of and writing up new laws while revising and adjusting old ones (Wikipedia Contributors, 2018). Because of this, they are the number one target when trying to push policy. Congress is divided into two chambers, the House of Representatives and Senate, both with the power to create and enforce policy. When discussing the creation of policy it is important to note the difference between policy and law. While a law is intended to implement justice in society, public policy is intended to help achieve certain goals set forth by legislators and the American people. While policies can and may lead to law, they are not written law but rather a statement and/or document affirming what the government either does or does not intend to do.

Public policy is goal-oriented, with the goal being to successfully address and resolve an issue that exists within the country. A new policy starts with an idea either proposed to or thought up by a member of Congress. Often times, this may be the result of personal experience that drives the passion behind the need for policy change. For example, a parent or Congressman

who lost a child due to drunk driving might push for policy to minimize such crashes and maximize punishments. Other times, policy is driven by social, economical, and technological trends that have not only made their way to public eye as perceived problems, but have also resulted in possible solutions. An example of this may include poverty amongst children, increases in juvenile crime, or, as this paper addresses, increase in vulnerabilities due to use of technology. Policy change is also initiated based on political philosophies, influences from other levels of government, and ideas coming down from the executive branch. However, this paper aims to discuss how information dissemination serves as a source of information for policymakers. Proven research serving as the primary source for legislators equates to sound and effective policy.

While the benefits of evidence-based policy are evident, there are also many issues that arise that need to be addressed. While it seems this type of policy writing may be ideal, unless it is flawlessly executed, it cannot hold the supreme title. These issues include, but are not limited to, decision makers not having proper access to existing research, having access but not using it, and having access but using it incorrectly.

Researchers need to better understand how to not only get the proper research into the hands of policymakers in order to ensure that the most pressing issues the country is facing are being addressed properly, but to influence policymakers to utilize this research. There have been multiple studies that pointed to a lack of relationship between researcher and decision maker and lack of quality and relevant research in the hands of decision makers as the main barriers standing in between evidence and policy. Oliver and colleagues' 2014 systematic review found that the number one facilitator for the use of evidence by policymakers was the collaboration between researchers and decision makers. The building of a relationship between the two parties

is what drives the policymakers to use the research given to them when determining the most pressing issues and when writing policy addressing these issues. Furthermore, access to quality research also serves as a facilitator for evidence-based policy, creating the need for messaging trials like the one in this paper in order to determine the most successful ways to enable such policymaking. Orton and colleagues' 2011 systematic review concluded that research specifically targeted at the needs of policymakers and highlighting key issues is the strategic way to overcome the barrier that is the lack of relationship between decision maker and researcher. Both reviews show identify the issue that prevent evidence-based policy from being written, and messaging trials like this one are intended to address and resolve this issue.

The other major concern that may be limiting the success of evidence-based is policymakers using the given information incorrectly or to their advantage. In their 2005 study, Choi and colleagues found that some researchers manipulated the research to fit their own political agenda. There have been cases in which a policymaker had predetermined ideas regarding an issue and adopted inaccurate or non-inclusive evidence and ignored conflicting evidence simply to push and validate their preset notions. Interpretation of evidence can sometimes be as, if not more, important than the evidence itself (Tseng, 2012). With that being said, decision makers may take advantage of the opportunity for open interpretation of research to satisfy their own needs versus the needs of the public. This seemingly unethical tactic has come to be known as "political uses" of research and detracts from the "instrumental uses" of research (Tseng, 2012) The former begins with policy and ends with manipulating research while the latter begins with research that then inspires policy.

Acknowledging these issues is necessary and, moving forward, the best way to accurately disseminate research into policy. However as the volume of emails being sent to Congress

increases, which means simply sending an email is not sufficient to communicate research findings. Rather, researchers need to study which kinds of messages congressmen and staffers will open, as well as the interaction between them and the emails sent. Message framing is a strong factor in this instance and, according to Maheswaran and Myers-Levy (1990), the framing of the message can determine how the readers reacts to it and then whether he/she takes action as a result, which will be discussed further later.

### **Purpose of Study**

The purpose of this study is to conduct a comprehensive analysis of the federal government's progress regarding the effects of screen time. By understanding the extent of which Congress has addressed, or attempted to address, the issue of screen time will allow us to better understand where our government lacks knowledge on the issue and which steps need to be taken. It is clear that screen time is greatly harming the country's children and their development, yet the government has given it little to no attention.

While other national and international issues seem more pressing, by ignoring the growing issue of screen time, as a nation, we are setting our children up to be less successful. The effects of screen time can already be seen in younger children as they struggle with remaining focused, mental health, and sleep. Screens have already hurt generations so the government officials must intervene as soon as possible in order to reduce any further damage. This is why tracking the progress of legislation already in place is important. By seeing where the road has already been taken, it will be easier to see which parts are still left untraveled.

## Chapter 2

### Methods

#### Procedures

This study consisted of a comprehensive review of federal bills that address the ever growing issue of children's increased screen time. To accomplish this, I conducted a mixed methods analysis of all 174,894 federal bills introduced to congress since 1990. This involved three steps: (1) bill identification, quantitative analysis and qualitative analysis.

*Bill Identification:* To do so, these bills must be distinguished from the others. For this study, I restricted bills only to those that made explicit reference to screen time in the bill.

*Quantitative Analysis:* After thoroughly reading each bill, it was necessary to understand who was responsible for sponsoring and/or cosponsoring the bills because these would be key targets in potential future messaging trials if researchers wanted to gain their support in addressing screen time. Clearly, these individuals are already invested in children's wellbeing and already have a general understanding of the harm screen time causes.

To understand these individuals, a thorough review of bill was done in order to have a full comprehension of the sponsors' party affiliation, committee memberships, previous experience, education, etc. The geographical origins of the sponsors and cosponsors were also looked at to understand which locations of the country these bills were coming from.

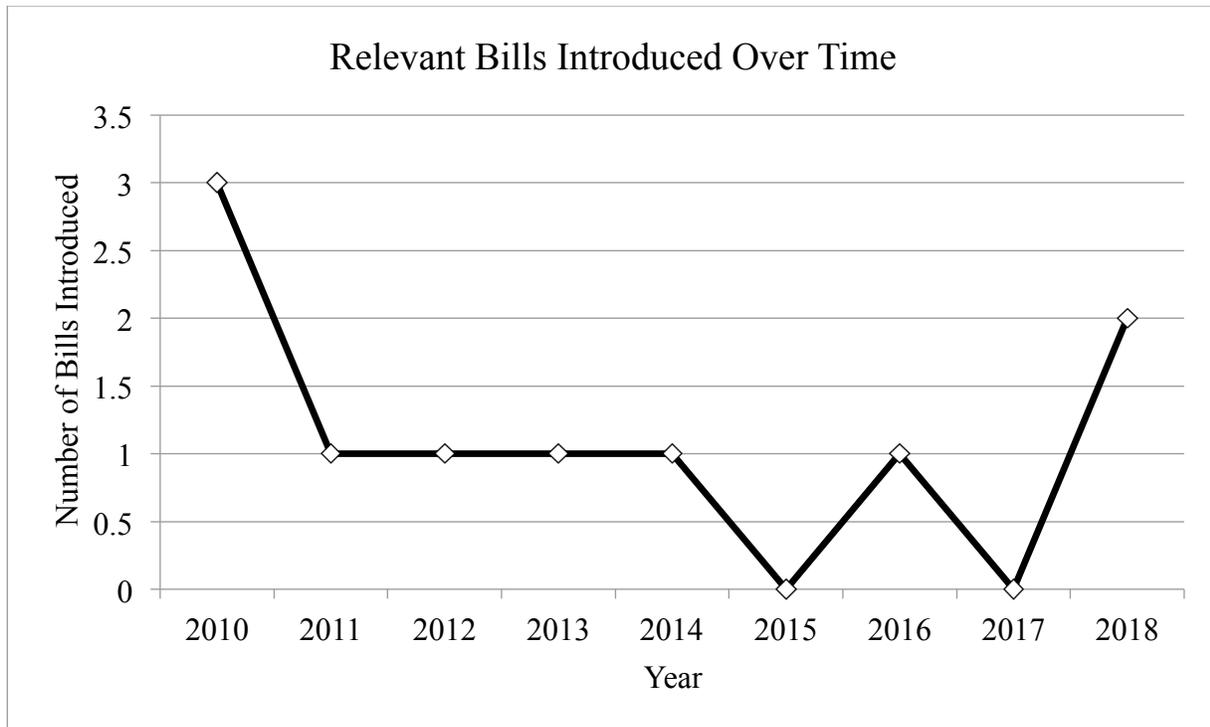
*Qualitative Analysis.* In addition to describing quantitative information about "screen time" bills, a qualitative analysis the identified bills was completed. This involved identification

of policy priorities and analysis of common themes across bills. Further, this analysis included identification of limitations of bill language.

## **Chapter 3**

### **Results**

All 174,894 bills introduced to congress since 1990 were reviewed. The first bill to explicitly reference screen time was introduced to congress in 2010. This bill, “Healthy Kids from Day One Act”, sought to reduce and prevent childhood obesity through original programs implanted in child care settings. Since 2010, ten bills have been introduced in either Senate or the House of Representatives that reference screen time (Figure 1). However, all ten merely mention screen time as one of the correlating factors to unhealthy habits overweight children possess but do not acknowledge the overwhelming issue too much screen time becomes in other regards. While the writers of the bills recognize that screen time can be problematic, they do not address the other negatives outcomes, which are plentiful. Furthermore, the main problem they see with screen time is that if a child is using technology, they are likely not doing physical activity and that is their assumed explanation of the relationship between screen time and weight. Rather, they need to understand that screen time causes lack of concentration, mental health issues including, but not limited to, depression and eating disorders, and lack of sleep: all things that may lead to overeating and other unhealthy habits.



*Figure 1.* Timeline of Federal Bills Including Screen Time Being Introduced to Congress

### **Timeline of Federal Bills Regarding Screen Time**

The first bill that mentions screen time was the “Healthy Kids from Day One Act”, which was introduced to the Senate on May 4, 2010 by former democratic senators, Mark Udall (original sponsor) and Alan Franken (original cosponsor). The purpose of the act was to encourage state health departments to help reduce and prevent obesity in children from birth to age in child care settings through means of physical activity and healthy eating policies (S. 3298, 2010). The top five state health departments would be awarded a competitive grant by the Secretary of Health and Human Services. The bill mentions screen time on nine different occasions, all but two followed by the word “limits”. The writers of the bill list “screen time limits” with “healthy eating” and “physical activities” each time as suggestions as potential policies and practices child care facilities could use to help reduce obesity and as one of the

measures the Secretary of Health and Human Services could use to determine how effective the programs implemented were. However, the writers fail to mention why limiting screen time would be an effective tool for the cause and fail to mention the other negative outcomes of too much screen time. While these other factors may not be relevant to the goal of the bill, their absence is evidence that screen time is not looked at as a major issue in Congress outside of the physical wellbeing of children. In 2012, this bill was updated and reintroduced on February 16. Some major changes in the text were made, but none were relating to screen time. Rather, most changes were in regards to the research done in relation to improving children's health and details on possible uses of the grant money. With technology becoming more advanced each year and becoming more readily available to people of all ages, it would have been reasonable to think that in two years' time, legislators would have more knowledge of the dangers of screen time and would want to promote limitations, however this was not the case, at least with this bill.

After the first "Healthy Kids from Day One Act" was introduced, on July 29, 2010, former Representative Caroline McCarthy introduced "Promoting Students Using the Camp Community for Enrichment, Strength, and Success Act". The goal of this act is to promote summertime programs for students grades five through nine in order to reduce childhood obesity, reduce summer learning loss in hopes that would strengthen high school graduation rates, and promote positive youth development. To do so, the act directs the Secretary of Education to award competitive matching grants to any nonprofit, for-profit, or local educational agencies that successfully carried out a pilot program that reached the above goals (HR. 5963, 2010). While this bill would seemingly be beneficial to all participating children, it only mentions screen time once. If screen time is not a big target, especially as technologies advance, children's

development and wellbeing can only be protected so far. In this bill, limiting computer and television screen time was merely mentioned under health and wellness activities.

Later in the year, on September 29, 2010, the first of three “Fit for LIFE Act” bills was introduced to the House of Representatives by 16 sponsors and/or cosponsors. The “Fit for Local Investments in the Future of Every Child Act” would not only amend three different acts, but also establishes the National Commission on Child Obesity and introduce grant programs to improve child physical wellness in low-income communities (HR. 6258, 2010). The bill would expand the offering of fruits and vegetables in communities through various outlets. However, as with the other bills introduced in that year, other than a definition, limiting screen time is only mentioned as a way to better a child’s physical health and a way to evaluate the efficacy of a program. Again, the bill only mentions screen time as one of multiple correlations to childhood obesity, not as a correlation to some of the biggest challenges children face. In 2011, the act was edited and reintroduced to Congress on August 5 by six sponsors and cosponsors. The goal of the bill remained the same and, although some major changes to the text were made, one thing did not: the discussion, or lack thereof, on screen time. When it was reintroduced again in 2014, it was the same case.

The “STOP Act” was introduced on April 5, 2013 by 12 sponsors and/or cosponsors. This act, also known as “Stopping Taxpayer Outlays for Propaganda Act”, was written with intentions of prohibiting the use of any part of an appropriation against any lawfully marketed food or non-alcoholic beverage. It mentions screen time once and acknowledges that adults should limit it two under two hours a day, but that is it. While this bill is not directly about childhood obesity, although it is a focus, it is actually moving further from the overarching goal of this paper, which is to increase legislation regarding children’s increased screen time. While

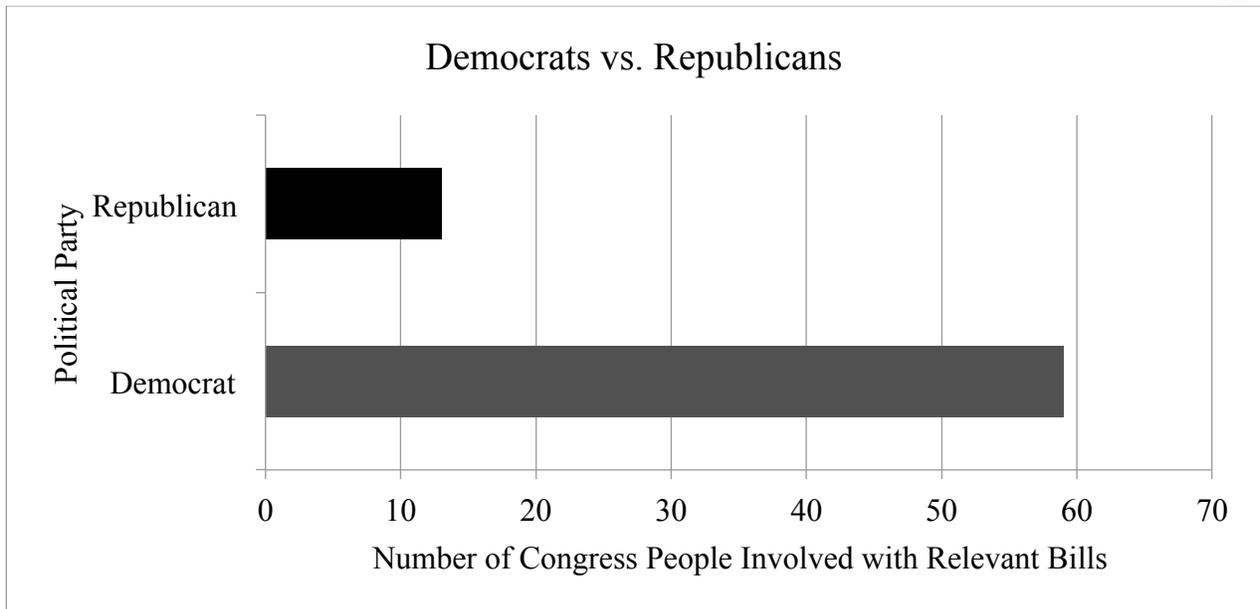
the other bills were dedicated to the wellbeing of children, this bill focuses more on the financial and marketing aspects (HR. 1572, 2013). This difference is important because while the previous bills did not acknowledge screen time as an issue within itself, their main priority was child wellbeing and positive development, which is the same as this project. “STOP Act” has a different mindset and therefore may not actually be relevant when tracking Congress’s progress in regards to screen time reduction policy.

Lastly, the next bill to include screen time was “Reducing Obesity in Youth Act of 2016” was introduced in Senate on July 13, 2016. This bill was reintroduced in the Senate in 2018 and introduced by new sponsors and cosponsors to the House within the same year. Out of all of the reintroductions discussed so far, the differences between these three documents are by far the slightest. These bills are very similar to the “Healthy Kids from Day One Act” that was introduced in 2010 in the sense that they provide grants to promote healthy eating and increased physical activity in child care and education settings (S.3194, 2016; S. 2726, 2018; HR. 6586, 2018). However, unlike the previous bills, this one lists other negative things too much screen time is associated with. They state that it is correlated with decline in school engagement, bullying, consuming soft drinks, etc., which is more than any other bill was able to do. Being that this bill is the most recent one introduced, it leads me to believe government officials are moving in the right direction in regards to screen time. By simply stating that there are problems with screen time other than its correlation with childhood obesity, it becomes clear that senators and representatives are starting to understand just how dangerous this technology use is for the nation’s children.

## Sponsors and Cosponsors

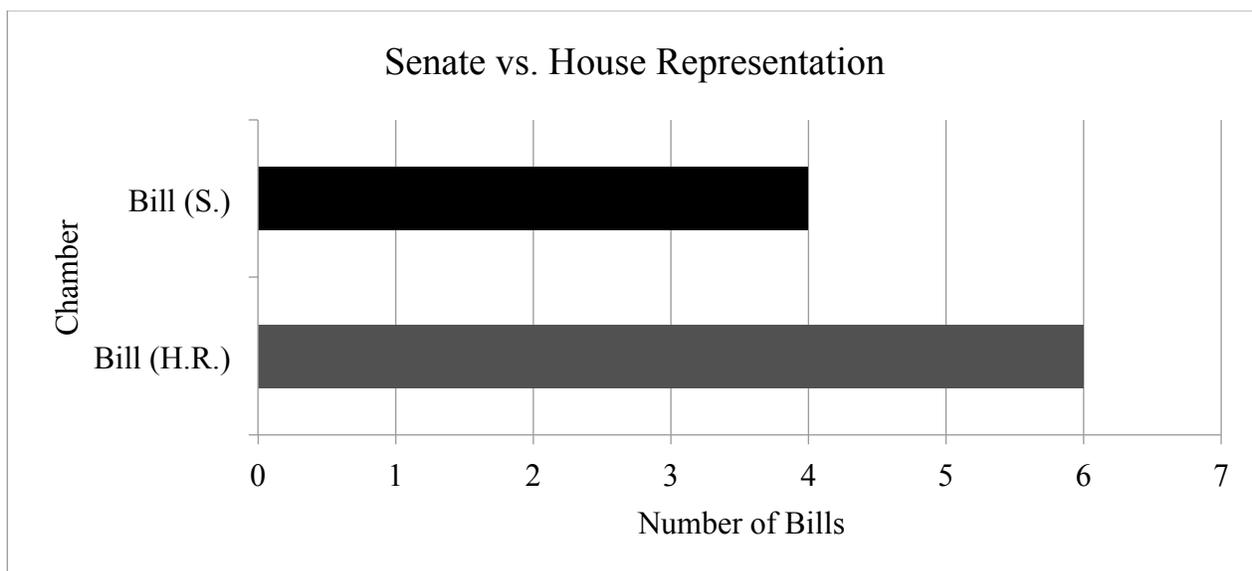
It is important to understand who is responsible for introducing screen time legislation in the first place. With nine years down since the first bill was introduced, there have only been 56 Congressmen or women who have been involved in the federal attempt to reduce screen time. This means out of the 535 individuals in Congress, only about 10% have knowledge of the dangers of screen time. This provides the validation needed to move forward with other studies that the rest of the country's legislative branch needs to be educated on the issue if any productive steps are going to be taken to help protect our children and their development.

It is also important to look at the 56 involved senators and/or representatives as individuals. Figure 2 shows the comparison between Democrats and Republicans who were involved in the writing of these bills. 23% were Republican, the rest being Democrats. Furthermore, Republicans were only present on two of these bills, "STOP Act", which is almost entirely unrelated to child development and therefore less relevant to the overall purpose of this project, and the "Fit for LIFE Act of 2010". It is important to note that "STOP Act", the bill least relevant to the purpose and goal of this paper, was entirely sponsored by Republicans. If we were to remove this act from the list of relevant federal bills, 92% of the existing Republican support would be lost and only the support of one Republican representative who is no longer in office remains, former Representative Anh Cao. This means as of now, there is no active Republican willing to acknowledge the importance of screen time limitations in Congress. This gives future researchers a new target for attempts at disseminating this research into policy.



*Figure 2.* Republican and Democratic Representation in Bills

It may also be beneficial to understand which chamber these bills came from in order to know which group of individuals is more focused on this issue. With four being in Senate and six the House, it is a relatively even divide (Figure 3). However, as more bills are being introduced regarding screen time, it will be important to watch the trends when there is more to compare. Being that the Senate tends to be considered more powerful, it would be ideal to see an increase on their side. This information gives an inclusive idea of the type of individuals supporting the fight for children's wellbeing. Again, these Congressmen and women could now serve as future targets for potential studies but, perhaps more importantly, we could now see the areas of Congress that this information still has yet to touch. These areas may be more essential when moving forward in order to gain a broader range of support.



*Figure 3.* Senate and House of Representatives Representation

Furthermore, only 50% of the states are represented. California and Delaware, both democratic states, have the most representation with Congressmen and/or women involved in 70% of the relevant bills. New Jersey and Illinois, also blue states, follow with representation in

60% of the bills, Ohio and Minnesota follow with 50%, Florida with 40%, New York and Arkansas with 30%, Colorado, Oregon, Texas, North Carolina, and Louisiana with 20%, Arizona, Connecticut, Kentucky, Massachusetts, Michigan, Missouri, New Mexico, Tennessee, Washington, Wisconsin, and Alabama with 10%, and the rest with 0%. The minimal representation or lack thereof in so many states implies there is still a large population of Senators and Representatives that need to be reached (Figure 4). Reaching such a small percentage of the policymakers means less support, making the education of Congressmen and women in the remaining states a priority.

It is interesting to note that the region variation that exists amongst these bills, nine of which surround childhood obesity, are not parallel to the childhood obesity rates in the country (Pan et al., 2016). While Mississippi has the highest rates of childhood obesity at all levels, the state has yet to have a representative or a senator advocate to help their children in this way. This is just one example of the policymakers not looking at the best interests of the population they are meant to be representing. With screen time growing across the country, it is concerning that elected officials are not even acknowledging their own populations and their issues because until they do that, it will be a very difficult task to convince them of a problem.

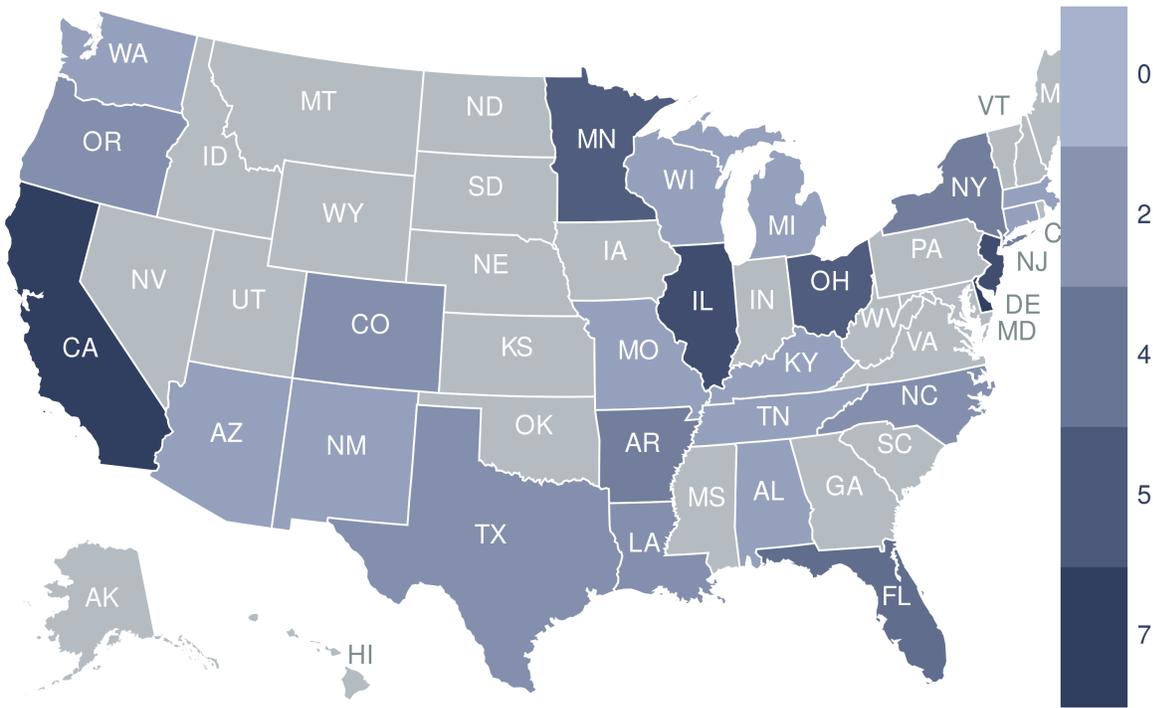


Figure 4. Map of State Representation

## **Chapter 4**

### **Discussion**

Over the past few years, screen time has become an overwhelming problem in the country. Research has proven that children who spend too much time in front of a screen are disadvantaged in almost all aspects of life. School engagement, sleep, mental health, eating habits, and physical activities are just some of the affected areas. Yet, as more research is done to show how negatively screens are affecting children, more screens and technologies are being presented to children at home and in the classroom. The problem continues to grow yet even with every warning from scientists, solutions do not follow. While it starts in the home with parents, policymakers have the power to be the catalyst for change. This makes them primary targets for research dissemination.

It is clear from reading the bills that there is not a comprehensive understanding of screen time and the problems it causes in young children. This means there is a lot more educating that needs to be done in this area of child development and a future messaging trial would be very beneficial in making Congressmen, women, and staffers aware. If lack of physical activity is the only negative correlation the United States' government sees associated with screen time, there is a hole in our nation's policies that are trying to better the development of our children. With technology entering homes at such an intense rate, more and more children are coming in contact with negative screen time and more often than in generations past. If the sponsors and cosponsors of the ten bills described above are truly in support of the betterment of children, this is a huge and rapidly growing issue that needs to be addressed sooner rather than later.

## **Future Research**

Now that the holes in the current policies and bills have been found, it is imperative to determine what the next steps are to fill the holes with efficient, effective, and long-lasting solutions. Before that can happen, however, more research needs to be done to determine what these solutions are. Screen time has proven to be detrimental to child development yet while everyone is ready to say what is wrong with it, few have an answer on how to fix it. In this modern age, it is virtually impossible for a child to not come in contact with a screen. Not only is it overwhelmingly present in the home, it is also consistently present in schools. Because of this, simply saying “reduce and limit screen time” is not enough. More work needs to be done to determine how screen time can still be present in a child’s life without it negatively affecting that child. Dr. Kristin Moore and her colleagues briefly address the idea of ways to positively implement screen time into a child’s life, however, if the goal is to have policymakers write new policy implementing reduced and positive screen time, they need to know what that is and how to do it (Moore et al., 2013).

Using the ten bills discussed earlier as examples, it is clear that when elected officials begin to write these proposed policies, there is some research done to determine what that policy should be. For the bills regarding obesity, policymakers and researchers looked at correlating factors with childhood obesity and created programs that would hopefully limit these factors. With screen time, it is not as straightforward because screens are so prevalent in every day society, there are not causes to it that can simply be reduced or limited, and all relationships proven through research have been deemed correlational and not causal. This means researchers need to narrow down the ways in which parents, teachers, administrators, and policymakers can effectively limit screen time to a safe amount while still leaving a such a

technology-dependent society. It is unrealistic to assume screen time will be eliminated from the lives of children. However, it is realistic and necessary to say finding the balance will be a solution for all. This balance is what researchers need to find and even further, need to relay to policymakers in order to turn the idea into action.

### **Future Opportunities: Messaging Trials**

It has been almost nine years since screen time was initially introduced in federal bills, yet the full extent of the issue has yet to officially be acknowledged by policymakers; they have merely scraped the surface of screen time. Obesity and lack of physical activity is one of the many harmful correlations with increased amounts of screen time, but it is only one. Yet, it is the only one Congress deems important enough to address. Their lack of education is a disservice to the children in the country as they continue to abuse technology to their own disadvantage. This is why Congress needs to be thoroughly educated on the topic, so they can write and propose effective policy that can reduce the negative outcomes of screen time. Messaging trials have proven to be an effective form of reaching Congress, which is why this would be a valid next step. Sending Congress the most up to date research regarding the negative impacts of too much screen time would allow this necessary education to take place.

Any messaging trial moving forward should have two main targets: the Congressmen, women, and staffers that were apart of these federal bills and Republicans. Republicans have yet to show any interest in supporting positive child development in these cases, making them an important group of people to reach. Once Congress is aware that the full extent of too much technology goes beyond childhood obesity, they will hopefully be as supportive of new bills

supporting the reduction of screen time in the homes and in the schools of American children as they were with childhood obesity.

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## ACADEMIC VITA

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### EDUCATION

The Pennsylvania State University

**Candidate for Bachelor of Science degree in Human Development and Family Studies 2019**

Schreyer Honors Scholar

Thesis: "Disseminating Research to Policymakers on the Effects of Screen Time"

Advisor: Dr. Max Crowley

### AWARDS

Summer Undergraduate Research Grant, Penn State University

May 2018 – August 2018

Erickson Discovery Grant, Penn State University

June 2018 – August 2018

Student Engagement Grant, Penn State University

June 2018 – August 2018

### RELATED EXPERIENCE

Dr. Max Crowley's Prevention Economic and Planning Research Lab

**Research Assistant**

**August 2017 – Present**

- Assist in various messaging trials to Congress regarding opioid, human trafficking, and other current issues
- Schedule and send messages to control and experimental groups
- Input all necessary information for each group to be analyzed
- Assist in statistical analysis

Dr. Levy's Personality, Psychopathology, and Psychotherapy Research Lab

**Research Assistant**

**June 2016 – December 2016**

- Input and interpreted data through multiple software systems such as SPSS
- Isolated interview videos and converted them into audio files for further coding
- Trained for clinical interviews

Volé, The Penn State Ballet Club

**Vice President**

**August 2017 – Present**

- Plan and coordinate biannual dance showcases
- Place dancers in appropriate routines based on skill level
- Assist other executive members within their own roles based on need
- Assist president in decision making
- Implement and enforce policies and consequences based on constitution
- Work with auditorium staff on lighting, music, costumes, and all other aspects of showcases

Volé. The Penn State Ballet Club

**THON Weekend Chair**

**August 2016 – May 2017**

- Created and promoted THON merchandize
- Organized Volé's and partner, Alpha Sigma Phi's, THON weekend, including THON Explorers
- Assisted members of both organizations in preparation for THON weekend, as well as throughout the entire 46 hours
- Planned and facilitated Mini THON event to celebrate THON family

**MEMBERSHIPS**

National Society of Collegiate Scholars

**INTERNATIONAL EDUCATION**

Florence, Italy

**May 2018 – June 2018**

- Purpose of trip was to understand human development in another culture