"Children's Health: Family, Social Environment, and Child Activity"

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Abstract. This research studied the effects of children's activities, family and social environments on their health. Results from the National Survey of Children's Health (2011-2012), supplemented by qualitative interviews with seven child development professionals, revealed that while children's activities promoted health, parental control and distressed neighborhoods worsened it. These findings were supported by a set of theories, including Social Interactionism and Ecological Systems, and added to the literature on children's health in today's digital world.

INTRODUCTION

As our society is becoming more technologically driven, it important to take a step back and evaluate both the positive and negative effects of being constantly, particularly on children. In many ways, parents are the ones we should turn to since they have control over whether their child becomes addicted, or not, to certain technological devices. Of course, children may become technologically dependent on their own, but many parents have been known to hand over their iPhone or iPad to get a child to stay quiet. Many children these days are addicted to some technological device and there is the strong possibility that allowing children to become reliant on technology will negatively affect their development. Unfortunately, most parents are unaware of the debilitating effects such addictions could have on their children. In fact, entertaining children face-to-face rather than through the use of a device, could result in healthier children.

This study will evaluate some of the relevant factors, child activities (sedentary and physical), parent-child relationships (their involvement and control), and the child's neighborhood, as they affected the body and minds of children. In addition to child and parents, their neighborhood will also be taken into account because neighborhood resources can enhance or limit children's activities. Because the future health of our children is contingent on their health while growing, it is essential key to identify and understand the factors that might promote healthy child development.

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LITERATURE REVIEW

The research reviewed for this paper focused on the following factors as they affected children's health: children's sedentary and organized physical activities, parental involvement, parental control, and neighborhood resources.

Child Health Outcomes: Physical and Sedentary Activities

The normal life of a child changes each and every day with the changing social and normative expectations about what it means to be a child. Both physical and sedentary activities are important parts of a child's development. But, with the advent of a technological world, children's technological play has become more sedentary. It is important to question the extent to which technology driven sedentary activities are replacing physical activities.

Physical Activity and Health

That healthy activities, such as any form of fitness actions, are crucial for a developing child has been well documented. A study done by Ian Janssen and Allana LeBlanc (2010:1) suggested that a child getting at least a half hour of exercise a day was much healthier than those children not receiving any. However, even though the researchers identified the immediate benefits of different levels of exercise, they concluded "health and benefits will occur in most children who participate in 60 or more minutes of moderate-to-vigorous physical activity on a daily basis" (2).

Other researchers have pointed to the specific health benefits of physical exercise by children. Dr. Amika Singh and her colleagues noted that "regular participation in physical activity in childhood is associated with a decreased cardiovascular risk in youth and adulthood. There is also a growing body of literature suggesting that physical activity has beneficial effects on several mental health outcomes, including health-related quality of life and better mood states" (Singh et al. 2012:49). In addition, physical activity is known to stimulate and entertain a child the same way a video game might, but the former has important physical health benefits as researchers Tremblay, Boudreau-Lariviere and Cimon-Lambert (2012) noted. Besides, they provided evidence that physical activity benefitted a child's academic success.

Sedentary Life-styles and Technology Dependency

While the evidence for the benefits of physical activities are mounting, "sedentary behavior" such as, watching TV or sitting in a reclined position for an extended amount of time, has begun to take priority over exercising outside for children. Such shifts in their daily lives have ultimately disrupted and prevented children from honing fine motor

skills that they would otherwise have developed faster through active play (Tremblay et al. 2012: 280). Additional problems, including mental issues, can arise from lack of socialization. As Tremblay et al. wrote, “higher levels of early childhood TV exposure predicts greater chances of peer rejection experiences later in primary school” (281). The more time spent alone and inactive during TV viewing left less time for important social interactions. In contrast, Tremblay and his colleagues found that active play improved a child’s cardiorespiratory functioning, thermoregulation, and sleep patterns.

No doubt, sedentary technological play and interactions do not always have to be negative. Depending on the unique relationship each child has with digital devices, the outcome of technology can be either negative or positive. According to Ito and his researchers, young individuals spend a majority of their time online shaping and forming their identity (2010:31). The Internet has so many moving parts and information that developing children can learn infinite amounts of information; the question is whether they are learning “healthy” things. To quote from Ito et al., “…we have observed how many youth craft multiple media identities that they mobilize selectively depending on context; they may be active on Facebook and part of the party scene at school, but they may also have a set of friends online focused on more specific interests related to gaming or creative production” (37). They reported that the three main things children tend to do online, “hanging out, messing around, and geeking out” (77), each has their positive and negative contributors depending on context of the child. In other words, the central question that these researchers raised was whether these children and adolescents were forming their identity in a negative way (such as cyber bullying, using the internet to look up inappropriate sites) or a positive way (such as playing stimulating games, talking to friends, or doing research).

Internet Addiction. Internet addiction is now very common among the adolescent population. Researcher Huang found that individuals with feelings of loneliness found the Internet to be a form of emotional support that led them to develop a relationship with the Internet and ultimately addiction (2010: 347). Such addictions become a health issue on their own, as people have been known to experience withdrawals from technology and other health related problems (351). In a similar vein, Niculovic, Zivkovic, Manasijevic, and Strbac (2012) analyzed Internet addiction on a more global scale. Because people turn to the Internet when they are lonely or upset or to avoid life’s daily struggles, it becomes easy to become addicted as they become reliant on Internet for support (547). In short, healthy behavior online is similar to good behavior in everyday life. The difference is that, unlike in real life, things online can be undone or reversed allowing people not to be fearful of immediate negative or positive outcomes.

Can Technology be Positive for children?

Given the ubiquitous nature of technology, is it possible to integrate technology into the daily activities of children and adolescents. For one, is it possible to get children out of the house and moving while simultaneously using technology? Deborah, J. Chavez (2009) found that children over all enjoyed the activities that involved the use of

technology more than the non-technology games, which sparked her concerns about technology overriding the outdoors for today's (103). She suggested that this imbalance may be improved by using technology to get children outdoors, and teach them to love nature through the help of technology.

Building social connections is another important part of growing up. How can technology be integrated into this normal developmental process? Researchers, Ito et al. (2008:1) and Lee, Conroy, and Hii (2003) discovered that the younger generations, when using technology for pleasure, were most likely strengthening their preexisting connections with their friends. In fact, adolescent relationship building activities were quite complicated because they felt the pressure to be constantly connected. The researchers concluded that the children they studied were using technology to their advantage to stay connected and learn more, ultimately gaining social capital. Hence, they stated, "we have attempted to momentarily suspend our own value judgments about youth engagement with new media in an effort to better understand and appreciate what youth themselves see as important forms of culture, learning, and literacy" (2008:11).

Summary. Overall, both physical and sedentary activities are beneficial to a child's health, although history has proven that physical activity is always healthy. Yet, both types of activities need to be done in moderation and uniquely tailored to each child. In any event, monitoring children's level of activities, be they technology or physical, to be developmentally appropriate is crucial.

Parental Involvement

Moving beyond children to their parents, involved parents are typically a positive force in a child's life. For example, the music a family listens to is known to be beneficial for a child. Chee-Hoo Lum found that the emotional support a family provided to children when participating in musical activities led to an overall boost in child self-esteem (2008:102). Music could help strengthen family bonds, and in turn leads to positive outcomes such a good health.

Besides boosting self-esteem, parents are also instrumental in enhancing their children's academic success. For example, in El Nokali, Bachman, and Votrubal-Drzal's (2010) study of children's academic success they found that parental involvement in elementary school, such as doing educational and physical activities inside and outside the home with children, lead to improved literacy. That is, parental support and involvement helped children succeed in school because they felt confident to try their hardest (989).

Scholars have also focused on parental monitoring as it affected a child's educational experience. In a study by McCormick, Cappella, O'Connor, and McClowry, parents who monitored their child's behavior taught them to distinguish right from wrong and reduced

behavioral problems (2013:279). Such emphasis on behavioral issues early on in a child's schooling career was important to prevent these issues from worsening.

Parent involvement and monitoring can take a variety of forms. Researchers Carlson and Berger examined how mothers and fathers differed in the activities in which they engaged with their children. When fathers were not-married-biological fathers, they were more likely to watch a movie or TV with their child while mothers and married biological fathers, were more likely to spend time reading to their child (2013:233).

Neighborhood Resources

The neighborhood context in which children and their parents live is an important part of their lives. According to the National Institute of Health, there is a positive correlation between poor neighborhoods and poor health of its residents (2011:2). Some reasons for the poor neighborhood-health connections were lack of funding for outdoor and indoor recreational centers, making it difficult for children to socialize and get exercise in a safe area (2011:2). The National Institute of Health went on to make the case that, "high-poverty neighborhoods have substantially higher levels of depression, infant mortality, low birth weight, teenage childbearing, dropping out of school, child maltreatment, adolescent delinquency, injuries, homicide, suicide, and overall self-reported health problems" (2011:2). Because these neighborhoods are not fit for children and adolescents to play and socialize safely, they may stay inside on their digital devices and turn to them to do all of their socializing. By choosing to stay inside where it is safer, these children are much more likely to become depressed and obese due to their sedentary behaviors.

However, not all poor neighborhoods are the same. For example, even in a broken neighborhood, parents may trust their children and neighbors enough to let their children play outside even though it is not safe. This trusting relationship can lead to a positive relationship between parent and child which ultimately will keep them from relying on technological devices, particularly if children do not feel like their device is their only form of support. In other words, trust and control, on the part of parents and the community members, are critical for the health of a child. Another study from National Institute of Health recognized a positive correlation between those who felt powerless and lacked trust (2011:2). The best way for one to overcome their broken community is to gain power through control over their environment (2011:2).

Summary and the Way Forward

On balance, researchers have concluded that there are many healthy child outcomes that come from positive parenting and many negative outcomes that come from overuse of technology and sedentary activities. Internet addiction, early in a child's life, can lead to more severe health issues down the road if there is no appropriate intervention. The lessons children learn from their parents is more beneficial than the lessons they learn

from any technology because parents offer real life experience and understanding of what is right from wrong.

However, as children become increasingly dependent on technology, it is important to find ways in which they are able to use technological devices in positive ways. One way to limit use of technology is by making it more special for a child when they get to play with it. Through limiting technology related activities they are not taking the pleasures of technology for granted. Another is finding a way for children to use technology to get outside and engage in healthy activities. As Chavez (2009) suggested, we can use technology in outdoors activities to help enhance children's love of nature.

RESEARCH QUESTION

Due to the exponential increase in technological stimuli that surrounds our society today, it is important to examine the possible negative effects of this exposure on children. In contrast, it is also important to understand how other factors in a child's life, such as their social circles, parental involvement and control might balance out children's possible dependence on sedentary technology use. Against this background, the following question was posed for this research: what are the impacts of children's sedentary and organized physical activities, parent involvement and control and neighborhood resources on the child's overall health?

A child's dependence on technological gadgets is more likely than not to promote sedentary behavior, which can potentially hurt a child's health both physically and mentally. On the other hand, organized physical activities, by promoting exercise, is beneficial to a child's health. Strong parental involvement forms a bond between child and parent, establishing a healthy relationship between the two, while too much or too little parental control can break apart a child-parent relationship. When parents are involved with their children, it allows for children to trust their parents when talking about serious issues instead of turning to impersonal sources, such as the Internet, on their own. Parental control is the other side of the coin. Too much parental control can ruin the trust between parent and child, making a child feel more comfortable asking questions of other sources, which may not give them the best answers. Finally, the resources available (or not as the case may be) to children and parents in their neighborhood were expected to affect children's health, Positive environments allow children to get enough exercise and socialize on a face-to-face basis with their neighbors while a distressed environment inhibits children from accessing the socialization and educational sources they need.

THEORETICAL FRAMEWORKS

This research was theoretically set within Brofenbrenner's Ecological Model (as cited by Carroll-Scotta, et al. 2013: 2), which will assist in identifying a child's multiple ecologies. As per the Ecological Model, parents and other social relationships are the primary, face-to-face agents of socialization in the early stages of children's life; these agents represent the microsystem surrounding the individual child. In the exo-system environment lie the child's access to technology and neighborhood resources, which also play socializing roles, albeit of a secondary nature.

The primary and secondary agents of socialization are similar and yet different in the ways they socialize children. Cooley, in his Theory of Socialization (Cooley 1964) explained how the primary socializing agents directly affect the child through face-to-face interactions. Parents and other familial adults in the child's life operate as direct mirrors or "looking glasses" for the child, as he or she learns to discern socially appropriate from inappropriate behaviors. The primary socializing agents also serve as resources providing structured advice for their children, ideally in a loving, supportive environment. To rephrase these ideas in Lareau's (2011:2) "concerted cultivation" terms, parents (particularly middle class) try to ensure that their children have specific experiences that will help them be successful later in life. In turn, under the guidance of the parent, the child begins to understand the limits of their own power, avoids over exerting control on their life, and making unforeseen mistakes. In short, when socializing is successful, children understand, early on, the unequal power dynamics between them and their parents and the consequences of rebelling against the parent.

Yet, in some cases, parents can over-socialize their children with detrimental consequences to a child's development. No doubt, parents do control and limit their children's activities and reactions. And such control, in moderation, is important in a child's life. However, if parents start to control every experience of their child's life, problems are likely to arise. According to Lareau it is important that children are free to learn about how society works on their own, and explore their own creativity. But in order for children to have these individual experiences parents must positively guide the "accomplishment of natural growth" (Lareau 2011:3). Overly controlling parents, commonly known as "helicopter parents", are likely to break down the parent-child bonds of trust, prevent children from coming to them for important issues, and ultimately even lead them to unhealthy behaviors. Children of controlling, "helicopter parents", may binge on unhealthy activities to compensate for what they see as "normal" (as in what their friends are doing) behavior.

The concept of looking–glass self is also relevant to the indirect, impersonal socialization experiences a child has with exo-system agents like technology. In the socialization process, many children understand that they can manipulate a situation in their favor and act according to how they believe people view them (Pascale 2008:80). However, while parents and other family members can provide direct, interactional, almost immediate corrective feedback, to the child, and can do so in a supportive environment, technological feedback is not the same. When using technology, the user

is in charge; this sense of power and entitlement can give the user confidence in manipulating technologies for their use. But, a technological device, unlike parents, cannot monitor a child, leaving children to decipher what is right from wrong on their own. Such unrestricted technological control can lead children to wanting more, ultimately leading them to technology dependence and even addictions. And because technology use is more sedentary than physically active, over-dependence can lead to physical health issues such as obesity, cardiovascular disorders, vision problems, and even more serious problems.

The socializing role of the neighborhood system, with its resources or lack thereof as the case may be, in which the child lives, represents a structural model of "collective socialization" (Gephart 1997; Jencks and Mayer 1990). More importantly, apart from the child's primary socialization experiences, the neighborhood structure operates as an additional, positive and/or negative, collective socialization agent (Crowder and South 2003: 661). For example, a child living in neighborhoods that are resource rich will have access to enriching recreational venues, activities, medical resources, alternative grocery stores, and positive role models. In other words, these neighborhood resources provide children the opportunities to cultivate the social (social connections) and cultural (values, beliefs, goals, and language) capital (Coleman 1990) they will need to live a healthy life and accumulate human capital like education to help them succeed later in life (Crowder and South 2003:662). On the other hand, distressed neighborhoods (Wilson 1987, 1996), by virtue of the lack of physical, social, and cultural connections, are often associated with poorer outcomes, be they economic, health, or gang violence, for adults and children alike (Crowder and South 2003:662). For example, these forms of activity can lead to physical harm as well as mental health issues including depression and anxiety.

Hypotheses

Because of the differential nature and quality of socialization experiences provided to the child by the primary, secondary, and structural agents of socialization, the following hypotheses were posed:

1. The more parents were involved in the child's life, the healthier the child will be, net of parental control, technology and sedentary activities, physical activity, neighborhood context, family SES, child's race and age.
2. On the other hand, children whose parents exert parental control are more likely to have poorer health, net of parent involvement, technology and sedentary activities, neighborhood context, child's race and age.
3. In contrast to the positive health outcomes associated with being physically active, children who engaged in technology and other sedentary activities will have poorer health, net of net of parental involvement, control, neighborhood context, family SES, child's race and age.
4. Finally, the neighborhood resource context was expected to have positive consequences for children's health, net of parental involvement, control, child activities (both physical and sedentary), family SES, child's race and age.

METHODS

This research utilized both primary and secondary sources. Secondary survey data were especially important in testing the hypotheses. And the primary interviews with a few established professors, medical professionals, and an elementary school teacher helped to explain the quantitative findings.

Secondary Survey Data

The National Survey of Children's Health, which collected data from February 2011 through June 2012 in the United States and from July 2011 through January 2012 in the U.S and Virgin Islands were used to answer and test hypotheses (CDC 2011-12). The interviews were done over the phone with a parent or guardian who could respond on the child or children's behalf. Researchers aimed to discuss the health of a child or children (between the ages of 0 to 17) who are or were current residents of a household. The total sample was 95,677 in the US and 2,342 in the US Virgin Islands.

Only a sub-set of 36326 children in the 5-11 age range was used in this analyses as they are the closest to the definition of a "child" (See Appendix A. Table). The majority (73.8%) of the parents defined themselves and their children as white. The average age of the child was 10. Female children (48.7%) were slightly out-numbered by male children (51.3%). These variables will be controlled for in the multivariate analyses to hold constant the possible effects of race, age, and gender on a child's health.

Primary Qualitative Interviews

To elaborate on the survey findings about effects of organized physical activities, sedentary activities, parental involvement, parental control, and neighborhood resources on child health, I conducted interviews with seven professionals. The first interviewee is a psychology professor (Interviewee #1) knowledgeable about child development. This professor has been studying the subject for the past twenty-five years and is especially educated on the influence of family involvement and technology on a child's health and development. The second interviewee was an elementary school teacher (Interviewee #2) at a very affluent school. This teacher has worked in many elementary schools and school systems on and off for the past 20 years and therefore has witnessed the growing use of technology in the elementary school classroom and its overall effects. A family physician (Interviewee #3) was helpful when responding to questions about children's health. This doctor expressed his hope for "letting kids be kids" and exploring their creativity in all sorts of activities. The communications professor (Interviewee #4) interviewed was proficient on the topics of today's technological society and was able to shed helpful insight on how parents are starting to set a poor example of technology use for their children. The idea of monitoring how much children participate in sedentary activities was the main topic in the fifth interview with a professional (Interviewee #5) in Silicon Valley. A sociology professor (Interviewee

#6) was knowledgeable on the topics of neighborhood and family health and commented on access to health care and the lack of attention minorities are receiving in health care. The seventh interviewee, an experienced nurse (interviewee #7) of 30 years, focused on the positive side of technology for its utility in staying in touch with friends and family but acknowledged that the long hours of being sedentary can cause physical health issues. A copy of the interview protocol can be found in Appendix B.

DATA ANALYSIS

Three levels of statistical analyses were conducted. They were descriptive, bivariate correlations, and multivariate linear regression.

Operationalization and Univariate Analysis

A Child's Health

The dependent concept, Child's Health, captured the mental and physical well-being of children aged 5-11. The questions were responded to by parents and guardians who were expected to have the closest relationship with the child and knew better than others how the child did (Table 1.A).

TABLE 1.A. Child Health (n=36326-34740)
National Survey of Children's Health 2011-2012, National Center of Children's Health

Concepts	Dimensions	Variables	Values	Statistics
Child's Health	Practices/ Management: Child Well-being	K2Q01.[1] In general, how would you describe [S.C.]'s health?	1= Poor 2= Fair 3= Good 4= Very Good 5= Excellent	0.30% 2.20 10.1 23.8 63.5
		K2Q13.[1] Does (S.C.) need or use more medical care, mental health, or educational services than is usual for most children of the same age?	0= Yes 1= No	14.8% 85.2
		K2Q17. Is [his/her] limitation in abilities because of ANY medical, behavioral, or other health condition?	0= No 1= Yes	5.20% 94.8
		K2Q16.[1] Is (S.C) limited or prevented in any way in [his/her] ability to do things most children of the same age can do?	0= Yes 1= No	6.8% 93.6
		Index of Child's Health[2]	Mean (SD) Min-Max	8.33(2.36) 0-10

1. K2Q01, K2Q13, K2Q16 were recoded to show higher values as equivalent to better health;
2. Index of Child's Health = (K2Q17 +K2Q13 +K2Q16)*K2Q01 (positive correlations among index variables were statistically significant).

When asked how parents and guardians would describe a child's health overall, only 0.3% referred to their child's wellbeing as poor in contrast to the 63.5% who reported their child as having excellent health. Only 14.8% of children needed to utilize more medical/educational services than other children of the same age. Similarly, only 6.8% (according to the parents interviewed) were unable to perform tasks and act like children of their own age; 5.2% were also limited because of their physical condition. Judging from the results of the cumulative index of children's health, the children surveyed were overall healthy (=8.33 and sd=2.36 on a range of 0-10).

Child's Activities

A measure of sedentary and organized physical activity was taken to examine their effects on child health. Sedentary activity referred to children's time spent using technological devices. Responses were measured in hours spent or at least 60 minutes a weekday using technology, which is a dramatic increase from those who just spend minutes. Organized physical activity a healthier form of activity, was measured by "yes" or "no" responses (Table 1.B).

Table 1.B. Sedentary and Physical Activities (N=36326-34740)
National Survey of Children's Health 2011-2012, National Center of Children's Health

Concepts	Dimensions	Variables	Values	Statistics
Child's Activity	Sedentary: TV, Video Games, Videos	K6Q65[1]. On an average weekday, about how much time does (S.C.) usually spend in front of a TV watching TV programs, videos or playing video games? (unit of measure)	0= Missing 1= Minutes 2= Hours	86.2% 3.30 10.5
	Computer, Cell phone, Hand Held games, Etc.	K6Q66[1]. On an average weekday, about how much time does (S.C.) usually spend computers, cell phones, handheld video games, and other electronic devices? (unit of measure)	0= Missing 1= Minutes 2= Hours	90.1% 5.4 4.5
		Index of Sedentary Activity[2]	Mean (SD) Min-Max	0.38(1.02) 0-4
	Child's Physical and Organized Activity	K7Q30. During the past 12 months was [S.C] on a sports team or did [he/she] take sports lessons after school or on weekends?	0=No 1=Yes	45.4% 54.6
		K7Q31. During the past 12 months did [he/she] participate in any clubs or organizations after school or on the weekends?	0=No 1=Yes	49.2% 50.8
		K7Q32. During the past 12 months, did [he/she] participate in any other organized activities or lessons, such as music, dance, language or other arts?	0=No 1=Yes	67.2% 32.8
		Index Of Physical Activity[3]	Mean (SD) Min-Max	1.38(1.07) 0-3

1. K6Q65A and K6Q66A were recoded to show more sedentary activity and include missing cases as 0;
2. Index Of Sedentary Activity= K6Q65A + K6Q66A (positive correlations among index variables were statistically significant);

[3] Index of Physical Activty= K7Q30 +K7Q31 +K7Q32 (positive correlations among index variables were statistically significant).

Approximately 10.5% of children spent of hours using the TV, playing video games, or watching videos where as 3.3% spent only some minutes. When using a computer, cell phone, or handheld devices more children spent minutes (5.4%) on these devices rather than hours (4.5%).

As for participation in organized activities, majority of children did not partake in organized sports (54.6%) or other clubs after school or on weekends (50.8%). However 32.8% of children participated in activities such as music and dance. As indicated by the mean score on the index of physical activities (=1.38 on a range of 0-3), children were active in one of the three organized physical activities.

Family Involvement

To measure how much time children spent socializing face-to-face in their families, the second independent concept, time spent doing different activities with family members was used (Table 1.C).

When asked about how many times a week parents or other family members read a story to a child, a majority (85.9%) never read throughout the week. Similarly, parents were not likely to sing songs to their children at all throughout the week (86.4%); only 6.5% sang songs every day of the week. Parents and family members were also not likely to take their child on outings (i.e. the park, shopping, etc.) at all throughout the week (85.8%) compared to the 1.8% that took their children out seven times a week. Gathering from the mean on the index of family involvement (2.1 on a range of 1-21) parents were not likely to be interacting with their children, or be overly involved in their lives, if at all.

As for how much a parent controls their child, the parents responded thusly: 77.9% reported that they did limit their child's use of electronic devices and 62.6% did not allow their child to keep a TV in their room. Approximately 62.9% of parents never felt threatened by their child, perhaps because the lack of control might build a sense of trust. The mean of 2.8 on a range of 1-9 suggested less than more parental control.

Table 1.C. Parent Involvement and Control (N=36326-34740)
National Survey of Children's Health 2011-2012, National Center of Children's Health

Concepts	Dimensions	Variables	Values	Statistics
Family	Parents: Involvement	K6Q60[1]. During the past week, how many days did you or other family members read to (S.C)?	0= 0 times 1= 1 time 2= 2 times 3= 3 times 4= 4 times 5= 5 times 6= 6 times 7= 7 times	85.9% 0.30 0.70 1.20 1.30 2.20 0.70 7.80
		K6Q61[1]. During the past week, how many days did you or other family members tell stories or sing songs to (S.C.)?	0= 0 times 1= 1 time 2= 2 times 3= 3 times 4= 4 times 5= 5 times 6= 6 times 7= 7 times	86.4% 0.60 1.20 1.60 1.20 2.10 0.50 6.50
		K6Q64[1]. During the past week, how many days did you or a family member take (S.C.) on any kind of outing, such as to the park, library, zoo, shopping, church, restaurants or family gatherings?	0= 0 times 1= 1 time 2= 2 times 3= 3 times 4= 4 times 5= 5 times 6= 6 times 7= 7 times	85.8% 0.90 2.40 3.20 3.00 2.10 0.70 1.80
		Index of Child's Family and Social Involvement[2]	Mean (SD) Min-Max	2.06 (5.27) 1-21
	Parental Control	K7Q61[3]. Do you limit the amount of time [he/she] spends watching TV, playing on the computer, or using electronic devices?	0=No 1=Yes	22.1% 77.9
		K7Q62[3]. Does [he/she] have a TV, computer, or access to electronic devices in [his/her] bedroom?	0=No 1=Yes	62.6% 37.4
		K8Q31. During the past month, how often have you felt [S.C.] is much harder to care for than most children [his/her] age?	1=Never 2=Rarely 3=Sometimes 4=Usually 5=Always	62.9% 17.7 12.9 3.30 3.00
		Index of Parental Control[4]	Mean (SD) Min-Max	2.81(1.24) 1-9

1. K6Q60, K6Q61, and K6Q64 were recoded to include missing cases as 0 times;
2. Index of Family Involvement=K6Q60 +K6Q61 +K6Q64 (Positive correlations among indicators were significant at least at the .05 level);
3. K7Q61 and K7Q62 K8Q31 were recoded to include missing cases as 0 (No) or 1 (never);
4. Index of Parental Control = K7Q61+K7Q62 +K8Q31 (Positive correlations among indicators were significant at least at the .05 level).

Neighborhood Resources

In order to get a sense of the environment children are growing in, it was important to analyze the neighborhoods that they live in (Table 1.D).

Table 1.D. Neighborhood Resources (n=36326-34740)
National Survey of Children's Health 2011-2012, National Center of Children's Health

Concepts	Dimensions	Variables	Values	Statistics
Neighborhood Resources	Neighborhood: Physical	K10Q11. Do sidewalks and paths exist in neighborhood?[1]	0= No 1= Yes	26.6% 73.4
		K10Q12. Does a park or playground area exist in your neighborhood?[1]	0= No 1= Yes	17.3% 82.7
		K10Q13. Does a recreation center, community center, or 'boys and girls' club exist in your community?[1]	0= No 1= Yes	31.8% 68.2
		K10Q14. Does a library or bookmobile exist in your neighborhood?[1]	0= No 1= Yes	11.5% 88.5
		K10Q20. In your neighborhood, is there litter or garbage on the street or sidewalk?[1]	0= No 1= Yes	85.4% 14.6
		K10Q22. How about poorly kept or dilapidated/rundown housing?[1]	0= Yes 1= No	15.9% 84.1
		K10Q23. How about vandalism or broken windows or graffiti[1]	0= Yes 1= No	9.50% 90.5
	Neighborhood: Support	K10Q30. People in this neighborhood help each other out[2]	1= Definitely Disagree 2= Somewhat Disagree 3= Somewhat Agree 4= Definitely Agree	3.50% 5.80 41.6 49.1
		K10Q31. We watch out for each other's children in this neighborhood[2]	1= Definitely Disagree 2= Somewhat Disagree 3= Somewhat Agree 4= Definitely Agree	3.20% 4.80 32.4 59.6
		K10Q32. There are people I can count on in this neighborhood.[2]	1= Definitely Disagree 2= Somewhat Disagree 3= Somewhat Agree 4= Definitely Agree	4.10% 4.90 25.9 65.2
		K10Q34. If my child we playing outside and got hurt or scared, there are adults nearby who I trust to help my child.[2]	1= Definitely Disagree 2= Somewhat Disagree 3= Somewhat Agree 4= Definitely Agree	3.9% 4.00 21.6 70.5
		K10Q40. How often do you feel [S.C.] is safe in your community?[2]	1= Never 2= Sometimes 3= Usually 4= Always	1.70% 8.50 32.4 57.3
		Index of Neighborhood Context[3]	Mean (SD) Min-Max	22.52(3.2) 6-27

1. Recoded to show 1= better the neighborhood and Missing cases indicated No (0);
2. Reverse coded K10Q30; K10Q31; K10Q32; K10Q34; K10Q40;
3. IndexNeighborhoodContext=K10Q11+K10Q12+K10Q1+K10Q14+K10Q20+K10Q22+K10Q23+K10Q30 +K10Q31+K10Q32 +K10Q34+K10Q40.

Majority of children's neighborhood had the following resources: sidewalks or paths (74.7%); parks or playgrounds (82.7%); recreation centers (68.2%); and a library (88.5%). And the neighborhood of the majority of children did not have run down housing (84.1%), graffiti and vandalism (90.5%), or litter or garbage on the streets (85.4).

In addition to the richness of physical resources in the neighborhood, the neighbors were also socially connected. Half (49.1%) the parents said their neighbors help each other out; 59.6% said that the neighbors watch out for each other's children; 65.2% can count on their neighbors; and 70.5% trust their neighbors. Overall (57.3%) felt safe in their neighborhoods. In short, the children lived in neighborhoods that had sufficient resources (= 22.5 on a range of 6-27).

Bivariate Analysis

In the second analytical step, bivariate empirical relationships were explored between child health, sedentary and organized physical activity, family involvement and parental control, neighborhood resources, race, gender, and age (See **Table** in **Appendix C**.) Parental control was definitely unhealthy for the child ($r=-.32^{**}$), but parental involvement was slightly better ($r=.04^{**}$). A child's health was better, the more involved they were in organized physical activity ($r=.13^{**}$). As for neighborhood resources, the better the neighborhood was, the better a child's health ($r=.17^{**}$). As for a child's demographics, those of white ethnicity ($r=.09^{**}$), of younger age (r=-.05**), and of the female children ($r=.09^{**}$) proved to be much healthier. The robustness of these relationships was tested in multivariate analysis presented in the next section.

Linear Multiple Regression

The regression of child's health on children's sedentary and organized physical activities, family involvement and parental control, and neighborhood resources, net of race, gender, and age gave a clearer idea of their unique effects on a child's well-being. The results also provided a test of the hypotheses.

Several interesting comparisons were evident in Table 2. One, the more time the children spent in organized activities, the better their health was ($\beta= .13^{***}$). In contrast, sedentary activities ($\beta= -.04^{***}$) worsened children's health. As predicted, organized physical activity promoted a healthy lifestyle for children as they are able to be physically active and foster healthy friendships.

When the roles of parents on a child's health were compared parental control was relevant but parent involvement was not. That is, the more the parents controlled their child's activities, the worse their health was ($\beta= -.32^{***}$); which might suggest that parents

were too over bearing with their children. Parental control, perhaps, inhibited the children from gaining their own independence and learning about themselves in a holistic way. As Mead's theory of primary socialization had suggested, one-to-one personal interactions are beneficial to a child's health as they learn behaviors such as social etiquette, manners, basic life skills, and learn to discern right from wrong. However, too much parental control may become to over powering and take time away from the child to interact with other children their age or participate in other activities. It is also quite possible that the child may already be sick and must be dependent on their parents to be constantly involved in their lives.

The effects of neighborhood resources on a child's health were as predicted. The more neighborhood resources the child's family had access to, the better their child's health ($\beta = .11^{***}$). In a neighborhood with safe areas for outdoor play, libraries, and a supportive neighborhood, children will feel more comfortable to explore and build relationships in a safe and healthy environment. Healthy neighborhood relationships offer added benefits; they support the sense of trust between parent and child.

Table 2. Regression Analysis of Child Health[1] on Technology Dependence and Family Involvement (Low Income Status and Race as controls): (National Survey of Children's Health 2011-2012)

	Child Health Beta (β)[1]
Child Sedentary Activity[2]	-.04***
Child Organized Physical Activity[3]	.13***
Parental Involvement[4]	-.01
Parental Control[5]	-.32***
Neighborhood Resources[6]	.11***
Race[7]	.03***
Child Age[8]	-.05***
Child Gender[9]	.07***
Constant	8.6
Adjusted R^2	.16***
DF 1 and 2	9 & 34144

*** p <= .001; ** p <= .01; * p <= .05

[1] IndexChildHealth=(K2Q17 +K2Q13 + K2Q16)*K2Q01; Range = 0-10;

[2] IndexOfSedentaryActivity= K6Q65A + K6Q66A; Range = 0-4;

[3] IndexOfPhysicalActivty= K7Q30 +K7Q31 +K7Q32; Range = 0-3;

[4] IndexFamilyInvolvement=K6Q60 +K6Q61 +K6Q64; Range = 1-21;

[5] IndexParentalControl= K7Q61 +K7Q62 +K8Q31; Range = 1-9;

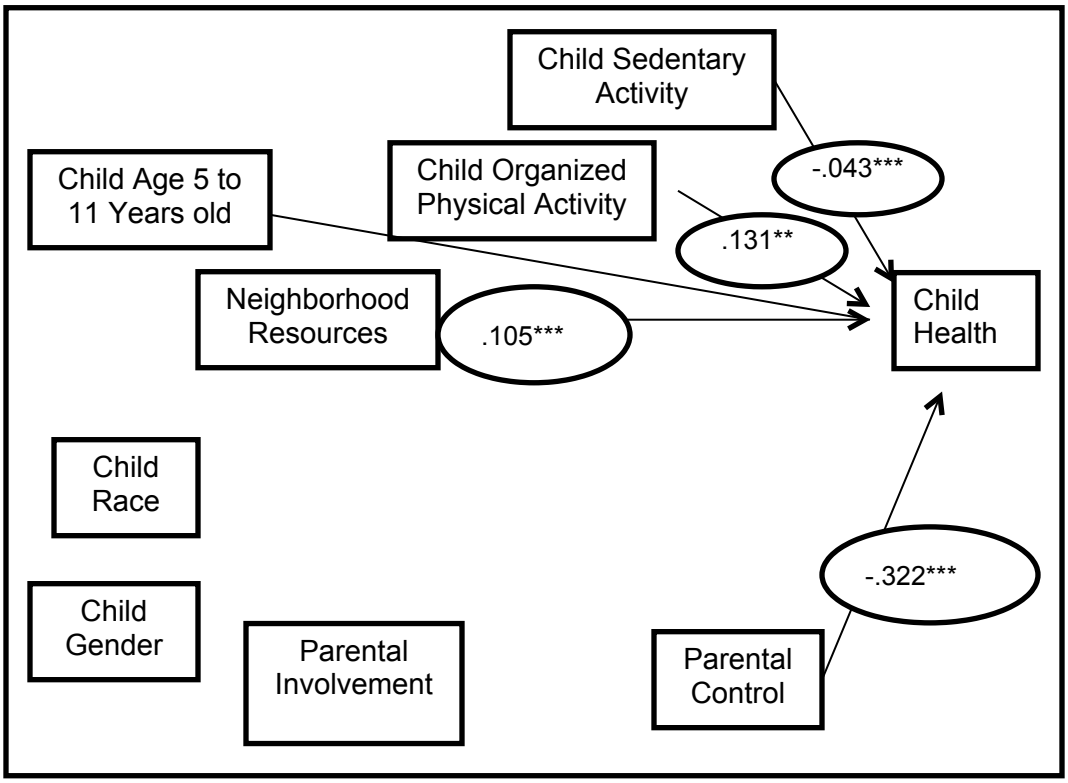
[6] IndexNeighborhoodContext=K10Q11+K10Q12+K10Q13+K10Q14+K10Q20+K10Q22+K10Q23+K10Q30+ K10Q31 +K10Q32 +K10Q34 +K10Q40; Range = 6-27;

[7] Race: 1= White; 0=Other;

[8] Age: 5-11;

[9] Sex: 1= Female; 0=Male.

Figure 1. Empirical Model of Effects of Child Activities, Parents, and Neighborhood on Children's Health[1]



*** p ≤.001, ** p≤.01, *p≤.05;*

[1] Refer to Table 2 for coding of indices and other variables.

CONCLUSION

Empirical Implications

As illustrated in the multivariate analyses, organized physical activities had a positive effect on a child's health while sedentary activities had only a slight negative effect. As illustrated by the professor of the psychology of child development, the fear that technology has been tainting the health of the youth has always been there, this is not new. When the TV was first introduced to the American society, parents and researchers worried that it would be teaching the children unhealthy habits; parents still fear with newer technologies. Sure, she said, society today is much more surrounded by technology than back then but it is not the technology that creates unhealthy behaviors it is the relationships between parents and children. When parents create a positive and open environment for their children, the amount they use technology does not really matter. Those one-to-one interactions can be so impacting on a child that it will keep them from either using technology in a positive or negative light, later affecting their health. Another big factor this professor touched on was how socioeconomic status can

affect how technology and family involvement improve or worsen a child's health. Those who have lower socioeconomic status are more likely to be stressed, which create a negative environment for their children, which force them to turn to technology as a form of support, which then can lead to the negative health outcomes.

On the other hand, physical activity has always proven to be beneficial to healthy child development throughout time. As the nurse (Interviewee # 7) stated in her interview, physical activity is always a good thing unless it is high impact sports, which can potentially physically harm a child. Some of these physical ailments include concussion, contusions, broken bones, and etc.

The family physician interviewed for this study (Interviewee #3) spoke exclusively about parents. In his experience, both too much and lack of parental involvement can be detrimental to a child's well-being. Parents who are on strict work schedules and do not make time for their children can lead their children to discover other forms of recreation which may not be healthy. For example older children who are home by themselves after school may turn towards digital devices for hours of entertainment. On the opposite spectrum, overly involved parents inhibit their kids from "just being kids" and not allowing these children to have creative play or time to grow on their own. The family physician agreed with the study findings that too much parental control proved to be harmful to a child's health.

The family physician also commented on the importance of safe neighborhoods. In his experience, one important way for children to grow independently is in a healthy neighborhood. If a neighborhood is safe, with supportive inhabitants, it can provide a social structure that can "keep kids accountable for their behavior" ultimately teaching them how to behave in society. Yet, while an abundance of neighborhood resources had a positive effect on a child's health, as the sociology professor (Interviewee #6) noted, they must be willing to use the resources in the right way.

Theoretical Implications

Theoretically speaking, all the ecological systems in the life of a child captured in this study impacted the health of children. Neighborhood resources and physical activity were positive for a child's health while sedentary behavior and parental control were not. Each of these systems did play an important role in giving children a chance at gaining their own independence. Yet, as the study revealed too much or too little of any of the factors, be they parents or technology, can inhibit them from experiencing their own sense of freedom in a positive way.

In the final analyses, the social capital theory as applied by Garson (2006) may explain the findings better than the previous theories outlined. The more social capital an individual has the more positive outcomes (more confidence, a better understanding of priority, more support for problem solving) in a child's life. The way a child gains social capital is through parents teaching them how to behave appropriately. As Swinarski and colleagues noted (2010:24), parents play the largest role in their child's development

since they begin socializing their child from day one. Yet, in order to obtain positive social capital the child must learn to do so on their own with positive guidance, rather than control, from adults and society. Too much involvement and control in a child's life can keep them from establishing a healthy balance in their own social relationships, activities (both sedentary and physical), and education.

Limitations and Suggestion for Future Research

As the multivariate findings have suggested, only 15% of the variability in child health was explained by children's sedentary and organized physical activity, family involvement and parental control, neighborhood resources, race, gender, and age. One major problem was measurement. Whether it was limited measurement of technology use or family income, future studies can benefit from more robust measures. Another factor of vital importance in health that was not considered in this paper (because of lack of data) is a child's nutrition. In an interview with a mother working in the professional field (Interviewee #5), nutrition was stressed. Nutrition is known to aid in both physical and mental growth throughout a child's development, and can be impacted by parental control. Too little parental control of a child eating habits can lead to poor nutrition because a child is likely to turn towards sugary foods. On the other hand, too much control can prevent a child from having a healthy balance (including sugary foods), pushing them to binge on unhealthy snacks when away from home.

APPENDICES

Appendix A. Table

Demographic Characteristics
National Survey of Children's Health 2011-2012,
National Center of Children's Health (N=36326-34740)

Concepts	Dimensions	Variables	Values	Statistics
Demographic	Children: Race	RACER[1]. Race classification for all states (White, Black, Other)	0=Other 1=White	27.6% 72.4
	Children: Age	AGEYR_CHILD. Selected child's age in years at interview	5 6 7 8 9 10 11	14.4% 13.9 14.0 14.6 13.6 14.9 14.6
	Children: Gender	SEX. Sex of selected child	0=Male 1=Female	51.3% 48.7

[1] RACER has been recoded to distinguish "white" from other races

Appendix B
Consent Form and Interview Schedule

Consent Form

Dear _____:

I am a Sociology Senior working on my Research Capstone Paper under the direction of Professor Marilyn Fernandez in the Department of Sociology at Santa Clara University. I am conducting my research about children's health and some factors which might positively or negatively influence child well being.

You were selected for this interview, because of your knowledge of and experience working in the area of _____

I am requesting your participation, which will involve responding to questions about your experiences with children's health and your professional judgment about things that are helping and hurting children's health. The interview will last about 20 minutes. Your participation in this study is voluntary. You have the right to choose to not participate or to withdraw from the interview at any time. The results of the research study may be presented at SCU's Annual Anthropology/Sociology Undergraduate Research Conference and published (in a Sociology

department publication). Pseudonyms will be used in lieu of your name and the name of your organization in the written paper. You will also not be asked (nor recorded) questions about your specific characteristics, such as age, race, sex, religion.

If you have any questions concerning the research study, please call/email me at ___ or Dr. Fernandez at ___

Sincerely,

Anna Garvey

By signing below you are giving consent to participate in the above study. (If the interviewee was contacted by email or phone, request an electronic message denoting consent).

_____	_____	_____
Signature	Printed Name	Date

If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Committee, through Office of Research Compliance and Integrity at (408) 554-5591.

Interview Schedule

Research Topic: Children's health and some factors which might positively or negatively influence child wellbeing.
Interview Date and Time: _____
Respondent ID#: __ (1-7)

8. What is the TYPE Agency/Organization/Association/Institution (**NO NAME**, please) where you learned about (and/or worked) with children and child development:
   _____
9. What is your position in this organization? _____
10. How long have you been in this position and in this organization?
    _____
11. How did you decide to study and work in the area of child development?
    a. Where did you choose to become an expert on the topic?
12. Based on what you know of child development what are some trends (positive and negative) in how children are growing up today? Probe for examples
13. In your opinion, what are some reasons that contribute to problems and challenges in healthy child development? (PROBE with: Could you expand a bit more?).
14. Do any in particular lead to health issues, both mental and/or physical? Can you expand with some examples?
15. [If the respondent does not bring up your independent concepts as potential causes), PROBE:
    a. How about Technology, and a child's dependency on technology?
    b. How about family involvement and parental control?
    c. How about child physical activity?
    d. How about the neighborhood in which the child lives?
16. Is there anything else about healthy child development that I should know more about?

Thank you very much for your time. If you wish to see a copy of my final paper, I would be glad to share it with you at the end of the winter quarter. If you have any further questions or comments for me, I can be contacted at ___. Or if you wish to speak to my faculty advisor, Dr. Marilyn Fernandez, she can be reached at _____.

Appendix C

Correlation Matrix: Indices of Child Health (n= 36326-34740)

	Index of Child Health	Index of Child Sedentary Activity	Index of Organized Physical Activity	Index of Parental Involvement	Index of Parental Control	Index Of Neighborhood Resources	Child Race	Child Gender	Child Age
Index of Child Health[1]	1	.02**	.13**	.04**	-.32**	.17**	.09**	.09**	-.05**
Index of Child Sedentary Activity[2]		1	-.49**	.86**	-.35**	-.04**	-.03**	-.01*	-.57**
Index of Organized Physical Activity[3]			1	-.50**	.09**	.17**	.09**	.06**	.41**
Index of Parental Involvement[4]				1	-.37**	-.01*	.003	-.001	-.59**
Index of Parental Control[5]					1	-.12**	-.09**	-.06**	.26**
Index Of Neighborhood Resources[6]						1	.150	.002	.021**
Child Race[7]							1	-.01*	.02**
Child Gender[8]								1	.003
Child Age[9]									1

*** p <=.001; ** p <=.01; * p <=.05

[1] IndexChildHealth=(K2Q17 +K2Q13 + K2Q16)*K2Q01; Range = 0-10;

[2] IndexOfSedentaryActivity= K6Q65A + K6Q66A; Range = 0-4;

[3] IndexOfPhysicalActivty= K7Q30 +K7Q31 +K7Q32; Range = 0-3;

[4] IndexFamilyInvolvement=K6Q60 +K6Q61 +K6Q64; Range = 1-21;

[5] IndexParentalControl= K7Q61 +K7Q62 +K8Q31; Range = 1-9;

[6] IndexNeighborhoodContext=K10Q11+K10Q12+K10Q13+K10Q14+K10Q20+K10Q22+K10Q23+K10Q30+K10Q31 +K10Q32 +K10Q34 +K10Q40; Range = 6-27;

[7] Race: 1= White; 0=Other;

[8] Sex: 1= Female; 0=Male;

[9] Age: 5-11;

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Interviewee #1. November 10, 2014. Psychology Professor.

Interviewee #2. November 29, 2014. Elementary School Teacher.

Interviewee #3. February 28, 2015. Family Physician.

Interviewee #4. March 4, 2015. Communications Professor.

Interviewee #5. March 1, 2015.Professional in Silicon Valley.

Interviewee #6. March 5, 2015. Sociology Professor.

Interviewee #7. March 16, 2015. Nurse.

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