

# **Examining the Interface of Family and Personal Traits, Media, and Academic Imperatives Using the Learning Habit Study**

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*Using the Learning Habit Study dataset of 21,145<sup>1</sup> parent respondents, this study examined the interactions of three core variables – parenting style, family time, and screen time – on various common concerns of families. (“Screen time” is time spent using an electronic device that has a screen, such as: a computer, television, game console, tablet, or cell phone.) Analysis of the data suggested that parents using empowerment parenting, closely aligned with authoritative techniques, had children with better academic performance, reduced sleep onset latency (SOL), and healthier social and emotional behaviors than children of parents who practiced traditional parenting, more closely aligned with authoritarian techniques. Further, increased family time was found to have benefits to children on par with those of empowerment parenting.*

Families seek psychological help and enter therapy for a multitude of reasons, including significant life events (i.e., death of a loved one, divorce, abuse, trauma, etc.), the inability to cope with pressure or stress, the onset or actualization of a disorder, or other issues that they primarily associate with a particular child's emotional and/or behavioral health (Power et al., 2013;

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Power et al., 2006). In regard to the latter, family therapy takes this a step further than individual treatment by focusing on the relationships within a family, in order to nurture change and development.

This study seeks to enhance our current understanding in the field by examining the interface of three global variables – family time, exposure to electronic media (i.e., “screen time”), and parenting style – and their relationship with six areas of common parental concerns: social interaction, academic performance, extent of homework, attentiveness, sleep problems, and emotional regulation. Previous research has suggested that changes in any one of these factors is likely to have an impact upon the others (Minuchin 1974; Hemphill & Littlefield, 2006). This study explores whether parenting styles, family time, and screen time are principle mediating factors among these six comparative variables.

## LITERATURE REVIEW

Most studies approach the variables listed above as distinct dyads, namely, screen time and grades, or SOL and emotional outcomes (Gruber et al., 2010; Hancox, Milne, & Poulton, 2005; Hunley et al., 2005). Using the Learning Habit Study (LHS)<sup>2</sup> database, we were able to examine a broad spectrum of variables pertaining to the same participants. Our goal was to develop a global understanding of how these variables relate and interact with each other in the context of the family.

### Screen Time

The increase in children’s screen time, as well as the potential negative side effects, has been much in the news. Two frequently quoted papers, a recent policy statement by the Academy of American Pediatrician (2013) and the Kaiser Family Foundation (2010), provided statistics regarding the current average amounts of screen time in the pediatric population and recommendations for appropriate limits. Despite good intentions and a wealth of evidence overall supporting the detrimental impact of excessive television viewing on children, there has been a relative paucity of *objective* findings to justify specific recommendations for parents about limiting children’s screen time.

However, there has been a substantial body of evidence linking screen time and negative effects on children’s sleep patterns and associated problems. The literature has consistently suggested a positive relationship between the amount and the time of day of screen exposure, as well as the presence of electronics in the bedroom, and sleep problems – particularly SOL (the amount of time it takes a child to fall asleep after going to bed).

We found an abundance of evidence that greater amounts of screen time were associated with shortened sleep duration and SOL (Cain & Gradisar, 2010; Calamaro, Mason, & Ratcliffe, 2009; Owens et al. 1999; Van den Bulck, 2004). The mere presence of a TV in a child's bedroom was a significant predictor of sleep disturbances (Owens et al. 1999; Cain & Gradisar, 2010). These studies also cited a host of other problems related to mood, attention, emotional regulation and behavior. Additionally, Van den Bulk found video gaming and internet use to be linked with sleep difficulties of adolescents, while Cain and Gradisar found that adolescents who indicated that they were occasionally awakened by text messages reported more daytime sleepiness than compared to adolescents not awakened by text messages

Although an abundance of studies of screen time and SOL have been published, there is a need for more research in other areas relating to screen time. So far, existing screen time literature suggests a negative relationship with academic, cognitive, and emotional development (Hancox et al., 2005; Hofferth & Moon, 2012; Hunley et al., 2005; Kirschner & Karpinski, 2010).

Thus, our first working hypothesis: Children who engage in more daily screen time will have a higher SOL, higher amounts of emotional and focus problems, and have a lower grade point average (GPA) than children who engage in less daily screen time.

## Parenting Style

Parents, as attachment figures, teachers, and role models, play particularly important roles in facilitating children's socio-emotional development. Regarding emotional development, the parent-child relationship is the most significant early context in which children learn about, understand, regulate, and appropriately express emotions (Alegre, 2011; Spagnola & Friese, 2007; Wilson, Havighurst, & Harley, 2012). When developed early, children's emotional competence worked preventatively and protectively, as it was associated with a myriad of positive outcomes, such as: improvements in attentional skills, linguistic development, pro-social behavior, reduced risk of behavior problems, and fewer difficulties in transitioning to school (Nozadi et al., 2013; Wilson et al., 2012). Baumrind's (1966, 1968) foundational research on parenting styles suggested that dimensions of parental warmth and control are vital in understanding parenting practices that promote best outcomes for children. Generally, parents who were described as authoritative, or who were high in warmth (e.g., supportive in communication and emotions) and also high in control (e.g., appropriate limit setting), had children who showed healthy psychological adjustment across developmental domains and different settings, such as at home, school, and with peers (Baumrind, Larzelere, and Owens, 2010; Levin, 2011).

In examining associations between parenting style and adolescent sleep, Brand, Hatzinger, Beck, and Holsboer-Trachsler (2009) found that adverse parenting qualities were linked with low sleep quality, greater daytime sleepiness, negative mood, and higher symptoms of anxiety and depression. Johnson and McMahon's (2008) found a similar direction of effects between parenting quality and younger children's sleep quality.

Regarding the role of parental support in children's positive emotions and schooling, Froiland (2013) found that parents' support of children's autonomy was linked positively to children's homework experiences and learning. Hill and Tyson's (2009) research indicated that parents' involvement with adolescent schooling was positively associated with academic achievement, particularly concerning academic socialization, with one exception – involvement with homework. Patall, Cooper, and Robinson's (2008) meta-analysis revealed that generally, parents' involvement in children's homework shared positive associations with achievement, but depended, to some extent, on the type of involvement, as well as the child's grade in school.

For decades, researchers have considered the connection between parenting behaviors and children's level of achievement in a variety of areas (Rankin, 1967; Christenson, Rounds, & Gorney, 1992). These studies have suggested direct and indirect linkages between greater parent interaction (i.e. playing games, spending time together, talking, etc.) and higher achieving children. Further, parents who were engaged in some manner with their child's academic life (e.g., helping with homework, asking about school experiences and setting academic goals) were more likely to have academically, emotionally and socially successful children.

In this study, we used two computed variables to examine parenting style: empowerment parenting and traditional parenting, described in the methods section. Per Baumrind (1966; 1968; Levin, 2011) the former most closely represented the authoritative parenting style (supportive) and the latter most closely represented the authoritarian parenting style (coercive).

Thus, our second working hypothesis: Parents who score higher on the computed empowerment parenting variable (see methods) will report more favorable outcomes for their children than high scorers on the computed traditional parenting variable (see methods) in regard to all six of the comparison variables.

## Family Time

Although increased family time was often suggested to be highly correlated with child success, there have been a limited number of studies examining family time as a global or independent variable. In previous studies, family time was traditionally considered as levels of interaction between parents and children (Rankin, 1967; White, 1982; Christenson, Rounds, & Gorney, 1992). Yet, this was often examined in relation to the engagement of parents

with their children over issues of academic success and expectations, (i.e., an extension of the school experience) and not as a holistic component of a child's overall emotional, social and academic health and well-being. White (1982) suggested that the home environment had a greater impact on student outcomes for academic success than socioeconomic status. In White's study, family time was examined strictly vis a vis academic interactions. Here, family time was measured as an extension of the school experience.

Other studies tangentially explored family time through the presence of routines. For example, Roche and Ghazarian (2012) reported that family routines in general were longitudinally related to adolescents' higher academic achievement and educational expectations. Lanza and Drabick (2011) reported lower symptoms of child hyperactivity, impulsivity, and conduct disorder with higher levels of family routines. Pressman and Imber (2011) reported a relationship of bedtime routines and ADHD symptoms, as well as childhood aggression. Levin, Kirby, and Currie (2012) found that adolescents who had regular mealtime routines with their families were less likely to engage in the following risky behaviors: smoking, drinking, cannabis use, having sex, and fighting. Specifically among children with ADHD, Harris et al. (2014) reported that children's routines mediated emotional expression. Hale, Berger, LeBourgeois, and Brooks-Gunn's (2011) research supported the importance of language-based bedtime routines on long-term outcomes for children's adjustment and academic results. Finally, Spagnola & Fiese (2007), indicated that children who spent more time engaging in family time demonstrated significantly favorable results in relation to the six comparable variables in our study.

In our study, the computed variable family time included playing games, sharing dinners, and attending religious services together. This was done to explore the more intangible moments when learning, sharing, and talking can occur, offering opportunities to explore a child's emotional, social and academic issues. Given the lines of research evidence indicating positive outcomes for children in families who were engaged in collective routines and rituals, we arrived at our third working hypothesis: Increased scores on the computed variable of family time will show favorable outcomes on the six computed comparative variables that we are investigating.,

## METHODS

Data was collected via an online survey entitled the Learning Habit Study, which ran for 60 days. It was answered by parents of children who were in kindergarten through twelfth grade. The design of the survey incorporated procedures to insure privacy, respondent psychological safety and ease of completion. Because respondent attrition is often a problem in online studies, we endeavored to mitigate this phenomenon with the LHS (Hoerger,

2010). During Beta testing in the development of the survey instrument, we used skip logic, abbreviated Likert scales, and minimal use of drop-down menus. This resulted in mean online time of seven minutes to complete 108 questions, a recommended cut off time to reduce attrition. As an additional incentive, all participants completing the survey were given the opportunity to register for a sweepstake prize of a Visa gift card. Registration information was recorded on a separate site to assure protection of privacy.

To attract online respondents, we secured “media partners” among internet venues with high Alexa ranking and profiles whose target audience substantially included parents of school aged children. Among these were WebMD, Huffington Post, National PTA, and Parents Magazine. Each media partner invited viewers to participate in the study via hyperlinked articles or hyperlinked dialogue boxes.

Survey Crafter Professional (SCP), a survey software package, was used to create and administer the survey and to collect data on a secured site. To prevent multiple surveys from being completed by the same respondent or by robotic queries, a procedure was employed restricting duplicate IP addresses from entering the database.

Respondents were asked a series of questions relating to different aspects of their children’s attitudes, behaviors, stressors, habits and social networks. Parents were also asked a series of questions about their parenting styles and responses to their child’s behavior. This resulted in several variables that were within a specific theme (e.g., parenting style) but represented distinct questions and responses.<sup>3</sup> While some variables were calculated, several variables were constructed according to themes and developed into computed variables.

Analysis was done via a statistical software package (SPSS version 22.0) using the raw data results from Survey Crafter Professional. Missing values created by skip logic were identified and coded so that they were not included in calculated variables or computed variables.

## Computed Variables

In order to examine larger themes, computed variables were analyzed using correlational analysis to determine the valence and strength of the relationship between the computed variables. There are two types of variables in this study; the global variables, which were considered as primary influences that may impact childhood factors, and the comparative variables which may be affected by the global variables.

## Protocol for the Calculations of Global Computed Variables

### PARENTING

The global computed parenting variables were calculated as consolidated components via factor analysis. The computed traditional parenting variable

contained items that employed coercion including spanking and yelling, a sense that the child knows (or should know) better, and a measure of exacerbation and reduced communication with the other parent and the child. The global computed empowerment parenting variable contained items indicative of a flow of communication among parents and the child (not to be confused with negotiation) and a measure of confidence in the child's capacity to make appropriate choices.

The average score for the computed empowerment parenting variable was 5.06 (SD = 1.28) out of a range of 0 to 7, indicating that empowerment techniques were more likely to be used by parents who participated in this study. This finding, though slightly skewed to the positive, was normally distributed.

The computed traditional parenting variable yielded scores ranging from 0 to 8 with an average score of 2.73 (SD = 1.54), indicating that more parents are less likely to use traditional parenting methods to handle their child. This finding, though slightly skewed to the negative, was normally distributed.

#### FAMILY TIME

Parents were asked to reflect on family time, which was a computed global variable consisting of whether the family had dinner together regularly, whether they played board games together, and whether or not they regularly attended religious services together. Scores ranged from 0 to 3 with the average score at 1.79 (SD = 0.86). This score was normally distributed.

#### SCREEN TIME

The computed global variable of screen time was calculated by adding three core variables. Parents were asked to estimate the amount of time spent per day by their child on video games, television, and texting. This total enumeration was then used as the screen time computed variable. The range of screen time was examined in increments of 30 minutes, starting at "zero to 30 minutes" and ending at "more than four hours." The average amount of screen time for respondents was 149.36 minutes or roughly 2.5 hours (SD = 129.72). The distribution of screen time scores was normal.

### Protocol for the Calculations of Computed Comparative Variables

#### FOCUS PROBLEMS

The comparative variable of focus problems, examined attention, impulsiveness, and ability of the child to stay on task. Parents were asked to assess

whether their child: needed a parent or other person sitting with her/him to stay focused; had trouble taking turns; interrupted conversations; and if they had been told by a doctor or teacher that their child has or may have ADHD. The average score on the computed comparative variable of focus problems was 1.22 (SD = 1.18) out of a range of 0 to 4. While the distribution of scores was normal, there was a skew towards the lower scores, indicating that focus problems were not an issue for many children. This variable was only computed for primary and middle school children.

#### EMOTIONAL PROBLEMS

The computed comparative variable of emotional problems asked parents to assess how their children manifested the understanding and maintenance of their emotions. Parents were asked whether their child: was sad, tired, fearful, shy, had tantrums, smiled, whined, or hit. Scores ranged from 0 to 8 and the average emotional score was 1.52 (SD = 1.60), indicating most children were able to manage their emotions in a healthy way. The distribution of scores for this variable was heavily skewed towards the low end of the scale with 60% of all responses indicating a score of 0 or 1.

Parents with children in middle and secondary schools were asked to determine their child's ability to engage and interact with others, for a computed comparative variable labeled *loner*. Parents were asked if their child: preferred to spend time or play alone; had trouble making friends, was involved in group sports; and went to sleepovers. On a scale of 0 to 10, the average score was 1.84 (SD = 1.53), indicating most children reported in the study did not tend to be loners nor did they have difficulty joining other children in activities. In this computed variable, there was a significant cluster of data at the 0 to 1 range with almost half (48.2%) of respondents falling into this range; and a further 22% between the 1 and 2 score range. This indicated that that much of the variance in the average was due to infrequent extreme deviations.

#### Calculated Variables

In addition to computed variables, the comparative variables of SOL and grades were calculated variables.

#### SOL

Parents were asked to indicate two specific pieces of information that were used to calculate sleep onset latency. They were asked to indicate both the average time that their child went to bed on a school night and to estimate

the time their child actually fell asleep. These two variables were converted to the 24-hour clock and subtracted from each other, deriving an SOL value (time fell asleep – time to bed). The average sleep SOL score was 0.61 (SD = 0.49) or roughly one-half hour. While this result was not skewed in any significant manner, the analysis indicate that there was a significant kurtosis to the data, indicating that much of the variance in SOL was the result of infrequent extreme deviations, as opposed to frequent, modestly sized deviations. Hence, there was considerable clustering of SOL scores around the half-hour mark (62%).

#### GRADES

Math and English scores were established on a scale of 1 through 5, with 5 being a superior score and 1 being a failing score. These grades were averaged together to create a single grade score, similar to a grade point average (GPA), except that they were one point higher than is customarily reported. The average grade score was 4.27 (SD = 0.84) and the distribution of scores was normal.

The calculated comparative variable of homework was a simple non-computed variable that reflected the parents' report of how much time, on the average, their child spent on homework. The average time spent on homework was reported to be 74.33 minutes (SD = 68.01), or roughly a little over an hour; however, this varied greatly between grade levels of the child.

## RESULTS

The main purpose of this study was to examine how the global variables of screen time, family time and parenting style impact six comparative variables: GPA, homework, loner, SOL, emotional problems, and focus problems.

The dedicated survey website attracted 46,137 individuals from 4,601 American cities. Of these, 21,145 fully completed the survey instrument, which contained 108 skip logic directed items and prompts. All respondents had children in grades K through 12; anyone with children not in school was not allowed to continue through the survey. Among the parents who completed the survey, 71% classified their child as white, consistent with the 2010 United States census. Of the respondents, 14% indicated they were single parents, 39% had college degrees or some higher education, and 90% were female. According to survey results regarding the respondents' children, the data represented an even gender split (50% boys and 50% girls), with 75% of children attending public school. The data results were skewed towards elementary/primary school attendees (46.5%) representing almost half of the

respondent data, with middle school attendees at 28.5% and secondary/high school attendees at 25%.

### Global Variable Correlations

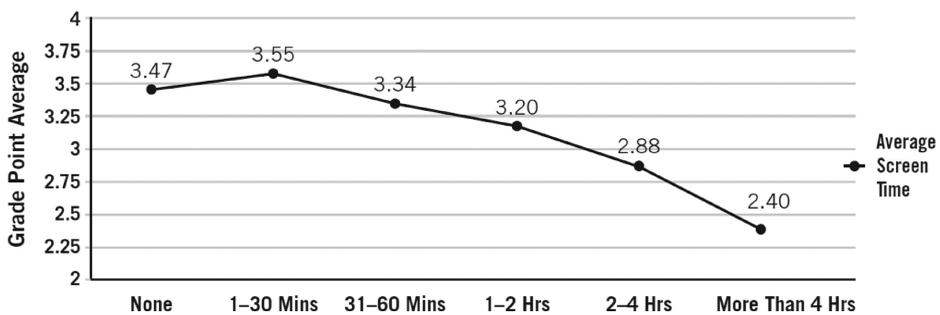
There were several statistically significant relationships among the global variables. Screen time was negatively correlated with family time ( $r = -.24$ ,  $p < 0.01$ ;  $N = 21,145$ ), meaning that the more time children spent in front of screens (i.e., television, computer, smartphone, etc.) the less likely they were to be engaging in family time. Likewise, increased screen time was negatively associated with empowerment parenting styles ( $r = -.22$ ,  $p < 0.01$ ;  $N = 18,134$ ); it was positively correlated with traditional parenting styles ( $r = .13$ ,  $p < 0.01$ ;  $N = 18,134$ ).

Family time was also negatively associated with traditional parenting styles ( $r = -.19$ ,  $p < 0.01$ ;  $N = 18,134$ ) and positively correlated to empowerment parenting styles ( $r = .26$ ,  $p < 0.01$ ;  $N = 18,134$ ).

Traditional parenting and empowerment parenting were negatively associated ( $r = -.56$ ,  $p < 0.01$ ;  $N = 18,134$ ), indicating that the more a parent utilized one style, the less likely they were to incorporate techniques from the other style.

### Computed Global Variable and Computed Comparative Variable Correlations

A primary hypothesis within this study is that the amount of screen time a child has per day will negatively interact with computed comparative variables of grades, homework, focus problems, loner scores, emotional problems, and SOL. A correlational analysis was conducted and significant positive relationships were found between the total amount of screen time and time spent on homework, focus problems score, loner score, emotional scores, and SOL (see Table 1). Alternatively, a significant negative relationship was found between screen time and grades (see Figure 1). The graphic



**FIGURE 1** Grade point averages by screen time per day for children in secondary school.

**TABLE 1** Analysis of Computed Variables

	Computed Global Variables					Computed Comparable Variables						
	Empowerment Parenting	Traditional Parenting	Screen Time	Family Time	GPA	Homework Time	Loner	SOL	Emotional Problems	Focus Problems	Sports Exercise***	Grit***
Empowerment Parenting	1	-.563**	-.215**	.260**	.178**	.047**	-.083**	-.133**	-.312**	-.202**	.110**	.321**
N	18134	18134	18134	18134	14030	18134	8702	18045	18134	13805	18134	18134
Traditional Parenting	-.563**	1	.127**	-.191**	-.203**	-.130**	.059**	.115**	.402**	.329**	-.051**	-.374**
N	18134	18134	18134	18134	14030	18134	8702	18045	18134	13805	18134	18134
Screen Time	-.215**	.127**	1	-.244**	-.166**	.192**	.086**	.204**	.167**	.064**	-.040**	-.207**
N	18134	18134	21145	21145	16531	21145	9840	21019	21145	15859	21145	21145
Family Time	.260**	-.191**	-.244**	1	.174**	.032**	-.062**	-.126**	-.177**	-.144**	.107**	.236**
N	18134	18134	21145	21145	16531	21145	9840	21019	21145	15859	21145	21145
GPA	.178**	-.203**	-.166**	.174**	1	.202**	-.069**	-.125**	-.264**	-.385**	.092**	.360**
N	14030	14030	16531	16531	16531	16531	5226	16432	16531	11245	16531	16531
Homework Time	.047**	-.130**	.192**	.032**	.202**	1	.023*	.013	-.088**	-.109**	.077**	.185**
N	18134	18134	21145	21145	16531	21145	9840	21019	21145	15859	21145	21145
Loner	-.083**	.059**	.086**	-.062**	-.069**	.023*	1	.084**	.251**	.169**	-.154**	-.180**
N	8702	8702	9840	9840	5226	9840	9840	9794	9840	9840	9840	9840
SOL	-.133**	.115**	.204**	-.126**	-.125**	.013	.084**	1	.204**	.146**	-.085**	-.170**
N	18045	18045	21019	21019	16432	21019	9794	21019	21019	15779	21019	21019
Emotional Problems	-.312**	.402**	.167**	-.177**	-.264**	-.088**	.251**	.204**	1	.427**	-.179**	-.460**
N	18134	18134	21145	21145	16531	21145	9840	21019	21145	15859	21145	21145
Focus	-.202**	.329**	.064**	-.144**	-.385**	-.109**	.169**	.146**	.427**	1	-.083**	-.486**
N	13805	13805	15859	15859	11245	15859	9840	15779	15859	15859	15859	15859

\* $p \leq .05$ . \*\* $p \leq .01$ . \*\*\*Columns of computed comparative variables and their correlations provided solely for informational purposes for further research.

representation of findings regarding screen time and grades for children in secondary school provides a visual depiction of the effects. Grades began a steady but slight decline after 30 minutes of screen time. They were accelerated downward more dramatically after 120 minutes. At the 240-minute mark, the average GPA score fell approximately one full grade level. Although we found that more screen time tended to lead to more time spent on homework, the extra time did not translate into better grades. Further, the data suggests that increased screen time contributes to longer sleep onset latency and social-emotional volatility.

A second hypothesis in this study suggested that increased family time would lead to improved outcomes in the comparative variables that measured grades, homework, focus problems, loner, emotional problems, and SOL. A correlational analysis was conducted and significant positive relationships were found between the total amount of family time and the time spent on homework, as well as grades (see Table 1). Significant negative relationships were found between family time and focus problem scores, loner scores, emotional problems scores, and SOL. While increased family time did increase time spent on homework, the increase was marginal ( $r = .03$ ,  $p < 0.01$ ) and not as large as the increase in time spent on homework resulting from increased screen time. It is worth noting, however, that increased family time appeared to have an important effect on grades ( $r = .17$ ,  $p < 0.01$ ), as well as contribute to healthy childhood outcomes, e.g., minimized sleep onset latency and better social and emotional problem scores.

The third hypothesis centered on parenting styles and their impact on childhood outcomes. Traditional parenting styles, techniques that focused on disciplinary actions and consequences for poor behavior or outcomes, were found to have significant negative associations with grades and time spent on homework (see Table 1). Conversely, traditional parenting styles had significant positive correlations with the focus problems scores, loner scores, emotional scores, and SOL (see Table 1). This suggests that traditional parenting styles, as defined above, may contribute to social and emotional volatility, as well as have physical effects, i.e., as trouble falling asleep. In stark contrast, empowerment parenting styles were found to have the exact opposite effect among the (see Table 1).

Further stratifications by gender and grade did not make a significant difference to the results.

## DISCUSSION

While there is now a trend emerging in the research of the effects of screen time on children, with the strong suggestion that the impact is unhealthy, this study continued that examination by offering comparative options of increased family time and parenting styles.

Family time, in this study, included family dinners, board games and attending religious services; thus, if families indicated doing these things, their children were likely to be spending less time in front a screen. Additionally, family time affected primary/elementary school-aged children's socialization skills, handling emotions, and retaining better focus. Lastly, parents who indicated increased family time had children with higher overall grades. In short, the evidence reported strongly suggests increased screen time is likely to have negative effects on children, whereas, increased family time may mitigate many of these effects.

Perhaps most remarkably observed in this study was the stark difference in the effects of parenting styles. Traditional parenting, focused on disciplinary actions and consequences for poor behavior or outcomes, was negatively associated with grades and homework. In addition, this parenting style was consistently associated with social, emotional, focus, and SOL decrements. Alternatively, empowerment parenting styles, focused on positive reinforcement, tended to result in higher grades, positive social, emotional, and focus scores, and shorter SOL. In short, empowerment-style parents had children with higher rates of healthy childhood outcomes.

Further exploration into the relationship between time spent on homework and grades should be conducted. The effects of homework on academic achievement have been hotly contested in educational research, with mixed empirical support for the positive effects of homework on academic outcomes (e.g., Cooper & Valentine, 2001). Although there is little consensus in the scientific literature regarding the beneficial influence of homework, we found that homework experiences may be beneficial in appropriate amounts, relative to children's grade level. Although higher grades were associated with more time spent on homework, beyond a certain point, the effect became increasingly smaller – nearly non-existent. From a practical point of view, excessive amounts of homework lacked measureable benefits. In brief, the study supported the “10 minute per grade standard” (Cooper, 2007).

In our analysis, there was a suggested benefit between increased family time and grades; respondents who indicated higher amounts of family time tended to have children with better grades ( $r = .17$ ,  $p < 0.01$ ). Respondents indicating their child had increased screen time reported children with lower grades ( $r = -.17$ ,  $p < 0.01$ ). However the results on family time versus screen time are not as clear, when examined against the amount of time spent on homework. While children, within this study, who had increased screen time experienced a longer amount of time working on homework ( $r = .19$ ,  $p < 0.01$ ) than those children who had increased family time ( $r = .03$ ,  $p < 0.01$ ), both experienced an increase in the amount of time spent on homework. Yet, despite the increase in homework time, the resulting grades were significantly different. Further, those with higher grades and increased family time had spent less time on homework than their increased screen time counterparts. While there are several assumptions that can be

drawn from this information, it is necessary to point out that there are some confounding variables that have not been accounted for in this analysis, such as: the expected time of homework assignments given to students; equivalency in homework across classes, schools and grades; homework is not a singular predictor of grade performance. In addition, the very act of completing and handing in homework may become part of the child's grade. However, the relationship between screen time, family time and time spent on homework should be further examined to determine the relationship among these variables.

Although it may seem intuitive, there was actual evidence that increased family time and empowerment parenting styles not only promoted better, healthier childhood outcomes; but they did so in stark contrast to alternative models, such as traditional parenting styles and increased screen time. The results garnered from the Learning Habits Survey ( $n = 21,145$ ), provided significant support for all three of our working hypotheses: Increased family time, less screen time and the utilization of empowerment parenting techniques foster positive academic, social, and emotional outcomes for children. This is in sharp contrast to families where there is reduced family time, increased screen time and traditional parenting techniques using coercive interventions.

Information gathered for this study was entirely by parent report. Such methodology arguably lacks objectivity and may skew the findings in unknown directions. Nonetheless, parental report, for better or worse, is a traditional centerpiece in the diagnosis of children, most notably relied upon in the *Diagnostic and Statistical Manual of Mental Disorders* classification of attention and emotion disorders. The greatest opportunity for error in our study is the computation of SOL by parent report. Practicality, however, precluded the use of objective measures such as laboratory or home polysomnography.

This study represents a preliminary examination of a rich new dataset. As more analysis and information become available, it is expected that more significant findings will be gathered from the LHS dataset.

## ACKNOWLEDGMENTS

A working model of the Learning Habit Survey may be accessed at [www.learninghabitsurvey99.com](http://www.learninghabitsurvey99.com). This is the site where researchers went to test aspects of the survey without contaminating the study's dataset. Freely examine the instrument, including entering data. Explore skip logic, by varying demographic answers, for example, grade in school or type of school. No data will be recorded and no harm will come to the integrity of the instrument.

We acknowledge the assistance of WebMD, Huffington Post, National PTA, and *Parents* magazine in assisting us in the rigorous challenge of participant recruitment. The extent of this study, rapidly and efficiently executed, would not have been possible without their concerted efforts to direct their viewers to the survey site. We also acknowledge the assistance of Richard Ward, the designer of Survey Crafter Professional for the high level of technical support given us in the development, presentation, and data collection of the LHS. We acknowledge the assistance of Rachel Farr, for her thorough assistance in uncovering and synthesizing existing research findings relevant to this study. Finally, we acknowledge David Sugarman for his guidance in the formulation of the survey instrument and for the initial analysis of the data.

## NOTES

1. 46,125 viewers took part in the Learning Habit Study. The analysis of this article was limited to parents of children who were in kindergarten through twelfth grade and who answered all items. This figure was 21,145.

2. The LHS, detailed in Methods, is a database collected online that we constructed to obtain information on 108 variables pertaining to the interface of families, parenting styles, modern technology, and outcomes. This article examines 10 of these variables.

3. A working model of the Learning Habit Survey may be accessed at [www.learning-habitsurvey99.com](http://www.learning-habitsurvey99.com).

## REFERENCES

- Baumrind, D. (1966). Effects of authoritative parental control on child behavior. *Child Development*, 37(4), 887–907.
- Baumrind, D. (1968). Authoritarian vs. authoritative parental control. *Adolescence*, 3(11), 255–272.
- Baumrind, D., Larzelere, R. E., & Owens, E. B. (2010). Effects of preschool parents' power assertive patterns and practices on adolescent development. *Parenting: Science and Practice*, 10(3), 157–201. doi:10.1080/15295190903290790
- Brand, S., Hattinger, M., Beck, J., & Holsboer-Trachsler, E. (2009). Perceived parenting styles, personality traits and sleep patterns in adolescents. *Journal of Adolescence*, 32(5), 1189–1207. doi:10.1016/j.adolescence.2009.01.010
- Cain, N., & Gradisar, M. (2010). Electronic media use and sleep in school-aged children and adolescents: A review. *Sleep Medicine*, 11(8), 735–742. doi:10.1016/j.sleep.2010.02.006
- Calamaro, C. J., Mason, T. B., & Ratcliffe, S. J. (2009). Adolescents living the 24/7 lifestyle: Effects of caffeine and technology on sleep duration and daytime functioning. *Pediatrics*, 123(6), 1005–1010.
- Christenson, S. L., Rounds, T., & Gorney, D. (1992). Family factors and student achievement: An avenue to increase students' success. *School Psychology Quarterly*, 7(3), 178–206.
- Cooper, H. (2007). *The battle over homework: Common ground for administrators, teachers, and parents*. Newbury Park, CA: Corwin Press.

- Cooper, H., & Valentine, J. C. (2001). Using research to answer practical questions about homework. *Educational Psychologist, 36*, 143–153.
- Ewoldsen, D. R., Eno, C. A., Okdie, B. M., Velez, J. A., Guadagno, R. E., & DeCoster, J. (2012). Effect of playing violent video games cooperatively or competitively on subsequent cooperative behavior. *Cyberpsychology, Behavior, and Social Networking, 15*(5), 277–280. doi:10.1089/cyber.2011.0308
- Froiland, J. (2013). Parents' weekly descriptions of autonomy supportive communication: Promoting children's motivation to learn and positive emotions. *Journal of Child and Family Studies, 1*–10. doi:10.1007/s10826-013-9819-x
- Garrison, M. M., Liekweg, K., & Christakis, D. A. (2011). Media use and child sleep: The impact of content, timing, and environment. *Pediatrics, 128*(1), 29–35. doi:10.1542/peds.2010-3304
- Gelfond, H. S., & Saloni-Pasternak, D. E. (2005). The play's the thing: A clinical-developmental perspective on video games. *Child and Adolescent Psychiatric Clinics of North America, 14*(3), 491–508. doi:10.1016/j.chc.2005.02.010
- Granic, I., Lobel, A., & Engels, R. C. M. E. (2013, December 2). The benefits of playing video games. *American Psychologist*. Advance online publication. doi:10.1037/a0034857
- Greitemeyer, T. (2013). Playing video games cooperatively increases empathic concern. *Social Psychology, 44*(6), 408–413. doi:10.1027/1864-9335/a000154
- Greitemeyer, T., & Cox, C. (2013). There's no "I" in team: Effects of cooperative video games on cooperative behavior. *European Journal of Social Psychology, 43*(3), 224–228. doi:10.1002/ejsp.1940
- Hancox, R., Milne, B., & Poulton, R. (2005). Association of television viewing during childhood with poor educational achievement. *Archives of Pediatrics and Adolescent Medicine, 159*(7), 614–618. doi:10.1001/archpedi.159.7.614
- Hemphill, S. A., & Littlefield, L. (2006). Child and family predictors of therapy outcome for children with behavioral and emotional problems. *Child Psychiatry and Human Development, 36*(3), 329–349. doi:10.1007/s10578-005-0006-1
- Hoerger, M. (2010). Participant dropout as a function of survey length in internet-mediated university studies: Implications in psychological research. *Cyberpsychology, Behavior, and Social Networking, 13*(6), 697–701. doi:10.1089/cyber.2009.0445
- Hofferth, S. L., & Moon, U. J. (2012). Electronic play, study, communication, and adolescent achievement, 2003 to 2008. *Journal of Research on Adolescence, 22*(2), 215–224. doi:10.1111/j.1532-7795.2011.00770.x
- Hunley, S., Evans, J., Delgado-Hachey, M., Krise, J., Rich, T., & Schell, C. (2005). Adolescent computer use and academic achievement. *Adolescence, 40*(158), 307–318.
- Jerabeck, J. M., & Ferguson, C. J. (2013). The influence of solitary and cooperative violent video game play on aggressive and prosocial behavior. *Computers in Human Behavior, 29*(6), 2573–2578. doi:10.1016/j.chb.2013.06.03
- Johnson, N., & McMahon, C. (2008). Preschoolers' sleep behaviour: Associations with parental hardness, sleep-related cognitions and bedtime interactions. *Journal of Child Psychology and Psychiatry, 49*(7), 765–773. doi:10.1111/j.1469-7610.2007.01871.x

- Kaiser Family Foundation. (2010, January 20). *Generation M<sup>2</sup>: Media in the lives of 8- to 18-year-olds*. Retrieved from [kff.org/other/event/generation-m2-media-in-the-lives-of](http://kff.org/other/event/generation-m2-media-in-the-lives-of)
- Kirschner, P. A., & Karpinski, A. C. (2010). Facebook<sup>®</sup> and academic performance. *Computers in Human Behavior, 26*(6), 1237–1245. doi:10.1016/j.chb.2010.03.024
- Levin, E. (2011). Baumrind's parenting styles. In S. Goldstein & J. A. Naglieri (Eds.), *Encyclopedia of child behavior and development* (pp. 213–215). New York, NY: Springer. doi:10.1007/978-0-387-79061-9\_293
- Levin, K. A., Kirby, J., & Currie, C. (2012). Adolescent risk behaviours and meal-time routines: Does family meal frequency alter the association between family structure and risk behaviour? *Health Education Research, 27*(1), 24–35.
- Owens, J., Maxim, R., McGuinn, M., Nobile, C., Msall, M., & Alario, A. (1999). Television-viewing habits and sleep disturbances in school children. *Pediatrics, 104*(3), e27.
- Power, T. G., Sleddens, E. F. C., Berge, J., Connell, L., Govig, B., Hennessy, E., . . . St. George, S. M. (2013). Contemporary research on parenting: Conceptual, methodological, and translational issues. *Childhood Obesity, 9*(s1), S87–S94. doi:10.1089/chi.2013.0038
- Power, T. J., Werba, B. E., Watkins, M. W., Angelucci, J. G., & Eiraldi, R. B. (2006). Patterns of parent-reported homework problems among ADHD-referred and non-referred children. *School Psychology Quarterly, 21*(1), 13–33.
- Pressman, R. M., & Imber, S. C. (2011). Relationship of children's daytime behavior problems with bedtime routines/practices: A family context and the consideration of faux-ADHD. *The American Journal of Family Therapy, 39*(5), 404–418.
- Rankin, P. T. (1967). *The relationship between parent behavior and achievements of inner-city elementary school children*. Paper presented at the Annual Meeting of the American Educational Research Association, Washington, DC.
- Roche, K. M., & Ghazarian, S. R. (2012). The value of family routines for the academic success of vulnerable adolescents. *Journal of Family Issues, 33*(7), 874–897. doi:10.1177/0192513X11428569
- Spagnola, M., & Fiese, B. H. (2007). Family routines and rituals: A context for development in the lives of young children. *Infants & Young Children, 20*, 284–299. doi:10.1097/01.IYC.0000290352.32170.5a
- Strasburger, V. C., Hogan, M. J., Mulligan, D. A., Ameenuddin, N., Christakis, D. A., Cross, C., . . . , and Swanson, W. S. L. (2013). Children, adolescents, and the media. *Pediatrics, 132*(5), 958–961.
- Van den Bulck, J. (2004). Television viewing, computer game playing, and internet use and time to bed and time out of bed in secondary-school children. *Sleep, 27*(1), 101–104.
- Velez, J. A., & Ewoldsen, D. R. (2013). Helping behaviors during video game play. *Journal of Media Psychology, 25*(4), 190–200. doi:10.1027/1864-1105/a000102
- White, K. R. (1982). The relationship between socioeconomic status and academic achievement. *Psychological Bulletin, 97*(3), 461–481.
- Wilson, K. R., Havighurst, S. S., & Harley, A. E. (2012). Tuning in to Kids: An effectiveness trial of a parenting program targeting emotion socialization of preschoolers. *Journal of Family Psychology, 26*(1), 56–65. doi:10.1037/a0026480