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Abstract

The amount of time that children spend using various screen devices and the factors predicting it have long been the subject of empirical inquiry because of the negative outcomes associated with extensive media exposure. Most research has focused on factors such as parents' sociodemographic characteristics and their attitudes regarding media, with little attention to parents' child-rearing needs and their screen-assisted practices. This oversight is indeed critical, as children's media use takes place within the context of the parent–child relational dynamic. Furthermore, no substantive attempts have been made to distinguish between factors associated with children's screen time on weekdays and those determining weekend media exposure. This differentiation is especially relevant because parents may face different challenges during each of these respective parts of the week. The present study aims at filling these gaps by explaining screen viewing time of toddlers aged 1.5 to 3 years, with special emphasis on screen use as a parenting tool.

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Keywords

toddlers, screen time, screen uses, child-rearing needs, parenting

Introduction

Screen media devices maintain a major presence in the everyday life of infants and toddlers. According to recent estimates, on a typical day, children younger than 2 years use screen media for about 1 to 2 hours and those aged 2 to 5 years—between 3 and 5.6 hours (Barr, Danziger, Hilliard, Andolina, & Ruskis, 2010; Tandon, Zhou, Lozano, & Christakis, 2011; Vaala & Hornik, 2014; Wartella, Rideout, Lauricella, & Connell, 2013). These viewing patterns have been examined constantly in light of the negative effects that excessive screen viewing has on young children's cognitive, physical, social, and psychological development, such as attention and concentration problems, delayed language development, aggressive behavior, obesity, sleep difficulties, and a decrease in parent-child interaction (e.g., Cheung, Bedford, Saez De Urabain, & Karmiloff-Smith, 2017; Cingel & Krcmar, 2013; Duch, Fisher, Ensari, & Harrington, 2013; Evans, Jordan, & Horner, 2011; Jordan, 2004; Piotrowski, Jordan, Bleakley, & Hennessy, 2015; Reid Chassiakos, Radesky, Christakis, Moreno, & Cross, 2016).

Consequently, the American Academy of Pediatrics (AAP) published recommendations regarding the appropriate amount of children's media exposure (AAP, 2001; Reid Chassiakos et al., 2016), while a major empirical effort was made to reveal various predictors of young children's screen time in an attempt to suggest effective ways to achieve its reduction. Naturally, the scholars assumed that children's media habits are shaped within the family context and therefore, parents' sociodemographic characteristics and their attitudes toward children's media uses were the factors most investigated in studies of children's screen time (e.g., Anand & Krosnick, 2005; Cingel & Krcmar, 2013; Duch et al., 2013; Lauricella, Wartella, & Rideout, 2015; Njoroge, Elenbaas, Garrison, Myaing, & Christakis, 2013).

These studies, however, did not take into account those factors that are entrenched in the daily parenting routine. That is, parents employ screen media as a parenting tool, which in turn might intensify their children's media exposure. Similarly, no substantive attempts have been made so far to distinguish between various factors determining children's screen time on weekdays and those affecting weekend screen viewing. This differentiation is especially relevant if we examine children's media exposure through the perspective of parents' child-rearing needs, as they may face different challenges and consequently employ screen viewing differently during each of these respective parts of the week (Tang, Darlington, Ma, & Haines, 2018).

Furthermore, most previous studies addressed extensive age ranges, for example, 0 to 8 years or 2 to 12 years, thereby overlooking significant developmental differences. In this regard, we claim that a more nuanced examination of children's screen viewing time (SVT) will be achieved if we focus on a specific age group. Each period of early childhood (i.e., infancy, toddlerhood, and preschool) is characterized by different developmental needs and different child-rearing practices, possibly resulting in parents' differential use of screen media as a parenting tool. Hence, the present study aims at addressing these disparities by explaining SVT on a typical weekday and on a typical weekend of children aged 1.5 to 3 years, with particular emphasis on parents' screen uses as part of their child-rearing routines.

Observing toddlers' SVT through the prism of parental screen uses is of particular value in two respects. First, children experience a major transition during this period, advancing from infants entirely dependent on their parents for their media choices to assertive media users with specific preferences and tastes (Cantor & Cornish, 2016). Second, toddlerhood is an especially intensive period for parents, even compared with infancy. It is a time of constantly improving mobility, as toddlers begin to move freely from place to place and reach objects that might be dangerous for them, thus requiring extra attention (Morrongiello, Corbett, McCourt, & Johnston, 2006). This period is also well known as "the terrible twos" that is associated with defiant behavior and temper tantrums (DeHart, Sroufe, & Cooper, 2004). The challenging and sometimes stressful situations that parents of toddlers confront on a daily basis might result in their frequent use of screen media as a parenting tool. Consequently, we believe that the present study could shed light on the screen-assisted parenting practices that have not been examined sufficiently to date, while explaining young children's media exposure. Hopefully, this new approach will prove especially helpful with screen time reduction among the youngest media audience.

Factors Associated With Children's SVT

According to the family system approach, characteristics of the family unit shape children's viewing habits and the extent of their exposure to screen media (Gentile & Walsh, 2002; Goodman, 1983; Hoover & Schofield, 2008; Jordan, 1992, 2004). First, it is affected by structural life circumstances, such as home media environment, mother's employment, and the presence of siblings (Barr et al., 2010; Beyens & Eggermont, 2015; Gentile & Walsh, 2002; Vaala & Hornik, 2014). For example, the number of TV sets at home, and especially TV access in the child's own bedroom, correlate positively with SVT (Gentile & Walsh, 2002; Johnson, Chen, Hughes,

& O'Connor, 2015; Piotrowski et al., 2015; Vaala, Bleakley, & Jordan, 2013; Vandewater et al., 2007). Similarly, mother's employment is associated with higher SVT, whereas child care facility attendance is associated with lower SVT (Beyens & Eggermont, 2015; Beyens, Eggermont, & Nathanson, 2016; Vaala & Hornik, 2014).

Another group of factors associated with children's SVT is parents' sociodemographic characteristics, such as level of education and income. In this regard, previous studies found that children of less educated parents watch more screen media (Anand & Krosnick, 2005; Bickham et al., 2003; Gentile & Walsh, 2002; Skouteris & McHardy, 2009). Similarly, studies adopting an integrative approach to education and income showed that parents of lower socioeconomic status allow their children to watch screen media for longer periods of time (Njoroge et al., 2013; Rideout, 2013).

Furthermore, family habits of shared viewing of screen content (also known as *coviewing*) are associated with the amount of children's screen time as well. Among young children in particular, *coviewing* with a parent is associated with more time spent watching television (Bleakley, Jordan, & Hennessy, 2013; Jago, Edwards, Urbanski, & Sebire, 2013) and greater exposure to adult programming rather than child-oriented content (Paavonen, Roine, Pennonen, & Lahikainen, 2009; St. Peters, Fitch, Huston, Wright, & Eakins, 1991).

Finally, the parents' attitudes regarding media effects were found to have a significant impact on children's SVT. Accordingly, parents who perceive screen viewing as an opportunity for enrichment allow their children to watch more screen media (e.g., Beyens & Eggermont, 2014; Vaala et al., 2013; Vaala & Hornik, 2014; Vandewater & Lee, 2009). Surprisingly, however, parents' negative attitudes regarding the media's harmful effects do not predict lower exposure (Cingel & Krcmar, 2013; Vaala et al., 2013). To explain this unexpected finding, Cingel and Krcmar (2013) hypothesized that although parents are worried about negative effects, they have difficulty refraining from using media with their children as an integral part of their child-rearing routine. Hence, a more thorough examination of children's SVT calls for closer attention to additional factors, especially those related to parents' uses of screen media as a parenting tool.

Parents' Screen Uses as a Parenting Tool

Studies grounded in uses and gratifications theory suggest that individuals use media to fulfill certain needs (Aubrey et al., 2012; Katz, Blumler, & Gurevitch, 1974; Rubin, 1994). From this perspective, Krosnick, Anand, and Hartl (2003) argue that media use for satisfaction of needs results in higher

media consumption. Although this theory was applied primarily to explain how individuals are guided by their own needs when making media choices, several recent studies claim that in choosing media content for their young children, parents might seek to fulfill not only the child's psychological and social needs but also their own child-rearing objectives (Beyens & Eggermont, 2014; Nabi & Krcmar, 2016).

Accordingly, the research literature identifies eight common uses of screen media aimed at satisfying parental needs: Keeping the child occupied (i.e., "babysitter"), regulating the child's schedule, calming the child, rewarding him or her for desirable behavior, using the screen as a background for the child's activities, mealtime facilitation, putting the child to bed, enrichment, and child-parent bonding (also known as "family time") (Beyens & Eggermont, 2014; Nabi & Krcmar, 2016; Piotrowski et al., 2015; Rideout & Hamel, 2006; Tang et al., 2018; Zimmerman, Christakis, & Meltzoff, 2007).

Most of the previous studies, however, did not offer a thorough evaluation of the contribution of parents' screen uses as a parenting tool to the amount of children's viewing. In this respect, Beyens and Eggermont's (2014) study is of major significance, as it examined, for the first time, the association between parents' use of television as a babysitter and children's viewing amount. The study revealed that the more that parents needed television to occupy children, the more time the children spent watching television. Furthermore, the study pointed to the mediating effect of the "babysitting" use, as it was associated with parents' positive attitudes toward media and their educational level, contributing, in turn, to increased screen time. Unfortunately, additional parental screen uses remained beyond the scope of that study. Moreover, this study did not differentiate between children's SVT on weekdays and weekends, which was calculated as the total weekly viewing time. This oversight is especially crucial when considering that in mid-week family daily routines are framed by parents' working hours and children's child care facility attendance, while weekends are the time that parents and children spend most of their time together. This could engender different screen uses employed by parents on weekdays and weekends with differential impact on children's SVT.

This disparity was addressed in the recent study by Tang et al. (2018), which examined associations between young children's screen time and three screen-related child-rearing practices: Mealtime, bedtime, and behavior control. In this study, for the first time, weekday and weekend screen times were examined separately because the amount of children's screen viewing and its associations with media-related parenting practices on weekdays may differ from those of weekends. Indeed, the study revealed that certain parental media uses had a different impact on children's screen time during different

parts of the week. Among mothers, mealtime screen use was associated with longer screen time for children on weekdays but not on weekends. Among fathers, on the other hand, screen use to control behavior was associated with children's screen time on weekends but not on weekdays.

Informed by previous studies, this research aims at expanding our understanding of the impact of parental media uses on children's screen time, while considering a broad spectrum of screen-based parenting practices: Keeping children occupied ("babysitter"), daily schedule regulation (i.e., using the screen to impel children promptly toward each part of their daily routine), calming (i.e., mood regulation), reward for desirable behavior, enrichment, family time, mealtime and bedtime facilitation, and background for children's playtime and other activities. This study seeks to reveal the unique contribution of parental screen uses to children's SVT compared with previously studied predictors, such as parental attitudes, coviewing habits and characteristics of the child, parent, and family. These associations will be examined for weekdays and weekends separately, as these distinctive parts of the week pose different challenges to parents, who might consequently employ screen media differently to fulfill their parenting needs. Finally, in contrast to previous studies that covered a broad range of children's ages, the present study focuses on children aged 1.5 to 3 years, enabling a more precise examination of parental screen uses typical of toddlerhood. The study objectives will be achieved by two complementary research questions:

Research Question 1: How are children's weekday and weekend SVTs associated with screen use as a parenting tool?

Research Question 2: What is the unique contribution of parental screen uses to explaining children's SVT on weekdays and on weekends, after controlling for the characteristics of child, parent, and family, coviewing habits and parental attitudes toward media?

Methodology

A face-to-face survey was conducted in Israel among 289 parents of toddlers. To minimize the effects of certain developmental differences, we decided to focus on the 18- to 36-month age range instead of 12 to 36 months. By the age of 18 months, most toddlers can walk freely, ascend stairs, and climb on furniture. Furthermore, this age marks the beginning of the temper tantrum period that peaks during the third year of life (Dehart et al., 2004).

As there are no publicly available databases with contact details of parents of toddlers, we recruited a snowball sample by asking undergraduate students of mass media studies at three academic institutions situated in different

localities for the phone numbers of their relatives and acquaintances who were parents of toddlers. Trained research assistants contacted these parents by telephone to explain the study's goals, confirm participation, and set a survey date. About a week after the consent call, the research staff visited the respondents' homes to conduct a face-to-face 20-minute survey. In households with two children in the designated age range, the responding parent was asked to answer the survey regarding the child whose next birthday is closer to the date the survey was conducted. All participants signed a consent form prior to participation in the survey and received compensation of 10 Euros for their time. Full anonymity was ensured.

Sample Characteristics

The average age of participating children was 25.8 months; 48% were girls. The average number of children per family was two. Parents' average age was 32 years; 85% were mothers. Indeed, 44% of parents finished high school, 39% had bachelor's degrees, and 17% had master's degrees or higher. Most parents (94%) were employed. Among mothers, 68% worked full-time and 25% worked part-time. Among fathers, 93% worked full-time and the rest part-time. Although a nonrandom sampling method was applied, the participants' major demographic characteristics were typical of Israeli parents with young children. Most families had access to a variety of screen devices: 97.5% owned one or more television sets; 98%—PC or laptop; 57%—tablet and all families had at least one smartphone. In 39% of families, the relevant child had a TV set in her or his bedroom.

Measures

Dependent Variables. Children's SVT scores on weekdays and weekends were assessed with a variety of measures generated by extensive inquiry into young children's media use (Lauricella et al., 2015; Tang et al., 2018). Parents were asked to think about a typical weekday and a typical weekend and report the extent to which their child used a variety of screen devices—TV, computer, tablet and smartphone—for each device separately. The amount of viewing time was measured in a series of open-ended questions in which the parents wrote separate entries, in hours and minutes, indicating the total time spent with each medium on a typical weekday and a typical weekend, respectively. These items were then summed up, yielding two scores representing weekday and weekend SVT. On a typical weekday, 96.2% of the children used screen media for 2 hours and 19 minutes on the average ($SD = 2$ hours and 5 minutes). On a weekend day, 91% of the children used screen media,

while the average viewing time was 2 hours and 27 minutes ($SD = 1$ hour and 50 minutes).

Independent Variables

1. Child's characteristics: Age in months ($M = 26$; $SD = 6.8$); Gender (girls = 48%); Child care setting (83% of children attended a child care facility).
2. Parent's characteristics: Gender (female = 85%); Highest level of education (44.7% = high school, 38.3% = bachelor's degree; 17% = master's degree or higher); Employment (71.9% = full-time, 22.1% = part-time, 6% = homemaker).
3. Family characteristics: Siblings (67.6% of children had at least one sibling); TV set in child's bedroom (yes = 39%); Number of screen media devices available for the child's viewing ($M = 2.48$; $SD = 1.37$).
4. Coviewing habits: Coviewing of children's programs (often = 32.8%, sometimes = 47%, rarely = 15.7%; never = 4.5%); Coviewing of adult programs (often = 5.6%, sometimes = 23.5%, rarely = 32.5%, never = 38.4%).
5. Parental attitudes toward media: (a) Parents' assessment of the media's beneficial impact on their children was based on Wartella et al.'s (2013) measures that inquire whether screen viewing enriches children's imagination, develops cognitive skills, expands vocabulary, and contributes to overall child development. Responses were measured on a 4-point scale (1 = *does not help/contribute at all*; 4 = *helps/contributes very much*). A media contribution score was then drawn up, based on the average of these items ($M = 2.07$; $SD = 0.89$; Cronbach's alpha = .857). (b) Concerns regarding media's negative effects were assessed through six items representing harmful outcomes of media exposure identified in previous studies (e.g., Vaala, 2014; Zimmerman & Christakis, 2005, 2007): Impaired motor skills/physical fitness; delayed language development; attention and concentration disorders; screen addiction; reducing the duration and quality of parent-child interactions and cutting down on children's playtime. All variables were measured on a 4-point scale (1 = *it does not concern me at all*; 4 = *it concerns me very much*). A parental concerns score was calculated according to the average of these items ($M = 2.93$; $SD = 0.89$; Cronbach's alpha = .785). (c) Parental satisfaction with children's programs was represented by two items: "To what degree are you satisfied with the quality of children's programs?" and "To what degree are you satisfied with the diversity of children's

Table 1. Percentage of Parents Using Screen Viewing to Fulfill Child-Rearing Needs.

Parental screen uses	Percentage
Enrichment	79.2
Babysitter	72.4
Calming	68.0
Background	53.9
Family time	53.7
Schedule regulation	50.5
Bedtime	37.1
Mealtime	32.0
Rewarding	31.5

Note. *N* ranges from 289 to 275. The numbers do not add to 100% because parents were asked about each screen use separately.

programs?” Both were measured on a 4-point scale ranging from 1 (*not at all*) to 4 (*very satisfied*). A parental satisfaction score was calculated according to the average of these items ($M = 2.46$; $SD = 0.66$; $r_s = .619$).

6. Parental uses of screen viewing as a parenting tool: Our selection of nine items representing parental uses of screen media was inspired by most common uses identified in previous studies: babysitter, schedule regulation, calming, rewarding, family time, facilitating mealtime and bedtime, background, and enrichment (Beyens & Eggermont, 2014; Evans et al., 2011; Nabi & Krmar, 2016; Tang et al., 2018; Wartella et al., 2013). All items were measured on a binary scale (1 = “on a daily basis or several times a week” and 0 = “very rarely or not at all”). The frequency of each use is presented in Table 1.

Data analysis

The first research question was examined using bivariate correlations. The second research question employed hierarchical linear regression, enabling stipulation of a fixed order for the introduction of variables, thereby testing for the effect of certain predictors while controlling for others. The first step of the regression examined the effect of characteristics of the child, parent, and family, coviewing habits and parental attitudes toward children’s media uses, calculated separately for a weekday and a weekend. The second step sought to identify the unique contribution of parents’ screen

Table 2. Correlations Between Parental Screen Uses and SVT on Weekdays and Weekends.

Parental screen uses	Weekday SVT	Weekend SVT
Calming	.208**	.245**
Rewarding	.133*	.367**
Enrichment	.197**	.064
Babysitter	.181**	.289**
Family time	.139*	.089
Schedule regulation	.154*	.188**
Mealtime	.281**	.174*
Bedtime	.284**	.097
Background	.237**	.252**

Note. SVT = screen viewing time. *N* ranged from 283 to 251. Point-biserial correlations were reported.

* $p < .05$. ** $p < .01$.

uses to children's SVT after controlling for the previously investigated predictors. Data were analyzed using SPSS v.25 software, with a confidence interval of 95% in all tests.

Findings

Research Question 1

The bivariate correlation tests presented in Table 2 show that all parental screen uses were significantly and positively associated with children's *weekday SVT*, meaning that the more parents employ screen media for achieving child-rearing objectives, the more their children will consume screen content. The strongest correlations were found between weekday SVT and using the screen for facilitating mealtime and bedtime. On the other hand, only five uses were significantly and positively associated with children's *weekend SVT*, with three exceptions—family time, enrichment, and bedtime. The strongest correlations were found between weekends SVT and using the screen to keep children occupied (“babysitter”) or reward them for desirable behavior.

Research Question 2

Second research question sought to identify the role that parental screen uses play in explaining children's SVT on weekdays and weekends, compared

with the previously investigated factors. For this purpose, we conducted a hierarchical linear regression for weekday and weekend separately, entering predictors in two steps. At first step, we included characteristics of child, parent and family, coviewing habits and parental attitudes, whereas parental screen uses were entered at the second step.

Weekday SVT. Within the linear regression conducted at the first step, three predictors contributed to increased SVT: Bedroom TV access, child care facility attendance, and the media satisfaction score. This means that in-home child care, bedroom TV access, and a higher parental satisfaction with child-directed media were associated with more SVT. The model's R^2 was 24.4% (see Table 3). By contrast, in the second step of the analysis, only one previously investigated predictor preserved its significant contribution to the SVT: child care facility attendance, with stay-at-home children watching more screen content on a typical weekday. Furthermore, three parental screen uses contributed to increased SVT: Enrichment, schedule regulation, and background, meaning that children of parents who use screen media for these objectives watch more screen content on a typical weekday. The model's R^2 rose to 38%, indicating that parental screen uses account for about one third of the explained variance.

Weekend SVT. Within the linear regression model conducted at the first step (see Table 3), three predictors were found to have a significant contribution to the SVT—child care facility attendance, number of screen devices, and coviewing of adult programs—all associated with increased SVT. The model's R^2 was 17.8%. Following introduction of parental screen uses into the model, two of these predictors preserved their significant association with SVT—child care attendance and coviewing of adult programs. Number of screen devices lost its significant association with SVT, whereas the association between bedroom TV and SVT turned significant and negative, meaning that children with bedroom TV access watch less screen content on weekends. Furthermore, four parental screen uses were significantly and positively associated with SVT (calming, reward, babysitter, and background) and one use (bedtime) was negatively associated with SVT. Using the screen viewing as a reward exerted the most powerful effect on weekend SVT. The model's R^2 rose significantly and reached 42.5%, indicating that parental screen uses accounted for more than half of the explained variance.

Discussion and Conclusions

The present study sought to explore the impact of screen use as a parenting tool on toddlers' screen time—a topic accorded little attention in previous

Table 3. Standardized Beta Weights for Explaining SVT on Weekdays and Weekends.

	Weekday SVT		Weekend SVT	
	Block 1	Block 2	Block 1	Block 2
Child's characteristics				
Gender	-.007	-.017	-.032	-.010
Age	-.003	-.027	.122	.114
Child care setting	.215**	.212**	.218**	.257**
Parent's characteristics				
Gender	-.043	-.050	-.049	-.057
Education	.003	.049	-.018	.034
Employment	-.015	-.055	.095	.056
Family characteristics				
Siblings	.016	.027	.008	.071
Bedroom TV access	.174*	.118	-.100	-.160*
No. of screen media	.108	.017	.162*	.098
Coviewing habits				
Children's program covieing	-.061	-.123	-.114	-.028
Adult program coviewing	.105	.028	.285**	.223**
Parental attitudes				
Media contribution score	.096	.005	.026	.069
Media concerns score	-.014	-.037	-.069	-.052
Satisfaction score	.220**	.087	.028	.052
Parental screen uses				
Calming		.073		.201*
Rewarding		.049		.316***
Enrichment		.168*		-.023
Babysitter		.117		.221**
Family time		.074		.016
Schedule regulation		.143*		.104
Mealtime		.100		.046
Bedtime		.035		-.206*
Background		.197*		.183*
R ²	.244***	.380***	.178*	.425***
F	3.858	4.205	1.892	3.631

Note. SVT = screen viewing time. Dummy codes: Child's and parent's gender: 0 = male, 1 = female; Child care facility: 0 = child care center, 1 = home care; Siblings: 0 = no, 1 = yes; Bedroom TV access: 0 = no, 1 = yes; Parental screen uses: 0 = no, 1 = yes.

* $p < .05$. ** $p < .01$. *** $p < .001$.

studies. This goal gains special importance in light of the extensive screen-based sedentary habits observed among most children in the sample—almost 2½ hours of screen viewing daily, which is much higher than AAP’s recommendations for this age group: No screen time for children younger than 2 years and 1 hour per day for children 2 to 5 years of age (Reid Chassiakos et al., 2016). This finding is particularly alarming in light of recent findings by Domoff et al. (2018), based on naturalistic observations in families with young children. The study showed that most media use among toddlers took place without parents’ active mediation of content. As such, parents do not play a sufficient role in interpreting media content for their young children and thus miss the opportunity to facilitate positive media effects and reduce negative ones.

This study’s objectives were achieved by two complementing research questions: The first question analyzed associations between parental screen uses as a parenting tool and children’s weekday and weekend SVTs; whereas the second question examined the unique contribution of parental screen uses to children’s SVT, compared with the previously investigated predictors of children’s screen time.

First, of particular importance is the finding that on a typical weekday all screen uses were significantly associated with children’s increased SVT. On the other hand, there were fewer associations between SVT and parental screen uses on weekends: Babysitting, calming, rewarding, schedule regulation, background, and mealtime. A closer look at uses associated with SVT on weekdays (but not on weekends)—enrichment, family time, and bedtime—could provide some insights regarding the structural differences between these two parts of the week that might moderate parental screen uses. It appears that on weekends, screen use for enrichment and for family time seems to be less common because then parents have more alternatives to satisfy these needs. Furthermore, as parents are generally more available to their children on weekends than on weekdays, they employ the screen less for putting children to bed.

Of no less importance are the parental screen uses that were more strongly associated with children’s SVT—mealtime and bedtime on weekdays and rewarding and babysitting on weekends. Thus, when screen devices are used to fulfill these parental needs, children spend more time in front of the screen. Although three of these uses (rewarding, mealtime, and bedtime) were typical of a smaller group of parents (32% to 37% of the sample), their stronger association with SVT attests that these uses increase children’s total screen time significantly.

Furthermore, the hierarchical regression conducted to explain SVT on weekdays and on weekends revealed important differences between these

respective parts of the week in both steps of the model. Within the first step, we found that the bedroom TV access, in-home child care and parental satisfaction with child-directed media contributed to increased SVT on a weekday. On a weekend, on the other hand, we found a positive contribution of in-home child care, number of screen devices and coviewing of adult programs. It appears, therefore, that different predictors are associated with children's SVT on weekdays and on weekends, with only one exception: in-home child care.

No less interesting are the differences between weekdays and weekends after including parental screen uses into the model. On a weekday, three screen uses were positively associated with increased SVT: Enrichment, schedule regulation, and background. On a weekend, on the other hand, using the screen for calming, rewarding, babysitting, and background had a positive contribution to the SVT, whereas bedtime screen use was associated with decreased SVT. It appears, therefore, that the only similar parental screen use that contributes to increased SVT on weekdays and on weekends alike is using the screen as a background while children are engaged in other activities. This probably means that such usage is deeply integrated into the parenting practices regardless of differences in daily family routines between weekdays and weekends.

Certain additional uses, on the other hand, resulted in the structural differences of these two parts of the week and the distinct challenges that they pose to parents of toddlers. Thus, an increased SVT was associated with enrichment and schedule regulation on weekdays and with calming, rewarding, and babysitting on weekends. Apparently, when the family's daily routine is framed by working hours and child care facility attendance, parents have a stronger need for schedule regulation and have fewer opportunities for children's enrichment other than those satisfied by screen media. During weekends, on the other hand, when parents spend more time together with children, they might be more in need of screen assistance for regulating their children's behavior, managing their moods, and keeping them busy.

Moreover, rewarding the child for desirable behavior contributed most strongly to explanation of weekend SVT. This finding possibly attests to the major difficulty experienced by parents on weekends to achieve children's cooperation and to their utilization of the screen devices as the easiest or most effective solution. By contrast, the negative association between bedtime screen use and weekend SVT probably indicates that parents who allow extensive bedtime screen viewing as part of their child's weekday routine might intentionally reduce SVT on weekends. These patterns are much in line with those of a pioneer study by Tang et al. (2018), showing, for the first time,

that different parental screen uses are responsible for the children's increased screen time on weekdays versus weekends.

The present study also provides additional support to recent developments in uses and gratifications theory, suggesting that by offering screen devices to their young children, parents fulfill not only the child's needs but also their own child-rearing objectives (Beyens & Eggermont, 2014; Nabi & Krcmar, 2016). These findings also highlight the importance of achieving better balance between children's and parents' needs, as parental use of screen devices as an "all-in-one" parenting aid eventually increases children's viewing time beyond the levels recommended by the AAP (Reid Chassiakos et al., 2016). Moreover, when using certain aids to facilitate their parenting efforts, parents must consider their children's long-term developmental needs, such as acquisition of self-regulation skills and adoption of healthy habits (e.g., no screen viewing while eating or before falling asleep and more nonsedentary leisure-time activities).

Furthermore, we should note which of the predictors studied previously preserved their significant contribution to SVT after including parental screen uses in the model. On weekdays, it was in-home child care that remained significantly associated with increased SVT, whereas associations with bedroom TV access and parental satisfaction became insignificant. On weekends, significant and positive associations with in-home child care and coviewing of adult programming remained, whereas association with the number of media devices became insignificant.

The association between adult programs coviewing and children's SVT is especially alarming because it shows that this family habit not only contributes to toddlers' increased screen time but also reveals that the content consumed is inappropriate for their cognitive, language, and emotional development (Lapierre, Piotrowski, & Linebarger, 2012; Reid Chassiakos et al., 2016; Tomopoulos et al., 2010). While the effect of shared viewing is generally perceived in a positive light as contributing to family bonding and children's comprehension (e.g., Christakis, 2009; McCannon, 2009; Rasmussen, Keene, Berke, Densley, & Loof, 2017), the findings of this study call for a more nuanced approach toward coviewing habits that should differentiate between the viewing of adult-oriented versus child-directed content.

Furthermore, in comparison with children attending a child care facility, stay-at-home children were characterized by increased SVT on weekdays and weekends alike. While higher media exposure on weekdays may be explained by the parents' need for screen assistance in maneuvering between intensive child-rearing and household duties, increased weekend SVT is hardly self-evident and may result from the overall habit of

extended screen viewing that has been shaped among in-home child care families.

Finally, we should highlight the lack of significant contribution to explaining SVT on the part of demographic characteristics, family media environment, and parental attitudes, after controlling for parental screen uses. It appears, therefore, that most previously studied predictors seem to be associated with children's screen time only indirectly, through parental screen uses. These findings are in line with Beyens and Eggermont's (2014) study on use of television as a babysitter and its mediating effect on children's viewing time. The present study provides a more precise understanding of this relationship, as it considers a wide range of parental screen uses and examines how each of them is related to children's SVT on weekdays and on weekends.

This study expands our knowledge of the factors related to children's screen time in four important ways. First, it sheds light on a wide spectrum of parental screen uses and their association with children's increased media exposure. This allows for better understanding of the impact that screen-assisted parenting practices have on the total screen time of very young children. Second, it examines the broad range of media uses, including touchscreen mobile devices, thus reflecting the current media environment more accurately. Given the increasing mobility of the digital devices that can be watched virtually everywhere, these findings may also have significant long-term implications for further growth in young children's media exposure, as well as for overall child development. Third, the study differentiates between weekdays and weekends, thereby revealing the different mechanisms determining children's screen time during these distinctive parts of the week. Finally, it focuses on a specific age group of toddlers up to 3 years old, providing a closer examination of screen-related parental routine during this crucial stage of child development.

Practical Implications, Limitations, and Future Research

Our findings highlight the major role played by parents' screen uses in explaining children's SVT. As such, the study not only supports the claim that screen viewing has become normative behavior among very young children (Vaala, 2014; Vaala et al., 2013) but also illustrates how deeply it is integrated into the daily parenting routines. Hence, the study's findings call for a more family-based ecological approach to screen time reduction among toddlers. For example, it may be helpful to encourage parents to begin with small but important changes in their parenting practices, such as turning off

the television when children are engaged in other activities. Moreover, as parental screen uses play such a major role in determining children's viewing patterns, programs aimed at reducing toddlers' screen time should provide parents with alternative resources to support their parenting efforts.

Considering the above remarks and the structural difficulty of finding readily available resources to fully replace screen media as a multipurpose parenting tool, there is also a need for programs aimed at improving parents' media literacy. Accordingly, parents acquire knowledge and skills to assist them in selecting high-quality child-directed content that can facilitate children's development, even if their objectives for children's screen viewing are primarily instrumental. In this way, parents may derive benefit from screen viewing while reducing its negative effects.

Several limitations should be considered as well. First, estimates of children's SVT were based on parents' self-reporting. Although parental reporting of children's screen time is common in media studies, it could entail underestimation due to constant warnings of the negative outcomes associated with young children's media exposure. It was, however, the best possible measure for this study, which was the first to explore association of children's screen time with a variety of parents' screen uses. Furthermore, we exerted considerable efforts to reduce the inaccuracy of parental reports by asking parents not to indicate the total amount of viewing, which could be highly biased, but rather to provide precise estimates of their children's use of each medium separately. We believe that this procedure was reasonably effective, as the total screen time found in this study presents a rather realistic picture of relatively high daily media exposure.

Moreover, parents cannot estimate their children's viewing time at external locations (e.g., child care centers) or while under other adults' supervision, such as grandparents or nannies. Hence, any study based exclusively on parental reporting probably underestimates children's daily viewing time. Future studies could expand the approach developed in the present study by examining the child-rearing needs of other substantial caregivers and determining how they are associated with children's screen time.

Furthermore, the study's cross-sectional design precludes determination of causality among the associations we found. The data suggest that parental screen uses contribute to the amount of time that children spend in front of various screens. To corroborate these findings, however, we require longitudinal studies. Moreover, the associations between parents' attitudes and their screen uses might not be linear and causal but rather reciprocal and mutually sustaining (see, e.g., Jordan, 1990). For example, although the prominence of certain screen uses may be ascribed to parental attitudes, another theoretically interesting relationship may apply as well. That is, parents who

experience a greater need to use the screen as a parenting tool may develop a set of beliefs consistent with their screen-assisted parenting. Additionally, other factors omitted from our model, such as a child's temperament (e.g., Davis, Schoppe-Sullivan, Mangelsdorf, & Brown, 2009; Nabi & Krmar, 2016) or maternal stress (e.g., Beyens et al., 2016), may account for both parental screen uses and amount of children's screen time.

As research was conducted in Israel alone, a more globally oriented assessment of parental needs would have much to offer in terms of understanding the place of media in the family and in child development. Finally, considering that the present study focused exclusively on parents of toddlers, future research should examine other age cohorts to assess particular parental needs and constraints responsible for shaping children's media habits throughout various stages of early childhood. Its limitations notwithstanding, the study outlined several new and important dimensions of children's screen viewing that should be considered when attempting to explain the extent of young children's media exposure and to design effective interventions for its reduction.

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