

Screen time and young children



Preceding the development and integration of interface technology into households, many concerns and questions have arose as to how much, when, and what type of screen time and screen media should be accessed by young children. This review of screen time and young children evaluates evidence which challenges common ideas of approaches to reducing screen time in young children, and assesses the scope of potential effects concerning the plight of young children’s psychological wellbeing, physical wellbeing, and cognition.

There has been little evidence which discusses the harmful or harmless nature of exposure of screen time to children. Upon assessing empirical evidence, most research argues negative effects of screen time, however these cannot necessarily be viewed as harmful. This is particularly supported by Pryzbylski and Weinstein’s (2019) study which assessed the psychological well-being of children between the ages of 2 and 5 with screen time, based off telephone interviews with parents. The findings did not create a relevant association between screen time and psychological well-being. However, a core weakness of this study was the use of telephone interviews, which assessed the child’s wellbeing based off the caretaker’s response. The researchers made attempts to control for variables such as socioeconomic status, and the educational status of the caretaker.

However, this is not to discredit studies which have found associations between screen time, and poorer behaviour in regards to attentional skills. Cheng, Maeda, Yoichi, Yamagata and Tomiwa (2010) assessed the correlation between television exposure at ages 18 and 30 months, and its effects on behaviour and emotional status at age 30 months. Exposure at an

early age was positively correlated with hyperactivity, and attentional issues, particularly when the children were exposed to daily viewing at 18 months. Wu et al., (2017) also concluded in their study of the amount of screen time children in China ages 3-6 years had on sleep and behaviour. The study concluded that a higher duration of screen time was associated with less sleep, and more behavioural issues. In addition to this, it has been found that use of screen media as a calming mechanism for children leads to issues of regulating their own emotions, and creates difficulties when parents attempt to set boundaries for the amount of screen time children are receiving (Radesky et al., 2016). However, key weaknesses of these studies were that they both relied on parental reports of children's viewing and sleep habits, and they were not able to make any causal inferences due to the observational nature of the study.

In support of this, Mistry, Minkovitz, Strobino and Borzekowski (2007) have also investigated the timing they are exposed to screen media, and how this may affect their behaviour and social skills. The study investigated children at ages 30-30 months and 5. 5 years of age. The study concluded that excessive exposure to screens at infancy showed an association in poorer behaviour at 5. 5 years of age. Moreover, they concluded that especially having a television in the child's room was also associated with issues with sleeping and behaviour. Interestingly, the study inferred that excessive exposure to screen media did not have an effect on social skills at 5. 5 years of age. However, core weaknesses of this study as stated in the paper was that it was observational, which hindered their abilities to make causations. They also relied on parent reports of how much television their child

watched, and they also did not collect any data on the type of programs the children were watching.

Conversely, many studies have asserted that the time of exposure to screens does not have as much weighting on a young child's wellbeing as the type of screen media exposure to children. Barr, Lauricella, Zack and Calvert (2010) studied the effects of exposure to mature programs in comparison to programs designed for young children. They exposed the children to either condition at ages 1 and 4, and then measured their cognitive abilities at age 4. The study found that excessive exposure to mature programs on children of both ages were correlated with poorer executive functioning. The study also found however, that children who watched programs relevant to their age had no correlational significance with cognitive and executive functioning. The study concluded that the children who watched the programs designed for adults are more likely to result in an attentional interference, as they often cannot grasp the concepts of what they are viewing. A key limitation of this study is that it only used correlational data which is stated in the paper, and that they also did not state what types of programs the children were being exposed to.

Furthermore, many studies have stressed the importance of the type of media children are being exposed to in relation to the significance of educational applications. Huber, Yeates, Meyer, Fleckhammer and Kaufman (2018) studied 2 and 3 year old children on working memory tasks after they were either using an educational application, or watching age-appropriate shows that had no educational significance. The results concluded that children who used the application had stronger working memory than those

who watched television. However, an intrinsic weakness to this task is that the working memory test was influenced by spatial concepts, which is what the application mainly teaches children. This could lead to a biased result, and hinders the extent to which the study can infer that educational applications improve children's cognitive and executive functioning.

Additionally, the interactive nature of screen media is an important underlying function of whether young children benefit from screen time or not. Radeksy et al., (2016) have investigated the influence of interactive screen media on infants, and have also studied the implications of co-viewing with a parent or caretaker. Their research has inferred that the interactive nature of screen media is able to support children's individual levels of competency, by analysing when and how young children respond. Radesky et al. have stated that children 18 to 24 months of age require programs that are of valuable quality, and also stress the importance of excluding media that contains content that is distracting, and hard for the child to follow. They also incite that co-viewing between caretaker and the child improves their learning and interaction, and also helps to create boundaries with screen time.

In addition to these cognitive effects of screen time, there have been many physical health and wellbeing implications of excessive exposure to screen media. On average, young children are exposed to 8 hours of screen viewing each day, which has been high associated with little physical activity, and has contributed significantly to childhood obesity (Lanningham-Foster et al., 2006). Children were studied playing video games that promoted an active lifestyle, and video games that were neutral, whilst being seated, and

walking on a treadmill. The study found that children were more active when playing games that promoted this, rather than a game that did not.

Furthermore, a poorer diet has also been associated with low levels of activity, and excessive amounts of screen time (Robinson et al., 2017).. It has been found that children who have excessive exposure to screen time, have an increased intake of food and drink, in particular that of lesser nutritional value. It is particularly evident that most screen time, unless controlled and regulated, do not promote copious amounts of physical activity and can have detrimental effects on a child's physical wellbeing.

Moreover, other studies have recognised the resilience of screen time in young children's daily lives. Harrison, Burns, Mcguinness, Heslin and Murphy (2006) have assessed whether the implementation of specific health lessons in primary school, tailored to reducing screen time are beneficial to young children. The study found that these programs have been proved to show positive relationships with physical activity and lesser screen time. Interestingly, the study also found that these programs had less of an effect on children from lower socio-economic backgrounds, which incites core weaknesses in other studies who have not controlled for this. The study recognised that these lessons cannot be tailored for every environment, and there is sound room for improvement in tailoring these lessons to children who are from lower socio-economic backgrounds, wherein excessive screen time shows more of an impact.

In conclusion, many studies have identified the cognitive, physical, and emotional impact of excessive screen time for children. Technology is developing at a rapid pace, and will continue to do so for many generations.

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The use of screen media by children in their daily lives is inevitable, and will only continue to become more integrated into their lives as these advances are being made. Parents should seek to create strict boundaries for the amount of screen time children are receiving, and regulate the content that they are viewing, gravitating towards more educational based applications and programs.

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