IPS Working Papers

CONNECTED YET CONFLICTED: EXPLORING THE EFFECTS OF SCREEN USE ON WELL-BEING AND RELATIONSHIPS

MATHEW MATHEWS
CLARA LEE
ELIZABETH LIM
and
ROSLINA YONG

October 2025
IPS Working Papers No. 67

Institute of Policy Studies

About Institute of Policy Studies (IPS)

The Institute of Policy Studies (IPS) was established in 1988 to promote a greater awareness of policy issues and good governance. Today, IPS is a think-tank within the Lee Kuan Yew School of Public Policy (LKYSPP) at the National University of Singapore. It seeks to cultivate clarity of thought, forward thinking and a big-picture perspective on issues of critical national interest through strategic deliberation and research. It adopts a multi-disciplinary approach in its analysis and takes the long-term view. It studies the attitudes and aspirations of Singaporeans which have an impact on policy development and the relevant areas of diplomacy and international affairs. The Institute bridges and engages the diverse stakeholders through its conferences and seminars, closed-door discussions, publications, and surveys on public perceptions of policy.

IPS Working Papers No. 67

CONNECTED YET CONFLICTED: EXPLORING THE EFFECTS OF SCREEN USE ON WELL-BEING AND RELATIONSHIPS

MATHEW MATHEWS

Principal Research Fellow

Head, Social Lab

Institute of Policy Studies

mathew.mathews@nus.edu.sg

CLARA LEE

Research Fellow

Institute of Policy Studies

clara@nus.edu.sg

ELIZABETH LIM

Research Associate

Institute of Policy Studies

liz.lim@nus.edu.sg

ROSLINA YONG

Research Associate

Institute of Policy Studies

r.yong@nus.edu.sg

October 2025

CONTENTS

CONNECTED YET CONFLICTED: EXPLORING THE EFFECTS OF SCREEN USE ON WELL-BEING AND RELATIONSHIPS

Executive Summary

This study examines how screen use relates to well-being and family dynamics in Singapore, surveying 1,033 parents in Sept–Oct 2024; 517 of these formed matched parent–teenager pairs, plus a booster of 195 lower-income parents to surface socio-economic differences.

1) **Digital Life Today**: Screens are deeply woven into daily routines. On average, teenagers reported 8 hours 21 minutes of screen use per day, while parents averaged 8 hours 44 minutes. Smartphones and computers were the most commonly used devices. For teenagers, most screen time was spent on education and entertainment, whereas parents devoted the most time to work and entertainment. About three in ten teenagers and parents felt their own screen use was excessive, with parents expressing particular concern about time spent on entertainment and social media.

2) **How Heavy Screen Use Relates to Well-being:** Higher total screen time was associated with poorer sleep quality, greater loneliness, and lower emotional well-being for both teenagers and parents. Many turned to screens to cope with stress, yet they also reported that the prolonged

time on screens led to procrastination, difficulty focusing, physical discomfort, and family disagreements, suggesting that using screens to cope can add to the strain.

3) **What One Does Online and Offline Matters**: The relationship between screen time and its negative effects is not a simple one. Two factors—what people do online and how much time they spend offline—play an important role. The type of online engagement (what is done online) can amplify the downsides of heavy use. The study shows that when people spend more time on activities like entertainment or gaming, the downsides of heavy screen use are amplified with stronger links to loneliness, poorer self-control, and lower well-being. By contrast, time spent on educational, skill-building, or hobby-related activities was less likely to be perceived as problematic. Offline activities (in-person social time, physical activity) help to buffer these harms. In particular, physical activity weakens the link between higher screen time and lower emotional well-being among teenagers.

4) **Success of Parental Intervention:** Parents commonly report using a variety of strategies to limit their children's screen use, such as reminders (77.3 per cent), no screens during meals (69.5 per cent), no screens before bedtime (62.8 per cent), taking devices (57.8 per cent), built-in controls (56.9 per cent), and third-party apps (53.7 per cent) to limit their children's use; teenager reports of what parents do are similar

(e.g., reminders 77.5 per cent; no screens at meals 72.6 per cent). Structured, more intrusive controls, such as built-in device controls, third-party apps, taking away devices, and setting specific periods, were associated with lower teenager screen time, while reminders alone are not. These tools (built-in apps) tend to work best when introduced early, before screen habits become deeply entrenched; once use becomes highly problematic, their impact diminishes. Teenagers' own self-imposed limits help too. Both less-punitive (set periods, no screens at meals/bedtime) and more-punitive (apps/locking devices) self-limits are linked to lower screen use. However, implementing controls, especially intrusive ones, is associated with more frequent family conflicts over smartphones. Open communication helps to ease this tension and reduce conflict. When families explain reasons, discuss healthy use, and listen to teenagers' views, the conflict-raising effect of rules such as no screens before bedtime, no screens at meals, and built-in controls is significantly dampened. Lower-income parents use most controls more frequently but are less likely to use third-party apps (28.7 per cent). They also report fewer family discussions and less listening to children's views than the main panel, which is associated with higher levels of conflict with their children.

5) **Proposed Recommendations:** Based on the findings, several recommendations are proposed. First, the focus should shift from just the time spent on devices to encouraging healthier mixes of online

activities and strong offline routines such as exercise and social interactions, which can help buffer potential harms. Second, early intervention should be emphasised through the use of built-in parental controls and monitoring apps at the point when devices are first given to children. Third, rules around screen use should be paired with open communication within families and more education for parents on how to co-create or set appropriate limits and schedules together with their children. Finally, extra support should be provided to lower-income families, and this could include access to free or low-cost app alternatives, as well as more affordable and accessible offline activities such as safe play facilities, to make it easier for families to maintain balanced routines.

1. INTRODUCTION

This study examines the impact of screen time on well-being and family dynamics, focusing on teenagers and parents in Singapore. It explores how screen use affects physical, emotional and mental health, particularly in relation to sleep, loneliness and emotional well-being. The research maps screen usage trends across devices and activities, analysing its role in family relationships and the conflicts it sparks between parents and children. It also assesses strategies for managing screen time and evaluates public receptiveness to policies promoting digital literacy and responsible usage. By shedding light on these digital behaviours, this paper underscores the implications of screen time for well-being and relationships, and emphasises the need for targeted interventions to foster healthier screen habits.

1.1 Literature Review

1.1.1 Screen-Time habits

The ubiquity of smartphones, tablets and computers has made it easier than ever for individuals to access social media, educational content and gaming platforms. As time spent on such devices continually rises, so has global concern about the impact of these technologies. While these technologies certainly offer numerous opportunities for learning and connectivity, excessive screen time has raised concerns about its potential impact on individuals' physical health, mental well-being and social skills. This has led to multiple guidelines on screen time limits for children and adolescents being issued globally, with a widely accepted two-hour daily limit for those over the age of 11

(Oswald et al., 2020). Worryingly, existing studies pre- and post-pandemic demonstrate that a significant number of adolescents worldwide exceed the recommended limit (Lua et al., 2023; Bucksch et al., 2016). Furthermore, the restrictions imposed during the COVID-19 pandemic has led to a notable increase in the total screen-time use of adults, adolescents and children (Trott et al., 2022).

1.1.1.1 Relationship between teenagers and their devices

During the peak of the COVID-19 pandemic, an estimated 1.37 billion children and adolescents in 138 countries were impacted by school closures and switched to online learning (United Nations Educational, Scientific and Cultural Organization, 2020). Lockdowns and social distancing measures that remained in place long after the initial outbreak have also led to an increased engagement with and reliance on digital devices to remain socially connected (Subudhi & Palai, 2020). A systematic review of major global databases affirms this observation — it is estimated that the total time spent on digital devices among adolescents aged 11–17 years old has increased by 0.91 hours per day as a result (Trott et al., 2022). Other country- and region-specific studies show similar trends. Kiss et al. (2022) found, using data from the Adolescent Brain Cognitive Development Study, that young American adolescents' recreational screen time increased substantially in the first year of the pandemic relative to pre-pandemic times. For Indonesian adolescents, 60.5 per cent were also found to have greater screen time while in lockdown (Koa et al., 2022).

Although the pandemic disrupted the lives of individuals across all age groups, the increased screen time among adolescents warrants particular attention due to its unique implications. Oswald et al. (2020) found that adolescence is the period where the cumulative impact of screen time becomes more apparent. Echoing this sentiment, local medical authorities highlights that adolescents are especially susceptible due to the accessibility of having “the internet in your pocket” (Subramaniam et al., 2024). Unlike older adults, who often regulate their emotions through physical activities or direct interpersonal communication, adolescents are more likely to rely on their devices for socialisation, a behaviour associated with lower levels of self-control (Subramaniam et al., 2024). Jonathan Haidt (2024) posits that this dependence on digital technology began to escalate in the early 2010s where much of adolescents’ social interactions transitioned online. While it is certainly not the sole contributing factor, the ubiquitous presence of smartphones fundamentally altered the developmental trajectories of young people, influencing domains such as friendships, identity formation, academic performance and sleep patterns (Haidt, 2024).

1.1.1.2 Singaporean teenagers

Smartphones dominate the screen-time habits of Singaporean teenagers, with their use deeply embedded in their daily routines (Toh et al., 2019). Functional, personal and external factors drive this extensive usage, including the irresistibility of mobile devices, their value for entertainment and relaxation, and the high prevalence of use among peers, family members and for schoolwork (Toh et al., 2019). Conversely, school or parental control measures and limited

internet availability serve as moderating influences. According to a study conducted by the Institute of Mental Health (IMH), nearly half of Singaporean youths aged 15 to 21 display problematic smartphone use (PSU), characterised by excessive dependence on and time spent with devices (Subramaniam et al., 2024). PSU is identified using the Smartphone Addiction Scale-Short Version, a widely used psychometric tool that screens for adolescents at a high risk for smartphone addiction (Kwon et al., 2013). It consists of 10 self-reported items rated on a 6-point Likert scale, ranging from “strongly disagree” to “strongly agree.” Higher total scores indicate greater smartphone addiction, with thresholds set at 31 or above for males and 33 or above for females to signify problematic use (Kwon et al., 2013). Examples of the statements in the tool include assessing whether respondents feel impatient or fretful when without a smartphone, experience physical discomfort during smartphone use or struggle to concentrate on work due to smartphone usage (Kwon et al., 2013). The COVID-19 pandemic may have exacerbated the problem, contributing to higher PSU rates among younger respondents compared to older demographics as they turned to their devices for communication purposes (Subramaniam et al., 2024). Those with PSU were at least three times more likely to experience moderate or severe symptoms of depression, anxiety and insomnia than unaffected individuals Subramaniam et al., 2024). Hence, it comes as no surprise that PSU was linked to lower positive mental health.

1.1.1.3 Relationship between adults and their devices

Although much of the literature focuses on children and adolescents’ device usage, adults were also significantly impacted by COVID-19 restrictions and

relied heavily on digital devices for work-related tasks, social connection and entertainment. Trott et al.'s (2022) global data review reported an increase of 0.96 hours of total screen time per day in adults — compared to the 0.91 hour increase in adolescents — and a 0.72 hour increase in leisure screen time. These changes have had lasting impact on the lifestyles of adults around the world, with the use of electronic screen devices seamlessly blended into individuals' daily routines (Santos et al., 2024). For example, the blurring of the work-life boundary has, on one hand, provided individuals with greater control and flexibility in their work routines, but on the other hand allowed non-work stress to interfere with work and created pressure to respond to work messages during non-work hours (Schuster et al., 2023). Consequently, several studies suggest that it can be challenging to disengage from work while at home (Berkowsky, 2013; Derks et al., 2014; Schlachter et al., 2018). This phenomenon extends beyond the individual worker, as parents of young children who frequently use their smartphones during daily family interactions may disrupt essential parent-child interactions, which are crucial for child development and fostering strong parent-child bonds (Konrad et al., 2021). Overall family cohesion may also decrease if such device usage reduces the focus on quality family time (Stevens et al., 2006; Schuster et al., 2023).

Country-specific analysis tends to affirm these conclusions. A study conducted in Australia surveyed 523 respondents using expanded versions of existing device dependency questionnaires, such as the Smartphone Addiction Scale and the Test of Mobile Phone Dependency, to assess phone usage trends (Linden et al., 2021). Participants were categorised based on their level of

dependency: heavily dependent users reported frequent use and unease without their smartphones; moderately dependent users used their smartphones occasionally but preferred to have them nearby; slightly dependent users used their smartphones sparingly but still preferred access; and non-dependent users were comfortable leaving their smartphones behind without concern (Linden et al., 2021). Notably, higher smartphone utilisation was positively associated with greater dependency levels (Linden et al., 2021). In the United States, adults (those between the ages of 30 to 45) spend an average of 255 minutes per day on their smartphones, including 74 minutes on social media (Schuster et al., 2023). According to a Pew Research Center study, 47 per cent of parents feel they spend too much time on their smartphones, a sentiment that varies by household income (Anderson et al., 2024). For parents earning US$75,000 or more annually, 50 per cent reported excessive smartphone use, compared to 41 per cent of those earning between US$30,000 and US$74,999 and 38 per cent of those with incomes below US$30,000 (Anderson et al., 2024). This disparity underscores how socioeconomic factors may influence perceptions and habits surrounding smartphone usage. Despite this, no universal recommendation for healthy screen-time habits in adults exists (Santos et al., 2024).

It comes as no surprise that Singapore, as a “digital first” society, has embraced digital technologies in many aspects of daily life. According to the Singapore Digital Society Report 2023, the local smartphone ownership rate is at a whopping 97 per cent, with almost all residents aged 18 to 59 owning a smartphone (Infocomm Media Development Authority, 2023). Much like the

youth, Singaporean adults seem to depend heavily on their devices; among the nine countries surveyed by digital content delivery company Limelight Networks, Singapore came in fourth in mobile phone dependency (Limelight Networks, 2019). Specifically, nearly half (48.7 per cent) of Singaporeans were unable to forgo their mobile phones for a day, and only 3 per cent would give up their devices for good (Limelight Networks, 2019).

1.1.2 Implications of screen-time use for adolescents

Research on the impact of excessive screen time on adolescents' well-being presents a wide array of findings, with both positive and negative implications. This review will focus on the implications of screen time in three critical domains of adolescent development: physical well-being, socio-emotional well-being and sleep. These areas are particularly important as they collectively shape adolescents' overall health, interpersonal relationships, academic performance and long-term developmental outcomes.

1.1.2.1 Screen time and physical well-being

Excessive screen time among adolescents has been consistently linked to negative physical health outcomes, with particular emphasis on its association with reduced physical activity, obesity and cardiometabolic risks. Indeed, much of the pre-pandemic research supports the displacement hypothesis which suggests that the time adolescents spend on screen-based devices replaces time that could otherwise be allocated to physical activity (Lua et al., 2023). A meta-analysis involving data from multiple regions around the world revealed

that adolescents exceeding two hours of daily screen time were significantly more likely to develop obesity, with each additional hour increasing the likelihood of obesity by 13 per cent (Fang et al., 2019; Zhang et al., 2016). Furthermore, social media usage has been identified as a particularly potent risk factor for obesity, while video game usage shows no such association (Priftis & Panagiotakos, 2023). Active video games that require movement or physical exertion could be the reason for this observation: a review of six randomised control trials conducted on adolescents aged 12 to 19 found that active video games effectively and sustainably increased their physical activity as compared to conventional approaches (Williams & Ayres, 2020).

Interestingly, not all screen-based activities are detrimental to physical well-being. Emerging evidence suggests that specific screen-based technologies can promote physical activity, particularly during the COVID-19 pandemic when traditional opportunities for exercise were limited. For example, a 10-country study in Europe found links between participation in online physical education lessons during the pandemic and healthy levels of physical activity (Kovacs et al., 2021). While outdoor physical activity of at least two hours per day remains as the preferred routine to maintaining a healthy and active lifestyle, such online health interventions are particularly useful in environments where access to outdoor play is restricted (Kovacs et al., 2021).

In totality, the impact of screen time on adolescents' physical health is complex, varying by type, duration and timing of use. While excessive screen time is

clearly associated with lower physical activity, obesity and cardiometabolic risks, certain screen-based activities may offer opportunities for promoting physical health, especially during periods of restricted mobility such as the pandemic.

1.1.2.2 Screen time and socio-emotional well-being

The socio-emotional well-being of teenagers has become increasingly intertwined with their screen-time habits, particularly in the context of digital communication and online social support. This trend was exacerbated during the COVID-19 pandemic as digital communication technologies such as video calls and social media allowed adolescents to remain connected and socialise with their peers despite physical restrictions (Lua et al., 2023). Some studies suggest that this is a positive development; a meta-analysis of 31 studies found a positive association between using social media and emotional and informational support (i.e., the provision of advice that helps others overcome difficulties), with this effect being pronounced in individuals who faced difficulties in relating face-to-face with others (Liu et al., 2018).

However, there are concerns that excessive screen time and an over-dependence on the digital realm for socialising could harm adolescents' mental well-being. A large-scale Belgium study found that while girls who actively used social media platforms benefitted from a greater perceived online social support and less depressive moods, passive female users and boys experienced the opposite effect on their well-being (Frison & Eggermont, 2016). Furthermore, a study conducted in Belgium with 2,528 adolescents highlighted that offline

social networks were far more significant for subjective well-being than online ones, with the initial beneficial effects of the latter dissipating when offline social support was accounted for (Lua et al., 2023). This suggests that the benefits of online networks are only realised if they extend into adolescents' offline lives (Lua et al., 2023).

1.1.2.3 Screen time and sleep

Adolescents' screen-time habits have a notable impact on sleep, with evidence suggesting that longer screen time is correlated with shorter sleep durations (Lua et al., 2023). A global meta-analysis conducted using 23 sleep studies from every region found a generally negative association between excessive screen use and sleep quality, duration and onset latency (Mei et al., 2018). In this study, excessive screen time referred to the over-use of multiple technological devices (such as mobile phones, computers, televisions and so on), technology use before bed and lengthy daytime usage (Mei et al., 2018). Supporting this, a study in 12 European countries demonstrated that each additional hour of screen time reduced sleep duration by 4.2 minutes, while Singapore's IMH study associated PSU with moderate and severe insomnia (Vandendriessche et al., 2019; Subramaniam et al., 2024). Beyond this, adolescents' bedtime and wake-up time have shifted as a result of their increased recreational screen time during the COVID-19 pandemic, with adolescents generally going to sleep and waking up later than their pre-pandemic routines (Kiss et al., 2022).

Notably, screen use before bedtime has stronger associations with sleep issues, contributing to shorter sleep duration, poorer quality and increased daytime sleepiness (Lemola et al., 2015). Such poor sleep has been attributed by some to device usage replacing sleep, cognitive stimulation from blue light-emitting devices that results in insomnia and a delay in the production of melatonin caused by electromagnetic radiation from mobile phones (Correa-Iriarte et al., 2023; Kheirinejad et al., 2023; Wood et al., 2006).

1.1.3 Implications of screen-time use on adults

1.1.3.1 Screen time and physical health

Overall screen time was consistently associated with lesser physical activity and negative health outcomes in adults, of which gaming and social media were the leading causes of sedentary behaviours (Trott et al., 2022). However, much like the youth, active video games and other technology-driven physical activities were generally found to promote physical activity in adults, with this effect being particularly pronounced during the COVID-19 pandemic (Trott et al., 2022). Trott et al.'s (2022) meta-review also found strong correlations between eye health and increased screen time. Specifically, dry eye syndrome was consistently associated with increases in screen time, and upwards of six hours of daily screen time were found to cause symptoms of digital eye strain, such as red eyes, sensitivity towards bright light, eye pain and excessive blinking (Trott et al., 2022).

1.1.3.2 Screen time and mental well-being

Studies investigating the effect of the pandemic on these associations yielded conflicting results, with reports finding significant associations in both directions and some studies finding no associations (Santos et al., 2024; Trott et al., 2022). Specifically, 88 per cent of studies on depression identified a link with increased screen time, while 68 per cent and 56 per cent of studies found similar associations for anxiety and stress, respectively (Santos et al., 2024). Still, some studies observed no change in the levels of depression, anxiety or stress. Trott et al. (2022) provides a possible explanation for the starkly contrasting accounts, stating that the heterogeneity in respondents, measurement tools and statistical methodology could cause the differences in outcomes across the various studies. Ultimately, it is difficult to assert conclusively the effect screen time has on adults' mental health.

1.1.4 Approaches to managing screen-time usage

1.1.4.1 Teenagers

Adolescents exhibit varied attitudes and behaviours towards managing their screen time, with many perceiving their usage as appropriate and beneficial. A 2019 study on mobile touch-screen device use among Singaporean adolescents revealed that the majority viewed their device use as suitable and saw no need to limit or change their habits (Toh et al., 2019). This perception often stemmed from their self-implemented control measures or comparisons to peers who they believed spend more time on these devices (Toh et al., 2019). However, some did acknowledge their usage as excessive but reported

difficulty in breaking their established habits. A Pew Research Center survey of 1,453 American teenagers echoed these findings, indicating that approximately half of the respondents considered their screen time to be appropriate, with only a minority of teenagers taking active steps to reduce their usage (Anderson et al., 2024). Interestingly, teenagers who viewed their device use as excessive were more likely to report a decline in their screen time compared to those who felt that their device use was the right amount or too little. Specifically, 57 per cent of teenagers who acknowledged excessive use reported efforts to cut back, compared to just 32 per cent of those who deemed their device use appropriate (Anderson et al., 2024).

1.1.4.2 Adults

How parents approach their children's screen time

Parents adopt varied approaches to managing their teenagers' screen time, reflecting a combination of concerns about its impact and the challenges of regulation. Across multiple studies, parents expressed concerns regarding their adolescents' device usage and viewed their screen time as excessive (Andriyani et al., 2021; McCormack et al., 2020; Toh et al., 2019). In response, many parents recognise the importance of monitoring screen time, with 76 per cent of parents surveyed by the Pew Research Center prioritising limiting the amount of time their adolescent spends on devices (Anderson et al., 2024). Common strategies include setting screen time limits, restricting device usage during certain periods (e.g., examination periods and mealtimes) and controlling internet data plans.

Despite these efforts, parents face barriers to strict regulation, particularly the high prevalence of mobile touch-screen device use among adolescents' peers and within families (Toh et al., 2019). As the ground for socialisation has shifted to the digital realm, cutting off their adolescents' access to their devices would inevitably hinder the adolescents' ability to interact with their peers. The prevalent use of mobile touch-screen devices for school-related matters (e.g., communication purposes, online assignments and hybrid learning) also limits the extent to which parents can restrict device usage. Consequently, some parents find it necessary to balance restrictions with sensitivity to their teenagers' social and educational needs (Toh et al., 2019). On a practical level, parents are unable to regularly monitor and enforce screen time rules, particularly while they are at work or when adolescents are out of the house (Toh et al., 2019). In some cases, parental modelling of device usage and conflicting perceptions of adolescents' screen-time usage led to friction and influenced their willingness to comply with parental controls (Toh et al., 2019). These complexities have led many to conclude that external control measures can only limit adolescents' screen time to a certain extent, and that effective strategies to reduce screen time should involve self-discipline and motivation (Babic et al., 2016; Livingstone & Helsper, 2008; Toh et al., 2019).

How adults manage their screen time

Much of the existing literature on adults' device use focuses on the various effects that their screen-time habits have on their physical and mental well-

being, with little attention paid to the potential strategies one can employ to reduce their screen time. Instead, parents are often surveyed on the control measures used to limit their children's device access. However, the earlier discussion on the negative effects of excessive device usage on adults and their families, and the importance of parental modelling, highlights that a deeper examination into how adults regulate their screen time is warranted.

1.1.4.3 Singapore government

In his 2025 National Day Rally speech, Prime Minister Lawrence Wong flagged rising concern about excessive screen time among children and youth, noting links to poorer sleep, attention difficulties and social well-being. He cautioned that while technology and AI bring opportunities, unchecked device use can erode health and human connection. To address this, he called for a whole-of-society effort where parents set firm boundaries at home, schools model balanced digital habits, and government back these with clear guidelines and support.

Earlier in 2025, a detailed advisory on managing students' use of smart devices during school hours was released by the Ministry of Education (MOE). Existing national health strategies focused on children up to 12 years of age, have updated earlier advisories with stricter guidelines, such as disallowing background screen and social media use under certain ages (Ministry of Health, 2025). As part of the effort to encourage Singaporean youth to lead healthier lives, MOH intends to extend similar guidelines for adolescents in the future (Tushara, 2025).

MOE also plays a significant role in regulating screen use among secondary school students, particularly with the integration of Personal Learning Devices (PLDs) in schools and the increased frequency of online remote learning. MOE has developed a framework to ensure that PLD use in schools is balanced with other educational activities, and that screen time remains within reasonable limits (Ministry of Education, 2021). In addition, the MOE has empowered parents by providing resources such as the "Student Kit for Cyber Wellness and Learning with a PLD" which emphasises safe and responsible use of technology. For non-school issued devices, MOE's latest guidance urges primary and secondary schools to set designated phone storage spaces for students to deposit their devices during school hours and disallow its usage outside specific areas (Tushara, 2025).

Despite these efforts, concerns remain about the level of parental control over adolescents' screen time outside of school. An interview with Education Minister Chan Chun Sing revealed that existing measures might not be fully utilised, as 75 per cent of parents do not alter the default device management settings installed on their children's PLDs, which could allow for more stringent regulation of screen time (Tushara, 2025). He acknowledged that while schools can regulate the use of digital devices during school hours, it is up to the parents to manage their children's usage at home (Tushara, 2025). As such, the 2025 MOH guidelines place a great deal of importance on the role of parents and

families in modelling and managing their children's device-use habits (Ministry of Health, 2025).

1.1.5 Proposed Research Focus

This study endeavours to expand on the existing literature on device usage by examining the screen-time habits and perceptions of adolescents and parents in the Singaporean context, while also addressing the gap in understanding the strategies that adults employ to manage their own and their children's device use.

2. METHODOLOGY

2.1 Survey Construction

The survey was designed to collect data on and provide a detailed understanding of screen-time habits of teenagers and parents in Singapore. The survey delved into screen-time usage, asking respondents to detail the amount of time spent on various electronic devices and activities on a typical day while evaluating perceptions of whether certain screen activities were considered harmful or beneficial. It also obtained subjective perceptions of respondents' beliefs about their time spent on their electronic devices and if they found it difficult to reduce screen time. Parents were additionally asked about how they utilised different strategies to manage and limit their children's screen time, if any.

To assess the impact of screen time, the survey also included questions about physical and mental well-being, social interactions and daily activities. Questions about sleep quality, physical discomfort and emotional responses related to screen usage were also asked.

Opinions about potential policies and recommendations to manage screen time, such as government regulations, mandatory breaks and digital literacy education were also gathered to understand public support for various strategies to manage screen time.

Demographic information was also collected to analyse how perceptions could vary across different demographic profiles. Two attention checks were included in the survey to ensure that respondents were carefully reading and processing the questions; those who failed these checks were terminated from the survey and their responses were not included in the data for analysis. Where applicable, items in a question were placed in random order to mitigate ordering effects.

2.2 Respondent Sampling

The survey data presented in this paper was collected through a commercial survey panel, from 1,033 parents who are Singapore residents (i.e., Singapore Citizens and Permanent Residents). Of these, 517 parents had a participating teenage child aged 13 to 19 who also completed the survey, resulting in 517 matched parent-child dyads. The remaining parent respondents completed the survey independently, without a corresponding child respondent. Data collection for the survey was carried out from September 2024 to October 2024.

To ensure meaningful comparisons with lower-income households, the study tapped an existing IPS panel that included an additional sample of parents living in HDB 1- to 4-room flats with dependants under the age of 21 years old and monthly household incomes below $7,500. This income threshold was based on the classification of B40 households (i.e., monthly household income at or lower than the bottom 40th percentile of Singaporean households). According to the Department of Statistics (2024), B40 households have a monthly

household income of $7,734. For purposes of confidentiality and data quality, respondents selected their income from brackets, and $7,500 was used as the cut-off for this lower-income group. This approach yielded 220 responses from lower-income households. After excluding responses that did not meet eligibility criteria or responses that contained invalid data, a total of 195 responses were analysed.

2.3 Demographics

This study aimed for a sample representative of the national population in terms of gender, age and ethnicity. However, due to the nature of online survey data collection, there was a slight deviation from the national statistics when it came to ethnic proportions. This was addressed by weighting the data collected from the parent respondent sample by ethnicity (Figure 2.3).

FIGURE 2.1: COMPARISON OF SURVEY AND NATIONAL PROPORTIONS BY GENDER (%)

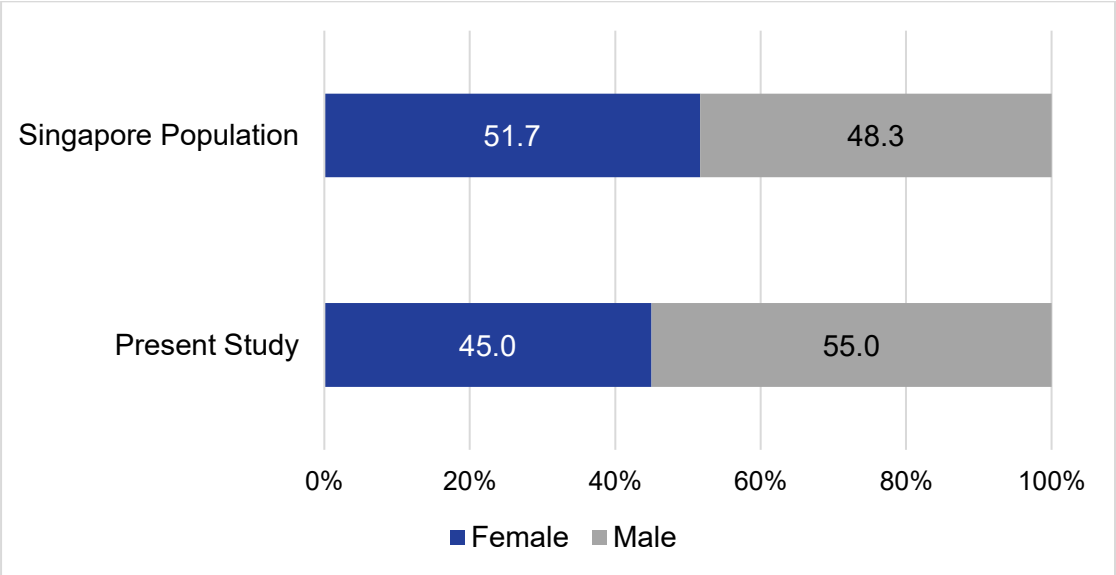


FIGURE 2.2: COMPARISON OF SURVEY AND NATIONAL PROPORTIONS BY AGE (%)

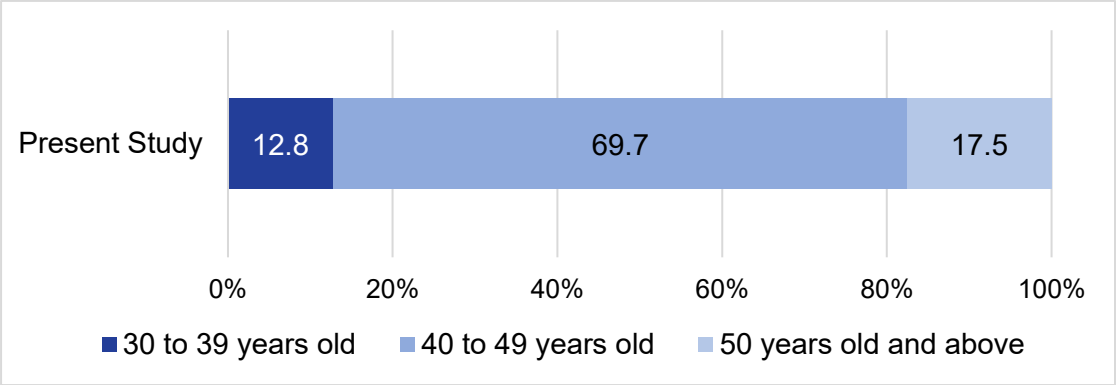


FIGURE 2.3: COMPARISON OF SURVEY AND NATIONAL PROPORTIONS BY ETHNICITY (%)

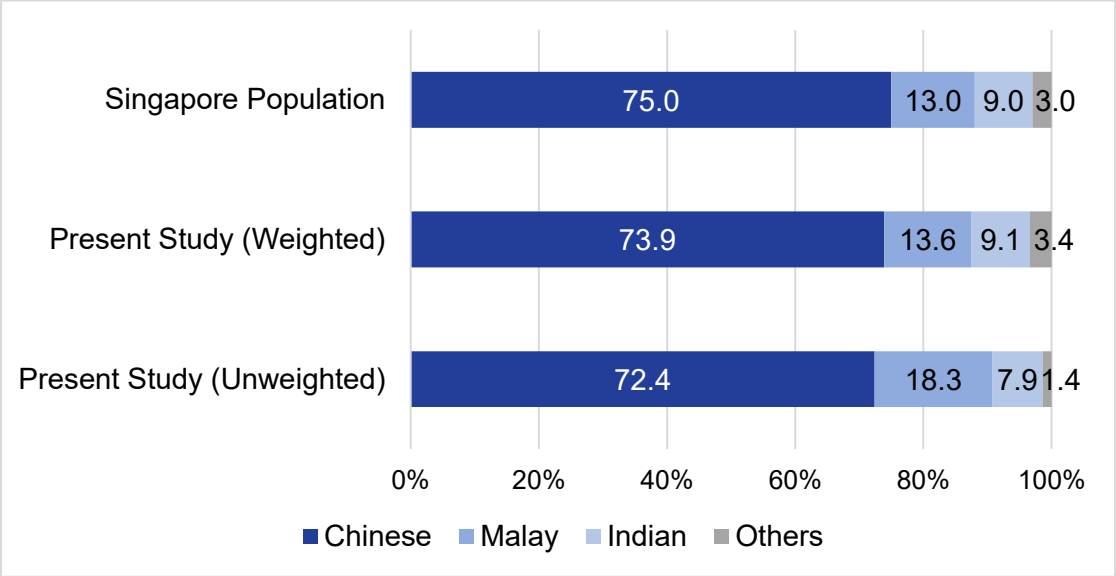
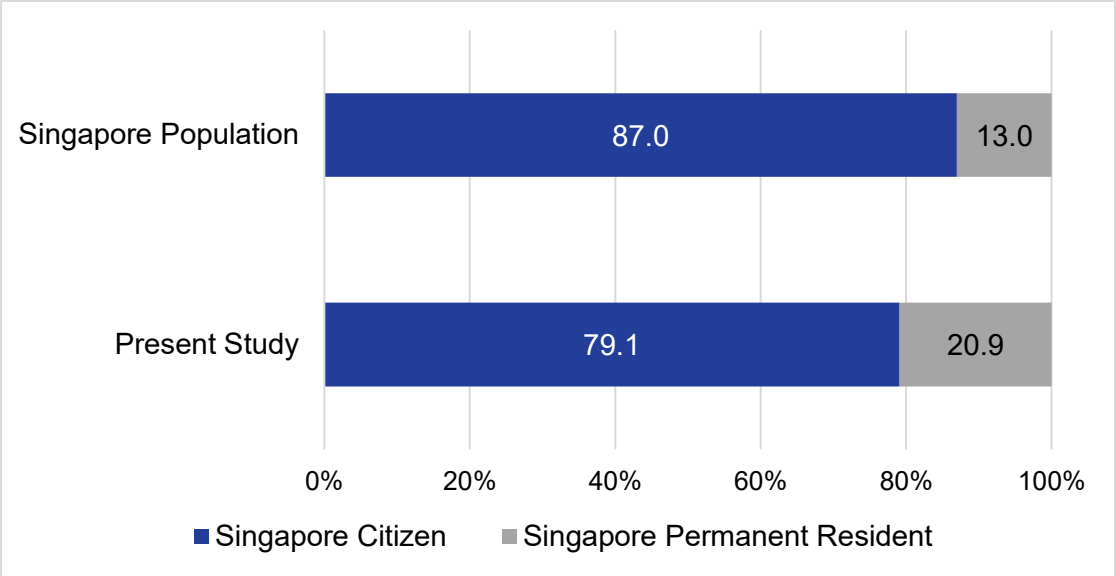


FIGURE 2.4: COMPARISON OF SURVEY AND NATIONAL PROPORTIONS BY CITIZENSHIP STATUS (%)



Figures 2.5 and 2.6 present the distribution of respondents by housing type and highest education level attained, respectively. Among the survey respondents, 15.6 per cent lived in HDB 1- to 3-room flats, 70.2 per cent lived in HDB 4- to 5-room and executive flats, and 14.1 per cent lived in private properties (i.e., private apartments, condominiums, landed properties; Figure 2.5). More than half of the parent respondents had a Bachelor's degree or higher, 25.9 per cent had completed post-secondary education, and 15.3 per cent had secondary and lower levels of education attainment (Figure 2.6).

FIGURE 2.5: RESPONDENT SAMPLE PROPORTIONS BY HOUSING TYPE (%)

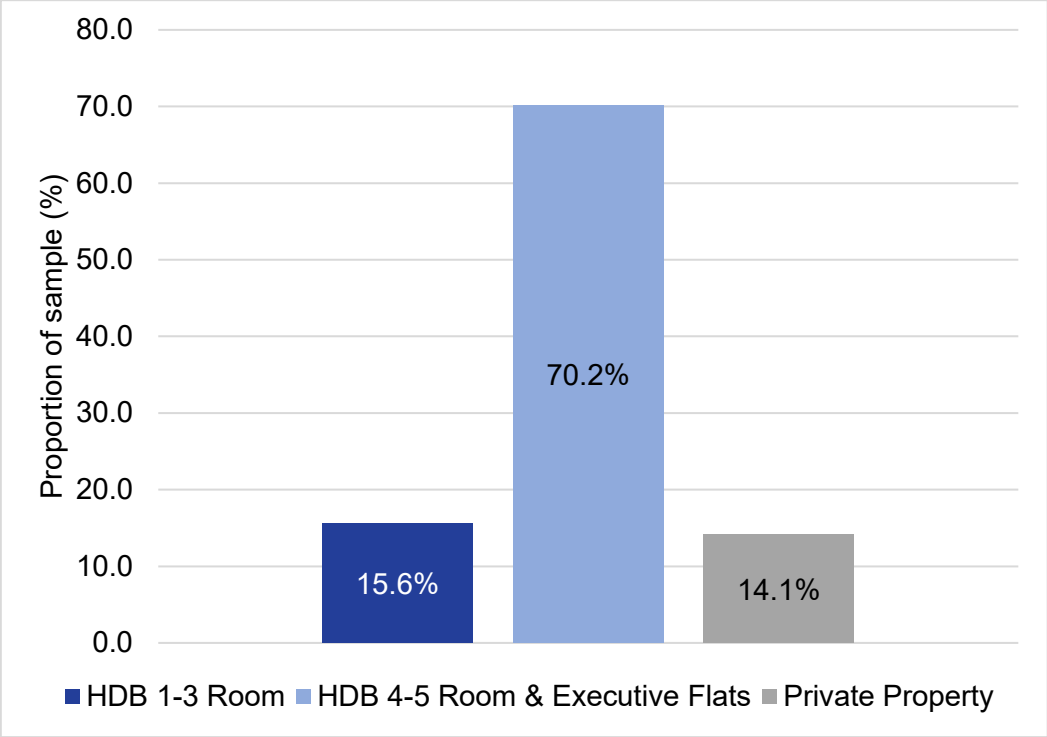
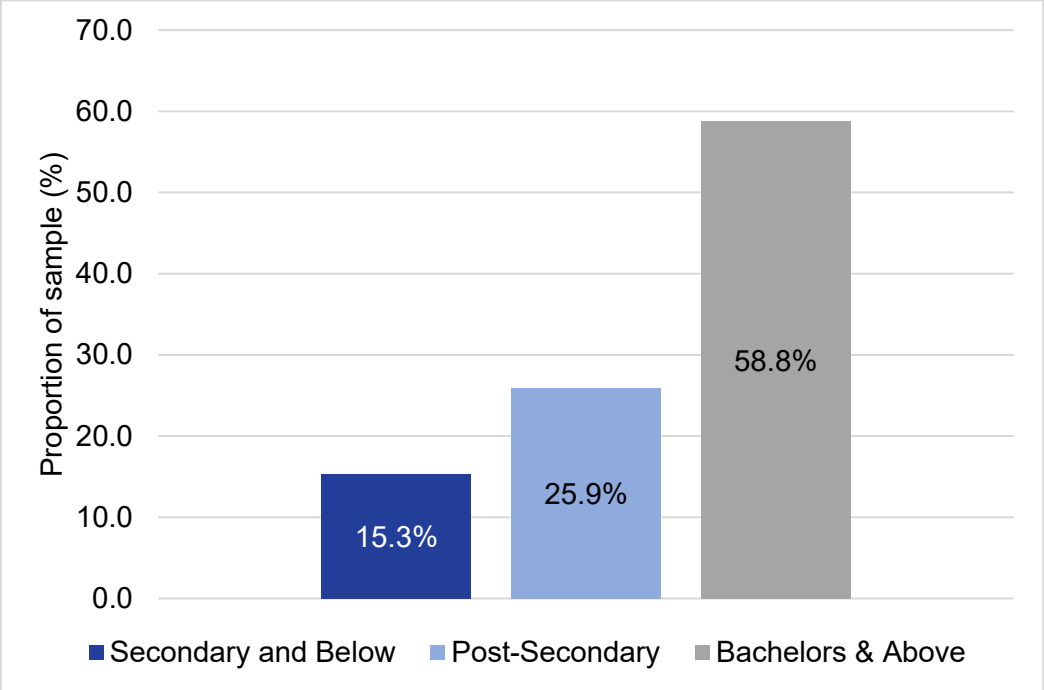


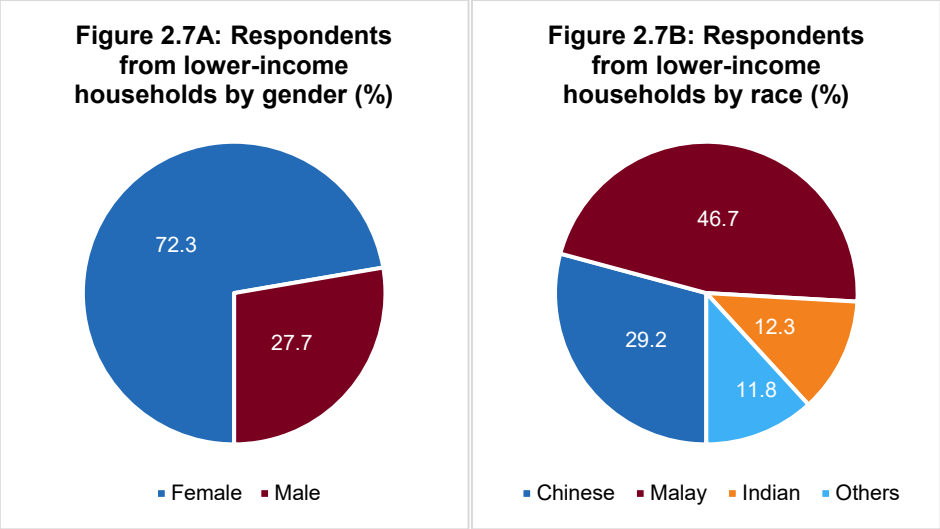
FIGURE 2.6: PARENT RESPONDENT SAMPLE PROPORTIONS BY HIGHEST EDUCATION LEVEL ATTAINED (%)



2.3.1 Lower-income household demographics

In the sample of respondents from lower-income households, 72.3 per cent of respondents were female, while 27.7 per cent were male (Figure 2.7A). Approximately half of respondents were Malay, 29.2 per cent were Chinese, 12.3 per cent were Indian and 11.8 per cent were of other ethnic groups (Figure 2.7B).

FIGURE 2.7: RESPONDENTS FROM LOWER-INCOME HOUSEHOLDS BY GENDER AND RACE (%)



In terms of age, 15.4 per cent of respondents were 21 to 29 years old, 45.1 per cent were 30 to 39 years old, 28.2 per cent were 40 to 49 years old, and 11.3 per cent were 50 years or older (Figure 2.8A). Slightly more than half of respondents had secondary and lower levels of educational attainment, 35.9 per cent had post-secondary education, and the remaining 11.3 per cent of respondents had Bachelor's degrees or higher levels of educational attainment (Figure 2.8B).

FIGURE 2.8: RESPONDENTS FROM LOWER-INCOME HOUSEHOLDS BY AGE AND EDUCATIONAL ATTAINMENT (%)

Figure 2.8A: Respondents from lower-income households by age (%)

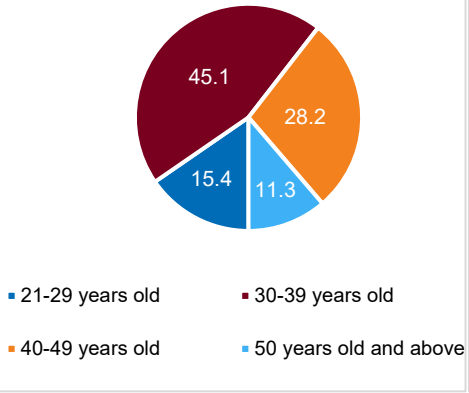
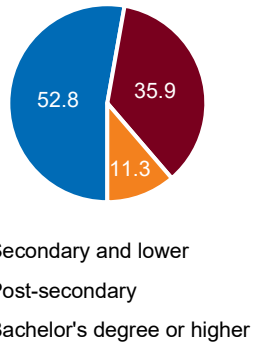


Figure 2.8B: Respondents from lower-income households by educational attainment (%)



In terms of the distribution of monthly personal income, among respondents who answered (n=121), 59.5 per cent of respondents reported earnings of less than $2,500, 32.2 per cent earned between $2,500 and $4,999, 5 per cent earned between $5,000 and $7,499, and 3.3 per cent reported having no monthly personal income (Figure 2.9A). For monthly household income, of respondents who answered (n=192), 50 per cent of respondents lived in households that earned less than $2,500, 32.8 per cent lived in households earning between $2,500 and $4.999, 12 per cent lived in households earning between $5,000 and $7,499; a small proportion of respondents either reported having no monthly household income or were unsure of their monthly household income (4.2 per cent and 1 per cent respectively) (Figure 2.9B).

FIGURE 2.9: RESPONDENTS FROM LOWER-INCOME HOUSEHOLDS BY MONTHLY PERSONAL INCOME AND MONTHLY HOUSEHOLD INCOME (%)

Figure 2.9A: Respondents from lower-income households by monthly personal income (%)

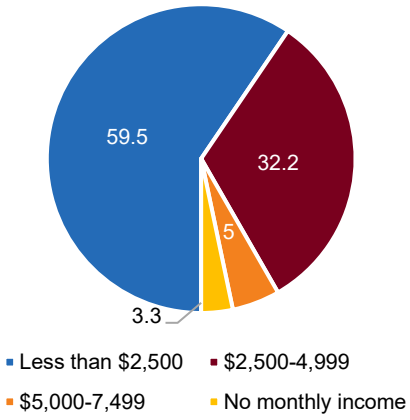
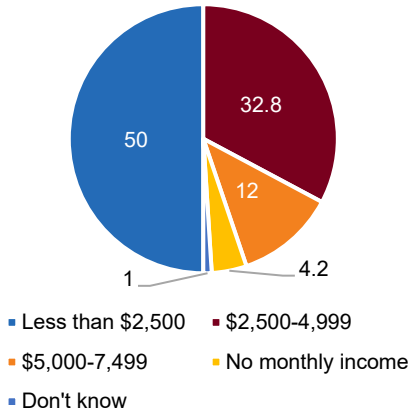


Figure 2.9B: Respondents from lower-income households by monthly household income (%)



3. TRENDS IN SCREEN USE

3.1 Overview

This chapter presents current trends in screen use among both teenagers and parents, offering insights into not just how much time is spent on electronic devices, but also how different devices and digital activities are integrated into daily life. It explores not only quantitative measures, such as average daily screen time across devices and purposes, but also subjective perceptions about screen use, such as whether respondents feel their screen time is excessive and what types of activities are considered legitimate or beneficial.

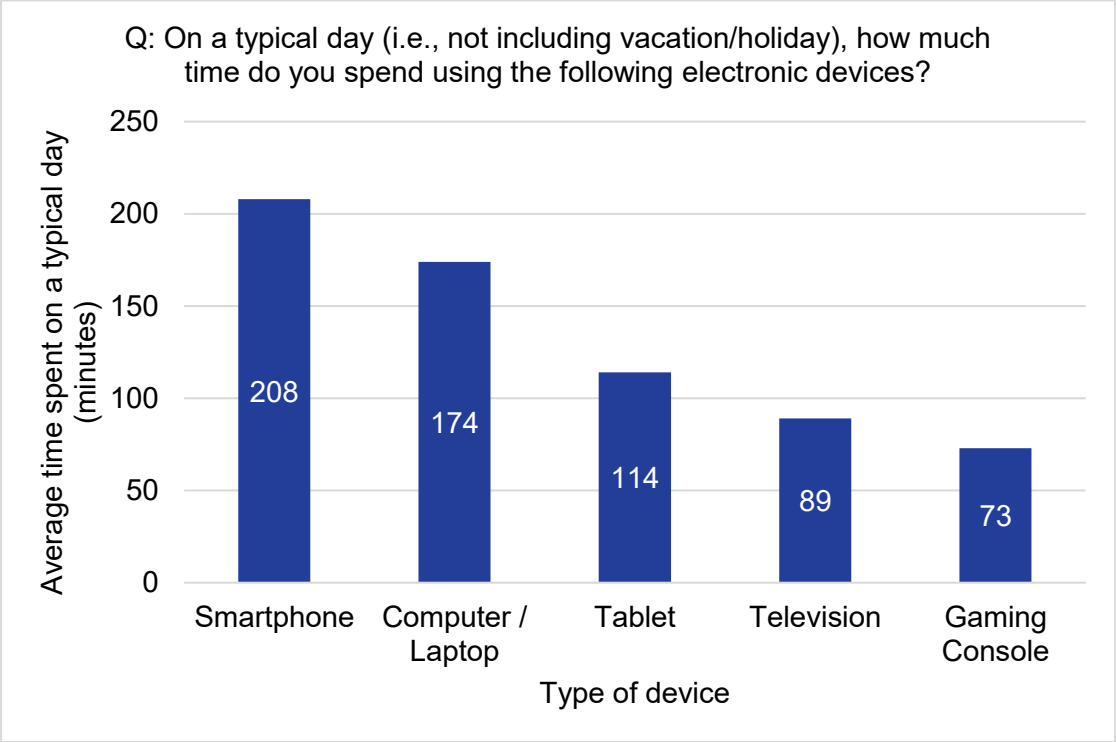
The chapter reveals that both teenagers and parents in Singapore are deeply immersed in digital life, with average daily screen time exceeding eight hours and smartphones being the device most used by both groups. Teenagers primarily use screens for education and entertainment, while parents spend more time on work and entertainment. Social media use is also widespread among teenagers and parents. A sizeable number of both teenagers and parents perceive their own screen time as excessive, and these impressions are matched by significant concern from both parents and teenagers about the impact of screen time.

3.2 Screen-Time Usage

3.2.1 Teenagers spend an average of 8 hours 21 minutes on electronic devices daily

Teenage respondents reported spending an average of 8 hours and 21 minutes on electronic devices on a typical day, and most of this time was spent on their smartphone (about 3.5 hours), followed closely by computer/laptop (about 3 hours), tablet device (about 2 hours), television (about 1.5 hours) and gaming console (about 1 hour; see Figure 3.1).

FIGURE 3.1: AVERAGE DAILY DURATIONS THAT TEENAGE RESPONDENTS SPENT ON DIFFERENT ELECTRONIC DEVICES (IN MINUTES)



In addition, a significant difference in the use of electronic devices was noticed between older teenagers aged 16 to 19 years old and younger teenagers aged

13 to 15 years old. More specifically, older teenage respondents spent significantly more time on their computer/laptop (Figure 3.2) and smartphone (Figure 3.3) than younger teenage respondents.

FIGURE 3.2: COMPARISON OF AVERAGE DAILY DURATIONS SPENT ON COMPUTER/LAPTOP BETWEEN YOUNGER AND OLDER TEENAGE RESPONDENTS (IN MINUTES)

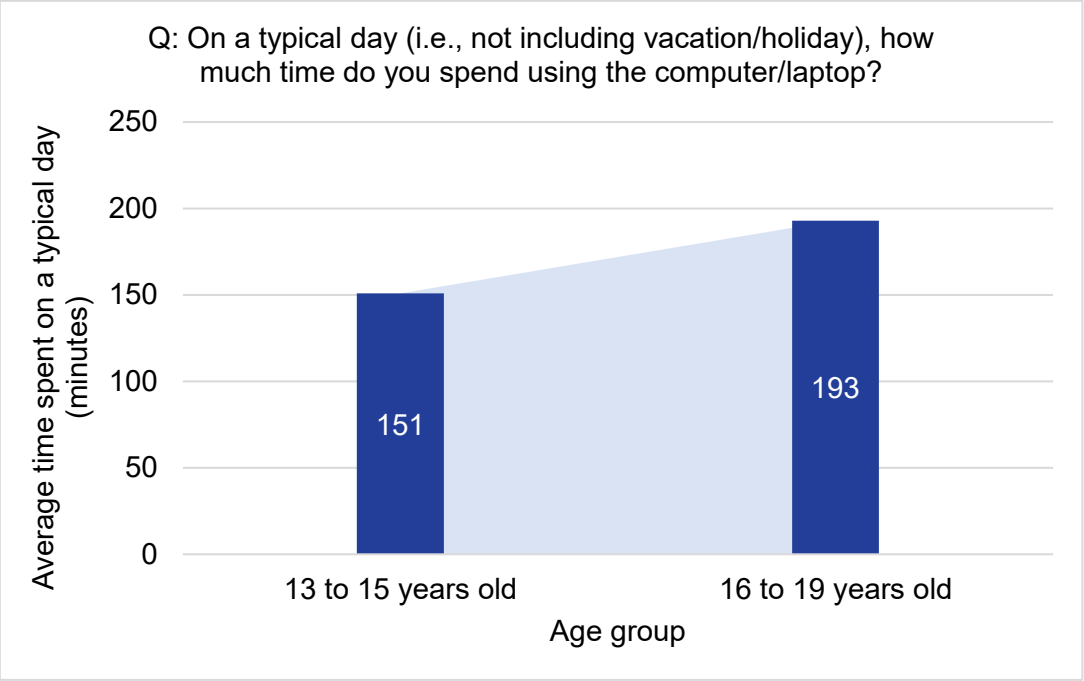
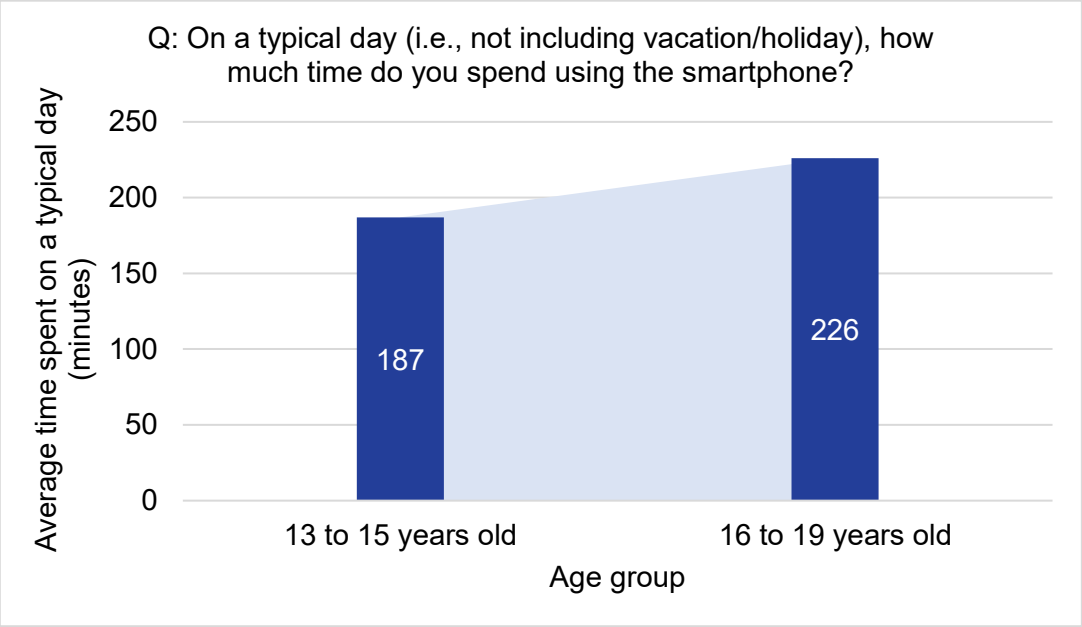


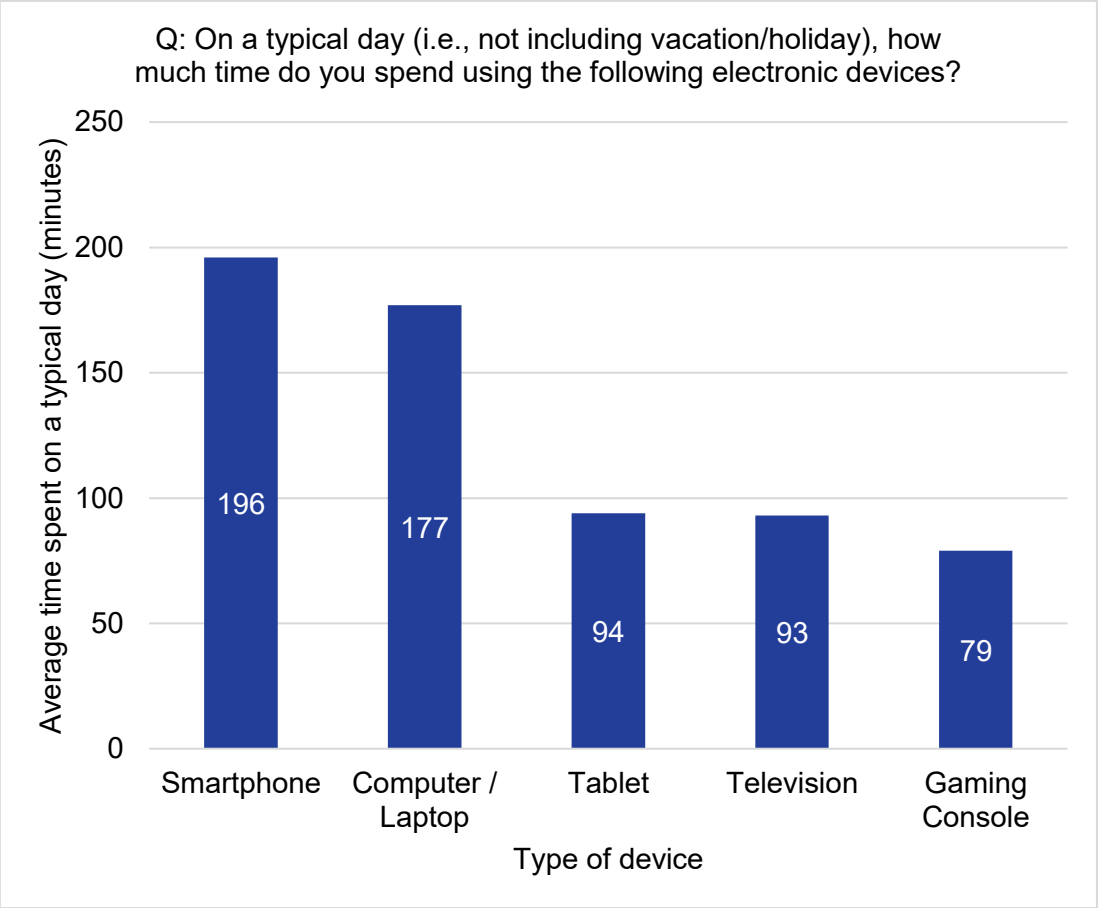
FIGURE 3.3: COMPARISON OF AVERAGE DAILY DURATIONS SPENT ON SMARTPHONE BETWEEN YOUNGER AND OLDER TEENAGE RESPONDENTS (IN MINUTES)



3.2.2 Parents spend an average of 8 hours 44 minutes on electronic devices daily

The amount of screen time reported by parent respondents was similar to that of teenage respondents. In particular, parent respondents reported an average of 8 hours and 44 minutes on electronic devices on a typical day — of which, most of this time was spent on their smartphone (3 hours 16 minutes), followed closely by computer/laptop (about 3 hours), tablet device (about 1.5 hours), television (about 1.5 hours) and gaming console (1 hour 19 minutes; see Figure 3.4).

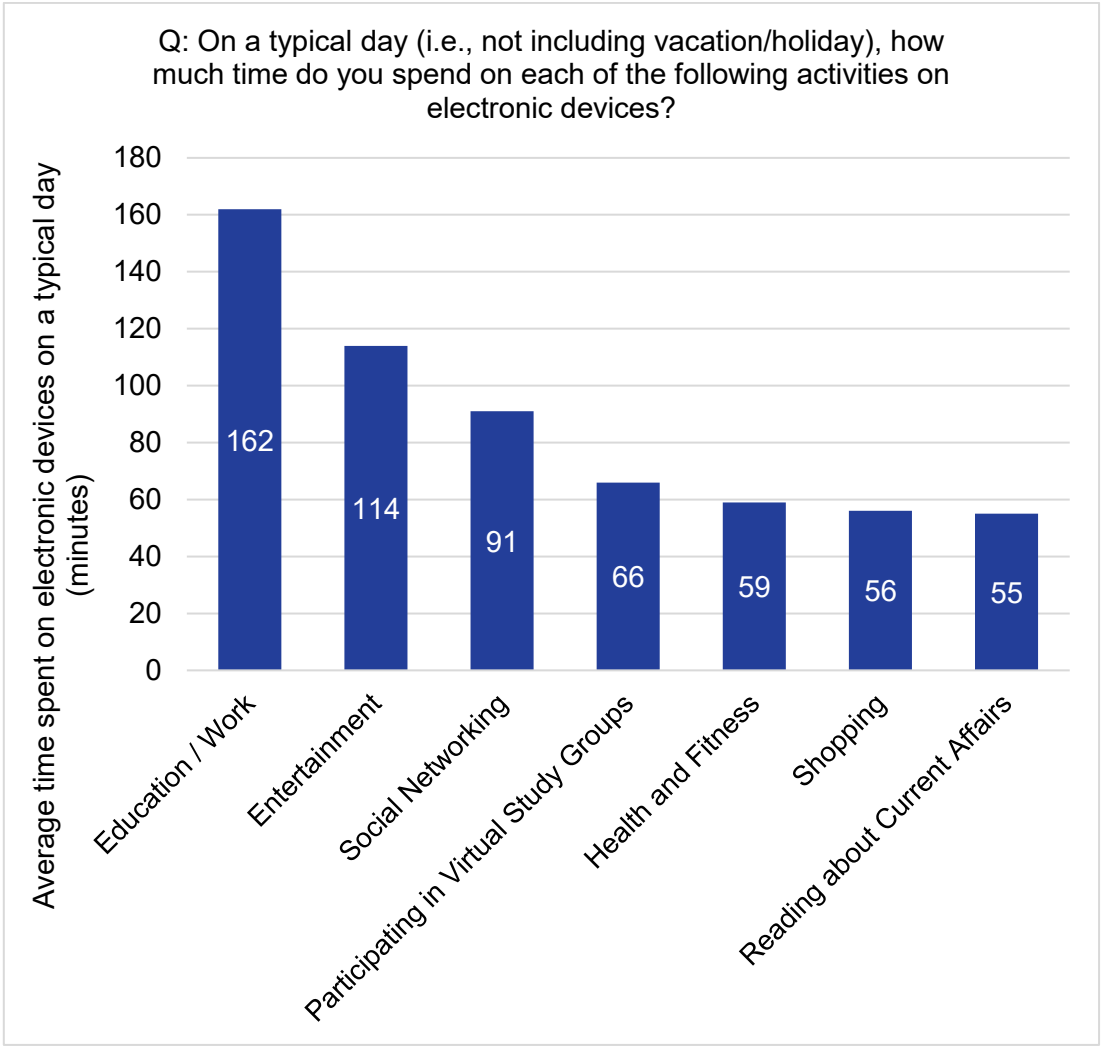
FIGURE 3.4: AVERAGE DAILY DURATIONS THAT PARENT RESPONDENTS SPENT ON DIFFERENT ELECTRONIC DEVICES (IN MINUTES)



3.2.3 Youths spend the most time on education and entertainment, with older youths dedicating more time to education than younger ones

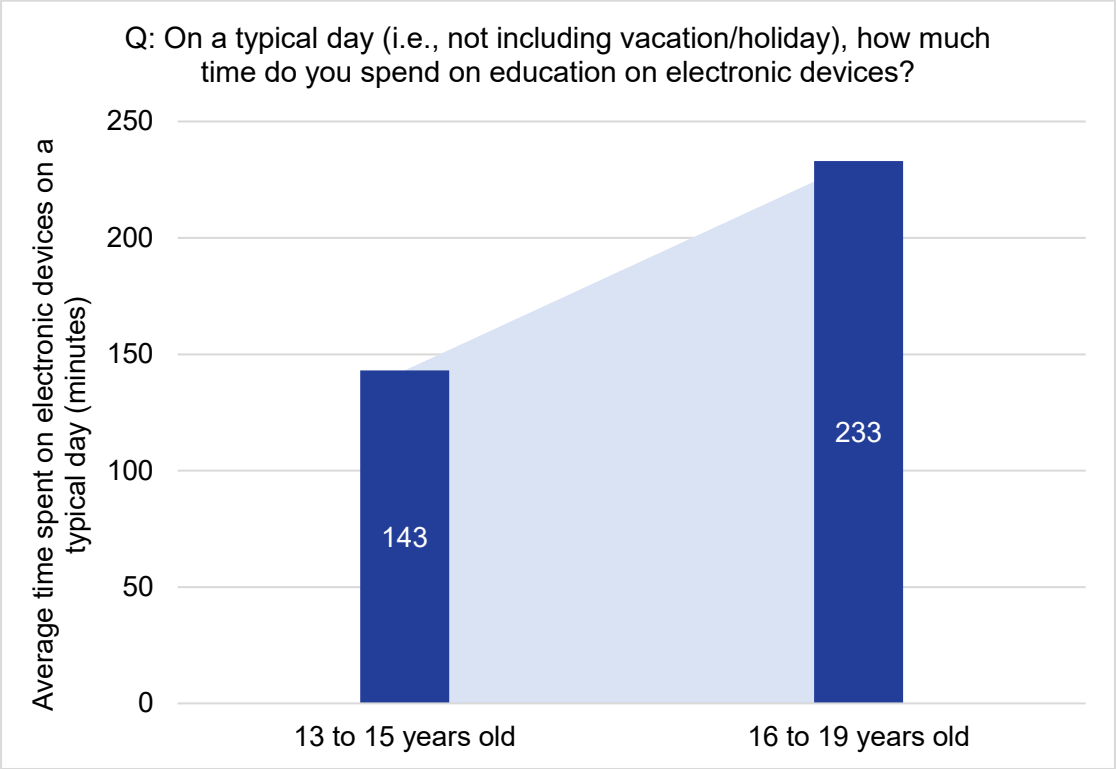
With regard to purpose of use, teenage respondents reported that on a typical day, most of their time spent on electronic devices was for educational purposes (2 hours 42 minutes), followed by entertainment (about 2 hours), social networking (about 1.5 hours), and about 1 hour each for virtual study groups, health and fitness, shopping and reading current affairs (Figure 3.5).

FIGURE 3.5: AVERAGE DAILY DURATIONS THAT TEENAGE RESPONDENTS SPENT ON ELECTRONIC DEVICES FOR DIFFERENT PURPOSES (IN MINUTES)



Similarly, the study also revealed a significant difference in the purpose of use of electronic devices between older teenagers aged 16 to 19 years old and younger teenagers aged 13 to 15 years old, with older teenage respondents spending more time (about 4 hours) for educational purposes than younger teenage respondents (about 2.5 hours; see Figure 3.6).

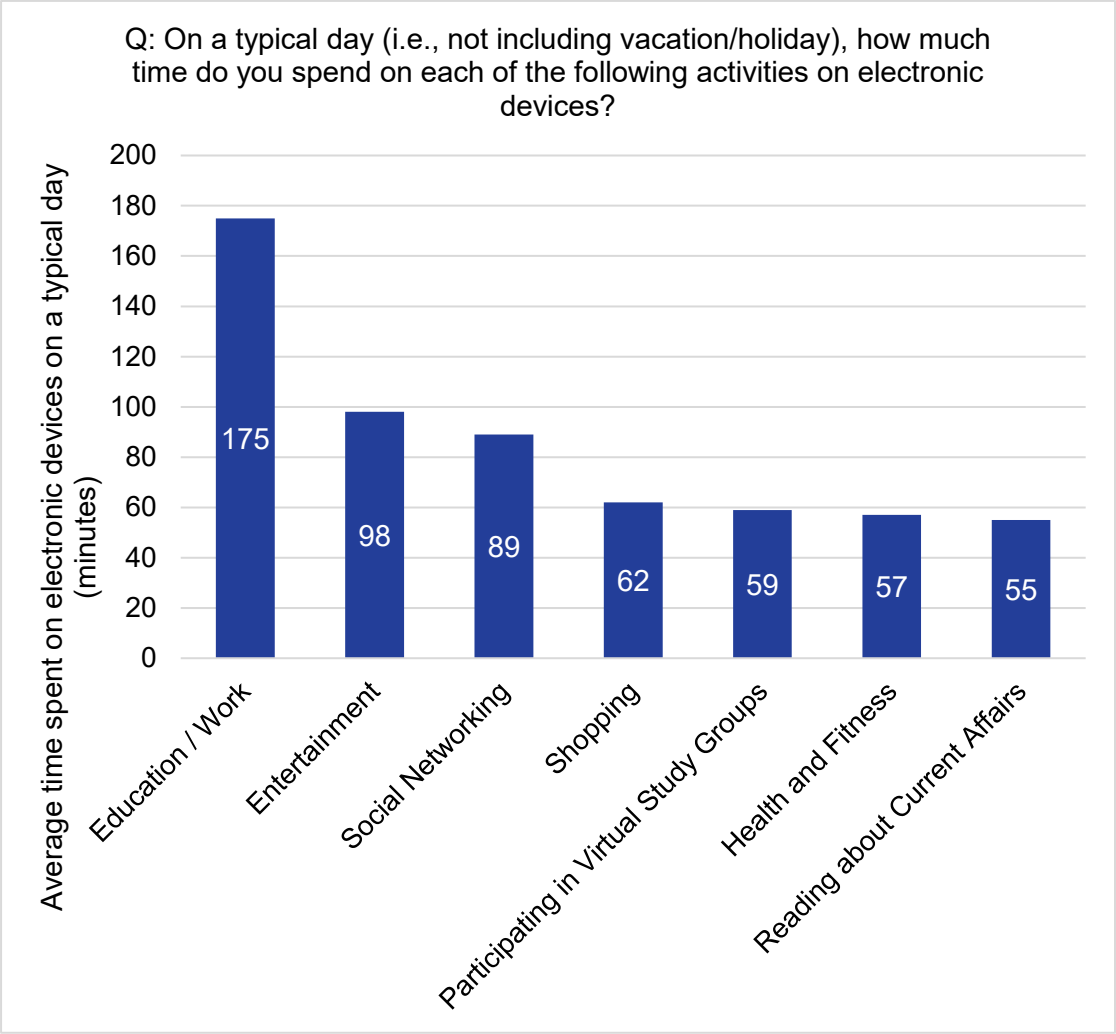
FIGURE 3.6: COMPARISON OF AVERAGE DAILY DURATIONS SPENT ON ELECTRONIC DEVICES FOR EDUCATIONAL PURPOSES BETWEEN YOUNGER AND OLDER TEENAGE RESPONDENTS (IN MINUTES)



3.2.4 Parents spend the most time on work and entertainment, followed closely by social networking

Parent respondents indicated that the purpose of use of electronic devices on a typical day was mostly for work purposes (2 hours 55 minutes), followed by entertainment (about 1.5 hours), social networking (about 1.5 hours) and about 1 hour each for virtual study groups, health and fitness, shopping and reading current affairs (Figure 3.7).

FIGURE 3.7: AVERAGE DAILY DURATIONS THAT PARENT RESPONDENTS SPENT ON ELECTRONIC DEVICES FOR DIFFERENT PURPOSES (IN MINUTES)

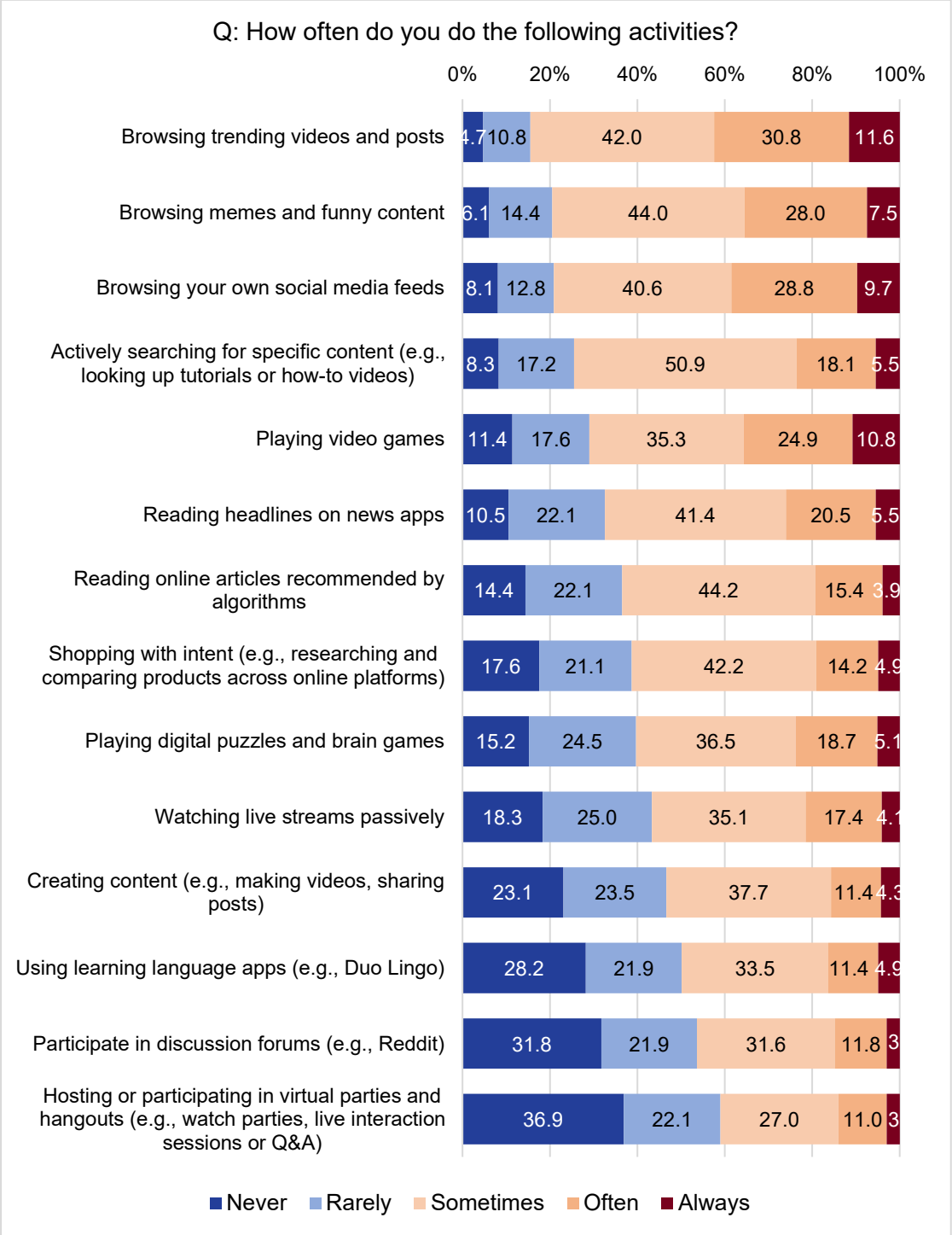


3.2.5 Social media browsing is common among youths, with eight in 10 youths engaging in trending videos, memes and their feeds

We delved further into the frequency of respondents' engagement in various online activities by asking them how often they participate in the activities listed in Figure 3.8. Social media browsing was found to be very popular among the teenage respondents, with about eight in 10 surveyed reporting that they at least sometimes browse trending videos and posts (84.4 per cent), memes and funny content (79.5 per cent) and their own social media feed (79.1 per cent).

Activities like actively searching for specific content and playing video games likewise appeal to a sizeable proportion of teenagers, with 74.5 per cent and 71.0 per cent reporting that they at least sometimes do so. A moderate share of teenagers reported at least sometimes reading headlines on news apps (67.4 per cent), reading algorithm-recommended articles (63.5 per cent) and purposeful online shopping (61.3 per cent). Engagement in more specialised or passive activities — such as digital brain games, watching live streams or creating content — is less common, and only a small minority participate regularly in language learning apps, online discussion forums or virtual social events.

FIGURE 3.8: PERCENTAGE OF TEENAGE RESPONDENTS' FREQUENCY OF ENGAGEMENT IN VARIOUS ONLINE ACTIVITIES (%)

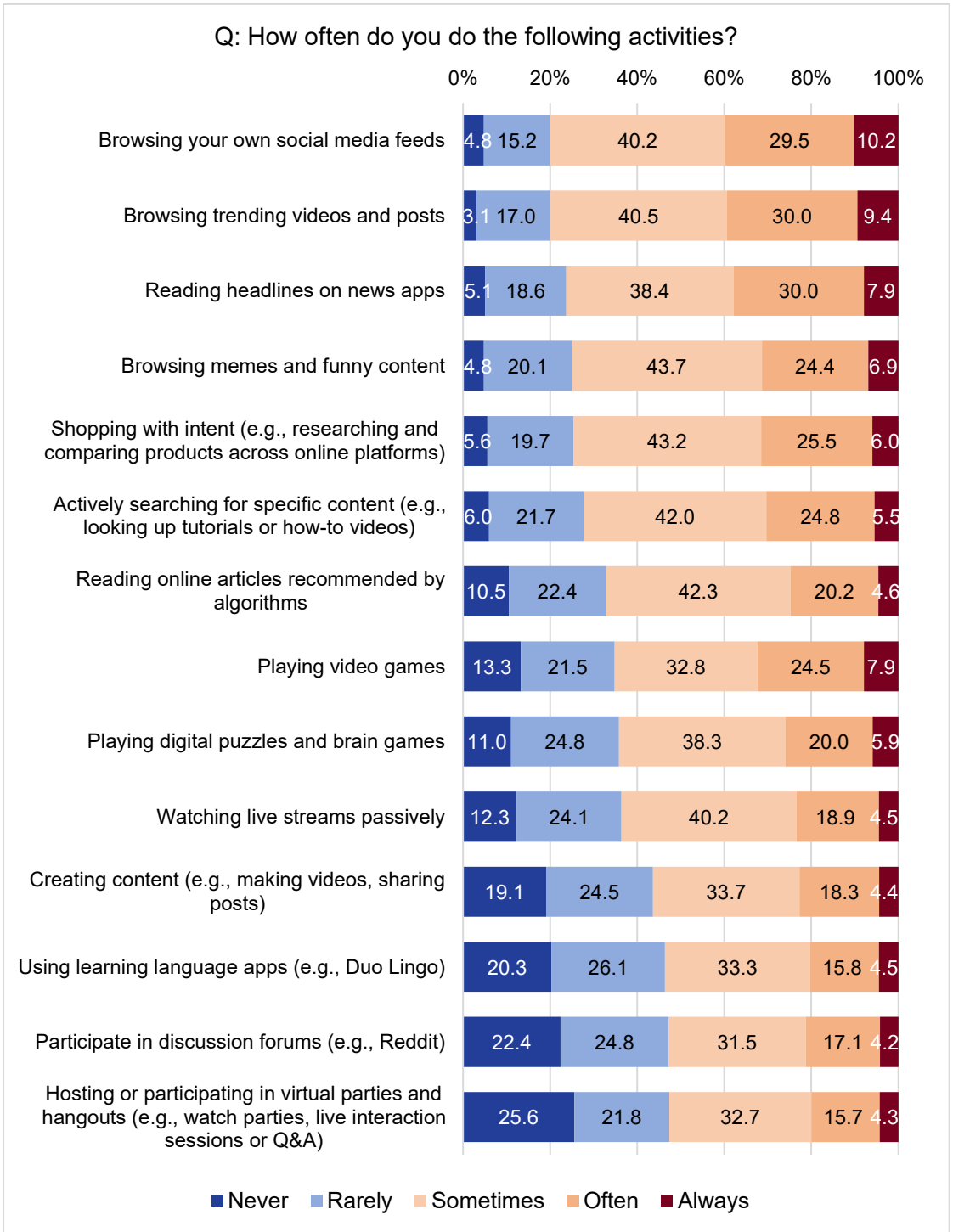


3.2.6 Social media browsing is widespread among parents, with eight in 10 parents engaging with their feeds, trending posts and memes

Likewise, social media browsing was equally popular among parent respondents and teenage respondents. About eight in 10 parent respondents reported that they at least sometimes browse their own social media feed (79.9 per cent), trending videos and posts (79.9 per cent), and memes and funny content (75.0 per cent; see Figure 3.9).

Reflecting a practical orientation in their digital habits, a sizeable proportion of parents at least sometimes keep up with news headlines (76.3 per cent), conduct purposeful online shopping (74.7 per cent) and search for specific content (72.3 per cent). Activities such as reading algorithm-recommended articles and playing video or digital brain games were less common. Activities like watching live streams or creating online content sees even lower engagement, and even fewer parents use language learning apps, participate in online discussion forums or join virtual parties and hangouts.

FIGURE 3.9: PERCENTAGE OF PARENT RESPONDENTS' FREQUENCY OF ENGAGEMENT IN VARIOUS ONLINE ACTIVITIES (%)

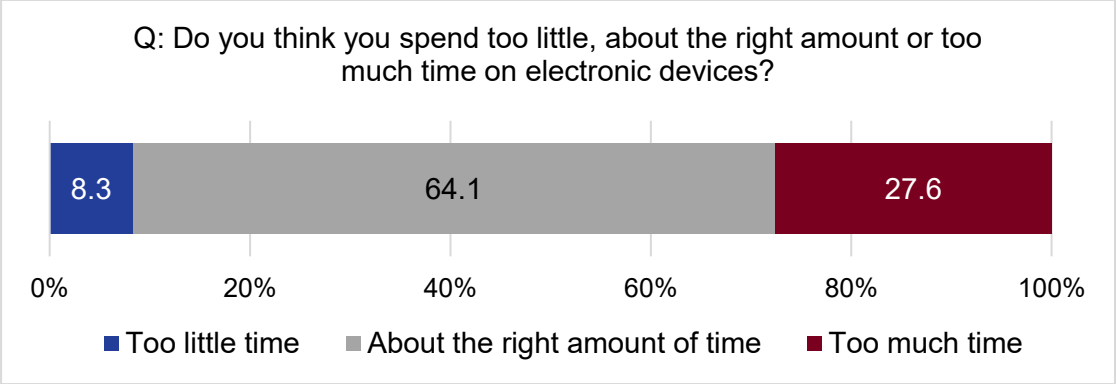


3.3 Subjective Impression of Screen-Time Usage

3.3.1 Close to three in 10 teenagers and parents perceive their screen use as excessive

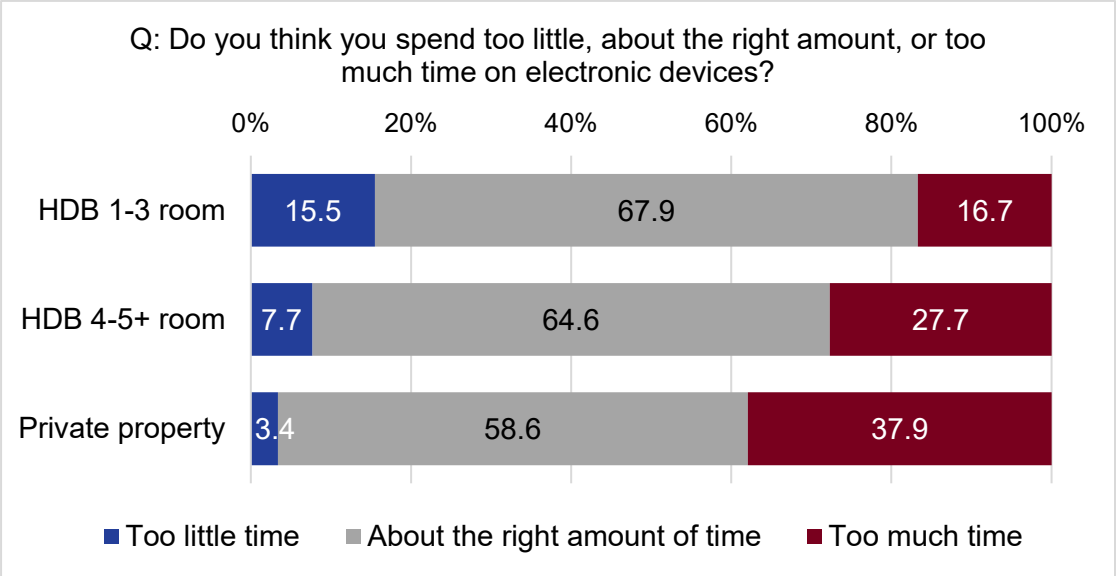
When evaluating their own time spent on electronic devices, 27.6 per cent of the teenage respondents surveyed indicated that they believed they have spent too much time on electronic devices, while 64.1 per cent believed they have spent about the right amount of time on electronic devices.

FIGURE 3.10: TEENAGE RESPONDENTS' PERCEPTION OF THEIR OWN TIME SPENT ON ELECTRONIC DEVICES (%)



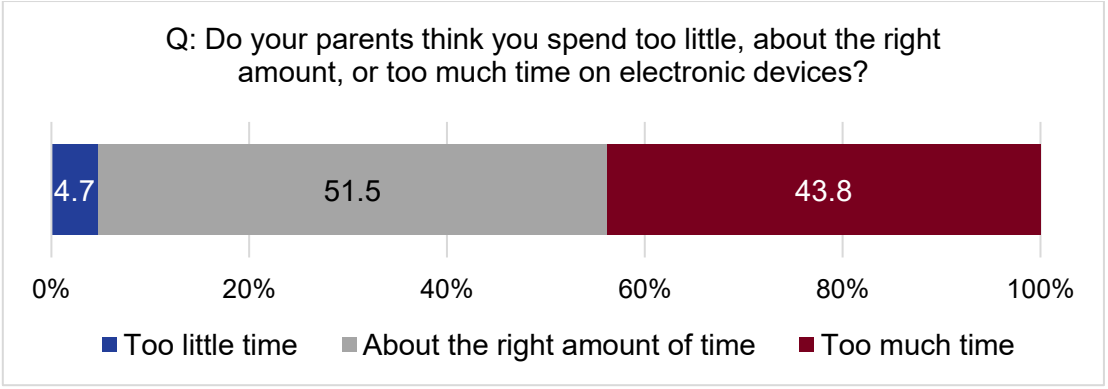
This sentiment varied significantly across teenage respondents living in different housing types. More specifically, teenage respondents residing in costlier housing units were more likely to perceive that they spend too much time on electronic devices (Figure 3.11).

FIGURE 3.11: TEENAGE RESPONDENTS' PERCEPTION OF THEIR OWN TIME SPENT ON ELECTRONIC DEVICES, ACROSS DIFFERENT HOUSING TYPES (%)



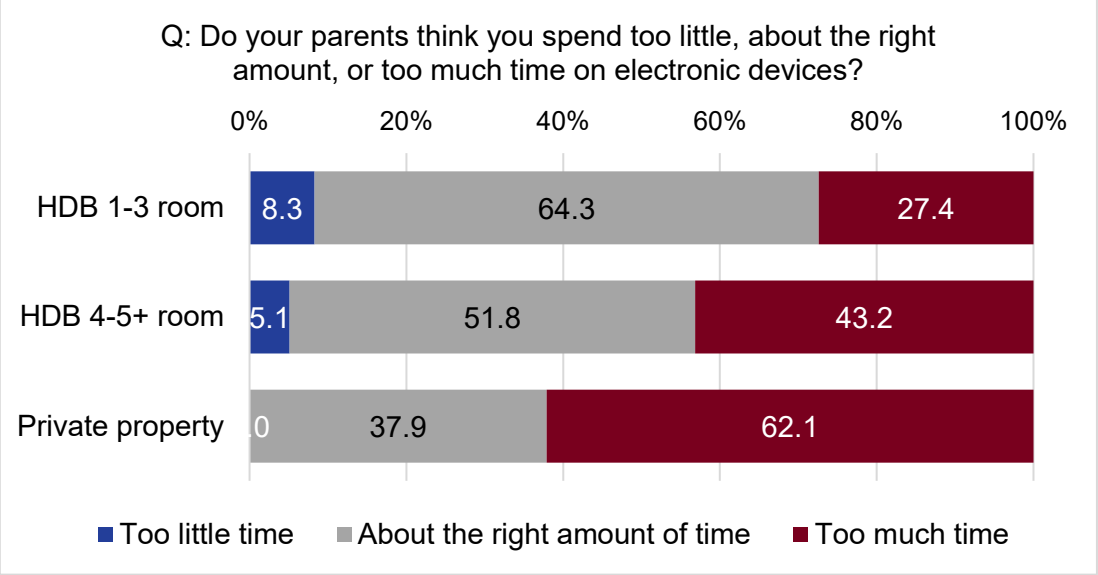
While about one-quarter of teenage respondents perceived their own usage of electronic devices to be excessive, 43.8 per cent of teenage respondents believed that their parents perceive their usage as excessive. Additionally, while 64.1 per cent of the teenage respondents perceived that they have spent about the right amount of time on electronic devices, a smaller percentage of them (51.5 per cent) believed that their parents think that way (Figure 3.12).

FIGURE 3.12: TEENAGE RESPONDENTS' BELIEF ABOUT THEIR PARENTS' PERCEPTION OF THEIR TIME SPENT ON ELECTRONIC DEVICES (%)



Housing type also had a significant influence on the teenagers' belief on their parents' perception here, with teenage respondents living in costlier housing units being more likely to believe that their parents perceive their usage of electronic devices to be excessive (Figure 3.13).

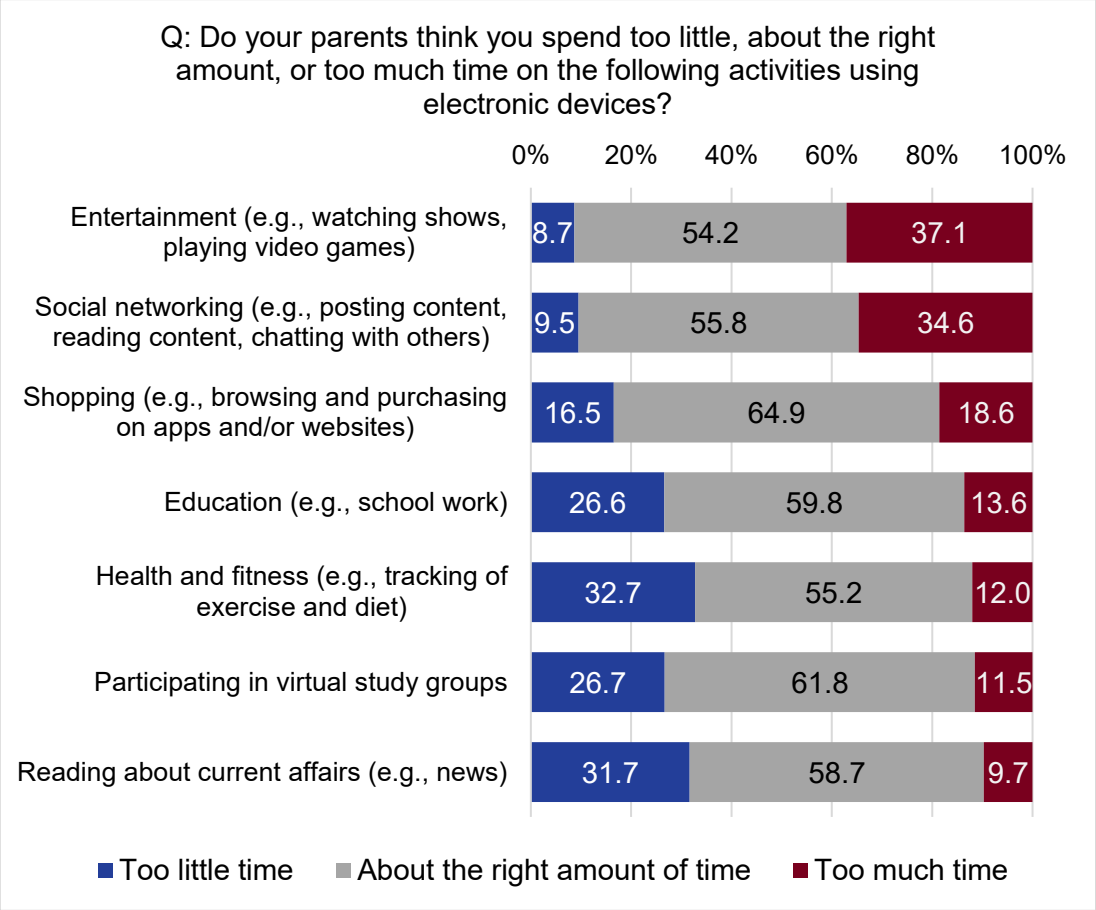
FIGURE 3.13: TEENAGE RESPONDENTS' BELIEF ABOUT THEIR PARENTS' PERCEPTION OF THEIR TIME SPENT ON ELECTRONIC DEVICES, ACROSS DIFFERENT HOUSING TYPES (%)



Nearly four in 10 teenage respondents indicated that they believed their parents think they spent too much time on electronic devices for entertainment (37.1 per cent) and social networking (34.6 per cent). By comparison, about half of the teenagers surveyed believed their parents think they spend about the right amount of time on these activities (54.2 per cent for entertainment and 55.8 per cent for social networking). Fewer teenagers believed that their parents thought they were spending too much time on electronic devices for activities such as shopping (18.6 per cent), education (13.6 per cent), health and fitness (12 per

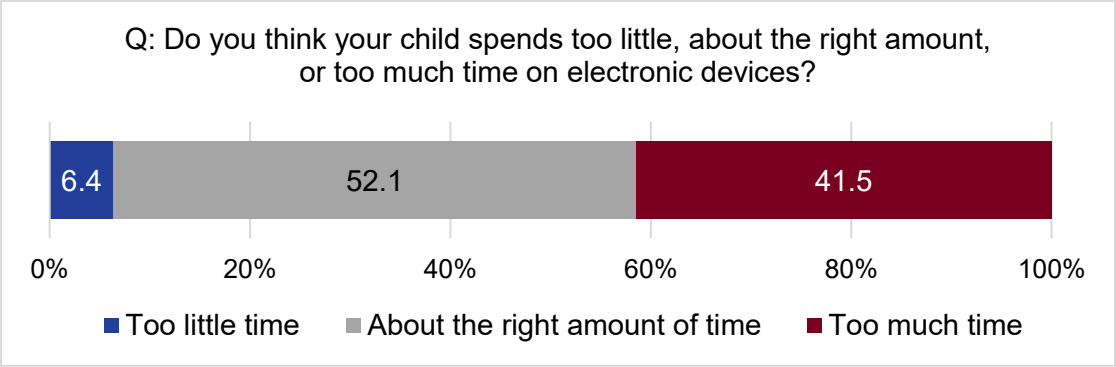
cent), participating in virtual study groups (11.5 per cent) or reading the news (9.7 per cent; see Figure 3.14).

FIGURE 3.14: TEENAGE RESPONDENTS' BELIEF ABOUT THEIR PARENTS' PERCEPTION OF THEIR TIME SPENT ON ELECTRONIC DEVICES, FOR DIFFERENT PURPOSES (%)



Teenage respondents' beliefs about their parents' perception closely matched the actual views expressed by the parent respondents themselves; 41.5 per cent of parent respondents indicated that their child or children spent too much time on electronic devices, while 52.1 per cent believed that their child or children spent the right amount of time on electronic devices (Figure 3.15).

FIGURE 3.15: PARENT RESPONDENTS' PERCEPTION OF THEIR CHILD OR CHILDREN'S TIME SPENT ON ELECTRONIC DEVICES (%)



This perception varied significantly across gender and housing types. Mothers were more likely than fathers to perceive that their child or children's usage of electronic devices was excessive (Figure 3.16). Parent respondents who were residing in costlier housing types (Figure 3.17) were more likely to perceive their child or children as spending too much time on electronic devices.

FIGURE 3.16: PARENT RESPONDENTS' PERCEPTION OF THEIR CHILD OR CHILDREN'S TIME SPENT ON ELECTRONIC DEVICES, ACROSS DIFFERENT GENDERS (%)

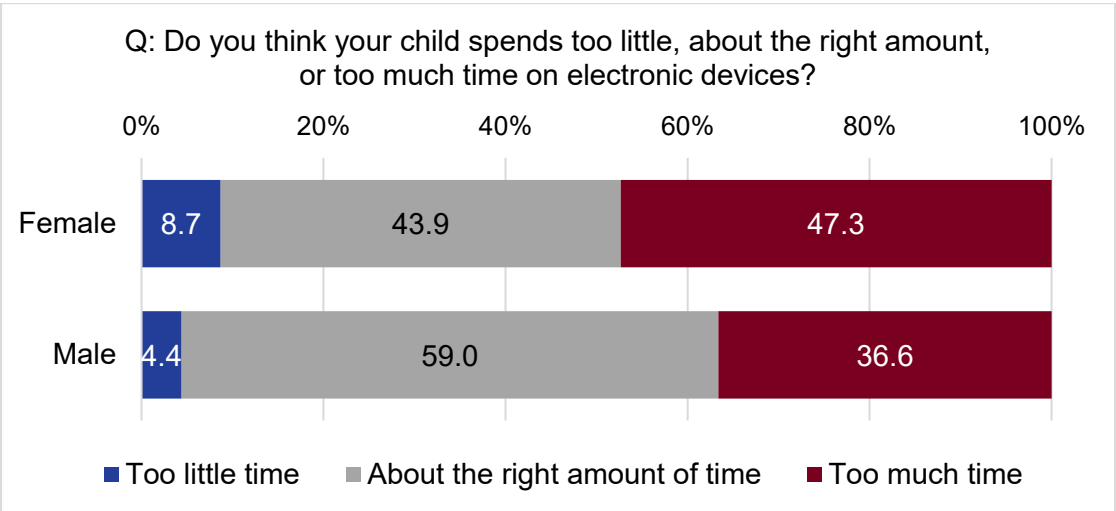
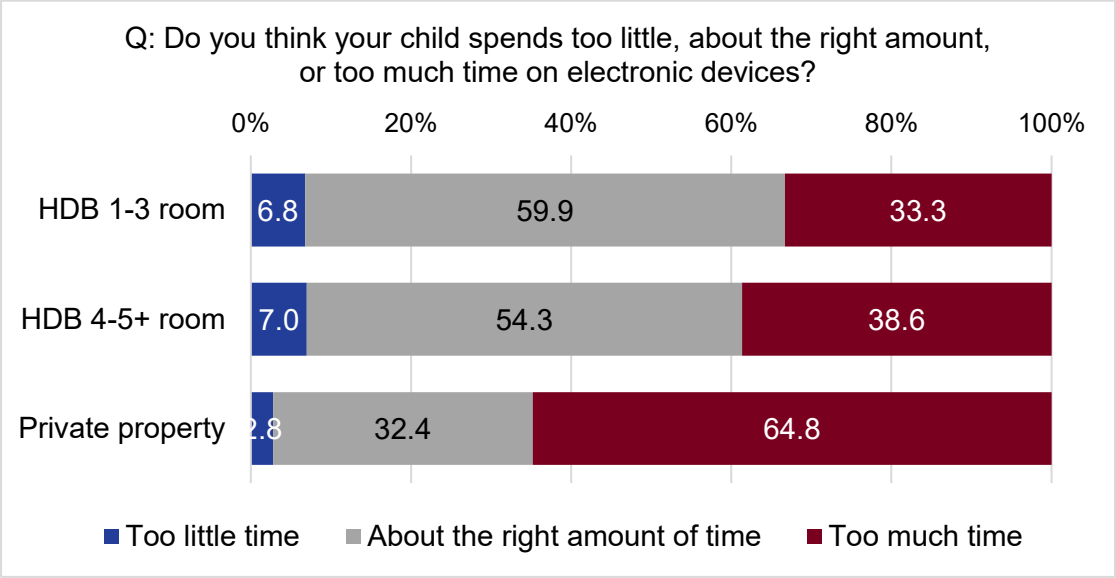
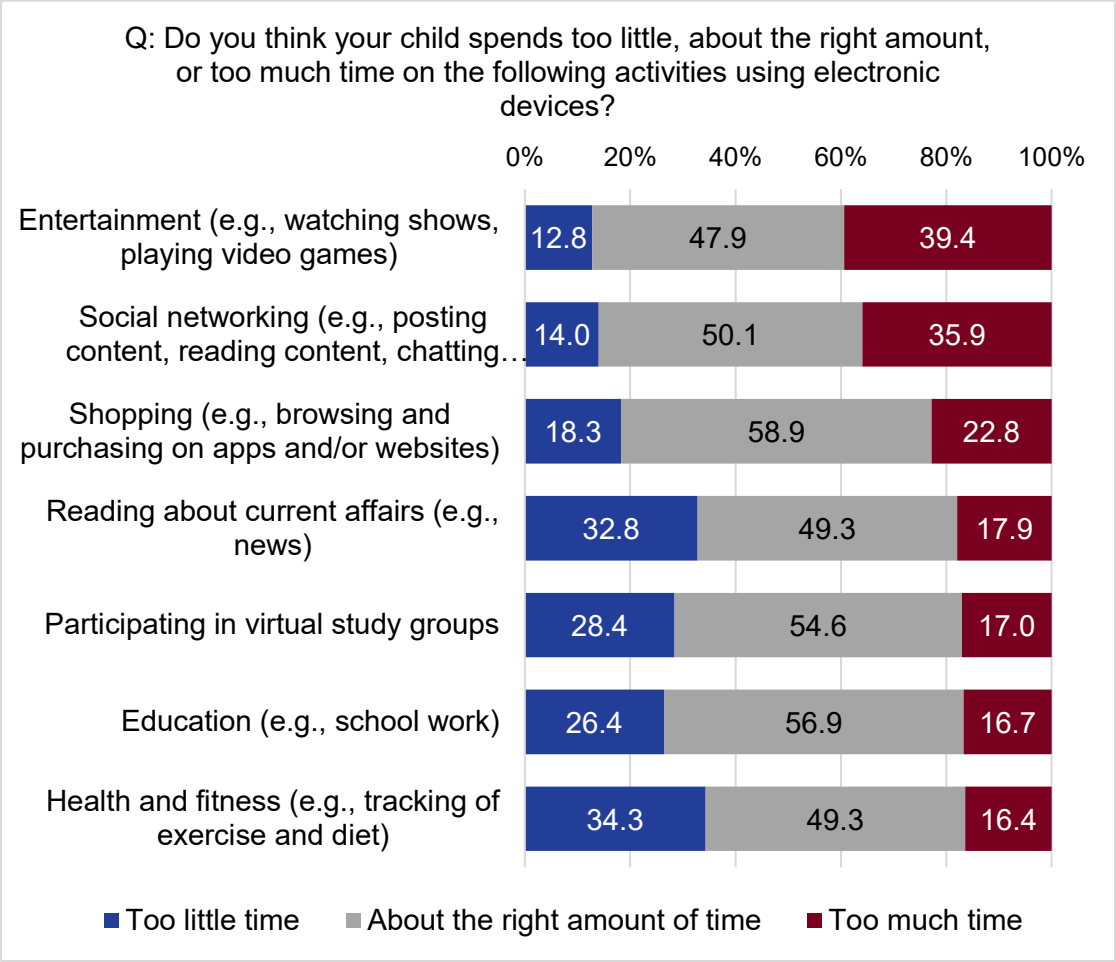


FIGURE 3.17: PARENT RESPONDENTS' PERCEPTION OF THEIR CHILD OR CHILDREN'S TIME SPENT ON ELECTRONIC DEVICES, ACROSS DIFFERENT HOUSING TYPES (%)



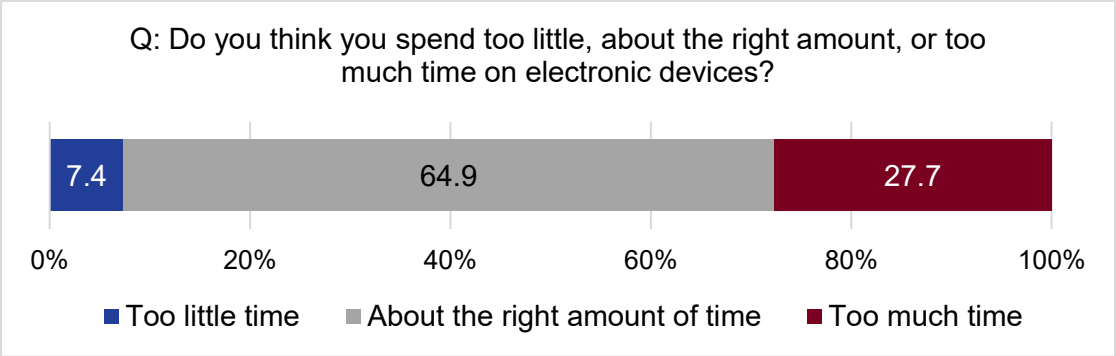
Nearly four in 10 of the parent respondents surveyed believed that their child or children spent too much time on their electronic devices for entertainment (39.4 per cent) and social networking (35.9 per cent). About half of parents believed that their child or children spent an appropriate amount of time on electronic devices for these purposes (47.9 per cent for entertainment and 50.1 per cent for social networking purposes; see Figure 3.18). Likewise, fewer parents felt that their child or children were spending too much time on electronic devices for activities such as shopping (22.8 per cent), reading the news (17.9 per cent), participating in virtual study groups (17.0 per cent), education (16.7 per cent), and health and fitness (16.4 per cent; see Figure 3.18).

FIGURE 3.18: PARENT RESPONDENTS' PERCEPTION OF THEIR CHILD OR CHILDREN'S TIME SPENT ON ELECTRONIC DEVICES, FOR DIFFERENT PURPOSES (%)



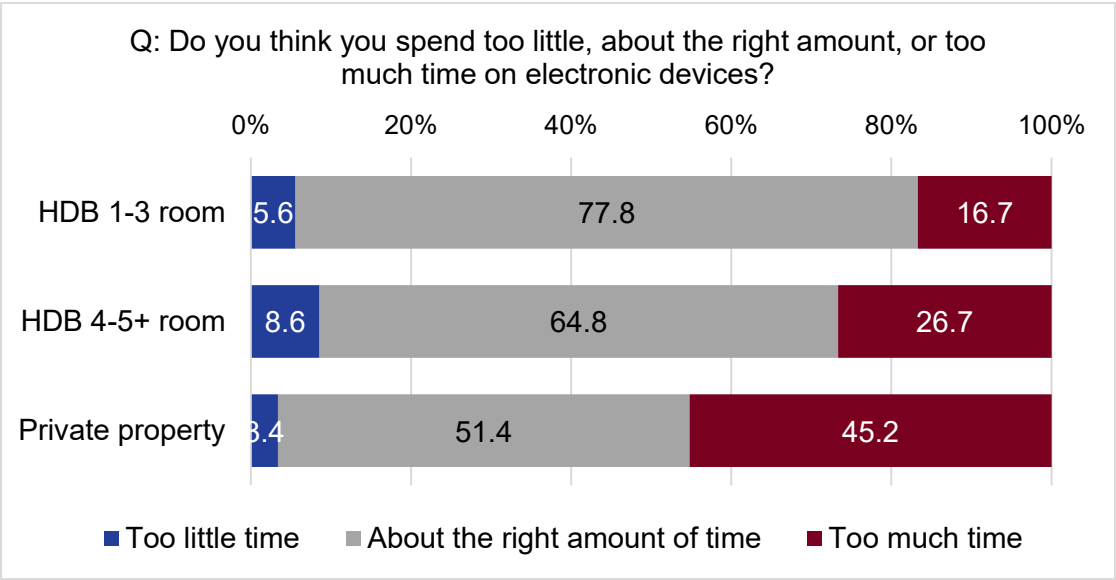
When parent respondents were asked about what they thought about their own time spent on electronic devices, 27.7 per cent of parents indicated that they spent too much time on electronic devices, and 64.9 per cent thought that they spent the right amount of time (Figure 3.19).

FIGURE 3.19: PARENT RESPONDENTS' PERCEPTION OF THEIR OWN TIME SPENT ON ELECTRONIC DEVICES (%)



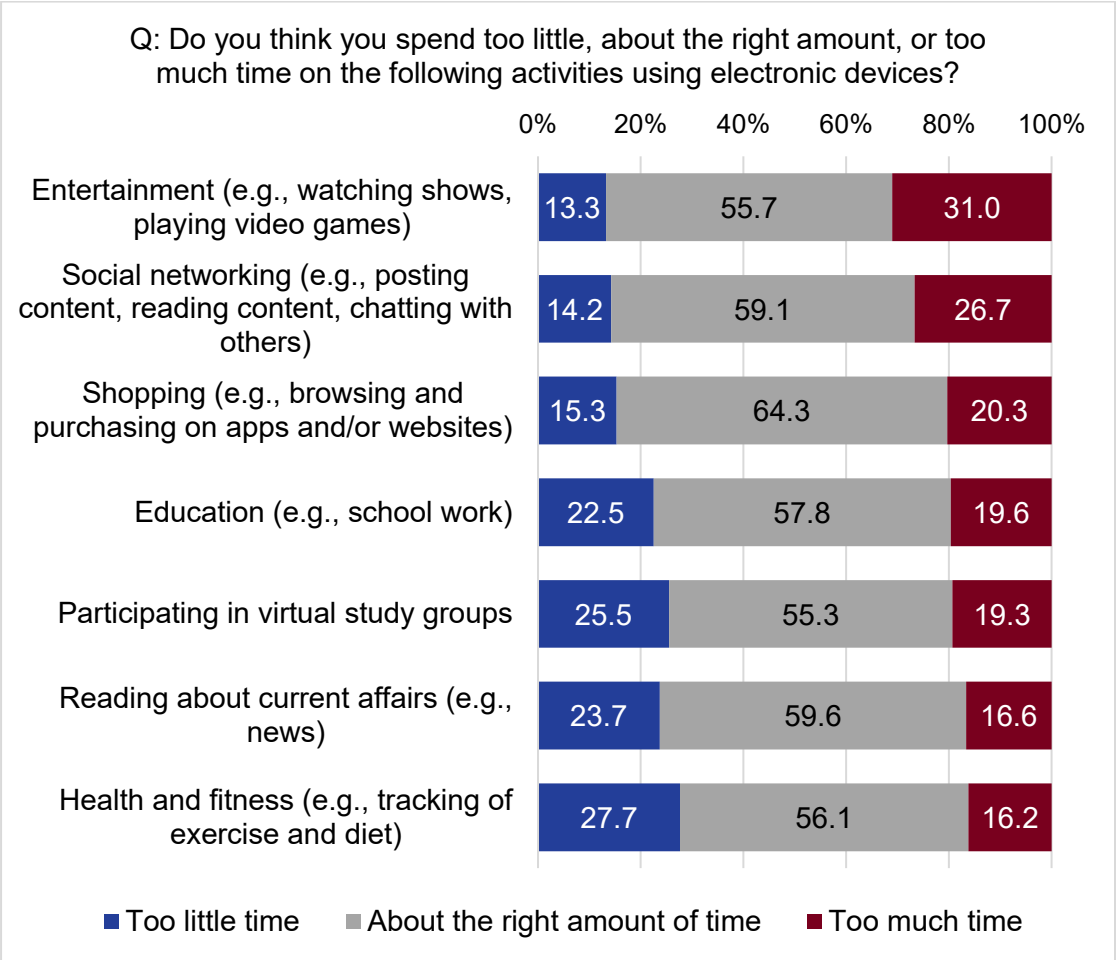
The effect of housing type is again significant here, with greater likelihood of parent respondents living in costlier housing types indicating that they spent too much time on electronic devices (Figure 3.20).

FIGURE 3.20: PARENT RESPONDENTS' PERCEPTION OF THEIR OWN TIME SPENT ON ELECTRONIC DEVICES, ACROSS DIFFERENT HOUSING TYPES (%)



With regard to what they thought about their own time spent on activities using electronic devices, about three in 10 parents indicated that they spent too much time on their electronic devices for entertainment (31 per cent) and social networking (26.7 per cent) purposes. More than half of the parent respondents believed that they spent an appropriate amount of time electronic devices for these purposes (55.7 per cent for entertainment and 59.1 per cent for social networking; see Figure 3.21).

FIGURE 3.21: PARENT RESPONDENTS' PERCEPTION OF THEIR OWN TIME SPENT ON ELECTRONIC DEVICES, FOR DIFFERENT PURPOSES (%)

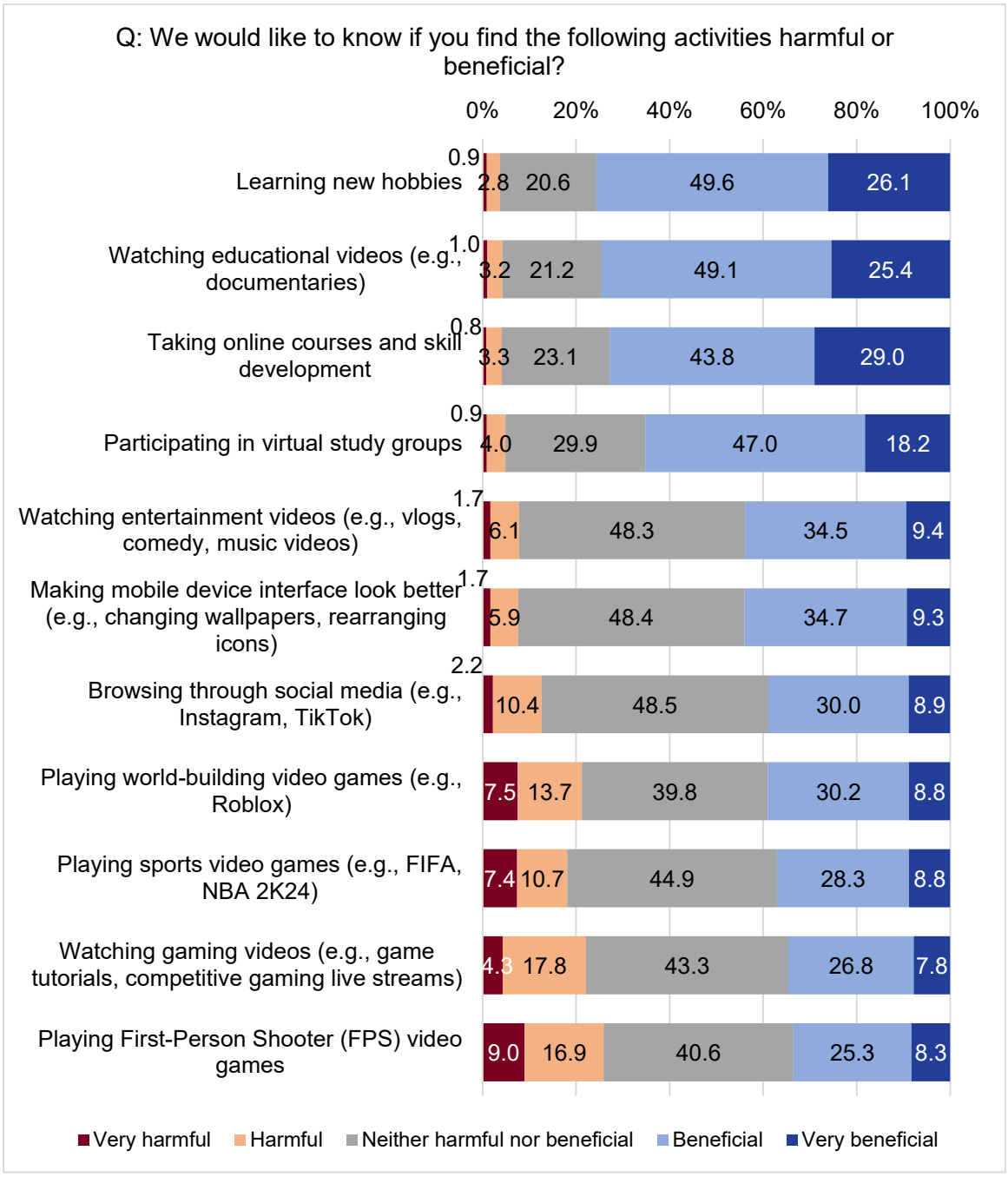


3.4 Legitimacy of Screen-Time Use

3.4.1 Most parents viewed activities related to education, skill-building and learning new hobbies to be beneficial

To better understand how parents view different types of screen time, the study also asked parent respondents to rate how harmful or beneficial they considered various screen-based activities to be. Survey results showed that majority of parents considered activities such as watching educational videos (74.5 per cent), taking online courses and skill development (72.8 per cent), and learning new hobbies (75.7 per cent) to be beneficial (Figure 3.22). In contrast, parents were generally more ambivalent about whether activities such as watching entertainment videos, customising mobile device interface or browsing social media were harmful or beneficial, with about half indicating that these activities were neither particularly harmful nor beneficial. Compared to the rest of the activities, a greater proportion of parents viewed playing video games and watching game videos as harmful (Figure 3.22).

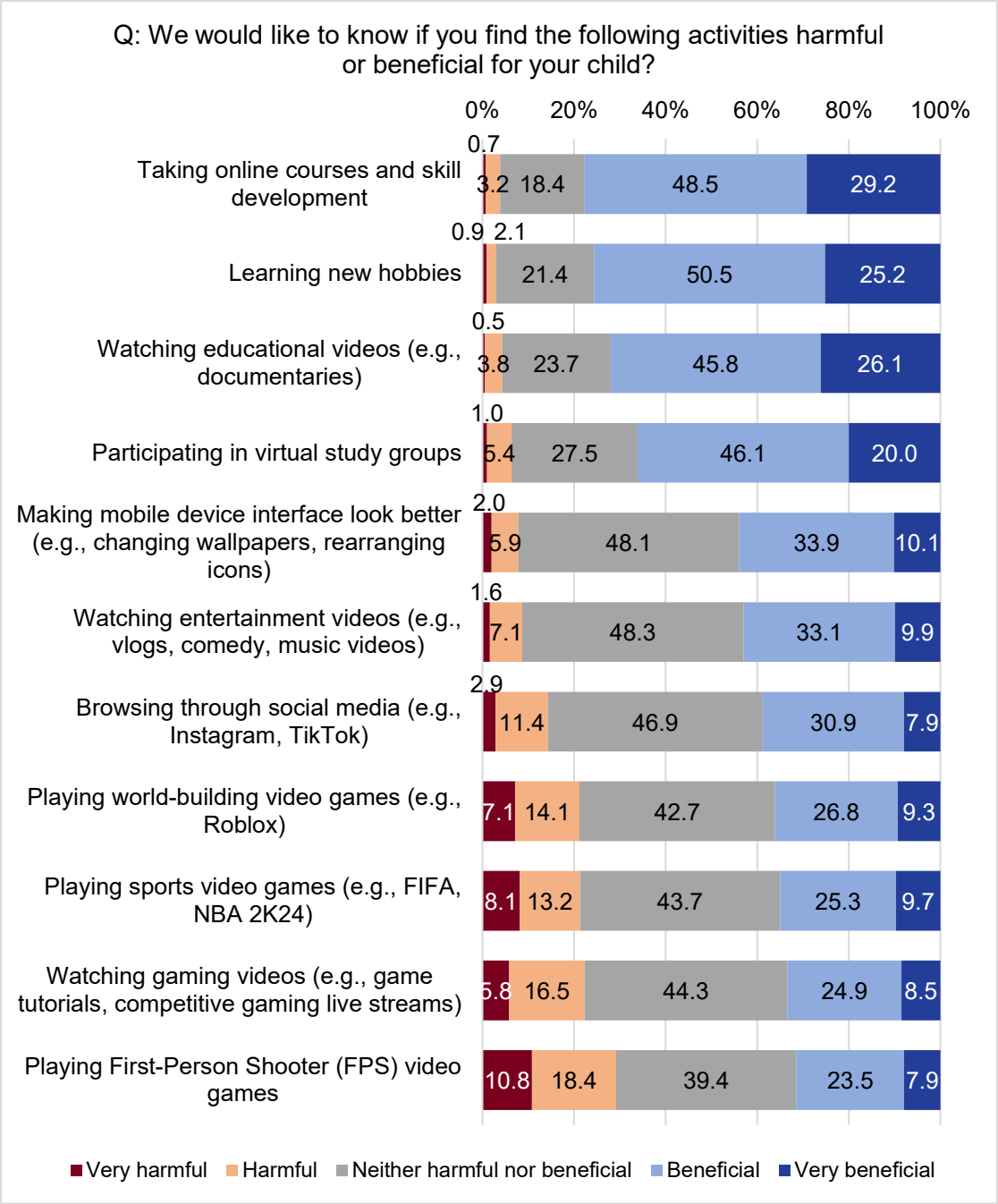
FIGURE 3.22: PARENT RESPONDENTS' VIEW ON HARMFULNESS AND BENEFIT OF VARIOUS SCREEN TIME ACTIVITIES (%)



3.4.2 Most parents viewed activities supporting their children's education and personal development positively, with seven in 10 finding them beneficial

We also measured parent respondents' perception of the extent of harmfulness or benefit of various screen-time activities for their children. Generally, most parents found activities supporting their children's education and personal development to be beneficial for their children, such as taking online courses and skill development (77.7 per cent), learning new hobbies (75.7 per cent), watching educational videos (71.9 per cent) and participating in virtual study groups (66.1 per cent). In contrast, parents were generally more ambivalent about whether activities such as watching entertainment videos, customising mobile device interface or browsing social media were harmful or beneficial for their teenagers, with about half indicating that these activities were neither particularly harmful nor beneficial. Compared to the rest of the activities, a larger proportion of parents viewed playing video games and watching game videos as harmful (Figure 3.23).

FIGURE 3.23: PARENT RESPONDENTS' VIEW ON HARMFULNESS AND BENEFIT OF VARIOUS SCREEN TIME ACTIVITIES TO THEIR CHILDREN (%)



3.5 Summary of Trends in Screen Use

This chapter highlighted the extent and nature of screen use among teenagers and parents. Smartphones, computers and tablets are part of everyday life,

mainly for social media, entertainment, school or work, and sometimes shopping or news. Social media is by far the most common activity, while using screens for purposes like gaming, content creation or online forums are less popular.

Many teenagers and parents feel they spend too much time on screens, though time spent on education, information or health is seen as less of a problem. Parents are generally supportive of screen use for learning and skill-building but are more mixed or negative when it comes to entertainment and gaming.

Overall, these findings give us a baseline picture of family digital habits. They set the stage for the next chapters, which look at how screen use affects well-being and relationships, and the success of different management strategies.

4. IMPACT OF SCREEN-TIME USE ON WELL-BEING

4.1 Overview

This chapter examines how screen time relates to key indicators of well-being for both teenagers and parents. It examines key concerns such as problematic screen use, sleep duration and quality, feelings of loneliness, overall emotional and mental well-being, and life satisfaction. It also investigates factors that may intensify or buffer these relationships, including the types of online activities engaged in, in-person social activities and physical activity.

We find that higher overall screen time was associated with poorer reported well-being for both teenagers and parents, including worse sleep quality, greater loneliness, lower emotional well-being and lower life satisfaction. Many in both groups used screens to cope with stress, but this also coincided with procrastination, difficulty focusing, physical discomfort and family disagreements. Frequent online engagement amplified the downsides of screen time, while richer offline routines buffered harm. In particular, parents who spent more time socialising face-to-face tended to sleep better, feel less lonely, and be more satisfied with life. For teenagers, being more physically active helped offset the negative effects of spending too much time on screens on their emotional well-being.

By analysing respondents' reported experiences, this chapter highlights the potential risks associated with excessive screen time and its broader implications for family dynamics and individual health.

4.2 Problematic Screen Use

4.2.1 Over half of teenagers and parents used screens to manage stress, but prolonged screen use resulted in further stresses

The Smartphone Addiction Scale (SAS) (Kwon et al., 2013) and the Problematic Internet Use Questionnaire (PIUQ) (Demotrovics et al., 2008) are well-established tools that evaluate the problematic use of smartphones and the internet, respectively. Inspired by these frameworks, we use a similar set of questions to measure problematic screen use. This scale assesses an individual's difficulty in controlling screen time despite its negative effects on various aspects of life, including emotional well-being, physical health, social interactions and productivity.

The results revealed that screens often serve as a coping mechanism, although this can lead to negative emotional effects. Over half of both teenagers (58.8 per cent) and parents (51.6 per cent) reported using screen time at least sometimes as a method of coping with stress or negative emotions within the past week of being surveyed. Many teenagers (50.1 per cent) and parents (40.7 per cent) also reported feeling angry or upset, with similar percentages reported

for feelings of anxiety or irritability (49.2 per cent and 39.4 per cent respectively).

Screen time also has a notable impact on productivity and focus. Over half of the teenage respondents (52.5 per cent) admitted to procrastinating on work or study due to screen use, with 49.4 per cent experiencing difficulty focusing and 39.3 per cent failing to complete assignments. Parents reported comparable challenges, with 44.6 per cent finding it difficult to focus without screens and 44.4 per cent procrastinating on work.

Prolonged screen use resulted in physical discomfort for over half of both teenagers (51.9 per cent) and parents (51.2 per cent), and close to half of teenagers (48.3 per cent) and parents (43.1 per cent) perceived that they had neglected outdoor activities as a result of screen-time usage.

Additionally, screen use also affected social interactions. Many teenagers reported disagreements with family (49.8 per cent) and friends (33.7 per cent) over screen use, as well as skipping gatherings with family (35.7 per cent) and friends (33.8 per cent) to use screens. Parents experienced similar conflicts (Figure 4.1, Figure 4.2).

These results suggest that while both teenagers and parents may utilise screen time to cope with stress, prolonged screen use could also directly or indirectly further result in other physical (e.g., eye strain), emotional (e.g., anger) and mental (e.g., inability to concentrate) stresses.

FIGURE 4.1: TEENAGE RESPONDENTS REPORT ON NEGATIVE EXPERIENCES ASSOCIATED WITH SCREEN-TIME USAGE WITHIN THE PAST WEEK (%)

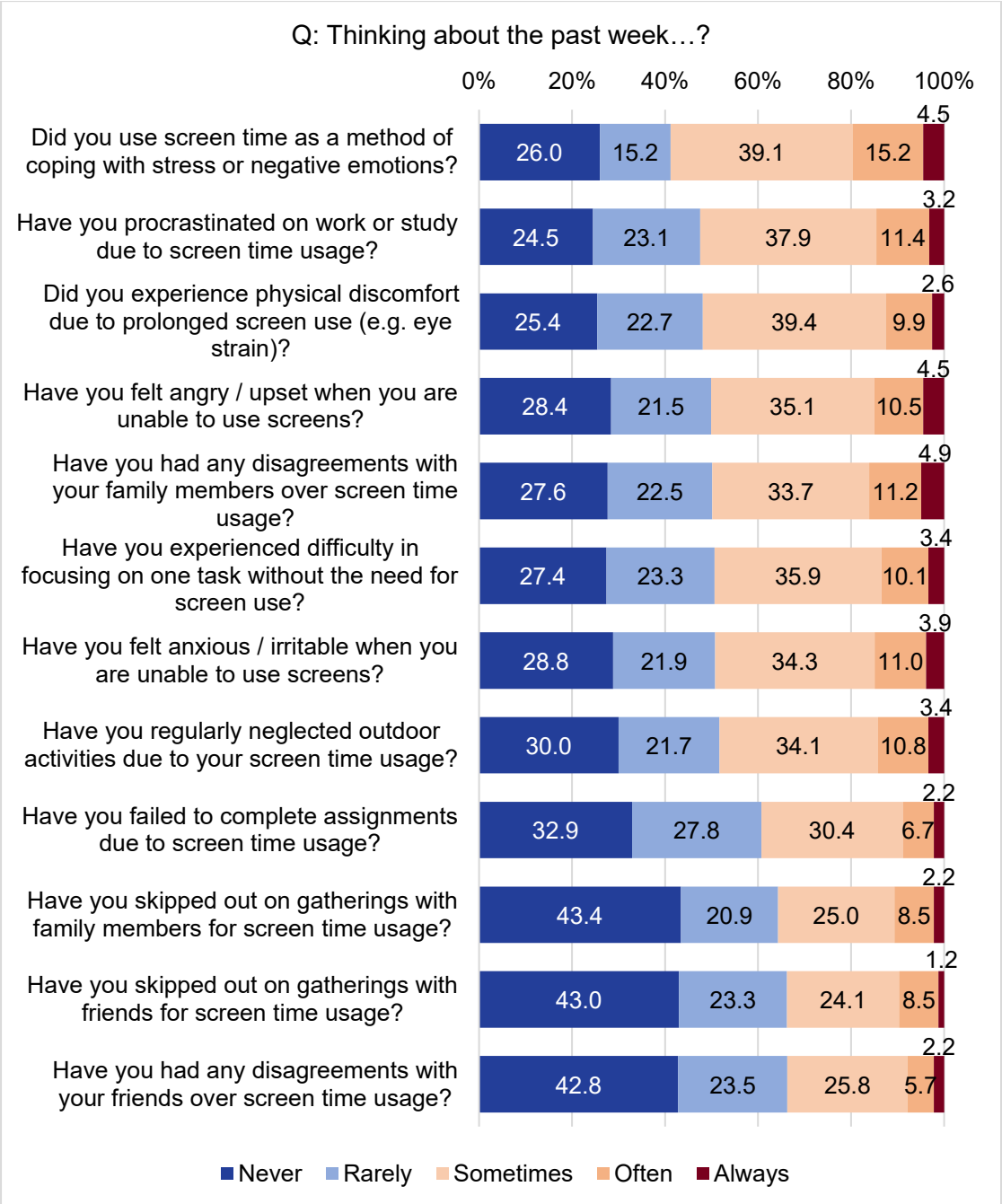
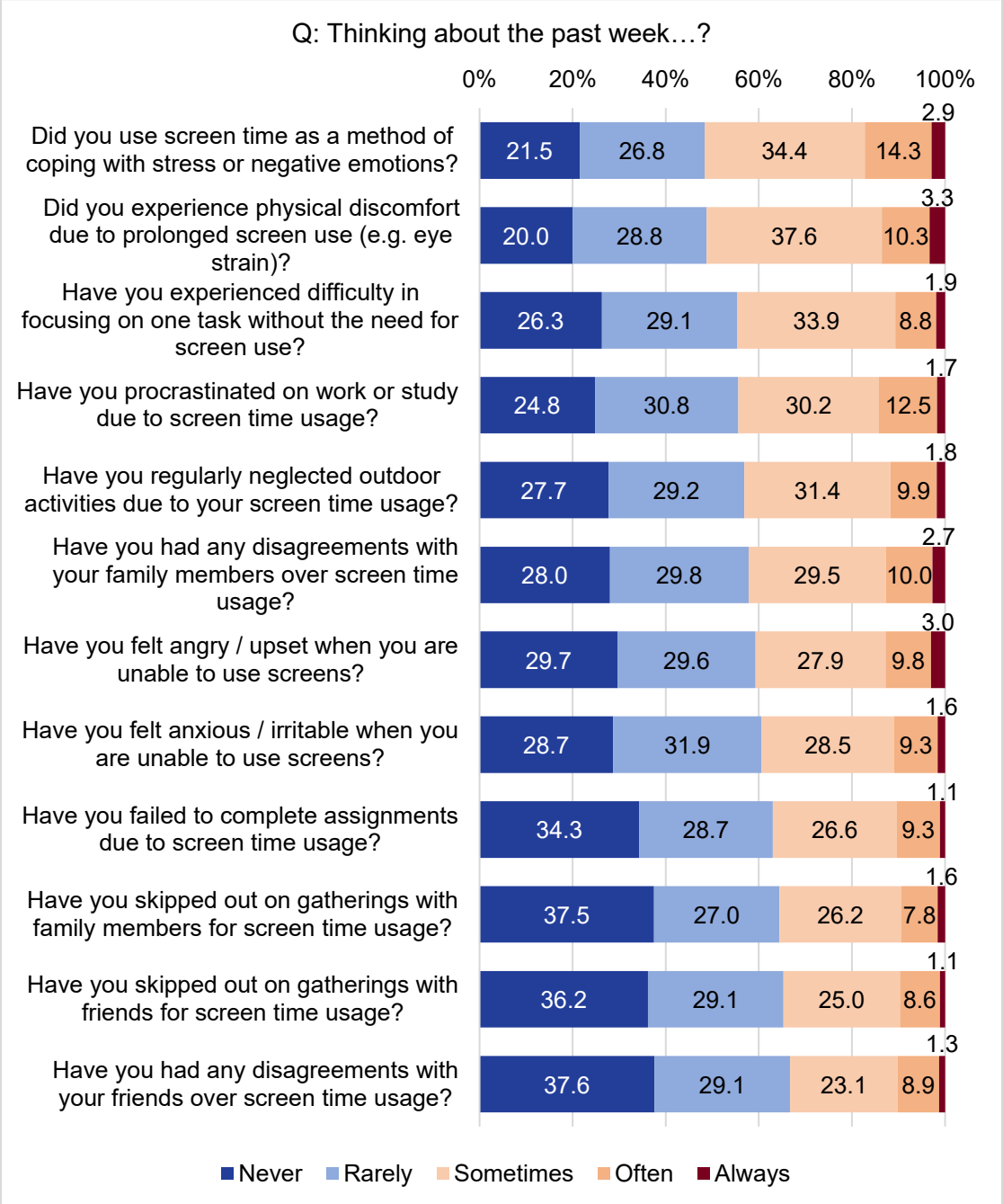


FIGURE 4.2: PARENT RESPONDENTS REPORT ON NEGATIVE EXPERIENCES ASSOCIATED WITH SCREEN-TIME USAGE WITHIN THE PAST WEEK (%)

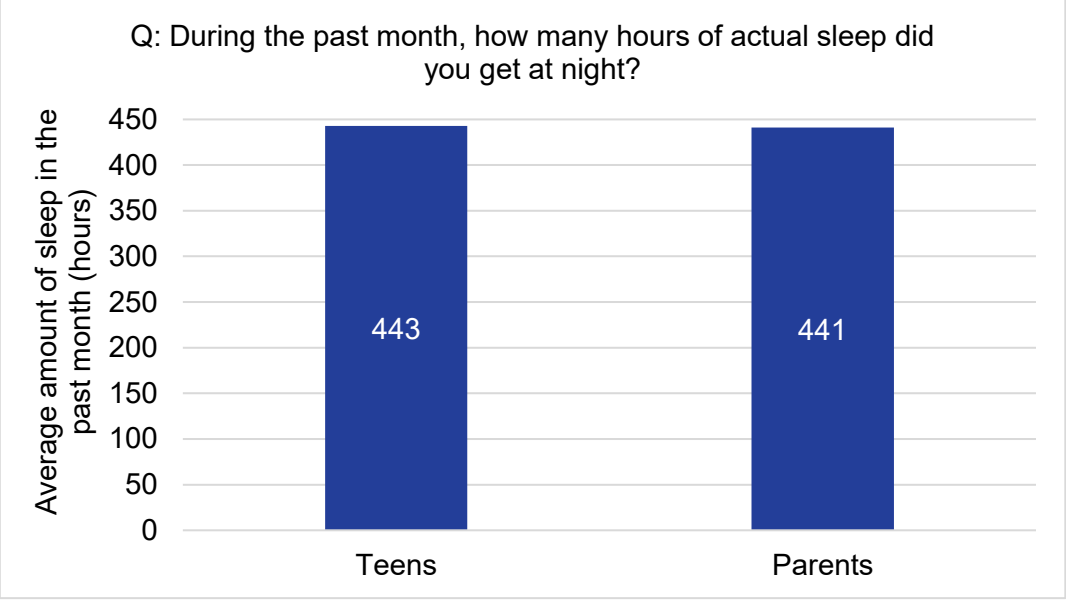


4.3 Sleep Duration, Sleep Quality and Screen-Time Use

4.3.1 Screen time is not significantly associated with reported sleep duration

Overall, teenage respondents reported getting an average of 7 hours and 23 minutes of sleep a night in the past month, while parent respondents reported getting an average of 7 hours and 21 minutes of sleep a night in the past month (Figure 4.3).

FIGURE 4.3: AVERAGE AMOUNT OF SLEEP IN THE PAST MONTH (HOURS)



We regressed the reported sleep duration of both teenagers and parents on their respective time spent on electronic devices, controlling for demographic variables. The results show that time spent on electronic devices does not appear to be significantly associated with the reported sleep duration of either teenagers or parents (Tables 4.1 and 4.2).

TABLE 4.1: REGRESSION OF TIME SPENT ON ELECTRONIC DEVICES AND AGE ON SLEEP DURATION IN THE TEENAGE SAMPLE

Dependent Variable: Sleep Duration					
Independent Variable	**B^**	**S.E.#**	**ß***	**t&**	**Sig.+**
Time spent on electronic devices	-.025	.018	-.062	-1.371	.171
Age of teen	2.004	2.713	.033	.739	.460
(Constant)	423.758	42.666		9.932	<.001

^ unstandardised beta
# standard error
* standardised beta
& t-value
+ significance value (p-value)

TABLE 4.2: REGRESSION OF TIME SPENT ON ELECTRONIC DEVICES AND AGE ON SLEEP DURATION IN PARENT SAMPLE

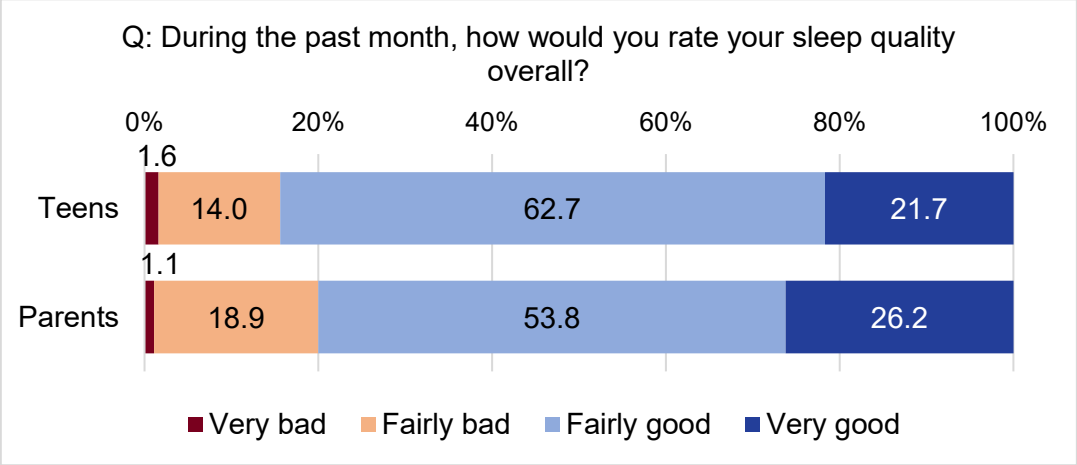
Dependent Variable: Sleep Duration					
Independent Variable	**B^**	**S.E.#**	**ß***	**t&**	**Sig.+**
Time spent on electronic devices	.002	.013	.006	.172	.863
Gender[a]	23.184	6.748	.106	3.436	<.001
Age of parent	-4.176	.664	-.205	-6.289	<.001
Ethnicity[b]					
Malay	-9.480	8.978	-.034	-1.056	.291
Indian	-6.584	12.683	-.016	-.519	.604
Others	-32.948	28.676	-.035	-1.149	.251
Highest educational qualification[c]					
Secondary and below	-19.980	9.555	-.067	-2.091	.037
Post-secondary	-6.017	8.214	-.024	-.733	.464
Housing type[d]					
HDB 1-3 room	-4.064	12.377	-.014	-.328	.743
HDB 4-5 room and Executive flats	12.670	9.775	.053	1.296	.195
(Constant)	590.023	32.608		18.094	<.001

[a] reference category is male, 1 = female
[b] reference category is Chinese
[c] reference category is bachelor's and above
[d] reference category is private property
^ unstandardised beta
# standard error
* standardised beta
& t-value
+ significance value (p-value)

4.3.2 Screen time is negatively associated with reported sleep quality

In terms of sleep quality, a large majority of both teenage (84.4 per cent) and parent (80 per cent) respondents rated their sleep quality to be at least fairly good in the past month (Figure 4.4).

FIGURE 4.4: QUALITY OF SLEEP IN THE PAST MONTH (%)



Regression analyses found that time spent on electronic devices negatively affected sleep quality in the teenage sample at the significance level of alpha, $\alpha = .05$. In contrast, for the parent sample, the negative effect of time spent on electronic devices on sleep quality was observed at the $\alpha = .10$ significance level (Tables 4.3, 4.4).

TABLE 4.3: REGRESSION OF TIME SPENT ON ELECTRONIC DEVICES AND AGE ON SLEEP QUALITY IN THE TEENAGE SAMPLE

Dependent Variable: Sleep Quality					
Independent Variable	**B^**	**S.E.#**	**ß***	**t&**	**Sig.+**
Time spent on electronic devices	.000	.000	-.117	-2.626	.009
Age	-.013	.016	-.037	-.828	.408
(Constant)	3.391	.249		13.635	<.001

^ unstandardised beta
# standard error
* standardised beta
& t-value
+ significance value (p-value)

TABLE 4.4. REGRESSION OF TIME SPENT ON ELECTRONIC DEVICES AND DEMOGRAPHIC VARIABLES ON SLEEP QUALITY IN PARENT SAMPLE

Dependent Variable: Sleep Quality					
Independent Variable	**B^**	**S.E.#**	**ß***	**t&**	**Sig.+**
Time spent on electronic devices	.000	.000	-.059	-1.893	.059
Gender[a]	.197	.042	.141	4.687	<.001
Age	-.026	.004	-.199	-6.307	<.001
Ethnicity[b]					
Malay	-.001	.056	-.001	-.025	.980
Indian	-.168	.079	-.065	-2.121	.034
Others	-.453	.179	-.075	-2.532	.011
Highest educational qualification[c]					
Secondary and below	.031	.060	.016	.528	.597
Post-secondary	.219	.051	.137	4.283	<.001
Housing type[d]					
HDB 1-3 room	.095	.077	.049	1.235	.217
HDB 4-5 room and Executive flats	.115	.061	.075	1.883	.060
(Constant)	3.868	.203		19.009	<.001

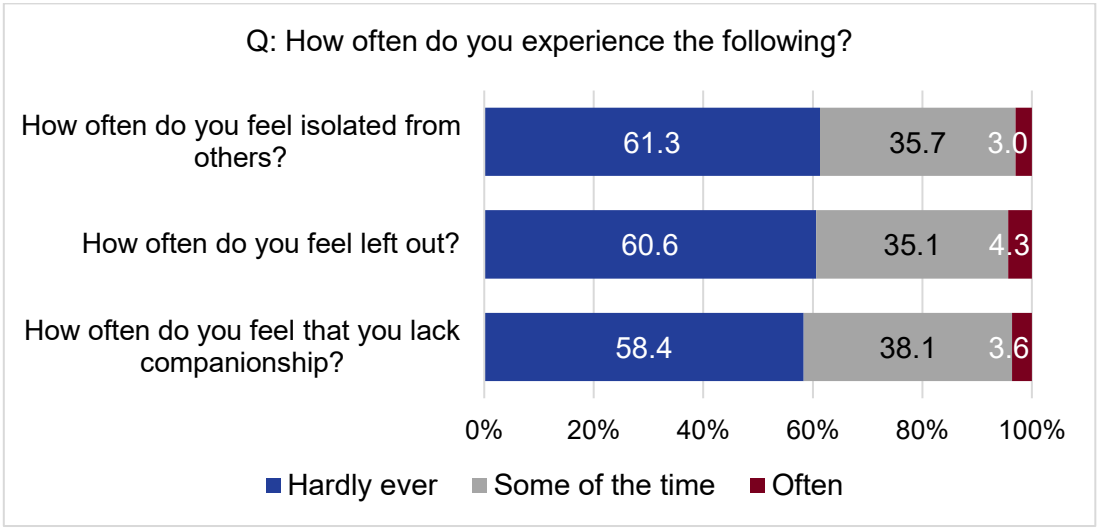
[a] reference category is male, 1 = female
[b] reference category is Chinese
[c] reference category is bachelor's and above
[d] reference category is private property
^ unstandardised beta
# standard error
* standardised beta
& t-value
+ significance value (p-value)

4.4 Loneliness and Screen-Time Use

4.4.1 Increased screen-time usage was positively associated with feelings of loneliness for teenagers

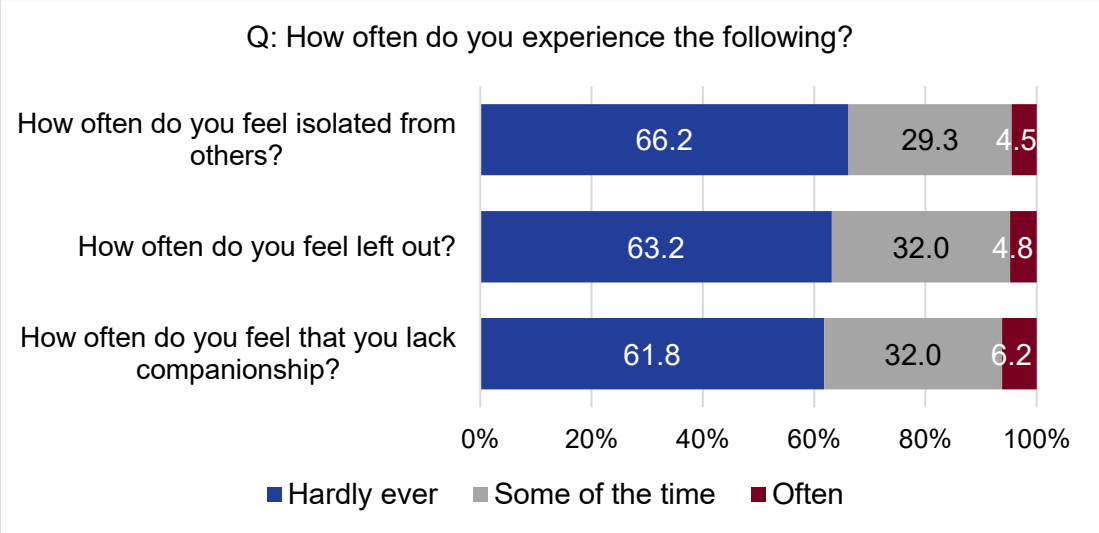
To examine feelings of loneliness, the survey included questions from the UCLA 3-item Loneliness Scale that aim to measure how often respondents experience feelings of relational connectedness, social connectedness and self-perceived isolation. Our survey results revealed that about four in 10 teenage respondents experienced loneliness at least some of the time. More specifically, at least some of the time, 38.7 per cent of the teenage respondents felt isolated from others, 39.4 per cent felt left out, and 41.7 per cent felt that they lacked companionship (Figure 4.5).

FIGURE 4.5: TEENAGE RESPONDENTS REPORT ON FREQUENCY OF LONELINESS EXPERIENCED (%)



On the other hand, at least some of the time, 33.8 per cent of the parent respondents felt isolated from others, 36.8 per cent felt left out, and 38.2 per cent felt that they lacked companionship (Figure 4.6).

FIGURE 4.6: PARENT RESPONDENTS REPORT ON FREQUENCY OF LONELINESS EXPERIENCED (%)



Regression analyses were similarly conducted to ascertain if there is a relationship between screen-time usage and reported levels of loneliness. We found that time spent on electronic devices is positively associated with feelings of loneliness in the teenager and parent samples (Tables 4.5–4.6).

TABLE 4.5. REGRESSION OF TIME SPENT ON ELECTRONIC DEVICES AND AGE ON FEELINGS OF LONELINESS IN THE TEENAGE SAMPLE

Dependent Variable: Feelings of Loneliness					
Independent Variable	**B^**	**S.E.#**	**ß***	**t&**	**Sig.+**
Time spent on electronic devices	.000	.000	.237	5.420	<.001
Age of teen	-.020	.012	-.072	-1.634	.103
(Constant)	1.528	.190		8.050	<.001

^ unstandardised beta
# standard error
* standardised beta
& t-value
+ significance value (p-value)

TABLE 4.6. REGRESSION OF TIME SPENT ON ELECTRONIC DEVICES AND DEMOGRAPHIC VARIABLES ON FEELINGS OF LONELINESS IN PARENT SAMPLE

Dependent Variable: Feelings of Loneliness					
Independent Variable	**B^**	**S.E.#**	**ß***	**t&**	**Sig.+**
Time spent on electronic devices	.000	.000	.076	2.373	.018
Gender[a]	-.031	.031	-.030	-.976	.330
Age of parent	.014	.003	.143	4.414	<.001
Ethnicity[b]					
Malay	-.081	.042	-.062	-1.939	.053
Indian	-.149	.059	-.080	-2.522	.012
Others	.311	.133	.071	2.334	.020
Highest educational qualification[c]					
Secondary and below	.090	.044	.065	2.030	.043
Post-secondary	.010	.038	.009	.265	.791
Housing type[d]					
HDB 1-3 room	.012	.058	.009	.211	.833
HDB 4-5 room and Executive flats	-.085	.045	-.077	-1.875	.061
(Constant)	.834	.152		5.502	<.001

[a] reference category is male, 1 = female
[b] reference category is Chinese
[c] reference category is bachelor's and above
[d] reference category is private property
^ unstandardised beta
# standard error
* standardised beta
& t-value
+ significance value (p-value)

4.5 Emotional Well-Being and Screen-Time Use

4.5.1 Increased screen-time usage was negatively associated with emotional well-being for teenagers

In terms of emotional well-being, over six in 10 teenage respondents reported experiencing positive feelings (e.g., "*I have felt cheerful and in good spirits.*", "*I have felt calm and relaxed.*") and at least more than half of the time over the past week based on items from the WHO-5 Well-Being Index (WHO-5) (Figure 5.6), while less than two in 10 teenagers reported experiencing negative feelings (e.g., "*I have felt anxious.*", "*I have felt sad.*") at least more than half of the time over the past week (Figure 4.7).

FIGURE 4.7: TEENAGE RESPONDENTS REPORT ON FREQUENCY OF SUBJECTIVE WELL-BEING IN THE PAST WEEK (%)

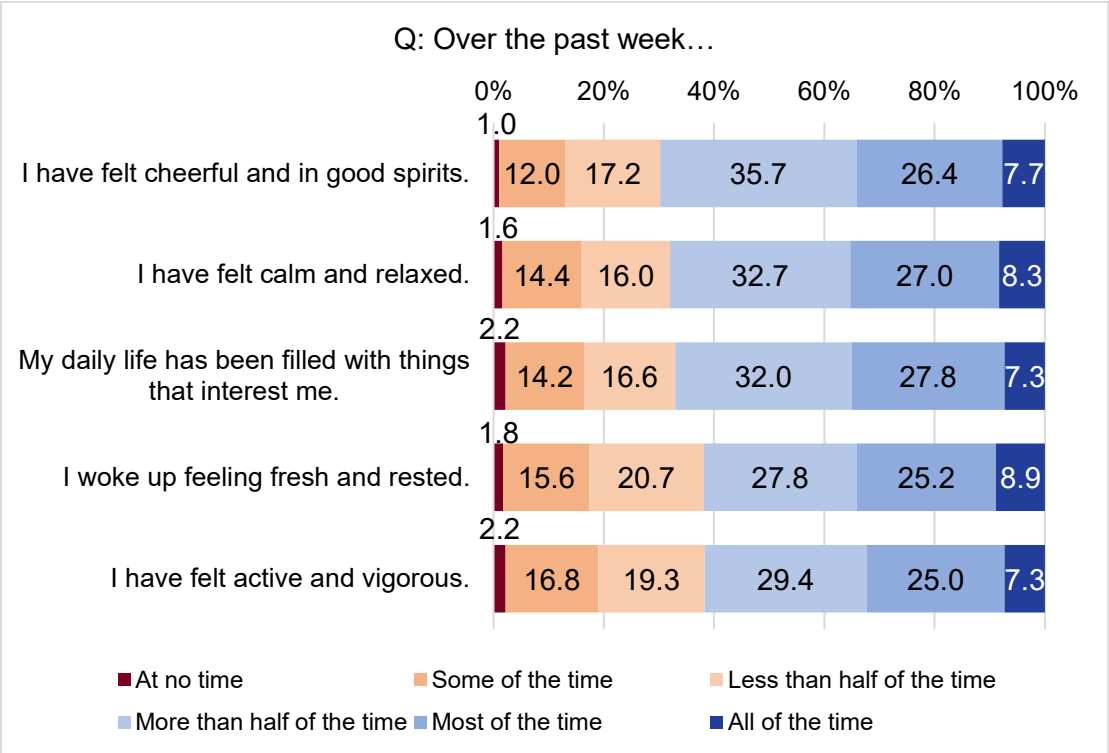
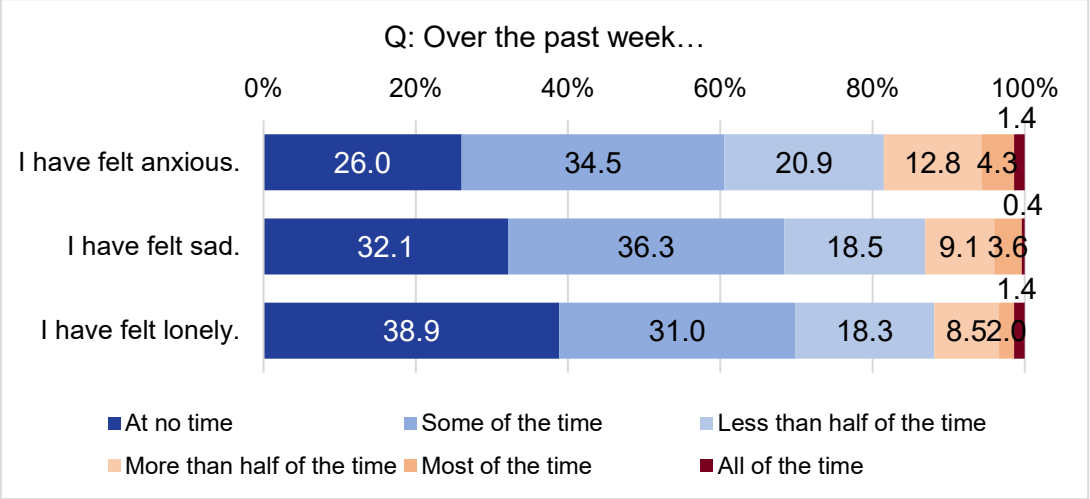


FIGURE 4.8: TEENAGE RESPONDENTS REPORT ON FREQUENCY OF NEGATIVE EMOTIONS EXPERIENCED IN THE PAST WEEK (%)



Similarly, over six in 10 parent respondents reported experiencing positive feelings at least more than half of the time over the past week (Figure 4.9), and less than two in 10 parent respondents reported experiencing negative feelings at least more than half of the time over the past week (Figure 4.10).

FIGURE 4.9: PARENT RESPONDENTS REPORT ON FREQUENCY OF POSITIVE EMOTIONS EXPERIENCED IN THE PAST WEEK (%)

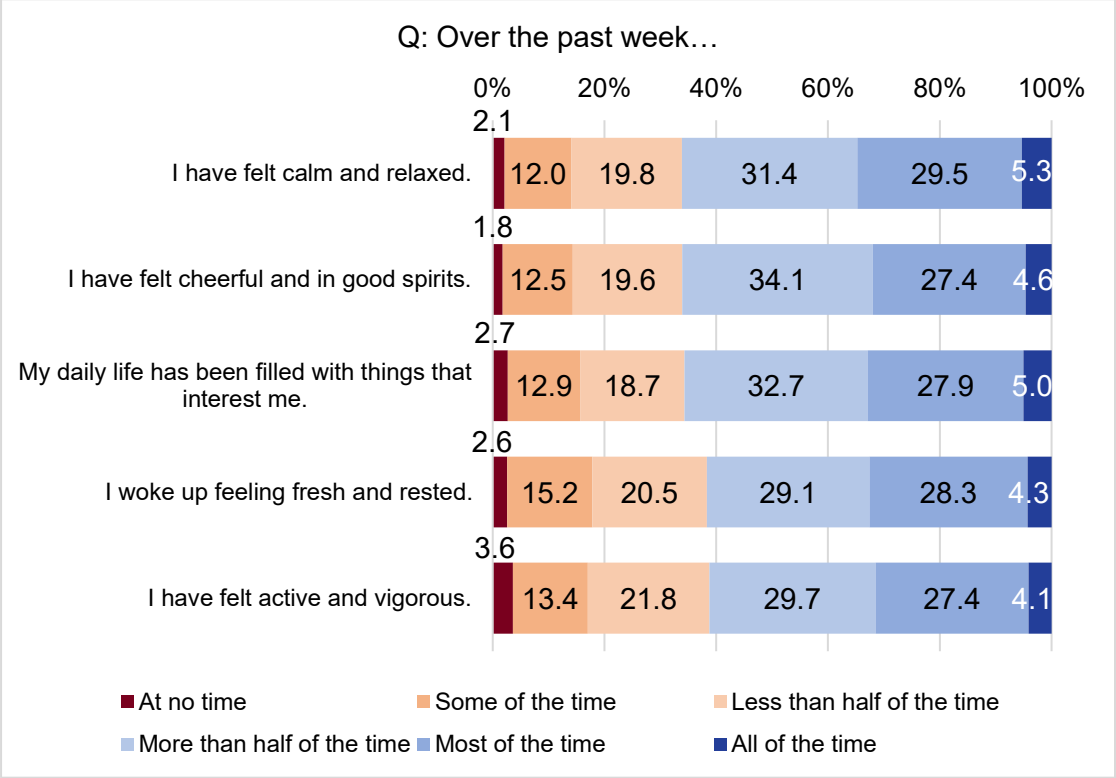
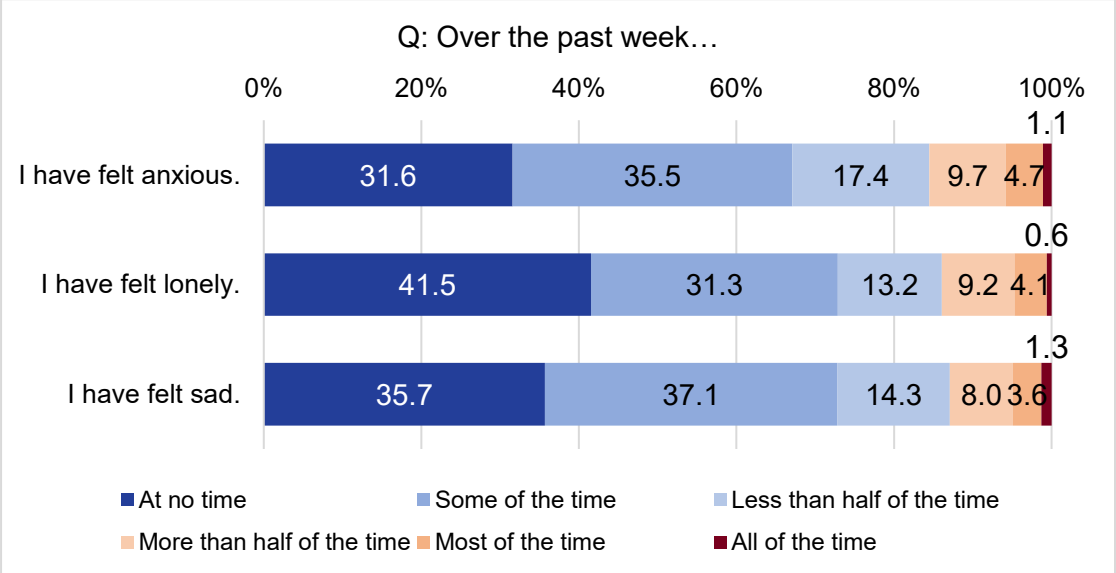


FIGURE 4.10: PARENT RESPONDENTS REPORT ON FREQUENCY OF NEGATIVE EMOTIONS EXPERIENCED IN THE PAST WEEK (%)



Further regression analyses revealed that screen-time usage had significant negative association with positive emotions for teenagers and parents.

Teenagers and parents who spent more time using electronic devices reported lower levels of positive emotional well-being (Table 4.7).

TABLE 4.7. REGRESSION OF TIME SPENT ON ELECTRONIC DEVICES AND AGE ON EMOTIONAL WELL-BEING IN THE TEENAGE SAMPLE

Dependent Variable: Emotional Well-Being					
Independent Variable	**B^**	**S.E.#**	**ß***	**t&**	**Sig.+**
Time spent on electronic devices	-.001	.000	-.137	-3.075	.002
Age of teen	-.024	.025	-.041	-.923	.356
(Constant)	4.531	.401		11.304	<.001

^ unstandardised beta
# standard error
* standardised beta
& t-value
+ significance value (p-value)

TABLE 4.8. REGRESSION OF TIME SPENT ON ELECTRONIC DEVICES AND DEMOGRAPHIC VARIABLES ON EMOTIONAL WELL-BEING IN PARENT SAMPLE

Dependent Variable: Emotional Well-Being					
Independent Variable	**B^**	**S.E.#**	**ß***	**t&**	**Sig.+**
Time spent on electronic devices	-.001	.000	-.185	-5.901	<.001
Gender[a]	.157	.059	.080	2.645	.008
Age of parent	-.024	.006	-.128	-4.036	<.001
Ethnicity[b]					
Malay	.227	.079	.090	2.870	.004
Indian	.212	.111	.059	1.903	.057
Others	-.423	.252	-.050	-1.680	.093
Highest educational qualification[c]					
Secondary and below	-.077	.084	-.028	-.914	.361
Post-secondary	.032	.072	.014	.438	.661
Housing type[d]					
HDB 1-3 room	-.120	.109	-.044	-1.099	.272
HDB 4-5 room and Executive flats	.074	.086	.034	.858	.391
(Constant)	4.924	.287		17.180	<.001

[a] reference category is male, 1 = female
[b] reference category is Chinese
[c] reference category is bachelor's and above

[d] reference category is private property
^ unstandardised beta
[#] standard error
* standardised beta
[&] t-value
[+] significance value (p-value)

4.6 Mental Well-Being and Screen-Time Use

4.6.1 Positive self-perceptions and coping ability amongst both teenage and parent respondents

Ten items from the Singapore Mental Well-being Short Form Scale (SMWEB-S) were used to measure respondents' self-perceptions (e.g., "*I am able to accept myself*") and coping abilities (e.g., "*I know how to manage my time*"). Over six in 10 teenage respondents expressed positive self-perceptions and coping abilities (Figure 4.11). Similarly, over six in 10 parent respondents also expressed positive self-perceptions and coping abilities (Figure 4.12).

FIGURE 4.11: TEENAGE RESPONDENTS' RESPONSE ON THE SINGAPORE MENTAL WELL-BEING SHORT FORM SCALE (SMWEB-S; %)

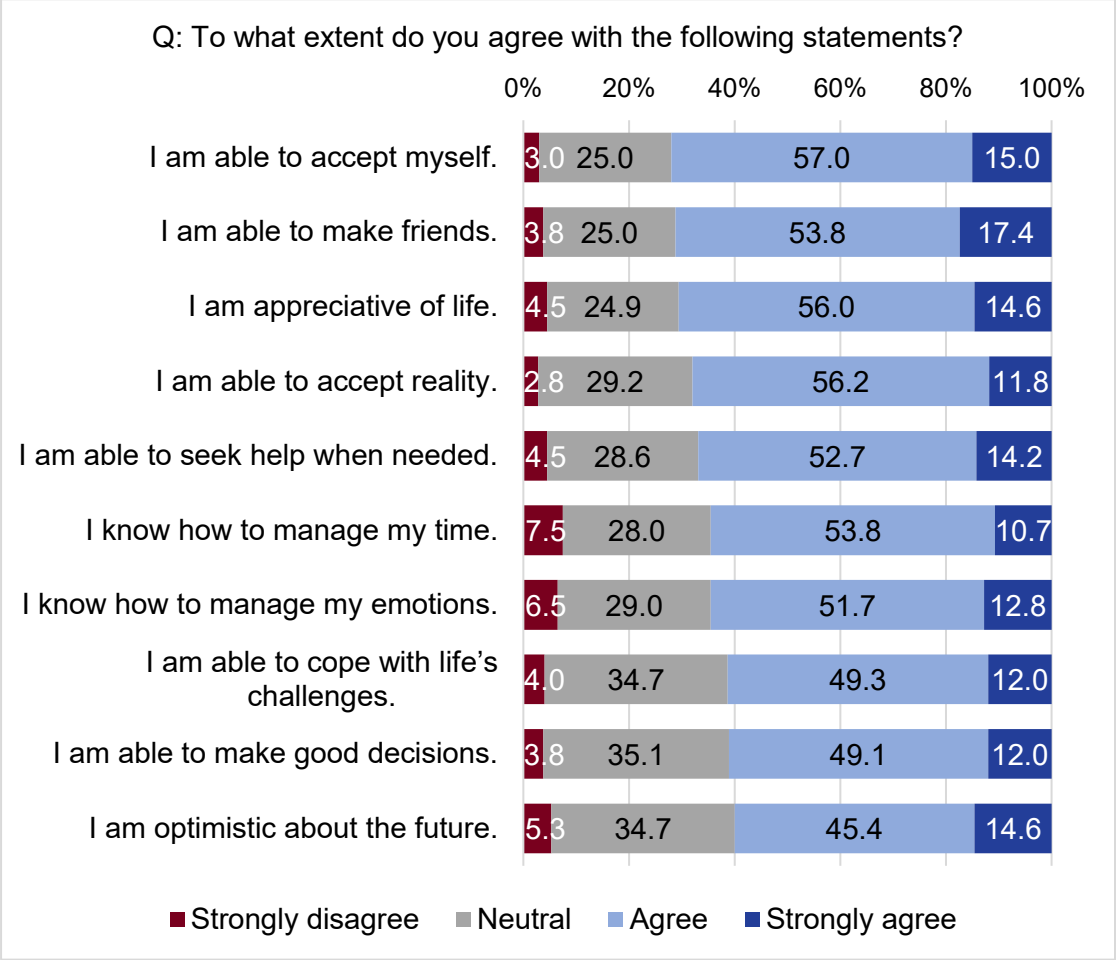
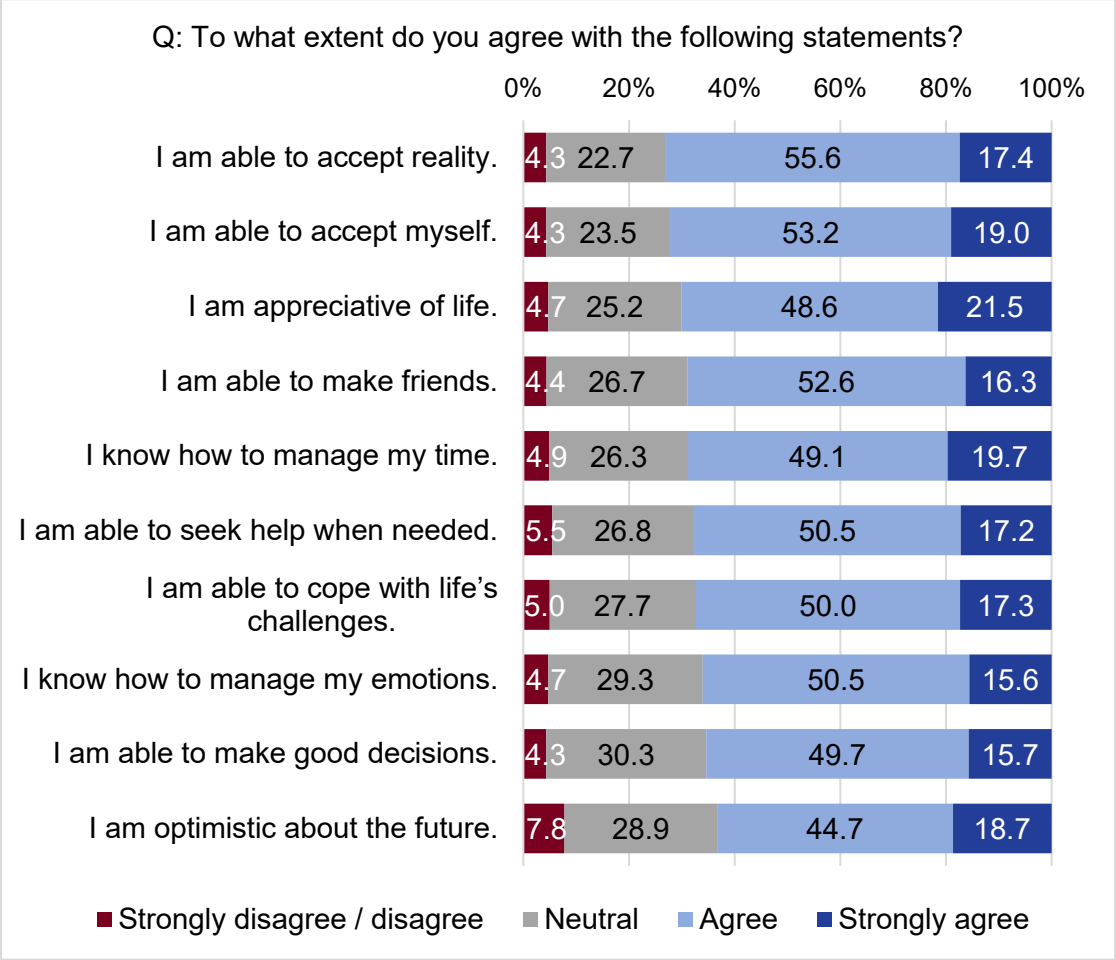


FIGURE 4.12: PARENT RESPONDENTS' RESPONSE ON THE SINGAPORE MENTAL WELL-BEING SHORT FORM SCALE (SMWEB-S; %)



Regression analyses revealed that screen-time usage had significant negative association with positive emotions for both teenager and parent respondents. This implies that those who spent more time using electronic devices reported lower levels of positive emotional well-being (Table 4.9 and 4.10).

TABLE 4.9. REGRESSION OF TIME SPENT ON ELECTRONIC DEVICES AND DEMOGRAPHIC VARIABLES ON MENTAL WELL-BEING IN THE TEENAGE SAMPLE

Dependent Variable: Mental Well-Being					
Independent Variable	**B^**	**S.E.#**	**ß***	**t&**	**Sig.+**
Time spent on electronic devices	-.000	.000	-.036	-.802	.423
Age	-.002	.014	-.007	-.154	.878
(Constant)	3.817	.220		17.339	<.001

^ unstandardised beta
# standard error
* standardised beta
& t-value
+ significance value (p-value)

TABLE 4.10. REGRESSION OF TIME SPENT ON ELECTRONIC DEVICES AND DEMOGRAPHIC VARIABLES ON MENTAL WELL-BEING IN PARENT SAMPLE

Dependent Variable: Mental Well-Being					
Independent Variable	**B^**	**S.E.#**	**ß***	**t&**	**Sig.+**
Time spent on electronic devices	.000	.000	-.135	-4.218	<.001
Gender[a]	.082	.035	.072	2.354	.019
Age	-.013	.003	-.120	-3.725	<.001
Ethnicity[b]					
Malay	.096	.046	.066	2.075	.038
Indian	.118	.065	.056	1.800	.072
Others	.271	.148	.056	1.838	.066
Highest educational qualification[c]					
Secondary and below	.002	.049	.001	.037	.970
Post-secondary	.054	.042	.042	1.286	.199
Housing type[d]					
HDB 1-3 room	-.193	.064	-.124	-3.026	.003
HDB 4-5 room and Executive flats	-.053	.050	-.043	-1.047	.295
(Constant)	4.410	.168		26.280	<.001

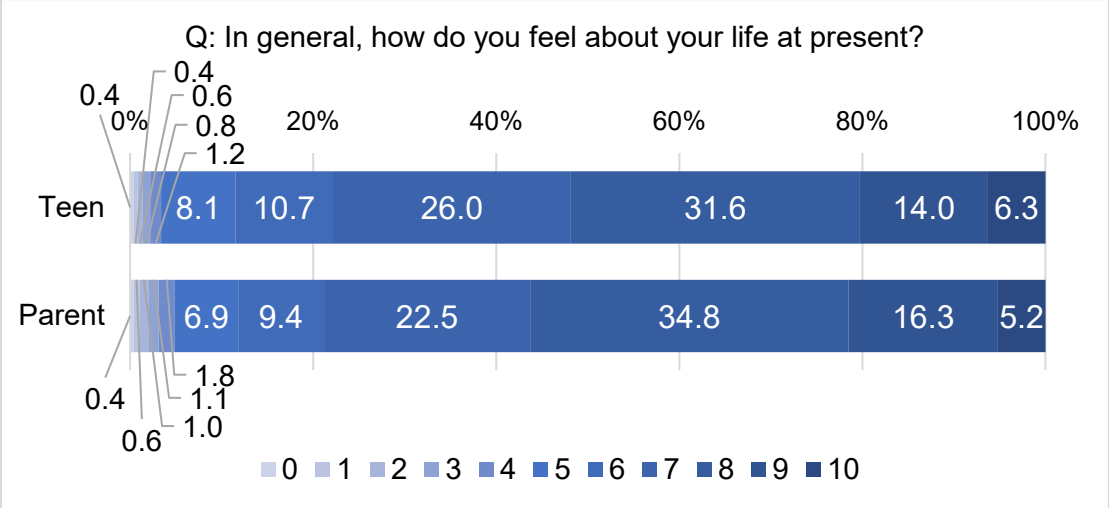
[a] reference category is male, 1 = female
[b] reference category is Chinese
[c] reference category is bachelor's and above
[d] reference category is private property
^ unstandardised beta
# standard error
* standardised beta
& t-value
+ significance value (p-value)

4.7 Life Satisfaction and Screen-Time Use

4.7.1 Screen time is negatively associated with reported life satisfaction

To further supplement our measures of reported well-being, we asked respondents to rate how they feel about their life at present on a scale of 0 to 10. Approximately half of the teenager (51.9 per cent) and parent (56.3 per cent) respondents rated their life least an "8", while close to eight in 10 (77.9 per cent of teenagers and 78.8 per cent of parents) gave a rating of at least "7". This suggests that most respondents indicated fairly high levels of satisfaction with their current life.

FIGURE 4.13: TEENAGE AND PARENT RESPONDENTS' RESPONSE ON LIFE SATISFACTION (%)



While respondents generally reported fairly high levels of life satisfaction, we found that screen-time usage is negatively associated with life satisfaction. In other words, higher screen time tends to coincide with lower reported life satisfaction. This relationship is statistically significant at the α = .10 significance

level for the teenager sample, and at the α = .05 significance level for the parent sample.

TABLE 4.11. REGRESSION OF TIME SPENT ON ELECTRONIC DEVICES AND AGE ON LIFE SATISFACTION IN THE TEENAGER SAMPLE

Dependent Variable: Life Satisfaction					
Independent Variable	**B^**	**S.E.#**	**ß***	**t&**	**Sig.+**
Time spent on electronic devices	.000	.000	-.087	-1.949	.052
Age of teen	-.008	.039	-.010	-.218	.827
(Constant)	7.747	.606		12.784	<.001

^ unstandardised beta
# standard error
* standardised beta
& t-value
+ significance value (p-value)

TABLE 4.12. REGRESSION OF TIME SPENT ON ELECTRONIC DEVICES AND DEMOGRAPHIC VARIABLES ON LIFE SATISFACTION IN PARENT SAMPLE

Dependent Variable: Life Satisfaction					
Independent Variable	**B^**	**S.E.#**	**ß***	**t&**	**Sig.+**
Time spent on electronic devices	-.001	.000	-.140	-4.471	<.001
Gender[a]	.188	.098	.058	1.911	.056
Age of parent	-.048	.010	-.157	-4.935	<.001
Ethnicity[b]					
Malay	.275	.131	.066	2.099	.036
Indian	.356	.185	.059	1.927	.054
Others	-.072	.418	-.005	-.173	.863
Highest educational qualification[c]					
Secondary and below	.097	.139	.022	.700	.484
Post-secondary	.361	.120	.097	3.019	.003
Housing type[d]					
HDB 1-3 room	.278	.180	.062	1.541	.124
HDB 4-5 room and Executive flats	.302	.142	.085	2.122	.034
(Constant)	9.235	.475		19.433	<.001

[a] reference category is male, 1 = female
[b] reference category is Chinese

[c] reference category is bachelor's and above
[d] reference category is private property
^ unstandardised beta
[#] standard error
* standardised beta
[&] t-value
[+] significance value (p-value)

4.8 Moderating Influences of Online Activity Engagement in the Relationship Between Screen Use and Well-Being

To further analyse the interplay between screen use and well-being, we explored the potential moderating factors that might influence this relationship for both parent and teenager samples. The first moderator we examined was engagement in online activities. This was measured using a 14-item questionnaire in which respondents reported how often they engaged in various online behaviours (e.g., *"Browsing your own social media feeds"; "Actively searching for specific content*"). Responses were recorded on a 5-point Likert scale from 1 = Never to 5 = Always (see Section 3.2.5 and 3.2.6 for details). For each respondent, an average rating score was computed by summing their ratings across all 14 items and dividing by the number of items for each participant. This average rating score was then used in the subsequent moderation analyses.

We test moderated models separately for teenagers and parents across key outcomes: emotional well-being (see Section 4.5), self-control (see Section 5.3.1), loneliness (see Section 4.4), sleep quality (see Section 4.3), mental well-being (see Section 4.6) and life satisfaction (see Section 4.7). Where relevant, we also conduct follow-up mediation checks to assess whether any moderator

merely explains (mediates) the association rather than changes its strength (moderates it).

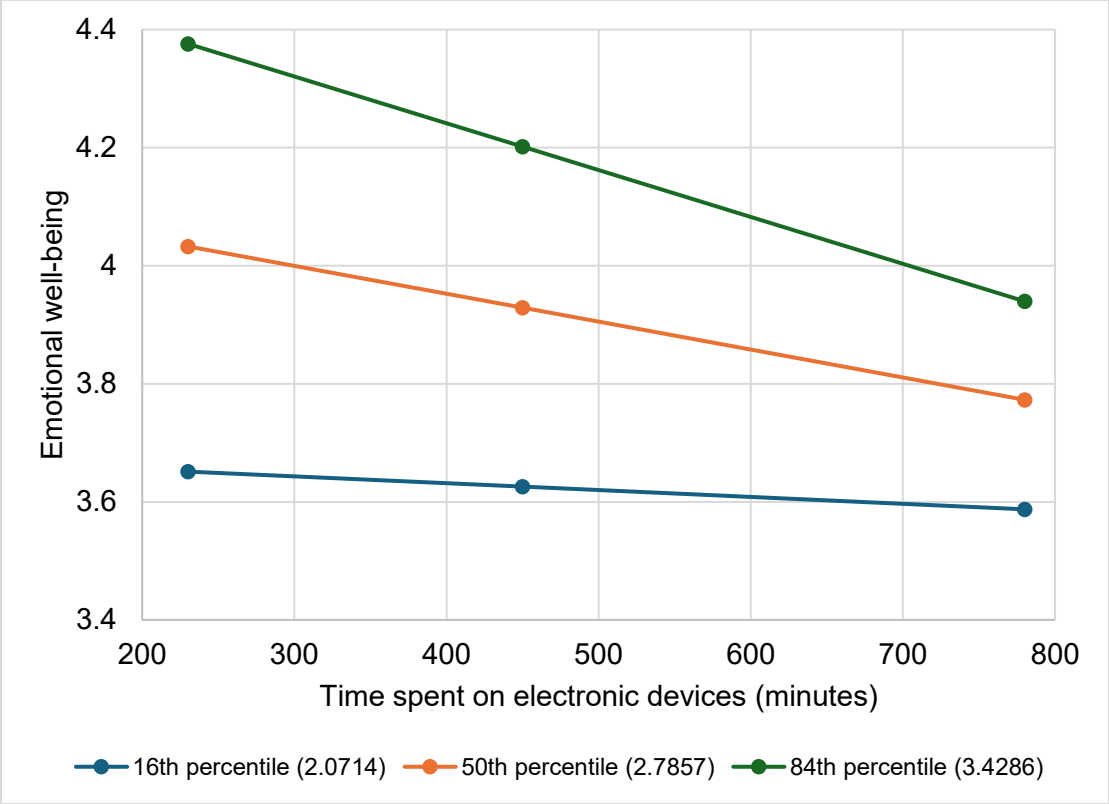
4.8.1 Online activity engagement intensifies the negative impact of screen time on emotional well-being among teenagers and parents

First, we found that frequent engagement in online activities amplifies the harmful effect that screen time has on the emotional well-being of both teenagers and parents.

Teenager sample. Engagement in online activities moderated the negative relationship between time spent on electronic devices and emotional well-being in the teenager sample. When moderation analyses was conducted with time spent on electronic devices as the independent variable, engagement in online activities as the moderator, and emotional well-being as the dependent variable, the effect of engagement in online activities (b = .6489, p <001) as well as the effect of the interaction term between time spent on electronic devices and engagement in online activities (b = -.0005, p = .0292) on the outcome variable were statistically significant, while the effect of time spent on electronic devices on the outcome variable became statistically insignificant (b = .0009, p = .1804). The negative coefficient of the interaction term implies that the effect of time spent on electronic devices on emotional well-being decreases as engagement in online activities increases (Figure 5.17). At low levels of engagement in online activities, more time spent on electronic devices did not lead to lower levels of emotional well-being. However, at higher levels of engagement in online activities, more time spent on electronic devices led to

lower levels of emotional well-being reported in the teenager sample (Figure 4.14).

FIGURE 4.14: PREDICTION OF EMOTIONAL WELL-BEING ON TIME SPENT ON ELECTRONIC DEVICES IN TEENAGERS (MINUTES), MODERATED BY FREQUENCY OF ENGAGEMENT IN ONLINE ACTIVITIES

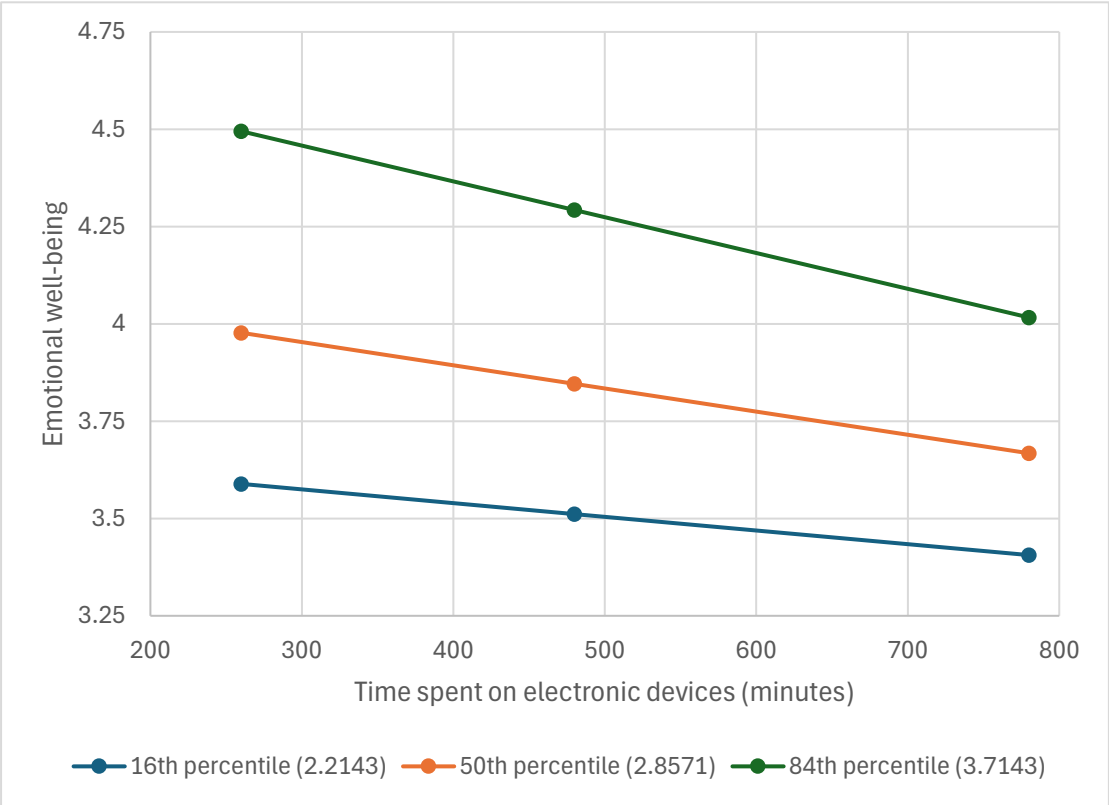


To rule out the possibility that engagement in online activities acted as a mediator rather than a moderator in the model (i.e., that the negative effect of time spent on electronic devices on emotional well-being was largely accounted for by engagement in online activities if it were acting as a mediator), mediation analyses were conducted. We found that the direct effect of time spent on electronic devices on emotional well-being while controlling for engagement in online activities was statistically significant (b = -.0005, p = .0010), while the

indirect effect through engagement in online activities was statistically insignificant (b = .0000, 95% CI = [-.0001, .0001]). This demonstrates that while engagement in online activities strengthens the negative relationship between time spent on electronic devices and emotional well-being, the effect of time spent on electronic devices on emotional well-being was not significantly accounted for by engagement in online activities.

Parent sample. When we ran a moderated model with time spent on electronic devices as the independent variable, engagement in online activities as the moderator, and emotional well-being as the dependent variable with the parent sample, the effect of engagement in online activities (b = .7024, p < .001) as well as the effect of the interaction term between time spent on electronic devices and engagement in online activities (b = -.0004, p = .0159) on the outcome variable were statistically significant, while the effect of time spent on electronic devices on the outcome variable became statistically insignificant (b = .0005, p = .2947). The negative coefficient of the interaction term implies that the effect of time spent on electronic devices on emotional well-being decreases as engagement in online activities increases (Figure 4.15).

FIGURE 4.15: PREDICTION OF EMOTIONAL WELL-BEING ON TIME SPENT ON ELECTRONIC DEVICES IN PARENTS (MINUTES), MODERATED BY FREQUENCY OF ENGAGEMENT IN ONLINE ACTIVITIES



This could also possibly suggest that the previously found effect of time spent on electronic devices on emotional well-being (b = -.001, p < .000) vis-à-vis the regression analysis could potentially be largely explained through the engagement in online activities.

We followed up by running mediation analyses with time spent on electronic devices as the independent variable, engagement in online activities as the mediator, and emotional well-being as the dependent variable, and found that the direct effect of time spent on electronic devices on emotional well-being, while controlling for engagement in online activities was statistically significant (b = -.0006, p = .0000) while the indirect effect through engagement in online

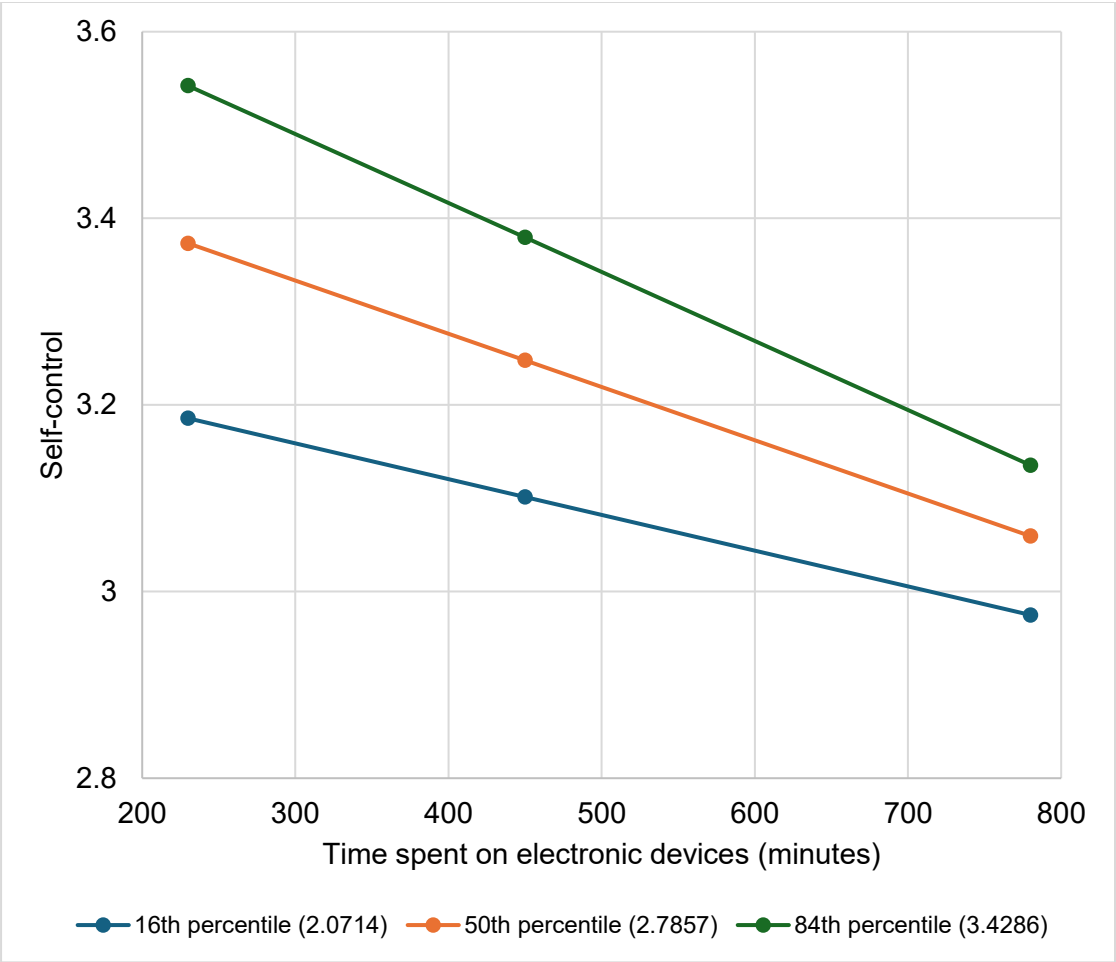
activities was statistically insignificant (b = .0001, 95% CI = [-.0001, .0000]). This provides further evidence that while engagement in online activities strengthens the negative relationship between time spent on electronic devices and emotional well-being, the effect of time spent on electronic devices on emotional well-being was not significantly explained through engagement in online activities.

4.8.2 Online activity engagement worsens the effect of screen time on self-control for teenagers and parents

We next found that frequent engagement in online activities exacerbates the negative impact of screen time on self-control for both teenagers and parents.

Teenager sample. For the moderated model with time spent on electronic devices as the independent variable, engagement in online activities as the moderator, and self-control as the dependent variable with the teenager sample, the effect of engagement in online activities (b = .3229, p = .0000) as well as the effect of the interaction term between time spent on electronic devices and engagement in online activities (b = -.0003, p = .0443) on the outcome variable were statistically significant, while the effect of time spent on electronic devices on the outcome variable became statistically insignificant (b = .0002, p = .6819). The negative coefficient of the interaction term implies that the effect of time spent on electronic devices on self-control decreases as engagement in online activities increases (Figure 4.16).

FIGURE 4.16: PREDICTION OF SELF-CONTROL ON TIME SPENT ON ELECTRONIC DEVICES IN TEENAGERS (MINUTES), MODERATED BY FREQUENCY OF ENGAGEMENT IN ONLINE ACTIVITIES

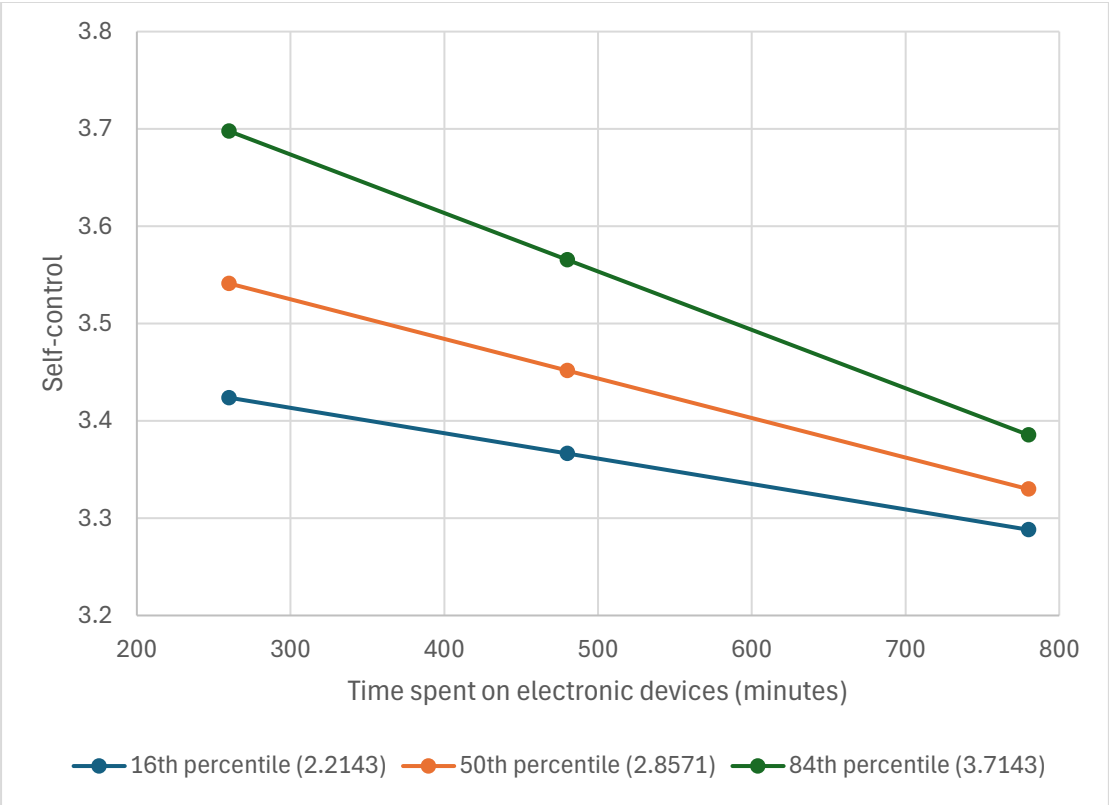


To rule out the possibility that engagement in online activities acted as a mediator rather than a moderator in the model (i.e., that the negative effect of time spent on electronic devices on self-control was accounted for by engagement in online activities), mediation analyses were conducted. We found that the direct effect that time spent on electronic devices on self-control while controlling for engagement in online activities was statistically significant (b = -.0006, p = .0010) while the indirect effect through engagement in online activities was statistically insignificant (b = .0000, 95% CI = [-.0001, .0001]).

This demonstrates that while engagement in online activities strengthens the negative relationship between time spent on electronic devices and self-control, the effect of time spent on electronic devices on self-control was not significantly accounted for by engagement in online activities.

Parent sample. When moderation analyses with the parent sample was conducted — with time spent on electronic devices as the independent variable, engagement in online activities as the moderator, and self-control as the dependent variable — the main effect of engagement in online activities (b = .2415, p = .0000) as well as the effect of the interaction term between time spent on electronic devices and engagement in online activities (b = -.0002, p = .0230) on the outcome variable were found to be statistically significant, while the effect of time spent on electronic devices on the outcome variable was statistically insignificant (b = .0002, p = .4146). The negative coefficient of the interaction term implies that the effect of time spent on electronic devices on self-control decreases as engagement in online activities increases (Figure 4.17).

FIGURE 4.17: PREDICTION OF SELF-CONTROL ON TIME SPENT ON ELECTRONIC DEVICES IN PARENTS (MINUTES), MODERATED BY FREQUENCY OF ENGAGEMENT IN ONLINE ACTIVITIES



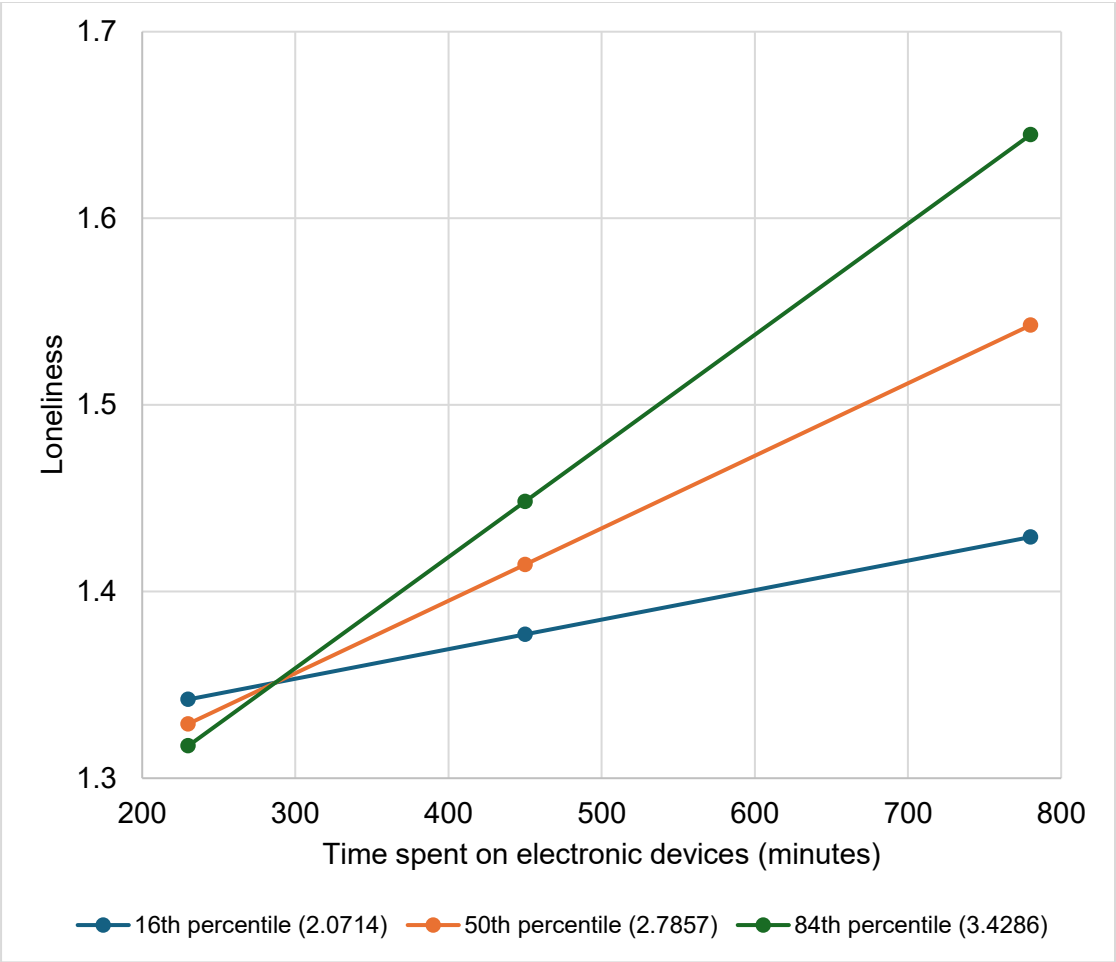
Similarly, when mediation analyses was conducted, with time spent on electronic devices as the independent variable, engagement in online activities as the mediator, and self-control as the dependent variable, we found that the direct effect that time spent on electronic devices on self-control while controlling for engagement in online activities was statistically significant (b = -.0004, p = .0000) while the indirect effect through engagement in online activities was statistically insignificant (b = .0000, 95% CI = [.0000, .0000]). This supports the notion that engagement in online activities strengthened the negative relationship between time spent on electronic devices and self-control but did not significantly mediate the relationship.

4.8.3 Online activity engagement heightens the link between screen time and loneliness in teenagers

We also found that frequent engagement in online activities amplifies the association between screen time and loneliness for teenagers.

Teenager sample. In the teenager sample, engagement in online activities played a statistically significant moderating role on the negative effect that time spent on electronic devices had on feelings of loneliness. Moderation analyses with time spent on electronic devices as the independent variable, engagement in online activities as the moderator, and loneliness as the dependent variable resulted in statistically significant effect of the interaction term between time spent on electronic devices and engagement in online activities ($b = .0003$, $p = .0040$) on the outcome variable, while the effects of time spent on electronic devices ($b = -.0005$, $p = .1286$) and engagement in online activities ($b = -.0925$, $p = .1287$) on the outcome variable were statistically insignificant. At low levels of engagement in online activities, more time spent on electronic devices did not lead to more frequent feelings of loneliness. However, at higher levels of engagement in online activities, more time spent on electronic devices led to more frequent experience of loneliness reported in the teenager sample (Figure 4.18).

FIGURE 4.18: PREDICTION OF LONELINESS ON TIME SPENT ON ELECTRONIC DEVICES IN TEENAGERS (MINUTES), MODERATED BY FREQUENCY OF ENGAGEMENT IN ONLINE ACTIVITIES



Taken together, engagement in online activities was found to intensify the negative effects of time spent on electronic devices on reported levels of emotional well-being and perceived self-control in parent and teenager samples. For feelings of loneliness, the effect differed by group, wherein higher engagement in online activities exacerbated the negative impact of screen time among teenagers, but the effect was statistically negligible among parents. In contrast, no moderating effect of online activity engagement was observed for

feelings about life, sleep quality or overall mental well-being in either the teenager or parent samples.

4.9 Moderating Influences of In-Person Social Activities in the Relationship Between Screen Use and Well-Being

The second moderator employed is the reported time spent on in-person social activities. This was measured by asking respondents to indicate the amount of time they typically devote in a week to in-person social activities (e.g., going out for dinner with friends) outside of formal curriculum time or work commitments.

Likewise, moderation analyses were conducted separately for teenagers and parents across key well-being outcomes, with additional mediation checks carried out where relevant.

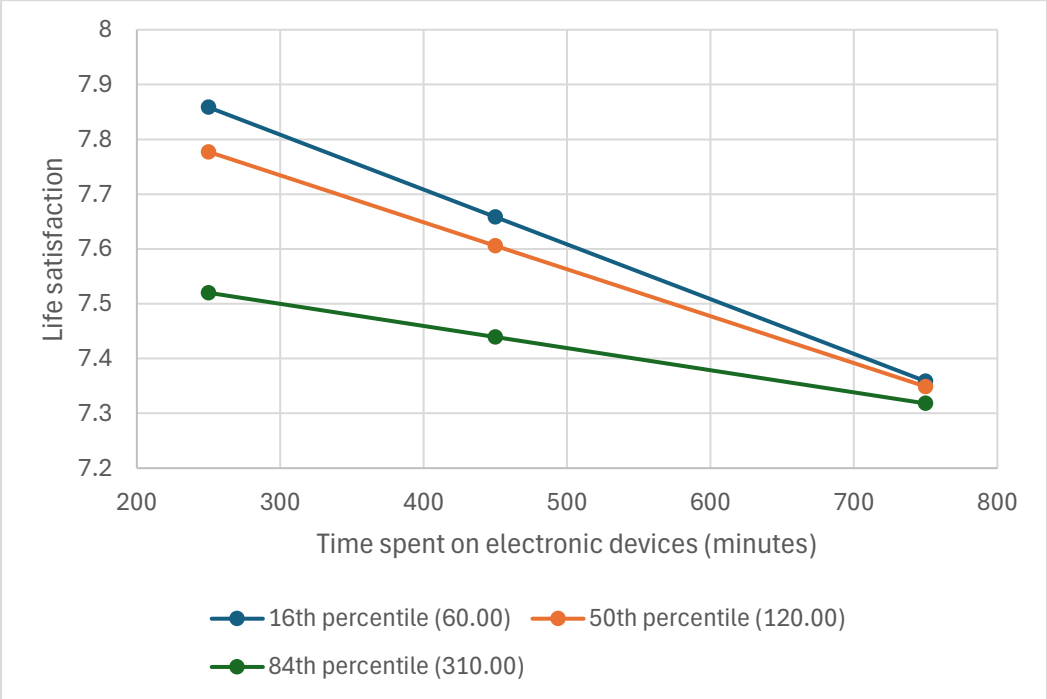
4.9.1 In-person social activities buffer the negative effects of screen use on life satisfaction for parents

We found that in-person social activities help to mitigate the negative effect of screen time on life satisfaction for parents.

Parent sample. In the parent sample, time spent on in-person social activities significantly moderated the negative effect that time spent on electronic devices had on life satisfaction. When time spent on electronic devices was entered as the independent variable, time spent on in-person social activities as the

moderator, and feeling about life as the outcome variable, the effect of the interaction term between time spent on electronic devices and time spent on in-person social activities (b = .0000, p = .0449) on the outcome variable as well as main effects of time spent on electronic devices (b = -.0011, p = .0002) and time spent on in-person social activities (b = -.0019, p = .0031) on the outcome variable were all found to be statistically significant. At low and medium levels of time spent on in-person social activities, parents reported being less happy about life with more time spent on electronic devices. However, at high levels of time spent on in-person social activities, the relationship between time spent on electronic devices and feeling about life was found to be statistically insignificant (Figure 4.19).

FIGURE 4.19: PREDICTION OF LIFE SATISFACTION ON TIME SPENT ON ELECTRONIC DEVICES IN PARENTS (MINUTES), MODERATED BY TIME SPENT ON IN-PERSON SOCIAL ACTIVITIES (MINUTES)

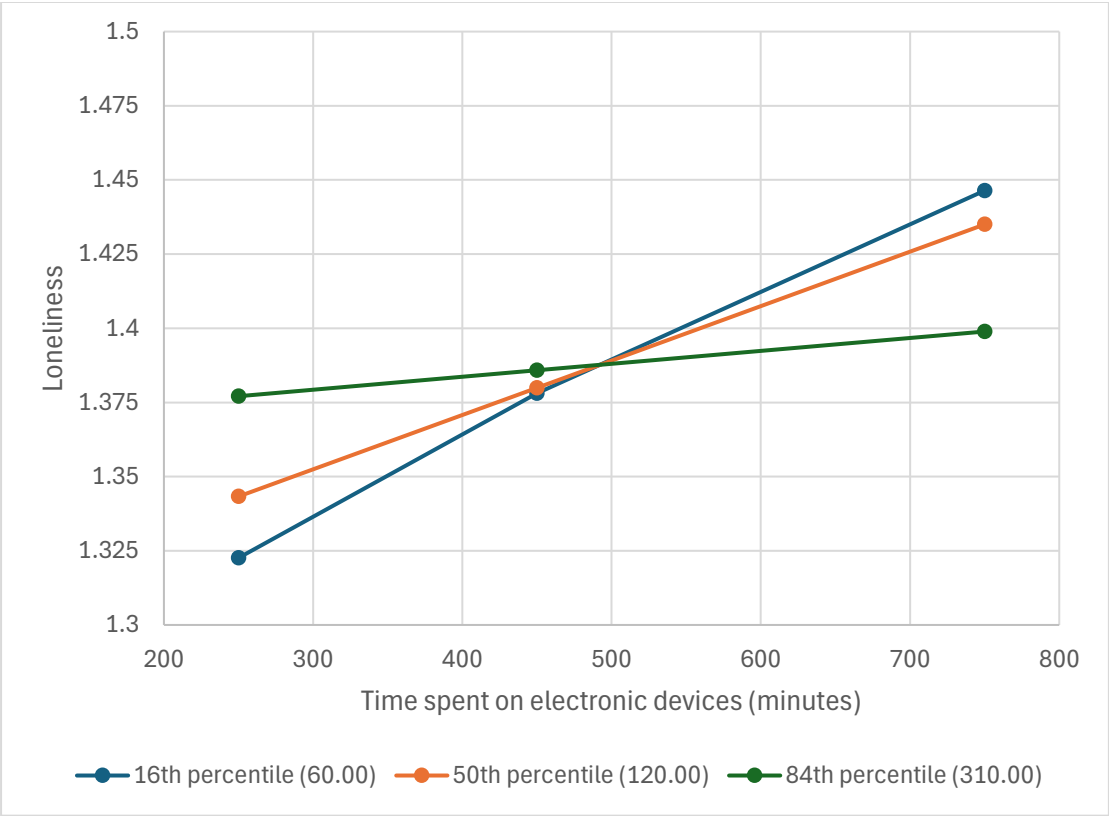


4.9.2 In-person social activities buffer the negative effects of screen use on loneliness in parents

In addition to life satisfaction, we also found that in-person social activities help to dampen the harmful effects of screen use on loneliness in parents.

Feelings of loneliness. Time spent on in-person social activities also moderated the negative effect that time spent on electronic devices had on loneliness in the parent sample. Moderation analyses revealed that with time spent on electronic devices as the independent variable, time spent on in-person social activities as the moderator, and feelings of loneliness as the outcome variable, the effect of the interaction term between time spent on electronic devices and time spent on in-person social activities (b = .0000, p = .0634) on the outcome variable as well as main effect of time spent on in-person social activities (b = .0004, p = .0987) had on the outcome variable were found to be statistically insignificant, while the main effect of time spent on electronic devices on feelings of loneliness was statistically significant (b = .0003, p = .0072). At low and medium levels of time spent on in-person social activities, more time spent on electronic devices predicted more frequent feelings of loneliness in the parent sample. However, at high levels of time spent on in-person social activities, the relationship between time spent on electronic devices and loneliness was statistically insignificant (Figure 4.20).

FIGURE 4.20: PREDICTION OF LONELINESS ON TIME SPENT ON ELECTRONIC DEVICES IN PARENTS (MINUTES), MODERATED BY TIME SPENT ON IN-PERSON SOCIAL ACTIVITIES (MINUTES)



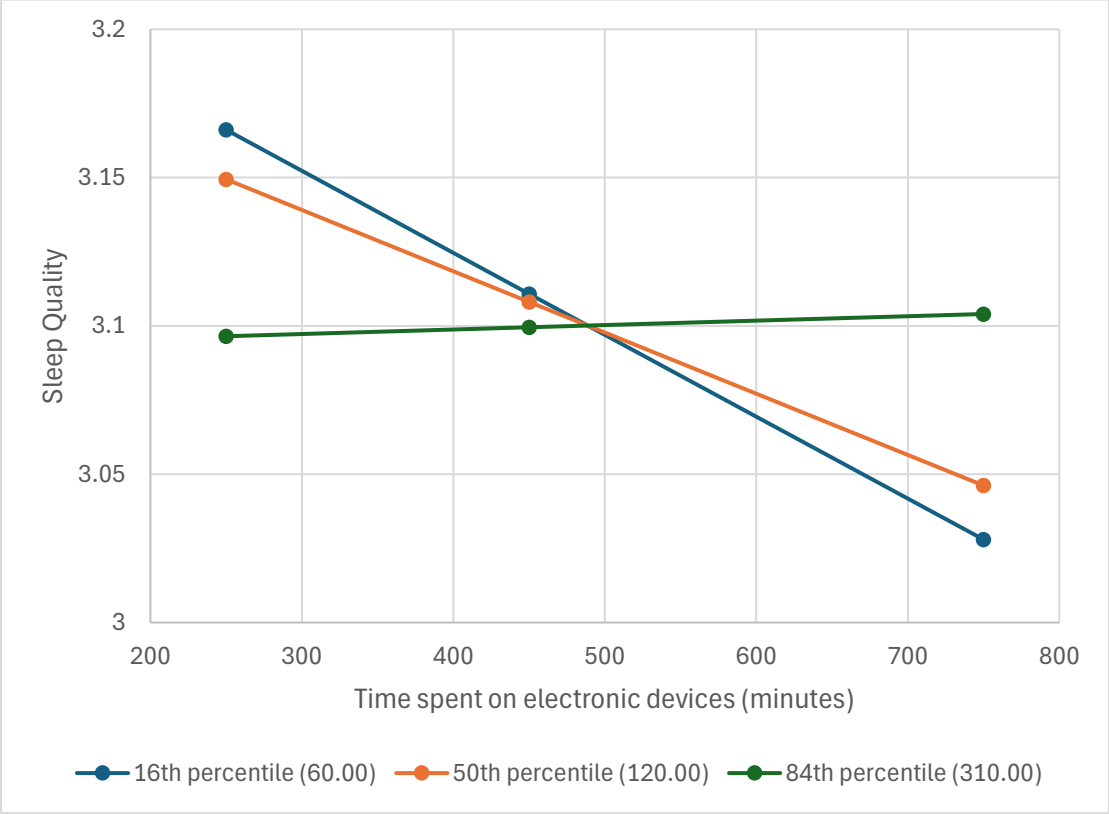
4.9.3 In-person social activities mitigate adverse effects of screen use on sleep quality for parents

We next found that in-person social activities help to dampen the harmful effects of screen use on parents' sleep quality.

Parent sample. Moderation analyses revealed that with time spent on electronic devices as the independent variable, time spent on in-person social activities as the moderator, and sleep quality as the outcome variable, the effect of the interaction term between time spent on electronic devices and time spent on in-person social activities (b = .0000, p = .0307) as well as the main effect

of time spent on electronic devices (b = -.0003, p = .0118) on the outcome variable were found to be statistically significant, while the main effect of time spent on in-person social activities (b = -.0006, p = .0560) on the outcome variable was found to be statistically insignificant. At low and medium levels of time spent on in-person social activities, more time spent on electronic devices predicted worse sleep quality in the parent sample. However, at high levels of time spent on in-person social activities, the relationship between time spent on electronic devices and sleep quality was statistically insignificant (Figure 4.21).

FIGURE 4.21: PREDICTION OF SLEEP QUALITY ON TIME SPENT ON ELECTRONIC DEVICES IN PARENTS (MINUTES), MODERATED BY TIME SPENT ON IN-PERSON SOCIAL ACTIVITIES (MINUTES)



Taken together, time spent on in-person social activities moderated the harmful effects of screens on life satisfaction, loneliness and sleep quality of parents. In the teenager sample, time spent on in-person social activities did not

statistically moderate any of the negative effect that time spent on electronic devices had on any of the outcome variables studied.

4.10 Moderating Influences of Time Spent on Physical Activities in the Relationship Between Screen Use and Well-Being

The third moderator used is the reported time spent on in-person physical activities. This was measured by asking respondents to report their weekly participation in in-person physical activities such as sports or exercise outside of formal curriculum time or work obligations.

As with the previous models, analyses were run separately for teenagers and parents across key well-being outcomes, and follow-up mediation checks were performed where appropriate.

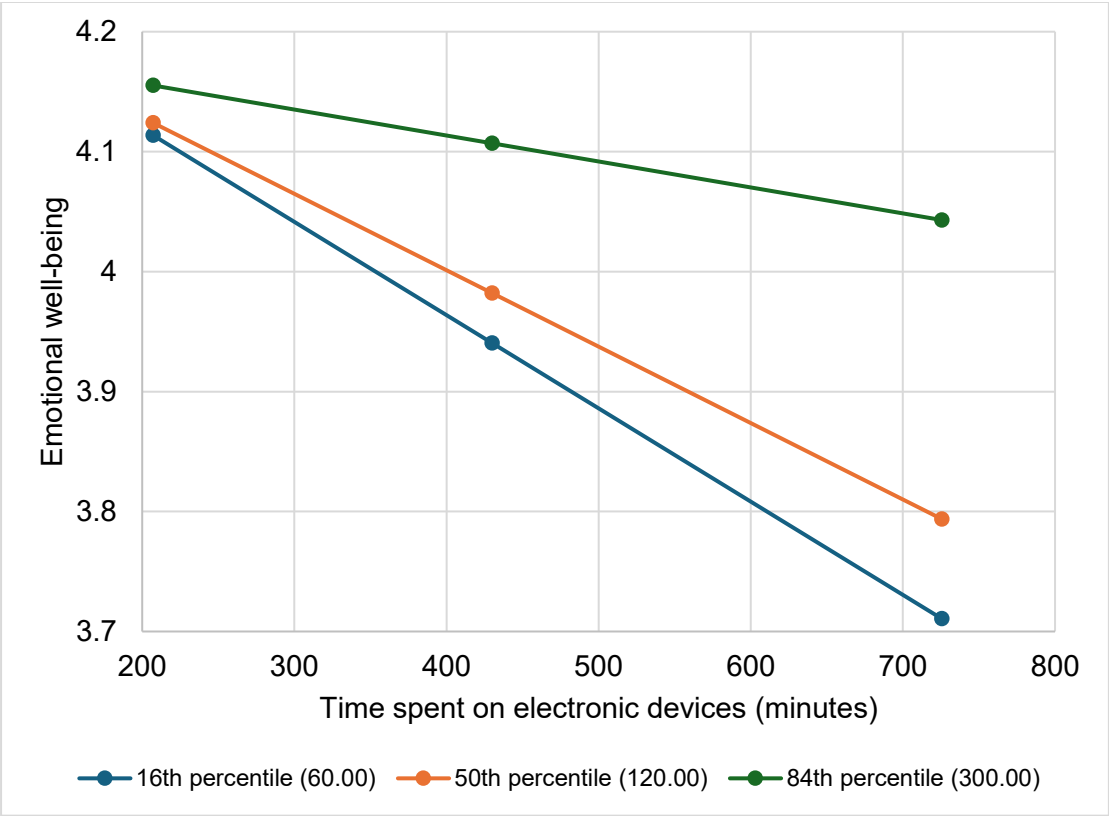
4.10.1 Physical activities moderate the negative effects of screen use on teenagers' emotional well-being

We found that physical activities moderated the adverse impact of screen use on the emotional well-being of teenagers.

Teenager respondents. Time spent on in-person physical activities moderated the negative effect that time spent on electronic devices had on emotional well-being in the teenager sample. When time spent on electronic devices was entered as the independent variable, time spent on in-person physical activities

as the moderator, and emotional well-being as the outcome variable, the effect of the interaction term between time spent on electronic devices and time spent on in-person physical activities (b = .0000, p = .0424) on the outcome variable and the main effect of time spent on electronic devices (b = -.0009, p = .0005) on the outcome variable were found to be statistically significant. However, the main effect that time spent on in-person physical activities (b = -.0003, p = .6074) had on the outcome variable was found to be statistically insignificant. At low and medium levels of time spent on in-person physical activities, more time spent on electronic devices predicted lower levels of emotional well-being. However, at high levels of time spent on in-person social activities, the relationship between time spent on electronic devices and emotional well-being was statistically insignificant (Figure 4.22).

FIGURE 4.22: PREDICTION OF EMOTIONAL WELL-BEING ON TIME SPENT ON ELECTRONIC DEVICES IN TEENAGERS (MINUTES), MODERATED BY TIME SPENT ON IN-PERSON PHYSICAL ACTIVITIES (MINUTES)



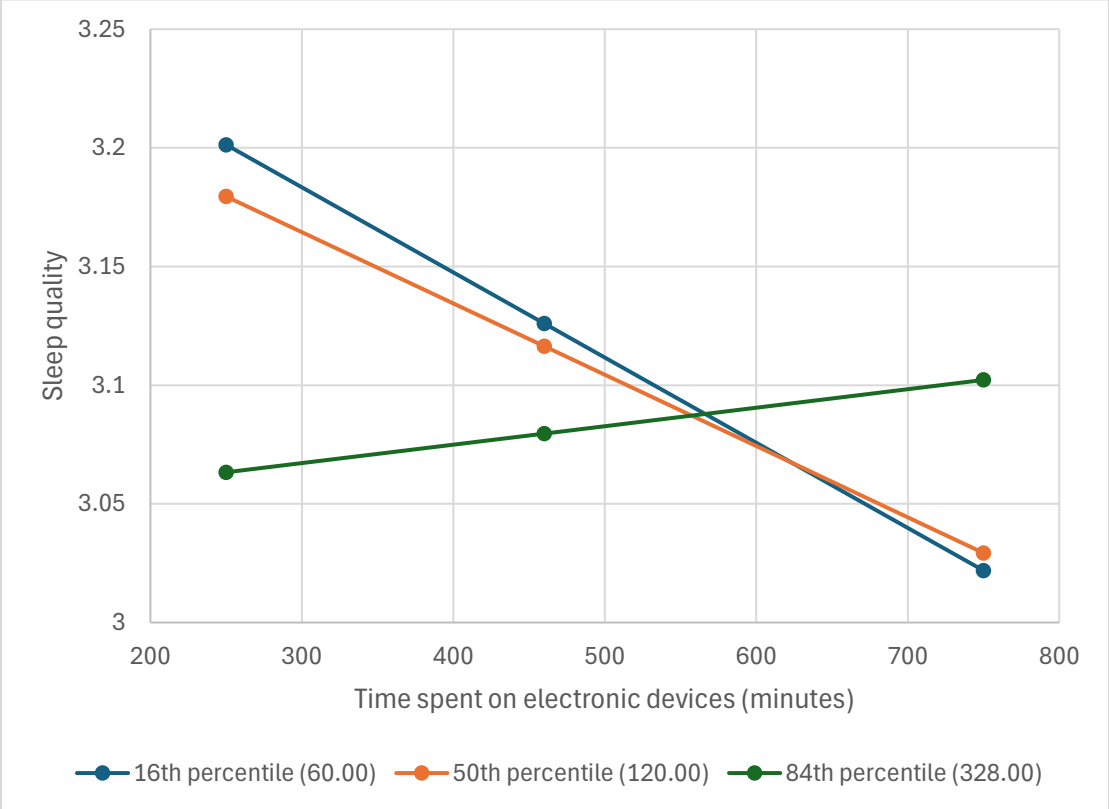
4.10.2 Physical activities lessen the adverse impact of screen use on parents' sleep quality

On the other hand, we found that physical activities dampen the negative impact of screen time on the sleep quality of parents.

Parent sample. Time spent on in-person physical activities also moderated the negative effect that time spent on electronic devices had on sleep quality in the parent sample. When time spent on electronic devices was entered as the independent variable, time spent on in-person physical activities as the moderator, and sleep quality as the outcome variable, the effect that the

interaction term between time spent on electronic devices and time spent on in-person physical activities (b = .0000, p = .0001) on the outcome variable as well as main effects of time spent on electronic devices (b = -.0005, p = .0001) and time spent on in-person physical activities (b = -.0010, p = .0005) had on the outcome variable were all found to be statistically significant. At low and medium levels of time spent on in-person physical activities, more time spent on electronic devices predicted poorer sleep quality. However, at high levels of time spent on in-person physical activities, the relationship between time spent on electronic devices and sleep quality was found to be statistically insignificant (Figure 4.23).

FIGURE 4.23: PREDICTION OF SLEEP QUALITY ON TIME SPENT ON ELECTRONIC DEVICES IN PARENTS (MINUTES), MODERATED BY TIME SPENT ON IN-PERSON PHYSICAL ACTIVITIES (MINUTES)



Taken together, the time spent on in-person physical activities did not play a significant role as a moderator on the negative effect that time spent on electronic devices had on the other outcome variables studied in both parent and teenager samples.

4.11 Summary of the Impact of Screen-Time Use on Well-Being

This chapter shows that while screens are embedded in daily life for both teenagers and parents, higher total screen time is consistently linked to poorer reported well-being. More time spent on screens is associated with worse sleep quality, greater loneliness and lower emotional well-being for both teenagers and parents. Life satisfaction also declines with higher use, marginally among teenagers and significantly among parents, and parents additionally report lower mental well-being with higher screen time, a pattern not observed among teenagers.

Beyond these associations, many respondents described day-to-day strains tied to heavier use. Over half of teenagers and parents used screens to cope with stress in the prior week; and yet, this coexisted with procrastination, difficulty focusing, physical discomfort, reduced outdoor activity and interpersonal disagreements.

We also found that what people do online and how they spend time offline shape these outcomes. Greater engagement in online activities amplifies the

downsides of high screen time, while richer offline routines can buffer harm for both groups. These findings suggest that it is not only the quantity of screen time that matters, but also what is done online and the balance with offline social and physical activities. This sets the stage for Chapter 5, which examines why cutting back is difficult and which strategies, such as self-limiting practices and parental controls, are most effective.

5. DIFFICULTIES AND STRATEGIES TO MANAGE SCREEN TIME

5.1 Overview

This chapter explores the challenges of reducing screen time for both teenagers and parents, how self-control relates to screen use, and which strategies are most effective at managing it.

Most teenagers and parents find it hard to reduce their screen time, and higher self-control is consistently linked to lower daily use. Parental controls can reduce teenagers' screen time, especially structured tools like built-in controls, third-party apps and taking away devices, but they are most effective before use becomes highly problematic and when accompanied with clear and ongoing family communication. Teenagers' and parents' own self-limiting practices such as schedules, mealtime/bedtime rules, locking devices away and third-party apps are broadly associated with lower use. Overall, self-regulation skills, structured boundaries and open dialogue emerge as the important elements of effective screen-time management.

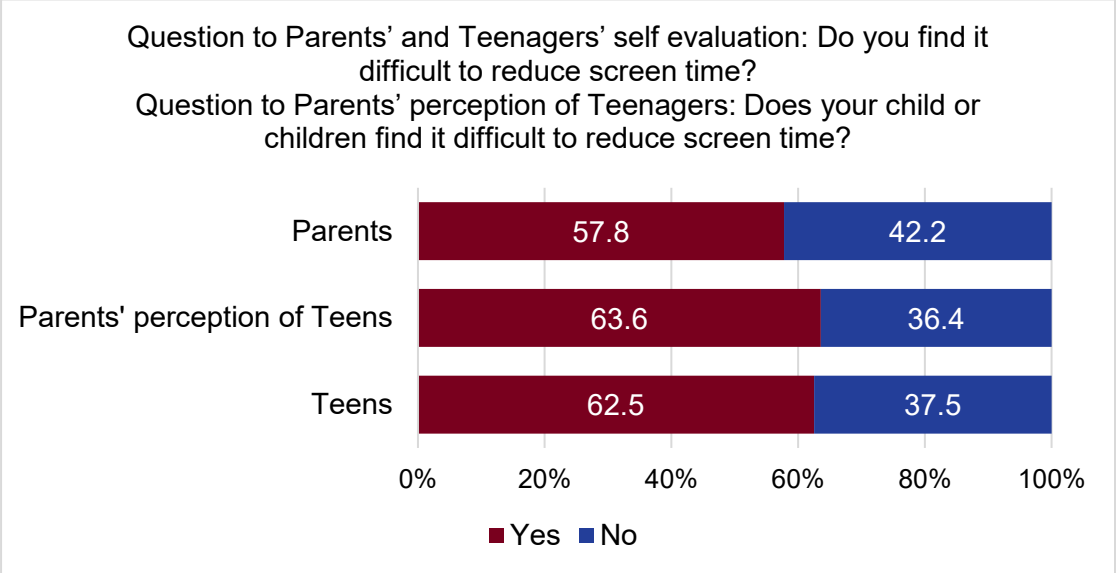
5.2 Difficulty in Reducing Screen-Time Use

5.2.1 Over half of both teenagers and parents struggle to reduce screen time

When survey respondents were asked if they found it difficult to reduce screen time, 62.5 per cent of teenagers and 57.8 per cent of parents responded with a "Yes". Furthermore, when parent respondents were asked if their child or

children found it difficult to reduce screen time, 63.6 per cent of them responded with a “Yes” (Figure 5.1).

FIGURE 5.1: OPINION ON DIFFICULTY OF REDUCING SCREEN TIME, ACROSS PARENT AND TEENAGER RESPONDENTS (%)



5.3 Perceived Self-Control and Screen-Time Use

5.3.1 Reported levels of self-control for teenagers was negatively associated with screen-time usage

Self-control plays a crucial role in managing screen time, influencing how individuals regulate their device use and balance short-term gratification with long-term goals. To assess this, respondents’ self-control was measured using the 13-item Brief Self-Control Scale (BSCS; Tangney, Baumeister, & Boone, 2004). About six in 10 teenage respondents reported that they refused things that are bad for them and were able to work effectively towards long-term goals,

but just slightly over four in 10 stated that they are good at resisting temptation and three in 10 have iron self-discipline (Figure 5.2a, Figure 5.2b).

FIGURE 5.2A: TEENAGE RESPONDENTS' RESPONSE ON POSITIVE-WORDED ITEMS FROM THE BRIEF SELF-CONTROL SCALE (BSCS; %)

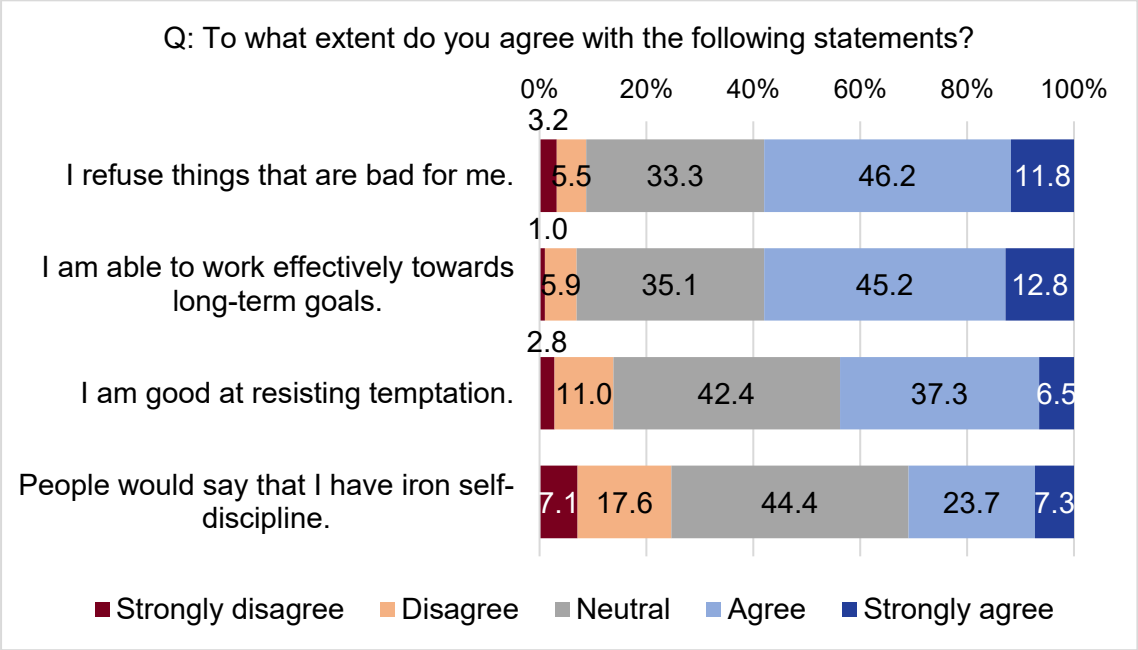
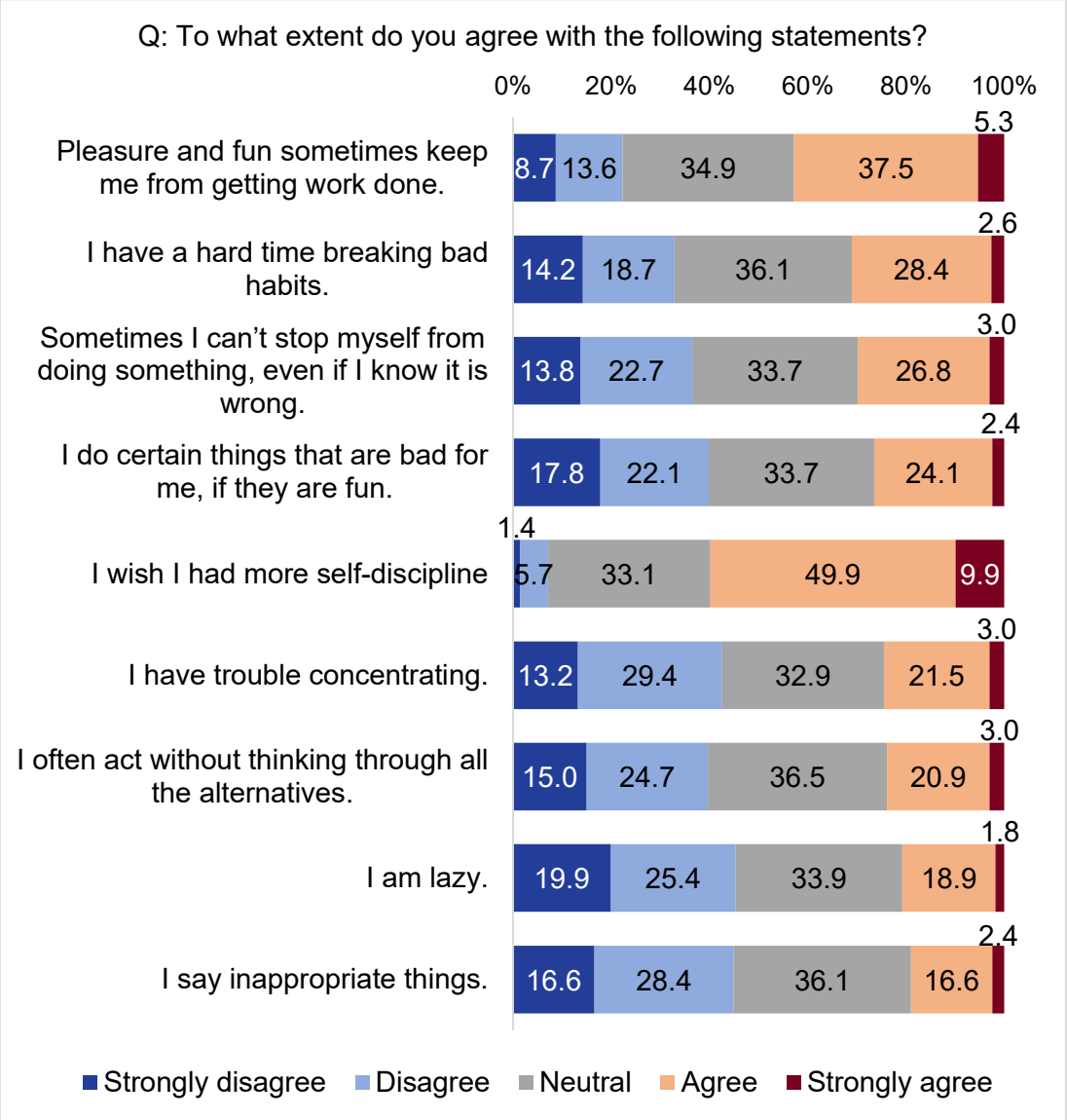


FIGURE 5.2B: TEENAGER RESPONDENTS' RESPONSE ON REVERSE-CODED ITEMS FROM THE BRIEF SELF-CONTROL SCALE (BSCS; %)



After adjusting for reverse-coded items, the scores for all 13 items are summed to generate a total self-control score, with higher scores indicating greater self-control. This total score is then used to examine its relationship with screen time, controlling for age (Table 5.1). The results indicate that higher self-control is significantly associated with less time spent on electronic devices, suggesting that teenagers with greater self-discipline tend to use their devices less.

TABLE 5.1. REGRESSION OF REPORT OF PERCEIVED SELF-CONTROL ON AND AGE ON TIME SPENT ON ELECTRONIC DEVICES IN THE TEENAGER SAMPLE

Dependent Variable: Time spent on Electronic Devices (Teenage Sample)					
Independent Variable	**B^**	**S.E.#**	**ß***	**t&**	**Sig.+**
Self-control	-121.794	19.424	-.266	-6.270	<.001
Age of teen	22.190	6.433	.147	3.449	<.001
(Constant)	543.627	119.016		4.568	<.001

^ unstandardised beta
# standard error
* standardised beta
& t-value
+ significance value (p-value)

Parents' self-control was likewise measured using the same 13-item Brief Self-Control Scale (Tangney, Baumeister, & Boone, 2004). They reported similar levels of self-control as their teenage counterparts (Figure 5.3a, Figure 5.3b).

FIGURE 5.3A: PARENT RESPONDENTS' RESPONSE ON POSITIVE-WORDED ITEMS FROM THE BRIEF SELF-CONTROL SCALE (BSCS; %)

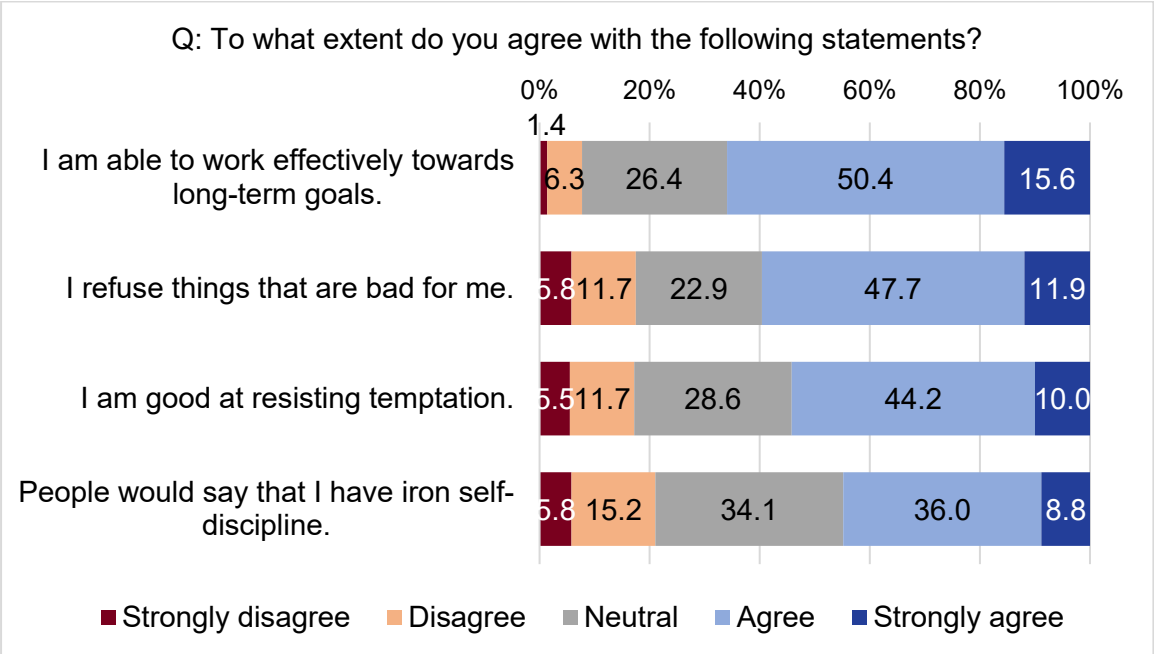
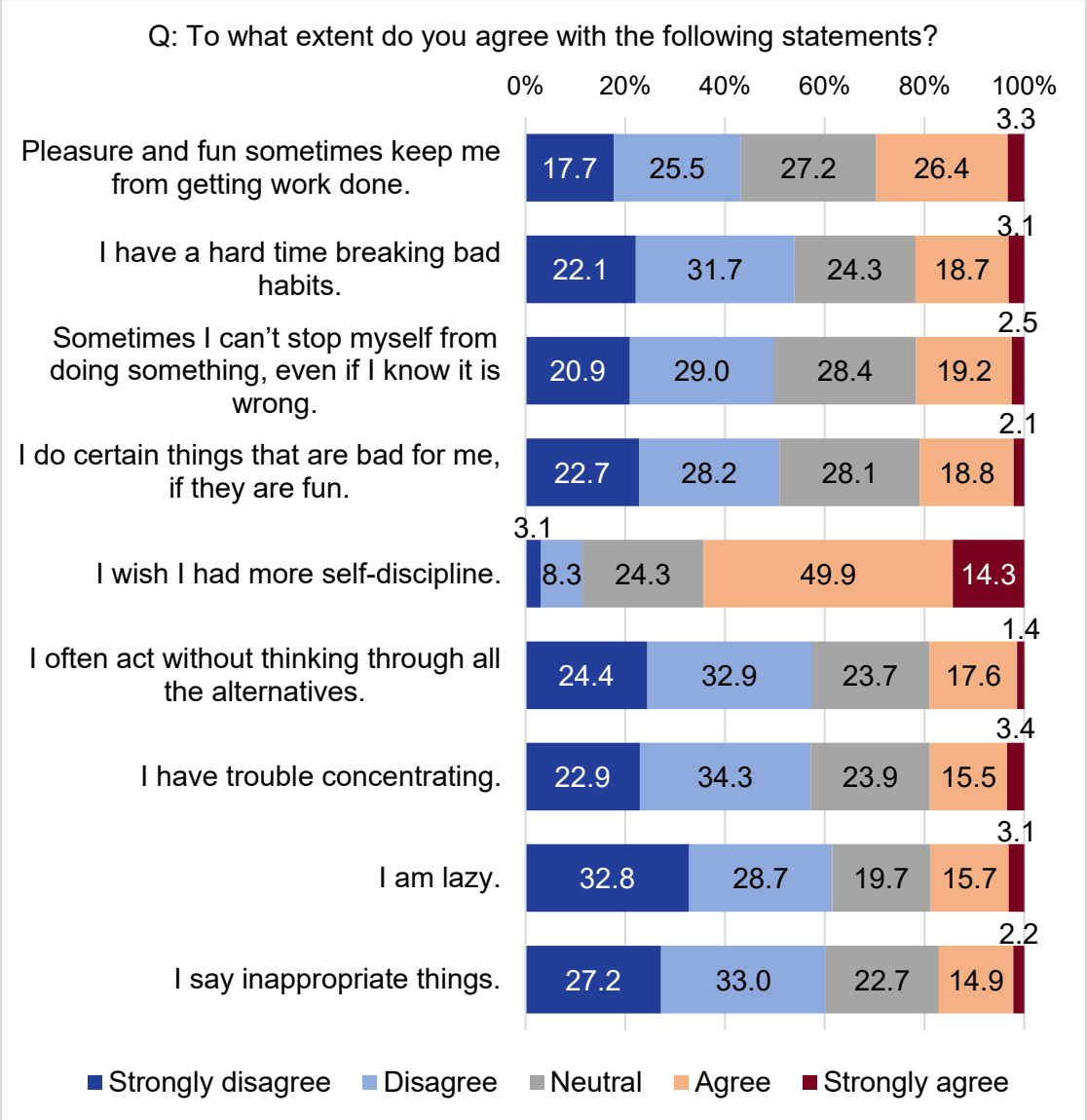


FIGURE 5.3B: PARENT RESPONDENTS' RESPONSE ON REVERSE-CODED ITEMS FROM THE BRIEF SELF-CONTROL SCALE (BSCS; %)



Regression analysis was likewise conducted to examine the relationship between self-control and time spent on electronic devices among parents, while controlling for demographic factors (Table 5.2). The results indicate that higher self-control is significantly associated with lower screen time, suggesting that parents with greater self-discipline also tend to spend less time on electronic devices.

TABLE 5.2. REGRESSION OF REPORT OF PERCEIVED SELF-CONTROL ON AND DEMOGRAPHIC VARIABLES ON TIME SPENT ON ELECTRONIC DEVICES IN PARENT SAMPLE

Dependent Variable: Time spent on Electronic Devices (Parent Sample)					
Independent Variable	**B^**	**S.E.#**	**ß***	**t&**	**Sig.+**
Self-Control	-88.734	14.002	-.199	-6.337	<.001
Gender[a]	13.129	16.402	.024	.800	.424
Age of Parent	-.048	.010	-.157	-4.935	<.001
Ethnicity[b]					
Malay	-81.578	21.736	-.115	-3.753	<.001
Indian	-.377	30.814	.000	-.012	.990
Others	151.845	69.003	.064	2.201	.028
Highest educational qualification[c]					
Secondary and below	-70.002	22.933	-.092	-3.052	.002
Post-secondary	-60.861	19.780	-.097	-3.077	.002
Housing type[d]					
HDB 1-3 room	44.131	29.898	.058	1.476	.140
HDB 4-5 room and Executive flats	57.183	23.501	.095	2.433	.015
(Constant)	434.885	99.181		4.385	<.001

[a] reference category is male, 1 = female
[b] reference category is Chinese
[c] reference category is bachelor's and above
[d] reference category is private property
^ unstandardised beta
# standard error
* standardised beta
& t-value
+ significance value (p-value)

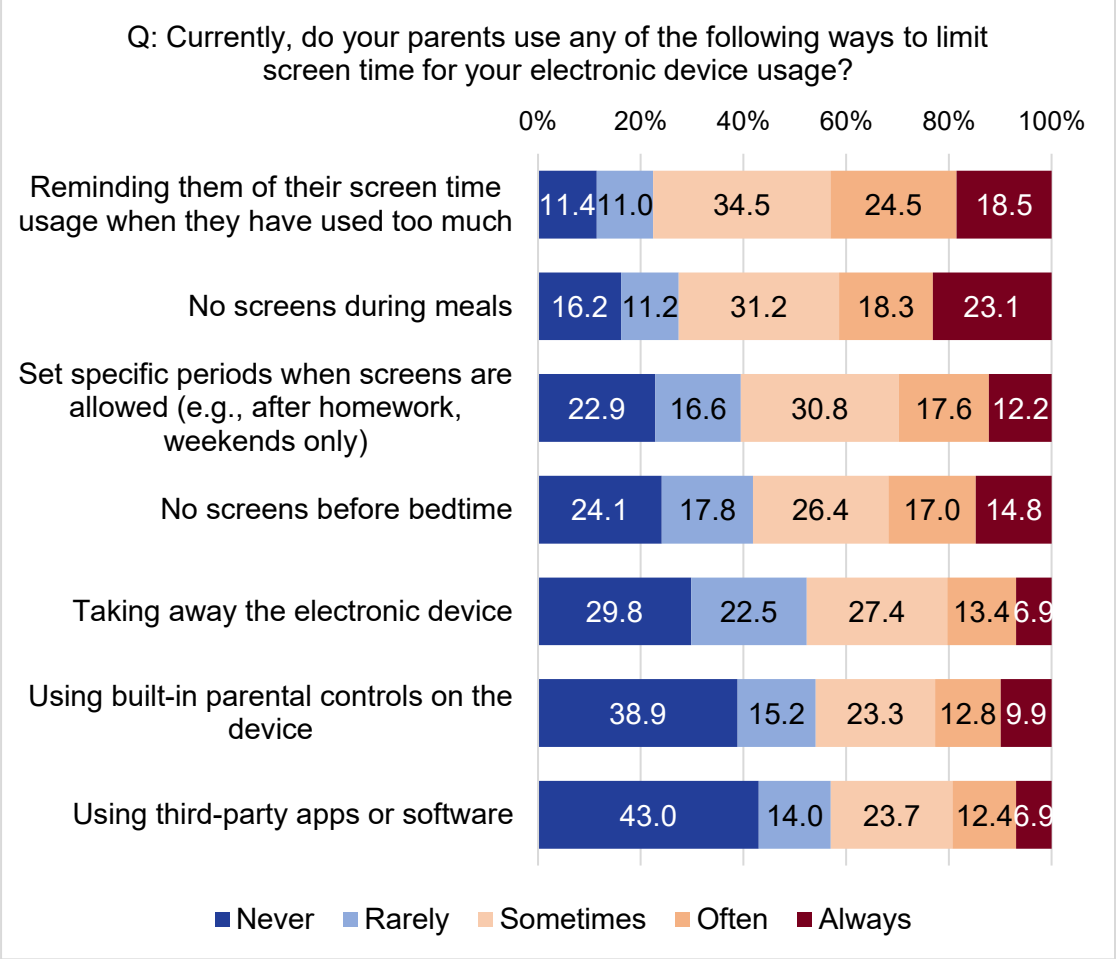
5.4 Strategies to Reduce Screen Time

5.4.1 Parental controls are linked to lower screen use in teenagers, reminders alone are less effective

To examine existing efforts used to reduce screen-time usage, we asked both teenage and parent respondents about the use of parental as well as self-limiting measures to limit screen time for electronic device usage.

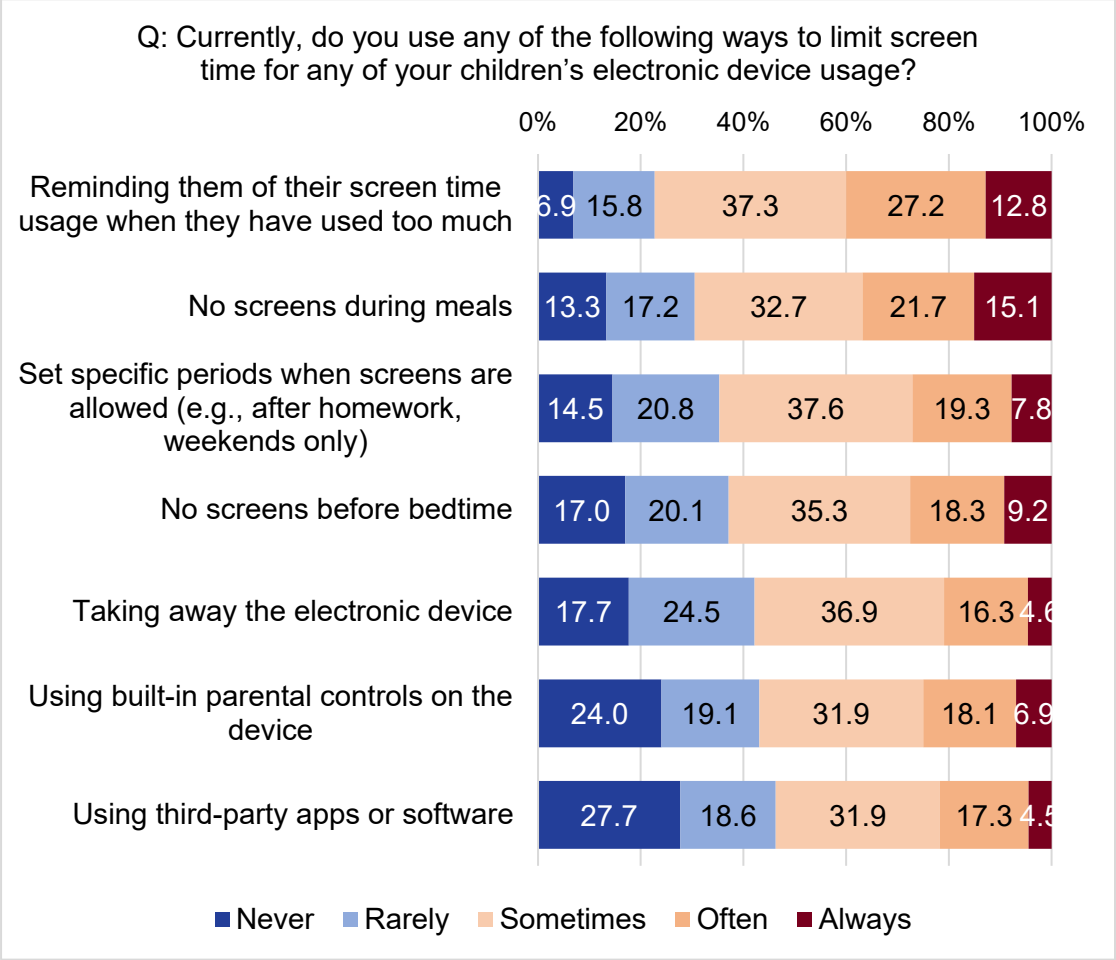
Teenage respondents indicated that their parents limited their screen-time usage at least sometimes through the following measures: reminder of overuse (77.5 per cent), no screens during meals (72.6 per cent), no screens before bedtime (58.2 per cent), taking away of the electronic device (47.4 per cent), built-in parental controls on the electronic device (46 per cent) and third-party apps or software (43 per cent; Figure 5.4).

FIGURE 5.4: TEENAGE RESPONDENTS REPORT ON THEIR PARENTS' USE OF VARIOUS CONTROL STRATEGIES TO LIMIT THEIR (TEENAGE RESPONDENTS') SCREEN-TIME USE (%)



Parent respondents indicated that they had limited their children's screen-time usage at least sometimes and by using the following measures: reminder of overuse (77.3 per cent), no screens during meals (69.5 per cent), no screens before bedtime (62.8 per cent), taking away of the electronic device (57.8 per cent), built-in parental controls on the electronic device (56.9 per cent) and third-party apps or software (53.7 per cent; Figure 5.5).

FIGURE 5.5: PARENT RESPONDENTS REPORT ON THEIR USE OF VARIOUS CONTROL STRATEGIES TO LIMIT THEIR CHILDREN'S SCREEN-TIME USE (%)



We use regression analyses to examine how each parental control strategy affects teenagers' screen time, based on the latter's reports of the strategies their parents use (Table 5.3). In other words, the analyses rely on teen-reported parental controls, not parents' self-reports of what they do to manage their teenagers' screen time.

The results indicate that most parental control strategies were significantly associated with reduced screen time, with more frequent implementation

coinciding with shorter time spent on electronic devices. Strategies such as taking away devices, using built-in controls and setting specific screen time periods were among the strongest factors in reducing screen time. Reminding teenagers about excessive screen use did not show a significant effect. These findings suggest that structured rules and direct intervention strategies are generally more effective than passive reminders in managing teenagers' screen time.

TABLE 5.3: REGRESSION OF TEENAGERS' TIME SPENT ON ELECTRONIC DEVICES ON EACH PARENTAL CONTROL STRATEGY USED

Dependent Variable: Teenagers' Time Spent on Electronic Devices					
Independent Variables	**B^**	**S.E.#**	**ß***	**t&**	**Sig.+**
Model 1					
Taking away the electronic device	-50.997	10.137	-.228	-5.031	<.001
Age of teen	10.936	6.861	.072	1.594	.112
(Constant)	454.304	118.840		3.823	<.001
Model 2					
Using built-in parental controls on the device	-40.815	9.205	-.202	-4.434	<.001
Age of teen	12.292	6.889	.081	1.784	.075
(Constant)	405.697	117.845		3.443	<.001
Model 3					
Set specific periods when screens are allowed (e.g., after homework, weekends only)	-37.286	9.481	-.176	-3.933	<.001
Age of teen	15.302	6.779	.101	2.257	.024
(Constant)	364.769	116.691		3.126	.002
Model 4					
No screens before bedtime	-30.734	9.026	-.152	-3.405	<.001
Age of teen	16.964	6.750	.112	2.513	.012
(Constant)	320.548	114.943		2.789	.005
Model 5					
Using third-party apps or software	-32.092	9.426	-.152	-3.405	<.001

Age of teen	16.654	6.769	.110	2.460	.014
(Constant)	311.729	113.902		2.737	.006
Model 6					
No screens during meals	-21.523	9.214	-.105	-2.336	.020
Age of teen	18.267	6.806	.121	2.684	.008
(Constant)	282.813	117.892		2.399	.017
Model 7					
Reminding me of my screen-time usage when I have used too much	-8.844	10.308	-.039	-.858	.391
Age of teen	20.393	6.852	.135	2.976	.003
(Constant)	209.165	120.792		1.732	.084

^ unstandardised beta
# standard error
* standardised beta
& t-value
+ significance value (p-value)

Since parents may employ multiple strategies simultaneously to manage their teenagers' screen time, we also assess their combined effects in a single regression model (Table 5.4). In this regression, the average usage frequency of *less punitive* parental control strategies (i.e., set specific periods when screens are allowed, no screens during meals, no screens before bedtime, reminders of screen-time usage when there is too much use) and the average frequency of *more punitive* parental control strategies (i.e., using built-in parental controls on the device, using third-party apps or software, taking away the electronic device) were entered instead of individual parental control strategies. The rationale behind this is to reduce the extent of multicollinearity since the use of various parental control strategies were all at least moderately correlated amongst each other. The results demonstrate that while the use of more punitive parental control strategies was significantly associated with reduced screen time, the use of less punitive parental control strategies was not (Table 5.4).

TABLE 5.4: REGRESSION OF TEENAGERS' TIME SPENT ON ELECTRONIC DEVICES ON A COMBINATION PARENTAL CONTROL STRATEGIES USED

Dependent Variable: Teenagers' Time Spent on Electronic Devices					
Independent Variables	**B^**	**S.E.#**	**ß***	**t&**	**Sig.+**
Average frequency of *less* punitive parental control strategies: - **Set specific periods when screens are allowed (e.g., after homework, weekends only)** - **No screens during meals** - **No screens before bedtime** - **Reminding me of my screen-time usage when I have used too much**	-9.243	14.122	-.036	-.655	.513
Average frequency of *more* punitive parental control strategies: - **Using built-in parental controls on the device** - **Using third-party apps or software** - **Taking away the electronic device**	-50.869	13.495	-.208	-3.770	<.001
Age of teenage participant	10.067	6.930	.067	1.453	.147
(Constant)	491.495	125.621		3.913	<.001

^ unstandardised beta
# standard error
* standardised beta
& t-value
+ significance value (p-value)

5.4.2 Intrusive parental controls, like in-built features and third-party apps, reduce teenagers' screen time only if it has not already significantly disrupted their daily lives

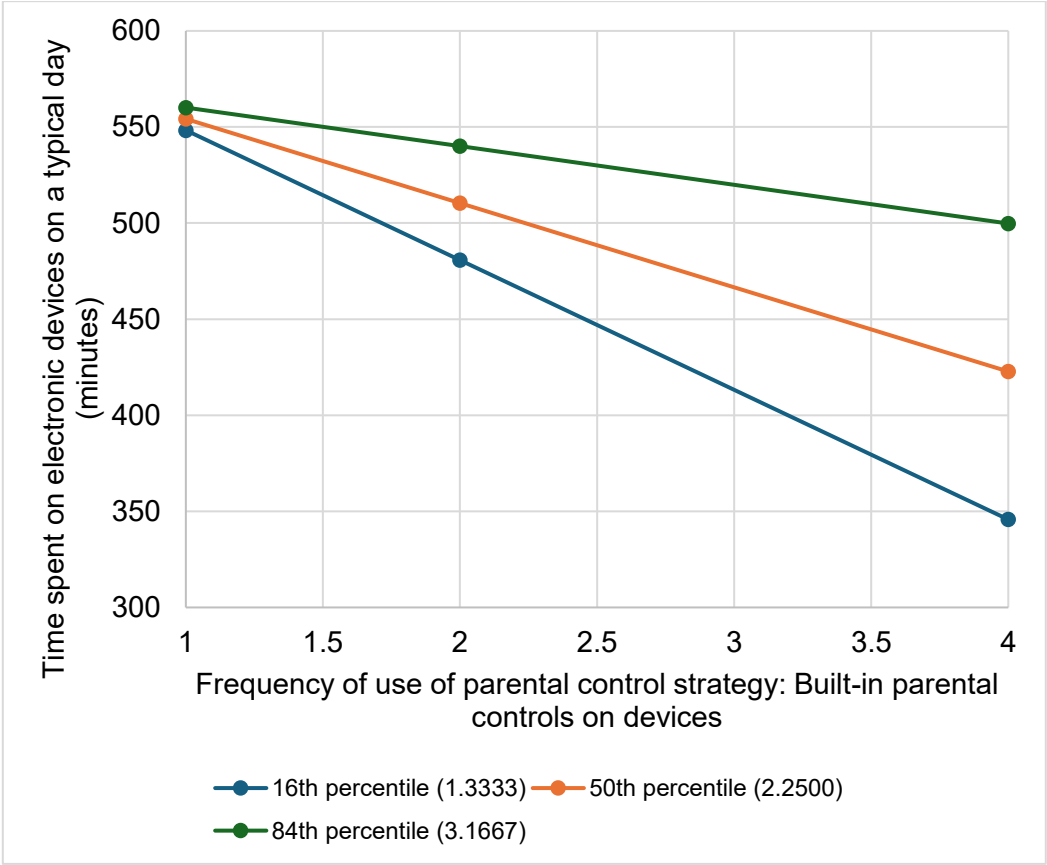
While parental control strategies can help reduce teenagers' screen time, their effectiveness may depend on the extent to which screen use has already become problematic. In this section, we examine whether the effectiveness of specific parental control strategies varies depending on the severity of problematic screen use (for a discussion on problematic screen use, see Section 4.2). To assess this, an average rating score for problematic screen use was computed and included as a moderating variable in the following analyses.

Out of the six parental control strategies studied, moderation analyses found problematic screen use to only significantly moderate the effectiveness of two parental control strategies in reducing teenagers' time spent on electronic devices, that of "using of built-in parental control on devices" and "using third-party apps or software".

When we ran a moderated model with the parental control strategy of "using of built-in parental controls on devices" as reported by teenagers as the independent variable, problematic screen use as the moderator, and teenagers' time spent on electronic devices as the dependent variable, the main effect of the use of built-in parental controls on devices ($b = -101.9918$, $p = .0000$) as well as the effect of the interaction term between their parents' use of built-in

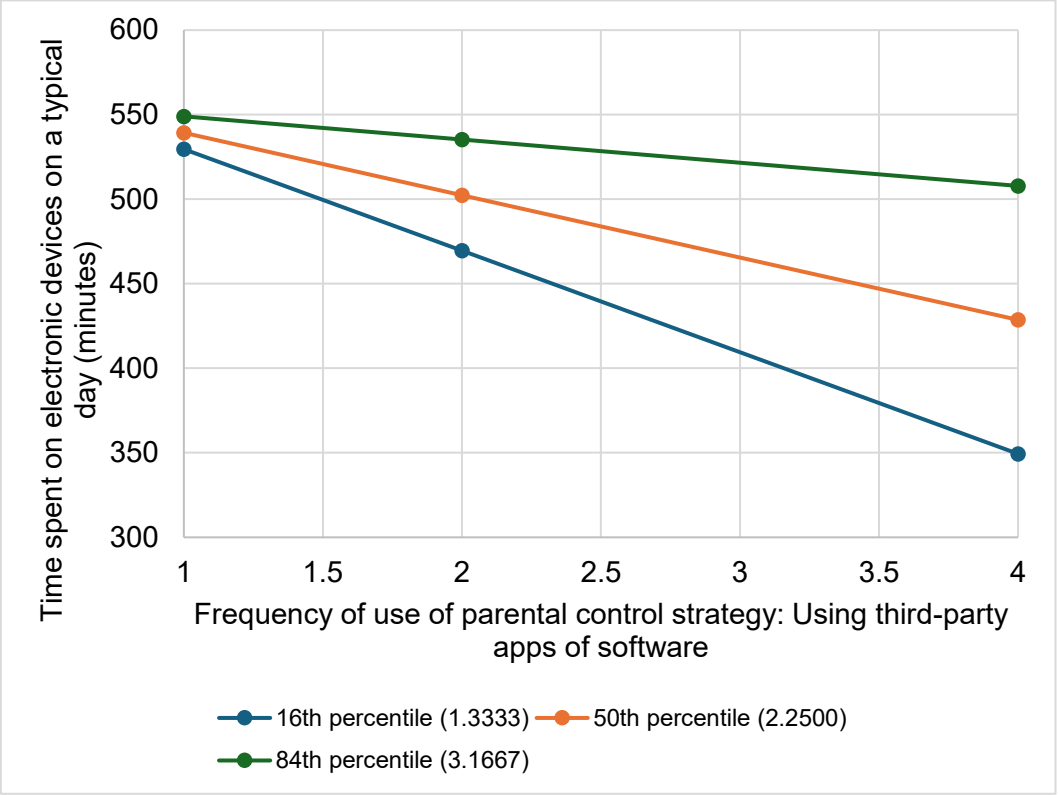
parental controls on devices and problematic screen use (b = 25.8585, p = .0080) on the outcome variable were statistically significant, while the main effect of problematic screen use on the outcome variable was statistically insignificant (b = -19.4233, p = .4939). For teenagers experiencing problematic screen use to a larger extent, parents' use of built-in parental controls on devices had a statistically insignificant effect on reducing teenagers' time spent on electronic devices. However, for teenagers experiencing problematic screen use to a smaller extent, parents' use of built-in parental controls on devices significantly reduces teenagers' time spent on electronic devices (Figure 5.6).

FIGURE 5.6: PREDICTION OF TIME SPENT ON ELECTRONIC DEVICES IN TEENAGERS (MINUTES) ON FREQUENCY OF USE OF PARENTAL CONTROL STRATEGY: BUILT-IN PARENTAL CONTROLS ON DEVICES, MODERATED BY PROBLEMATIC SCREEN USE OF TEENAGERS



When we ran a moderated model with the parental control strategy of “using third-party apps or software” as the independent variable, problematic screen use as the moderator, and teenagers’ time spent on electronic devices as the dependent variable, the main effect of the use of third-party apps or software (b = -93.7768, p = .0001) as well as the effect of the interaction term between their parents’ use of third-party apps or software and problematic screen use (b = 25.2830, p = .0112) on the outcome variable were statistically significant, while the main effect of problematic screen use on the outcome variable was statistically insignificant (b = -14.6866, p = .5985). For teenagers experiencing problematic screen use to a larger extent, the effectiveness of parents’ use of third-party apps or software had a statistically insignificant effect on teenagers’ time spent on electronic devices. However, for teenagers experiencing problematic screen use to a smaller extent, parents’ use of third-party apps or software significantly reduces teenagers’ time spent on electronic devices (Figure 5.7).

FIGURE 5.7: PREDICTION OF TIME SPENT ON ELECTRONIC DEVICES IN TEENAGERS (MINUTES) ON FREQUENCY OF USE OF PARENTAL CONTROL STRATEGY: USING THIRD-PARTY APPS OF SOFTWARE, MODERATED BY PROBLEMATIC SCREEN USE OF TEENAGERS

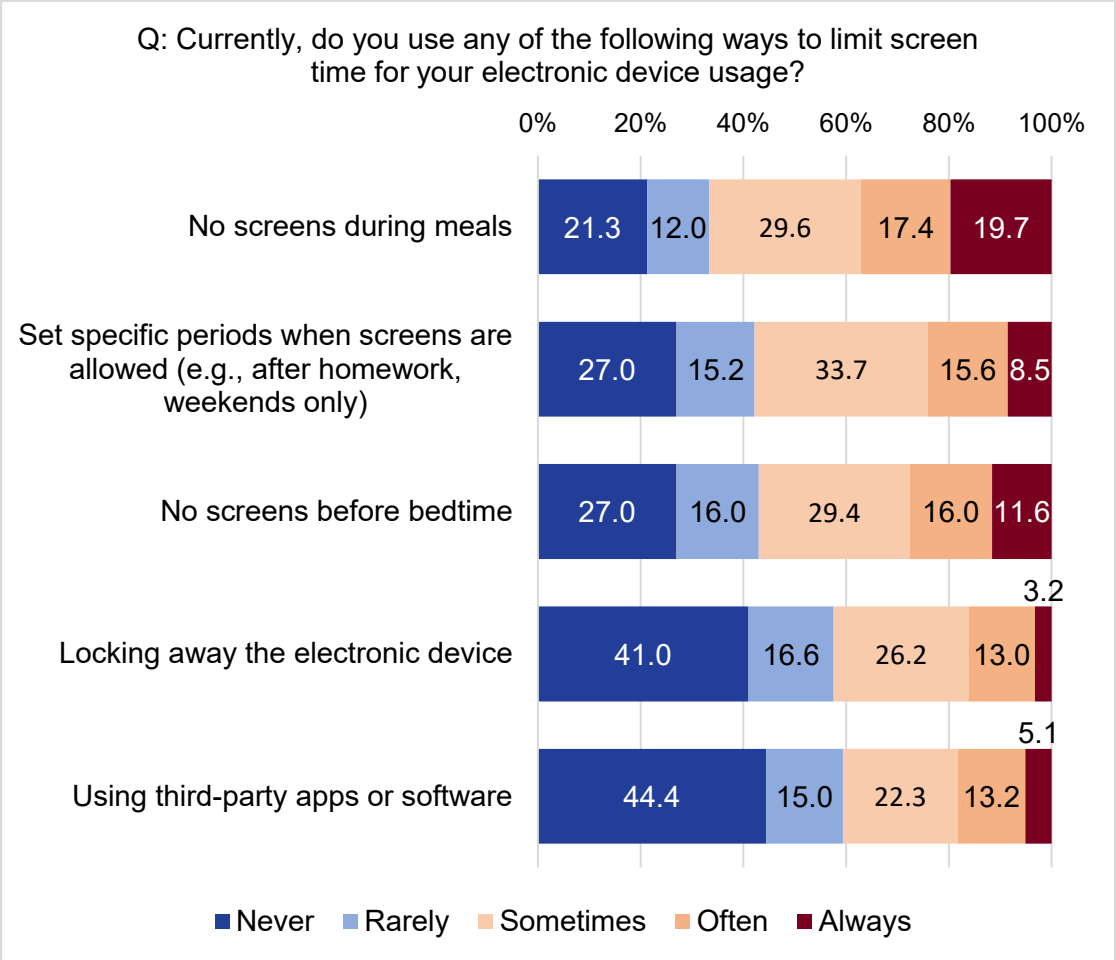


Taken together, these results suggest that more intrusive parental control strategies such as the use of in-built parental controls and use of third-party apps or software on teenagers' devices are effective in reducing teenagers' time spent on electronic devices only to the extent that screen-time use has not caused excessive disruption to teenagers' daily life aspects, as measured by problematic screen use. Once screen time starts causing overly excessive disruption, the use of these parental control strategies would no longer effectively reduce the time spent on electronic devices. That said, the same moderating effect was not found to influence the effect of other parental control strategies on teenagers' time spent on electronic devices.

5.4.3 Self-limiting efforts are likewise linked to lower screen use in teenagers

Beyond parental control strategies, teenage respondents also take active steps to regulate their own screen time. Many teenage respondents reported engaging in self-limiting behaviours at least some of the time, such as no screens during meals (66.7 per cent), setting specific periods when screens are allowed (57.8 per cent), no screens before bedtime (57 per cent), locking away of the electronic device (42.4 per cent) and third-party apps or software (40.6 per cent; Figure 5.8).

FIGURE 5.8: TEENAGE RESPONDENTS REPORT ON THEIR USE OF VARIOUS SELF-CONTROL STRATEGIES TO LIMIT THEIR OWN SCREEN-TIME USE (%)



Regression analyses examined the effect of the respective self-limiting strategies on teenagers' screen time (Table 5.5). The results indicate that all the strategies were significantly associated with reduced screen time, with more frequent implementation predicting shorter time spent on electronic devices. Strategies such as locking away devices and setting specific screen time periods were among the strongest self-limiting strategies in reducing screen time.

TABLE 5.5: REGRESSION OF TEENAGERS' TIME SPENT ON ELECTRONIC DEVICES ON EACH SELF-LIMITING CONTROL STRATEGY USED

Dependent Variable: Teenagers' Time Spent on Electronic Devices					
Independent Variables	**B^**	**S.E.#**	**ß***	**t&**	**Sig.+**
Model 1					
Locking away the electronic device	-45.462	10.360	-.197	-4.388	<.001
Age of teenage participant	13.763	6.801	.091	2.024	.112
(Constant)	385.044	115.993		3.320	<.001
Model 2					
Set specific periods when screens are allowed (e.g., after homework, weekends only)	-41.926	9.788	-.192	-4.283	<.001
Age of teenage participant	14.615	6.767	.097	2.160	.031
(Constant)	381.703	116.287		3.282	.001
Model 3					
No screens before bedtime	-39.875	9.315	-.192	-4.281	<.001
Age of teenage participant	14.215	6.791	.094	2.093	.037
(Constant)	384.968	116.647		3.300	.001
Model 4					
Using third-party apps or software	-38.364	9.639	-.177	-3.980	<.001
Age of teenage participant	16.208	6.721	.107	2.411	.016
(Constant)	330.471	112.820		2.929	.004
Model 5					
No screens during meals	-24.965	8.904	-.126	-2.804	.005
Age of teenage participant	17.707	6.781	.117	2.611	.009
(Constant)	297.997	116.176		2.565	.011

^ unstandardised beta
# standard error
* standardised beta
& t-value
+ significance value (p-value)

Combined effects of the various self-limiting strategies were also examined in a single regression model (Table 5.6). In this regression, the average usage

frequency of *less punitive* self-limiting strategies (i.e., set specific periods when screens are allowed, no screens during meals, no screens before bedtime) and the average frequency of *more punitive* self-limiting strategies (i.e., using third-party apps or software, locking away the electronic device) were entered instead of individual self-limiting strategies. This was done to reduce the extent of multicollinearity since the use of various self-limiting strategies were all at least moderately correlated amongst each other. The results demonstrate that unlike parental control strategies, using more punitive and less punitive self-limiting strategies were both significantly associated with reduced screen time (Table 5.6).

TABLE 5.6: REGRESSION OF TEENAGERS' TIME SPENT ON ELECTRONIC DEVICES ON A COMBINATION OF SELF-LIMITING CONTROL STRATEGIES USED

Dependent Variable: Teenagers' Time Spent on Electronic Devices					
Independent Variables	**B^**	**S.E.#**	**ß***	**t&**	**Sig.+**
Average frequency of *less* punitive self-limiting strategies: - **Set specific periods when screens are allowed (e.g., after homework, weekends only)** - **No screens during meals** - **No screens before bedtime**	-28.977	13.337	-.120	-2.173	.030
Average frequency of *more* punitive self-limiting strategies: - **Using third-party apps or software** - **Locking away the electronic device**	-33.111	13.382	-.136	-2.474	.014

Age of teenage participant	11.435	6.829	.076	1.675	.095
(Constant)	474.987	121.066		3.923	<.001

^ unstandardised beta
# standard error
* standardised beta
& t-value
+ significance value (p-value)

Correlational analyses found that overall use of parental control strategies and teenagers' own use of screen reduction strategies was highly correlated in the positive direction, suggesting that in households where parents apply control strategies to reduce their child or children's screen-time use, teenagers were also motivated to reduce their own screen-time use (Table 5.7). While the correlation coefficient of the relationship between overall screen-time use and teenagers' own use of reduction strategies (r = -.271) was greater than the correlation coefficient of the relationship between overall screen-time use and use of parental control strategies (r = -.261), comparison between the two correlation coefficients using Steiger's Z-test found that the difference between them was not significantly significant, suggesting that at least statistically speaking, the parental and self-control reduction strategies were both associated with teenagers' screen-time use in a comparable manner.

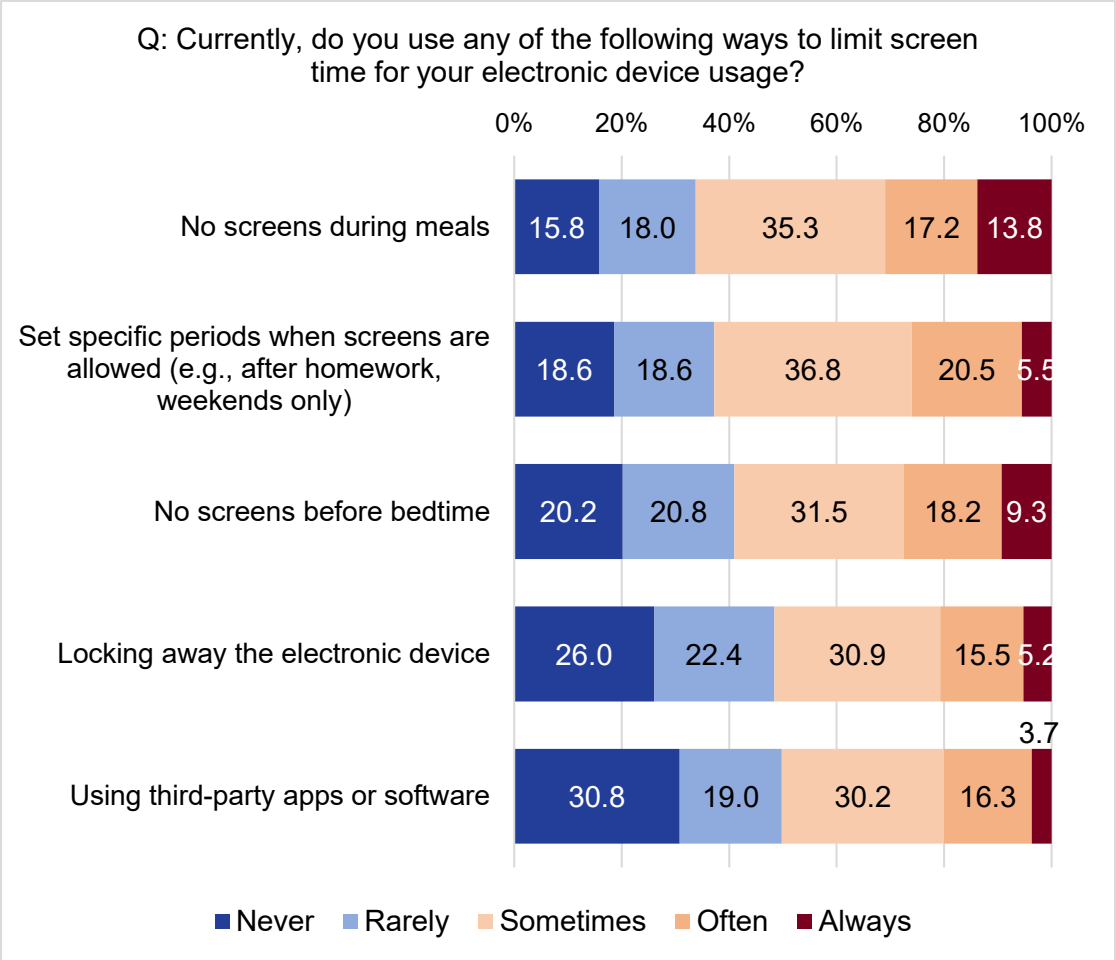
TABLE 5.7: CORRELATIONS BETWEEN PARENTS' USE OF SCREEN TIME REDUCTION STRATEGIES, TEENAGERS' USE OF SCREEN TIME REDUCTION STRATEGIES, AND TEENAGERS' DAILY AVERAGE USE OF ELECTRONIC DEVICES

	Teenagers' use of reduction strategies	Daily average use of electronic devices (minutes)
Parental control strategies	0.834**	-0.261**
Teenagers' use of reduction strategies		-0.271**

5.4.4 Parents likewise implemented various strategies to limit their own screen use

The use of self-limiting strategies to reduce screen usage also extended to parent respondents. Parents indicated that they limited their own screen-time use at least sometimes through the following measures: no screens during meals (66.3 per cent), setting specific periods when screens are allowed (62.8 per cent), no screens before bedtime (59 per cent), locking away of the electronic device (51.6 per cent) and third-party apps or software (50.2 per cent; Figure 5.9).

FIGURE 5.9: PARENT RESPONDENTS REPORT ON THEIR USE OF VARIOUS SELF-CONTROL STRATEGIES TO LIMIT THEIR OWN SCREEN-TIME USE (%)



Regression analyses examining the effect of respective self-limiting strategies on parents' screen time reveal that all strategies measured in this study were significantly associated with reduced screen time — more frequent application of these self-limiting strategies coincided with shorter time spent on electronic devices (Table 5.8). Strategies such as not having access to screens before bedtime and locking away devices were shown to be among the most effective self-limiting strategies in reducing screen time for the parent sample.

TABLE 5.8: REGRESSION OF PARENTS' TIME SPENT ON ELECTRONIC DEVICES ON EACH SELF-LIMITING CONTROL STRATEGY USED

Dependent Variable: Parents' Time Spent on Electronic Devices					
Independent Variables	**B^**	**S.E.#**	**ß***	**t&**	**Sig.+**
Model 1					
No screens before bedtime	-30.111	6.867	-.135	-4.385	<.001
Gender[a]	.351	16.432	.001	.021	.983
Age	8.894	1.617	.173	5.499	<.001
Ethnicity[b]					
Malay	-95.530	21.739	-.135	-4.394	<.001
Indian	-20.533	30.891	-.020	-.665	.506
Others	177.535	69.645	.075	2.549	.011
Highest educational qualification[c]					
Secondary and below	-87.040	23.393	-.115	-3.721	-87.040
Post-secondary	-77.498	19.887	-.123	-3.897	-77.498
Housing type[d]					
HDB 1-3 room	77.379	30.320	.102	2.552	77.379
HDB 4-5 room and Executive flats	71.624	23.852	.119	3.003	71.624
(Constant)	188.315	85.296		2.208	.027
Model 2					
Locking away the electronic device	-21.217	7.343	-.091	-2.889	.004
Gender[a]	3.015	16.553	.005	.182	.855
Age	8.953	1.661	.174	5.390	<.001
Ethnicity[b]					
Malay	-104.382	21.735	-.147	-4.803	<.001
Indian	-28.432	31.060	-.028	-.915	.360
Others	158.128	70.134	.067	2.255	.024
Highest educational qualification[c]					
Secondary and below	-71.412	23.284	-.094	-3.067	.002
Post-secondary	-72.159	19.983	-.115	-3.611	<.001
Housing type[d]					
HDB 1-3 room	72.833	30.529	.096	2.386	.017
HDB 4-5 room and Executive flats	71.389	24.124	.119	2.959	.003
(Constant)	151.654	87.001		1.743	.082
Model 3					

No screens during meals	-20.956	6.742	-.094	-3.108	.002
Gender[a]	-1.208	16.511	-.002	-.073	.942
Age	9.579	1.610	.186	5.951	<.001
Ethnicity[b]					
Malay	-101.906	21.750	-.144	-4.685	<.001
Indian	-21.392	31.039	-.021	-.689	.491
Others	172.156	69.952	.073	2.461	.014
Highest educational qualification[c]					
Secondary and below	-84.767	23.595	-.112	-3.593	<.001
Post-secondary	-82.005	20.132	-.130	-4.073	<.001
Housing type[d]					
HDB 1-3 room	64.890	30.250	.086	2.145	.032
HDB 4-5 room and Executive flats	60.848	23.838	.101	2.553	.011
(Constant)	150.514	85.875		1.753	.080
Model 4					
Using third-party apps or software	-15.357	7.306	-.066	-2.102	.036
Gender[a]	3.384	16.633	.006	.203	.839
Age	9.327	1.664	.181	5.607	<.001
Ethnicity[b]					
Malay	-105.191	21.773	-.148	-4.831	<.001
Indian	-25.482	31.097	-.025	-.819	.413
Others	163.184	70.224	.069	2.324	.020
Highest educational qualification[c]					
Secondary and below	-69.856	23.361	-.092	-2.990	.003
Post-secondary	-71.143	20.055	-.113	-3.547	<.001
Housing type[d]					
HDB 1-3 room	65.391	30.379	.086	2.153	.032
HDB 4-5 room and Executive flats	66.165	24.026	.110	2.754	.006
(Constant)	122.309	86.754		1.410	.159
Model 5					
Set specific periods when screens are allowed (e.g., after homework, weekends only)	-14.748	7.446	-.061	-1.981	.048
Gender[a]	1.667	16.578	.003	.101	.920
Age	9.595	1.637	.186	5.861	<.001

Ethnicity[b]					
Malay	-103.714	21.799	-.146	-4.758	<.001
Indian	-23.175	31.118	-.023	-.745	.457
Others	170.741	70.146	.072	2.434	.015
Highest educational qualification[c]					
Secondary and below	-72.015	23.333	-.095	-3.086	.002
Post-secondary	-74.758	20.022	-.119	-3.734	<.001
Housing type[d]					
HDB 1-3 room	66.761	30.458	.088	2.192	.029
HDB 4-5 room and Executive flats	66.084	24.044	.110	2.748	.006
(Constant)	116.764	86.489		1.350	.177

^ unstandardised beta
# standard error
* standardised beta
& t-value
+ significance value (p-value)

That said, regression analyses examining the combined effects of the various self-limiting strategies demonstrate that less punitive self-limiting strategies were significantly associated with reduced screen time while more punitive self-limiting strategies were not (Table 5.9).

TABLE 5.9: REGRESSION OF PARENTS' TIME SPENT ON ELECTRONIC DEVICES ON A COMBINATION OF SELF-LIMITING CONTROL STRATEGIES USED

Dependent Variable: Parents' Time Spent on Electronic Devices					
Independent Variables	**B^**	**S.E.#**	**ß***	**t&**	**Sig.+**
Average frequency of *less* punitive self-limiting strategies: - **Set specific periods when screens are allowed (e.g., after**	-30.706	10.236	-.108	-3.000	.003

homework, weekends only) - **No screens during meals** - **No screens before bedtime**					
Average frequency of *more* punitive self-limiting strategies: - **Using third-party apps or software** - **Locking away the electronic device**	-8.231	9.493	-.032	-.867	.386
Gender[a]	2.284	16.541	.004	.138	.890
Age	8.446	1.677	.164	5.038	<.001
Ethnicity[b]					
Malay	-98.679	21.746	-.139	-4.538	<.001
Indian	-21.253	30.998	-.021	-.686	.493
Others	169.144	69.979	.071	2.417	.016
Highest educational qualification[c]					
Secondary and below	-82.120	23.568	-.108	-3.484	<.001
Post-secondary	-78.613	20.095	-.125	-3.912	<.001
Housing type[d]					
HDB 1-3 room	76.212	30.396	.101	2.507	.012
HDB 4-5 room and Executive flats	71.495	24.009	.119	2.978	.003
(Constant)	229.993	91.341		2.518	.012

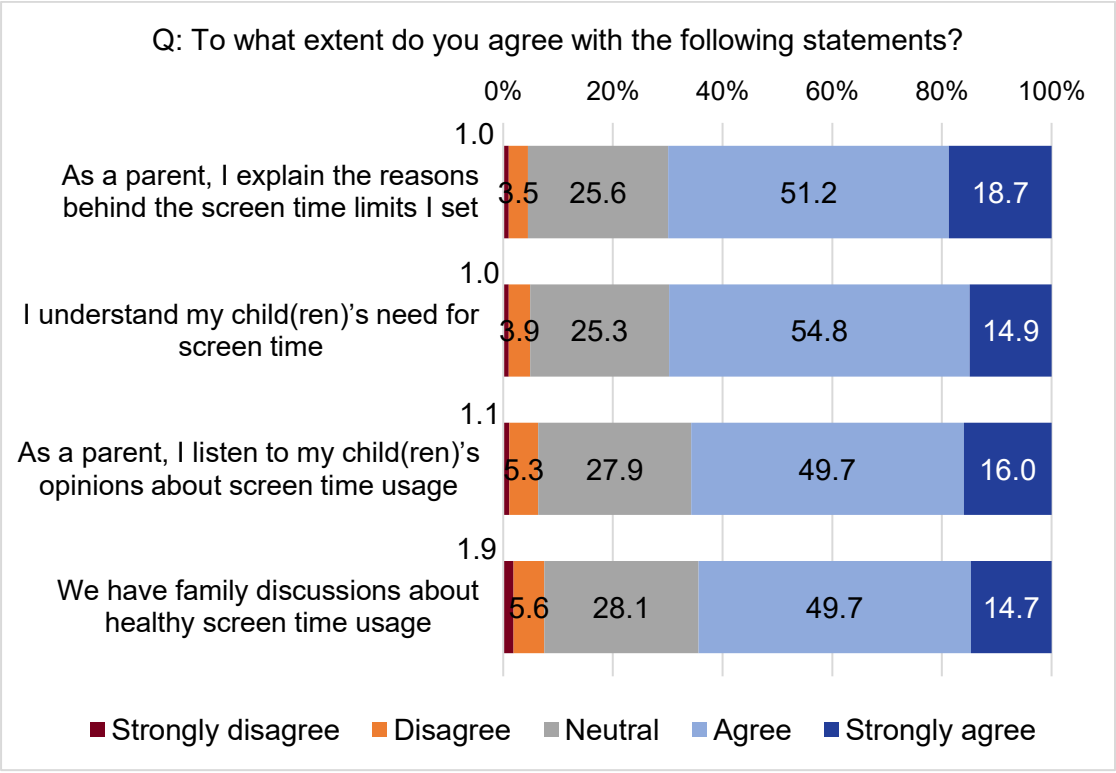
[a] reference category is male, 1 = female
[b] reference category is Chinese
[c] reference category is bachelor's and above
[d] reference category is private property
^ unstandardised beta
[#] standard error
* standardised beta
[&] t-value
[+] significance value (p-value)

5.5 Parent-Child Communication on Healthy Screen Use

5.5.1 Parents reported often discussing limits and listening to their children's views to foster healthier screen habits

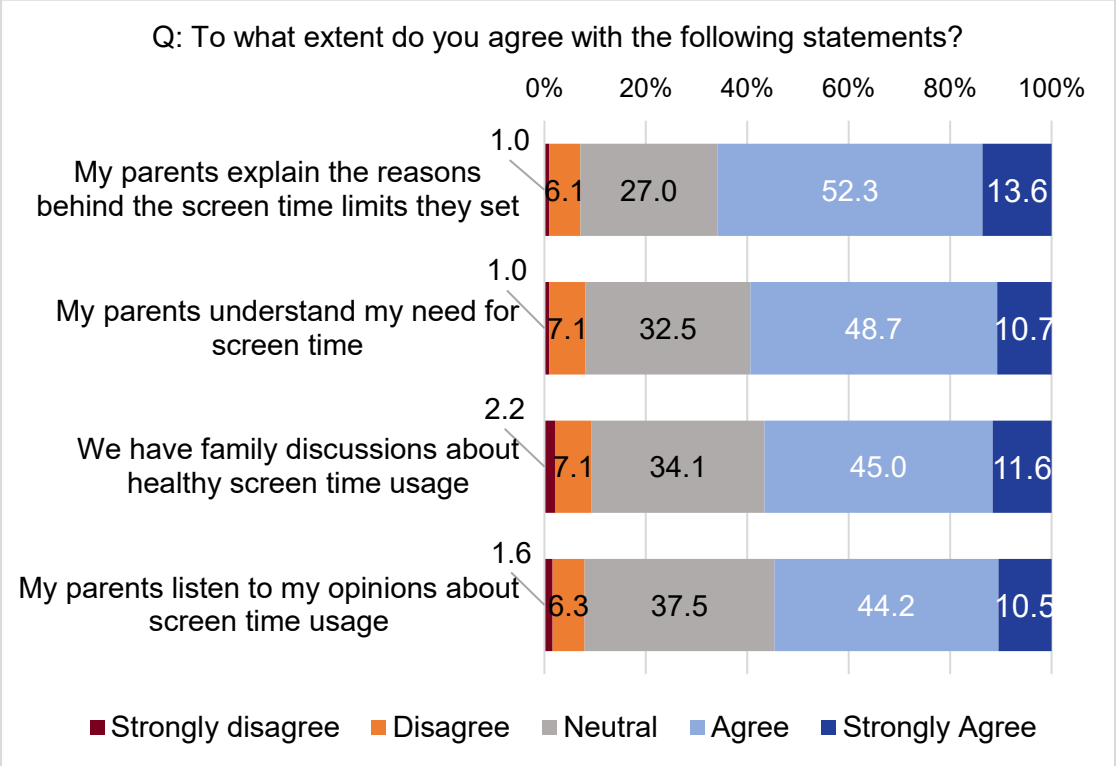
The study also examined the extent of communication between parents and teenagers to maintain healthy screen-time usage and foster healthier screen habits. Survey results revealed that the majority of parent respondents agreed that they explain the reasons behind the screen time limits they set (69.9 per cent), understand their child or children's need for screen time (69.7 per cent), listen to their child or children's opinion about screen use (65.7 per cent) and have family discussions about healthy screen use (64.4 per cent; see Figure 5.10).

FIGURE 5.10: PARENT RESPONDENTS REPORT ON THE EXTENT OF COMMUNICATION WITH THEIR CHILDREN REGARDING HEALTHY SCREEN-TIME USAGE (%)



Response from teenage respondents largely confirmed the above phenomenon — over half of the teenage respondents indicated agreement when their parents explain the reasons behind the screen time limits they set (65.9 per cent), understand their need for screen time (59.4 per cent), have family discussions about healthy screen use (56.6 per cent) and listen to their opinion on screen use (54.7 per cent; see Figure 5.11).

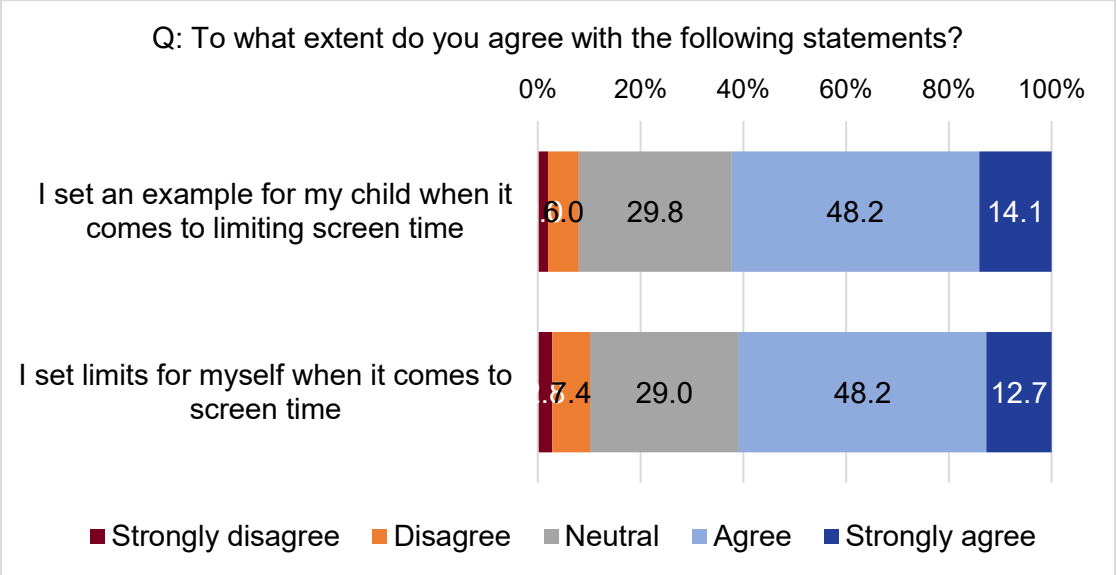
FIGURE 5.11: TEENAGE RESPONDENTS REPORT ON THE EXTENT OF THEIR PARENTS' COMMUNICATION REGARDING HEALTHY SCREEN-TIME USAGE WITH THEM (%)



Survey results further demonstrated that parents also aspire to be a role model for their children by setting an example for their child or children when it comes

to limiting their own screen time (62.3 per cent) and setting screen time limits for themselves (60.9 per cent; see Figure 5.12).

FIGURE 5.12: PARENT RESPONDENTS ROLE MODELLING HEALTHY SCREEN-TIME HABITS FOR THEIR CHILDREN (%)



5.5.2 When families communicate about healthy screen use, built-in parental controls effectively reduce teenagers' screen time

We also explored whether family communication about screen-time use moderated the extent to which each parental control strategy, as reported by teenagers, reduced their time spent on electronic devices. Teenagers reported how frequently their families discussed healthy screen-time use (see Section 5.5.1), and an average communication score was computed and used as the moderator in the following moderation analyses.

Out of the six parental control strategies, moderation analyses found family communication about screen-time use to only significantly moderate the

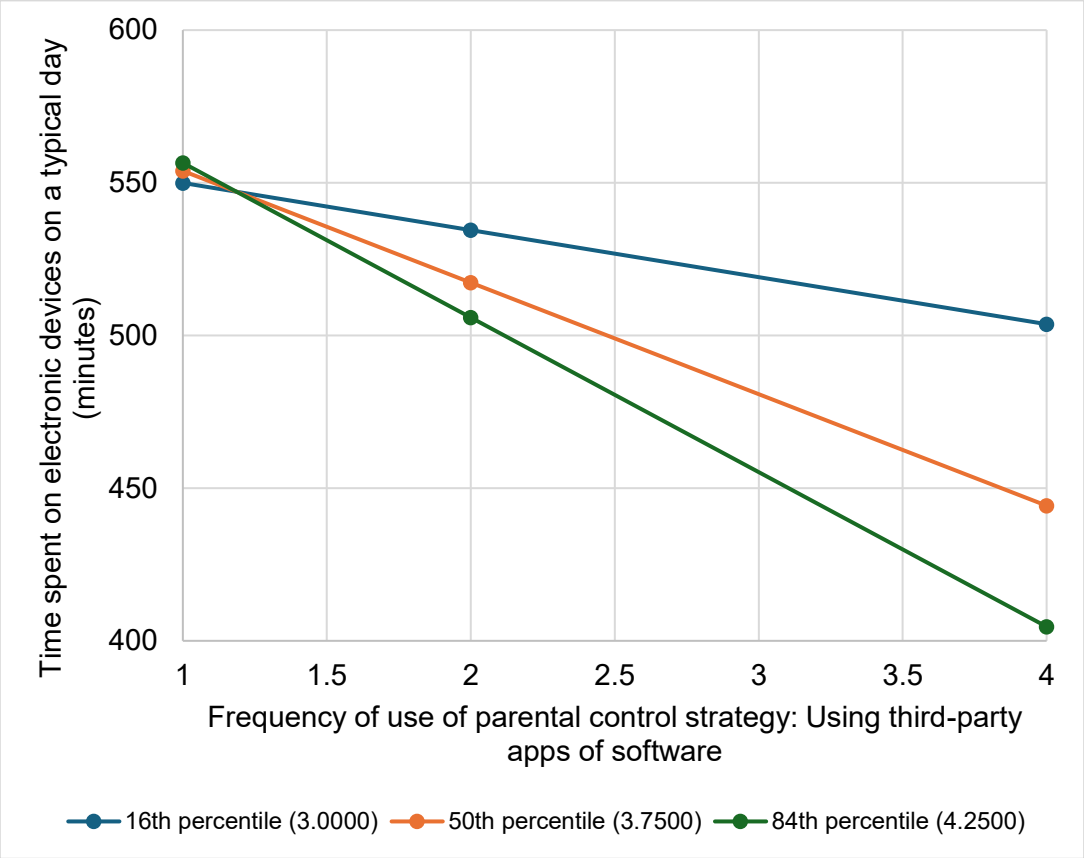
effectiveness of one parental control strategy in reducing teenagers' time spent on electronic devices, that of "using of built-in parental control on devices".

When we ran a moderated model with the parental control strategy of "using of built-in parental controls on devices" as the independent variable, family communication about screen-time use as the moderator, and teenagers' time spent on electronic devices as the dependent variable, the effect of the interaction term between their parents' use of built-in parental controls on devices and family communication about screen-time use (b = -28.1679, p = .0283) on the outcome variable was statistically significant, while the main effect of the use of built-in parental controls on devices (b = 69.0843, p = .1623) as well as the main effect of family communication about screen-time use (b = 33.4172, p = .3354) on the outcome variable were statistically insignificant.

For teenagers from families with less frequent communication about healthy screen-time use, the effectiveness of parents' use of built-in parental controls on devices on reducing teenagers' time spent on electronic devices was found to be statistically insignificant. However, for teenagers from families with more frequent communication about healthy screen-time use, parents' use of built-in parental controls on devices significantly reduces teenagers' time spent on electronic devices (Figure 5.13).

The same moderating effect was not found to influence the effect of other parental control strategies on teenagers' time spent on electronic devices.

FIGURE 5.13: PREDICTION OF TIME SPENT ON ELECTRONIC DEVICES IN TEENAGERS (MINUTES) ON FREQUENCY OF USE OF PARENTAL CONTROL STRATEGY: USING THIRD-PARTY APPS OF SOFTWARE, MODERATED BY EXTENT OF FAMILIAL COMMUNICATION ABOUT SCREEN-TIME USE



The results suggest that family communication about screen-time use plays a significant role in enhancing the effectiveness of one particular parental control strategy, that of the use of built-in parental controls on devices. Specifically, when families communicate about healthy screen-time use, the use of these built-in parental controls significantly reduces the time teenagers spend on electronic devices. This underscores the importance of family dialogue about screen time in amplifying the success of parental control measures aimed at managing teenagers' device usage.

5.6 Summary of Difficulties and Strategies to Manage Screen Time

Chapter 5 shows that both teenagers and parents struggle with cutting back on screen time and that self-control plays a key role. Teenagers and parents with stronger self-regulation tend to spend less time on screens, highlighting the importance of building habits and routines that help manage screen use.

Among strategies, structured parental controls such as built-in device settings, third-party apps or, in some cases, removing devices are generally more effective than simple reminders. But these tools work best when used early before screen use becomes excessive and when families also talk openly about healthy digital habits. Teenagers' own self-limiting practices like schedules, rules around mealtimes and bedtime or locking devices away also help reduce use, while parents' rules like screen-free times are especially effective.

Overall, the findings suggest a practical approach of strengthening self-control, setting clear and consistent boundaries, keeping communication open and introducing stronger tools early. These lessons segue into Chapter 6, which looks at how families respond to broader policy measures that aim to support healthier screen use.

6. RECEPTIVENESS TOWARDS RECOMMENDATIONS ON DIGITAL AND SCREEN TIME POLICY

6.1 Overview

This chapter examines how receptive teenagers and parents are to different policy ideas for healthier digital habits and mitigating online harms. The policies tested covered platform accountability, school-based digital literacy, harmful content regulation, mandatory breaks, age-based time limits and tools that give parents more control.

Findings show that both teenagers and parents prefer education and platform responsibility over strict time caps. The strongest support is for holding social media companies accountable, expanding digital literacy in schools and regulating harmful content. Moderate support exists for mandatory breaks, while more coercive measures like government-imposed time limits or expanded parental control draw the least support. Parents are generally more supportive than teenagers, but both rank the various options in a similar manner.

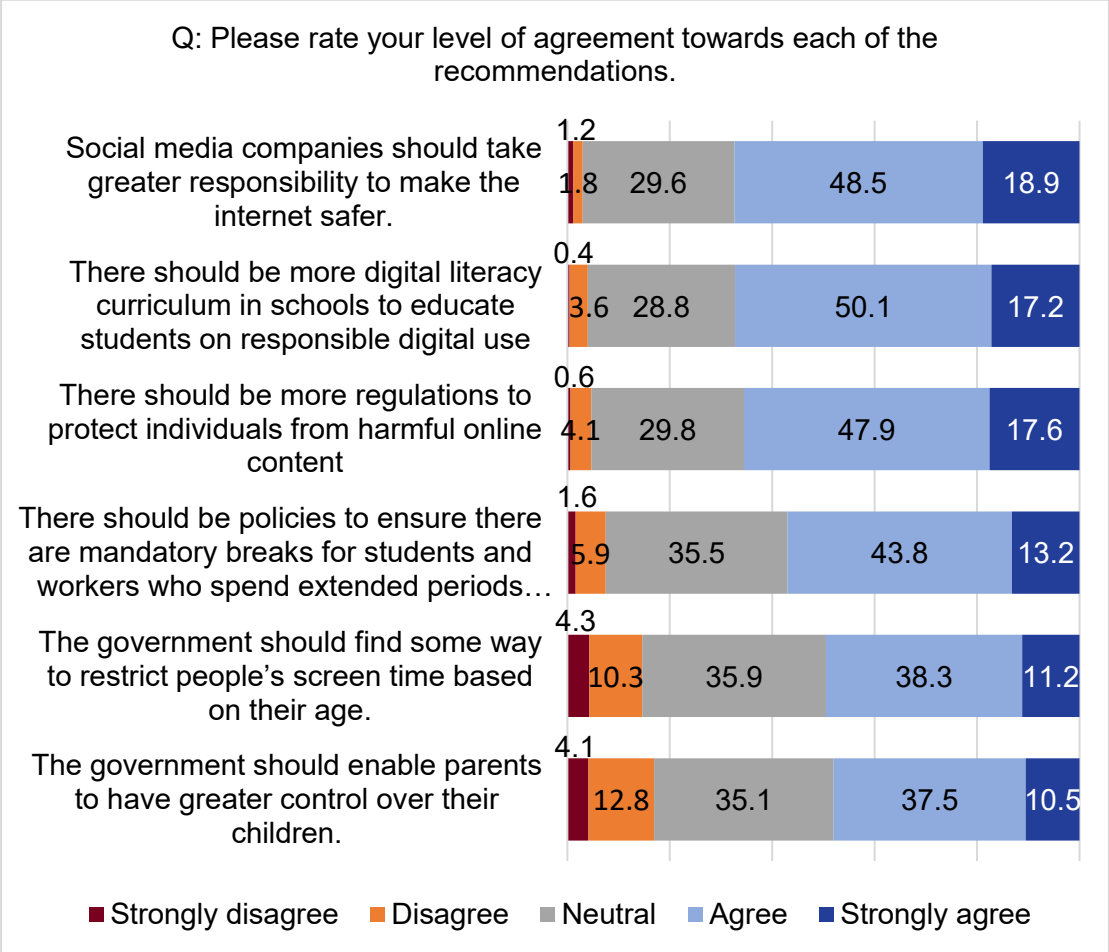
6.2 General Support for Recommendations

6.2.1 Receptiveness of teenage respondents towards recommendations addressing online challenges

When asked to rate their level of agreement towards each of the policy recommendations listed, at least close to half of the teenage respondents

expressed agreement (i.e., rated “agree” or “strongly agree”) towards all of the recommendations listed: 67.4 per cent supported greater responsibility from social media companies, 67.3 per cent supported digital literacy to be taught in schools, 65.5 per cent wanted more regulations put in place to protect individuals from harmful online content, 57 per cent wanted policies put in place to ensure mandatory breaks from screen use, 49.5 per cent wanted government policies restricting screen time based on age, and 48 per cent wanted government policies enabling greater control for parents over their children (Figure 6.1).

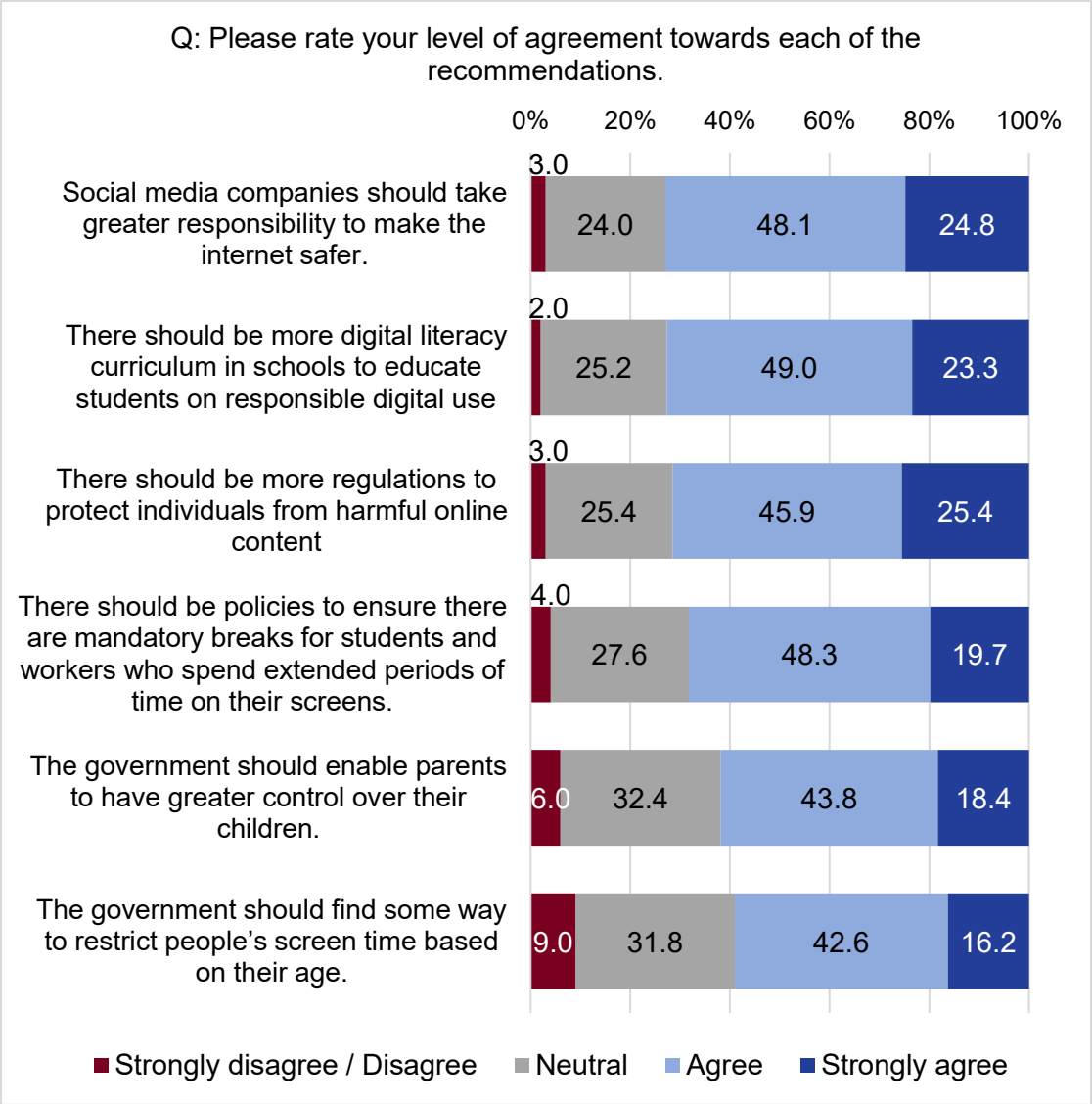
FIGURE 6.1: TEENAGE RESPONDENTS’ AGREEMENT TOWARDS RECOMMENDATIONS REGULATING DIGITAL AND SCREEN-TIME USE (%)



6.2.2 Receptiveness of parent respondents towards recommendations addressing online challenges

Parent respondents surveyed expressed higher endorsement towards the policy recommendations listed, with more than half of them agreeing to all of the recommendations listed. Among parent respondents, 72.9 per cent supported greater responsibility from social media companies; 72.3 per cent supported digital literacy to be taught in schools; 71.3 per cent wanted more regulations put in place to protect individuals from harmful online content; 68 per cent wanted policies put in place to ensure mandatory breaks from screen use; 58.8 per cent wanted government policies restricting screen time based on age; and 62.2 per cent wanted government policies enabling greater control for parents over their children (Figure 6.2).

FIGURE 6.2: PARENT RESPONDENTS' AGREEMENT TOWARDS RECOMMENDATIONS REGULATING DIGITAL AND SCREEN-TIME USE (%)



6.3 Summary of Receptiveness Towards Policy Recommendations on Digital and Screen-Time Use

Chapter 6 shows that both teenagers and parents mainly support policies focused on education and holding platforms accountable, rather than strict time limits. The strongest agreement is for making social media companies more responsible, expanding digital literacy in schools and regulating harmful

online content. Mandatory break policies get moderate support, while stricter measures — like government-imposed time limits or more parental control — are least popular, especially with teenagers.

Overall, the findings suggest a policy mix: work with platforms on shared responsibility, strengthen digital literacy and safety in schools, support break policies in schools and workplaces, and be cautious with blanket time limits.

7. SMARTPHONE OWNERSHIP AND USE AND ITS IMPACT ON FAMILY DYNAMICS

7.1 Overview

Previous chapters have explored the broad implications of overall screen time across various devices, while this chapter focuses on the pervasive nature of smartphones, which are often the primary mode of digital engagement for both teenagers and adults (see Section 3.2). It provides an analysis of the age at which teenagers and their parents first acquired smartphones, revealing generational shifts in digital engagement. It further explores the extent of familial conflict arising from smartphone use, shedding light on the tensions that can arise within households over digital consumption.

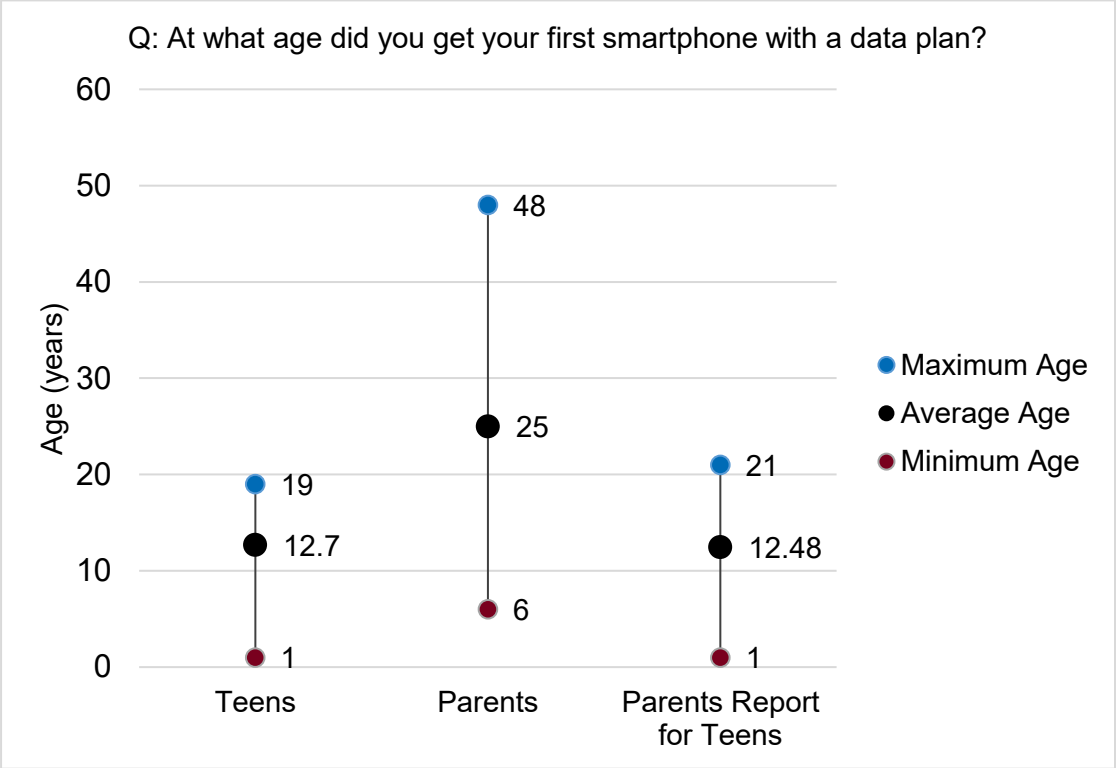
The findings revealed that, unsurprisingly, teenagers got their first smartphone much earlier than parents did, around ages 12–13 compared to parents' mid-20s. Conflict over smartphone use is common, especially when parents use stricter controls like taking devices away. Less punitive rules work better, and regular family communication helps reduce conflict for many strategies. Smartphone use also has financial implications, with teenagers and parents spending money on screen-based activities.

7.2 Age at First Smartphone Ownership

7.2.1 Teenagers get their first smartphone at an earlier age than when their parents did

When asked at what age they first received a smartphone with a data plan, results demonstrate that the average age of receiving their first smartphone with a data plan was at 12.7 years old for the teenage respondents surveyed. This was confirmed by the parent respondents, who on average had given their children their first smartphone with a data plan at the age of 12.48 years old. In contrast, the average age of receiving their first smartphone with a data plan was at an older age of 25 years old for the parent respondents surveyed (Figure 7.1).

FIGURE 7.1: AGE AT RECEIVING FIRST SMARTPHONE WITH A DATA PLAN (YEARS)

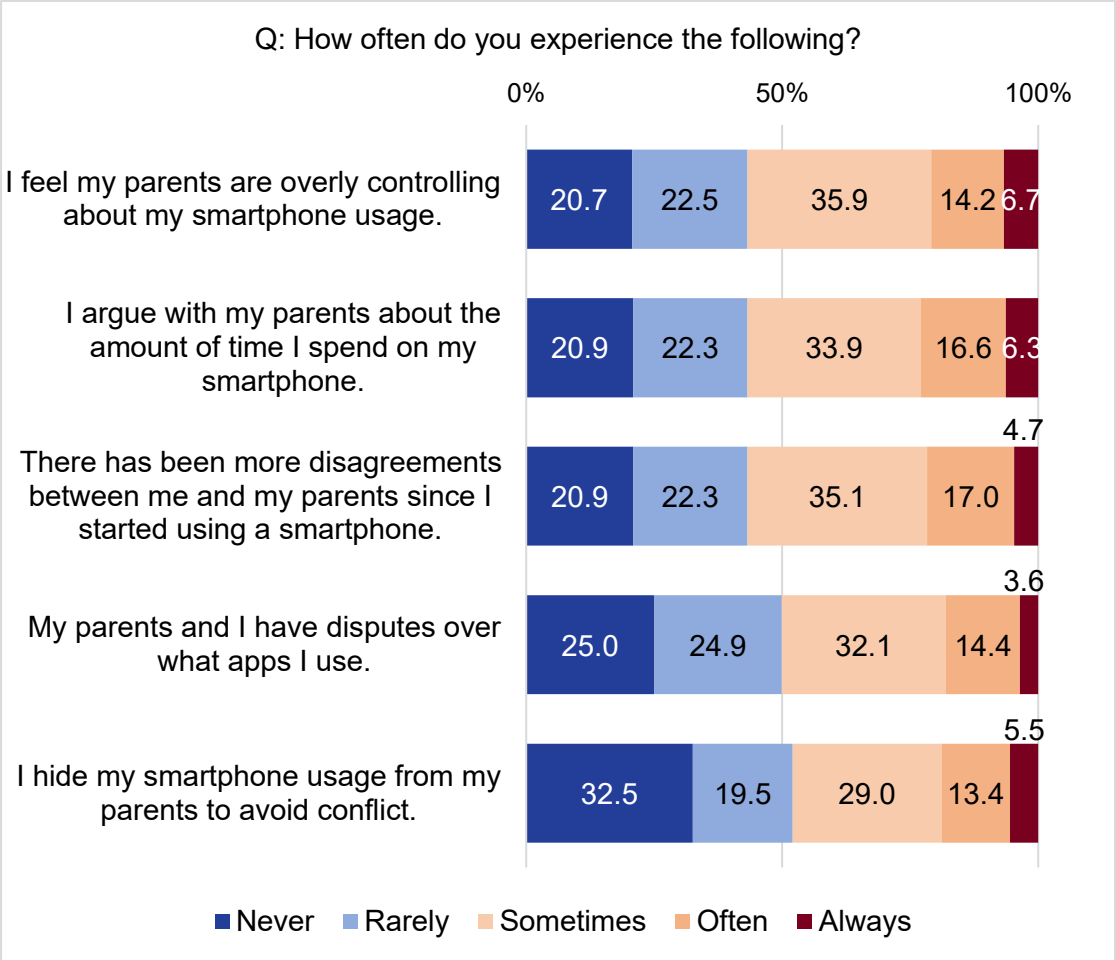


7.3 Familial Conflict over Smartphone Use

7.3.1 Teenage respondents reported frequent conflicts with their parents over smartphone use

The survey highlights a notable level of familial conflict regarding smartphone use among teenagers. About half of teenage respondents reported at least sometimes experiencing friction with their parents over smartphone usage: 56.8 per cent felt their parents had been overly controlling about their smartphone usage; 56.8 per cent argued with their parents about smartphone use; 56.8 per cent had more disagreements with their parents since using their smartphones; 50.1 per cent had disputes with their parents over mobile applications used; and 47.9 per cent had hidden their smartphone usage from their parents to avoid conflict (Figure 7.2).

FIGURE 7.2: TEENAGE RESPONDENTS' REPORT ON FAMILIAL FRICTION OVER SMARTPHONE USE (%)



7.3.2 Parental control strategies tend to engender conflict, with more punitive measures being associated with more frequent conflicts

We created a mean score for family conflicts over smartphone use by averaging teenagers' responses across five survey items (e.g., *"I argue with my parents about the amount of time I spend on my smartphone", "There has been more disagreements between me and my parents since I started using a smartphone"*). Regression analyses using this score showed that every parental control strategy was significantly linked to higher levels of conflict (Table 7.1) — that is, the more frequent implementation of each parental control

strategy was significantly associated with reports of more frequent instances of familial conflicts over smartphone use as reported by teenage participants.

TABLE 7.1: REGRESSION OF FAMILIAL CONFLICTS OVER SMARTPHONE USE ON IMPLEMENTATION OF EACH PARENTAL CONTROL STRATEGY

Dependent Variable: Frequency of Familial Conflicts Over Smartphone Use (Reported by Teenage Sample)					
Independent Variables	**B^**	**S.E.#**	**ß***	**t&**	**Sig.+**
Model 1					
Taking away the electronic device	.328	.033	.406	9.847	<.001
Age of teenage participant	-.084	.023	-.154	-3.733	<.001
(Constant)	3.078	.391		7.881	<.001
Model 2					
Set specific periods when screens are allowed (e.g., after homework, weekends only)	.241	.032	.316	7.570	<.001
Age of teenage participant	-.112	.023	-.204	-4.899	<.001
(Constant)	3.643	.393		9.268	<.001
Model 3					
Using third-party apps or software	.228	.032	.299	7.172	<.001
Age of teenage participant	-.117	.023	-.214	-5.138	<.001
(Constant)	3.889	.384		10.116	<.001
Model 4					
Reminding me of my screen-time usage when I have used too much	.222	.035	.270	6.399	<.001
Age of teenage participant	-.120	.023	-.220	-5.206	<.001
(Constant)	3.723	.407		9.154	<.001
Model 5					
No screens before bedtime	.184	.031	.251	5.948	<.001
Age of teenage participant	-.125	.023	-.228	-5.407	<.001
(Constant)	4.009	.394		10.187	<.001
Model 6					

Using built-in parental controls on the device	.182	.032	.249	5.717	<.001
Age of teenage participant	-.111	.024	-.203	-4.672	<.001
(Constant)	3.873	.408		9.502	<.001
Model 7					
No screens during meals	.094	.032	.127	2.934	.003
Age of teenage participant	-.138	.024	-.253	-5.817	<.001
(Constant)	4.431	.411		10.771	<.001

^ unstandardised beta
# standard error
* standardised beta
& t-value
+ significance value (p-value)

When the combined effects of various parental control strategies were assessed in a single regression model, both less and more punitive parental control strategies were significantly associated with more frequent occurrences of familial conflicts. Results from this analysis also reveal that more punitive parental control strategies (b = .259, p < .001) lead to more familial conflict than less punitive parental control strategies (b - .130, p = .006).

TABLE 7.2: REGRESSION OF FREQUENCY OF FAMILIAL CONFLICTS OVER SMARTPHONE USE ON IMPLEMENTATION OF A COMBINATION OF PARENTAL CONTROL STRATEGIES

Dependent Variable: Frequency of Familial Conflicts Over Smartphone Use (Reported by Teenage Sample)					
Independent Variables	**B^**	**S.E.#**	**ß***	**t&**	**Sig.+**
Average frequency of *less* punitive parental control strategies: - **Set specific periods when screens are allowed (e.g.,**	.130	.047	.139	2.786	.006

after homework, weekends only) - **No screens during meals** - **No screens before bedtime** - **Reminding me of my screen-time usage when I have used too much**					
Average frequency of *more* punitive parental control strategies: - **Using built-in parental controls on the device** - **Using third-party apps or software** - **Taking away the electronic device**	.259	.045	.293	5.785	<.001
Age of teenage participant	-.081	.023	-.148	-3.530	<.001
(Constant)	2.825	.416		6.798	<.001

^ unstandardised beta
# standard error
* standardised beta
& t-value
+ significance value (p-value)

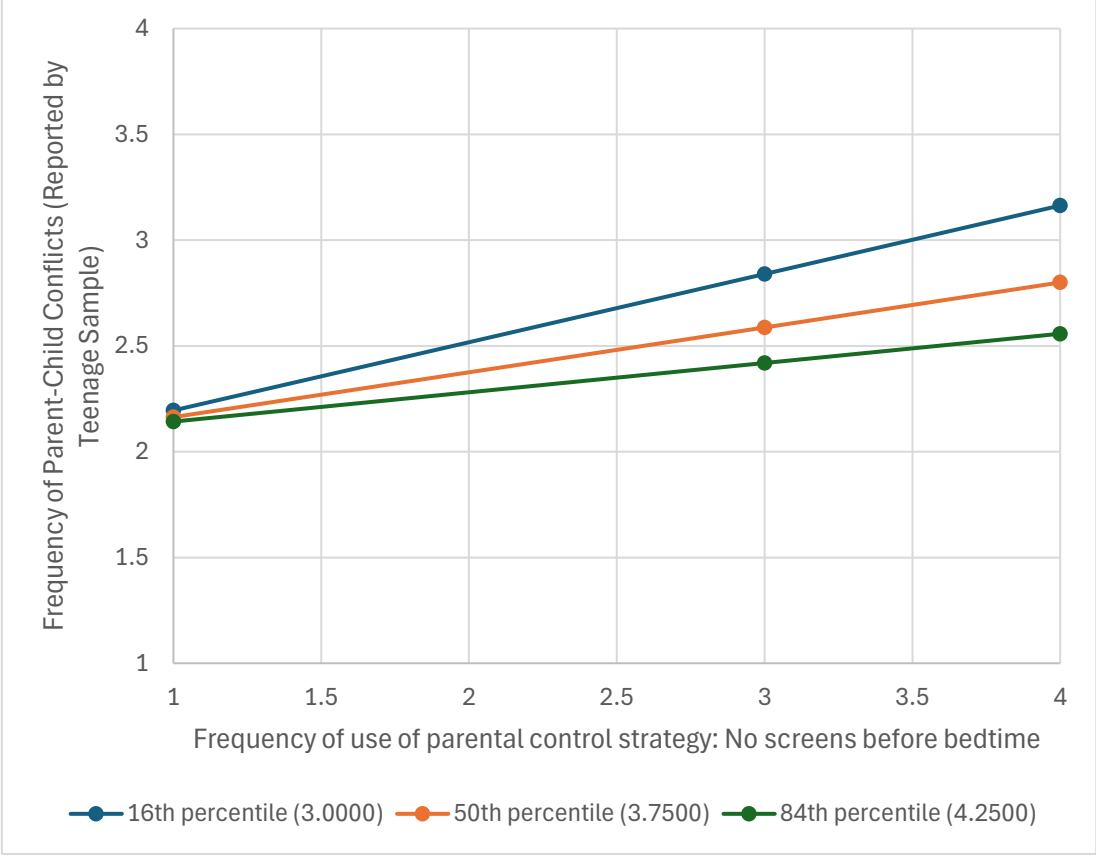
7.3.3 Familial communication about healthy screen use helps to reduce conflicts over smartphone use

Fortunately, further moderation analyses conducted found that, at least for some of these parental control strategies, having familial communication about healthy screen-time use ameliorates the effect of these strategies on the occurrence of familial conflicts over smartphone use.

When we ran a moderated model with the use of parental control strategy of having no screens before bedtime as the independent variable, familial

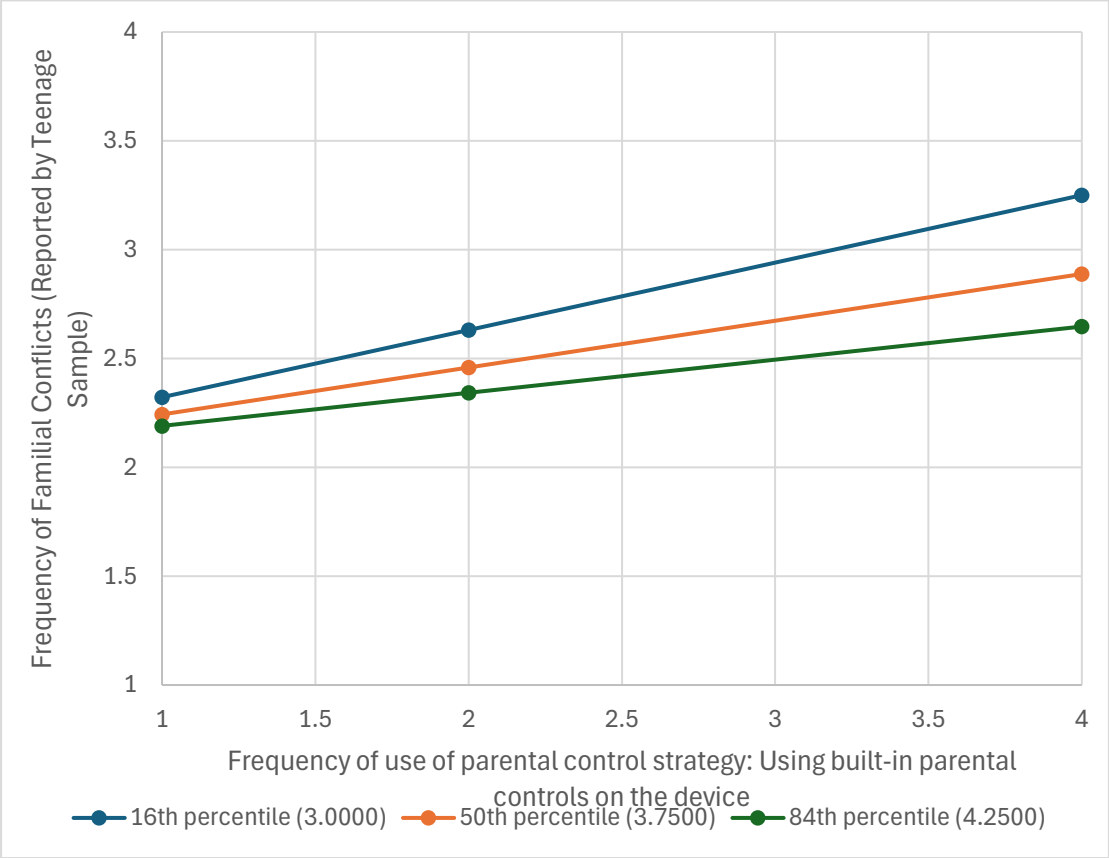
communication about screen-time use as the moderator, and familial conflict as the dependent variable, the main effect of use of parental control strategy (b = .7655, p = .0000) as well as the effect of the interaction term between the use of parental control strategy of having no screens before bedtime and familial communication (b = -.1476, p = .0007) on the outcome variable were statistically significant, while the main effect of familial communication about screen time on the outcome variable was statistically insignificant (b = .1056, p = .4190). The negative coefficient of the interaction term implies that the parental control strategy on familial conflict decreases as familial communication about screen-time use increases (Figure 7.3).

FIGURE 7.3: PREDICTION OF FREQUENCY OF FAMILIAL CONFLICTS ON FREQUENCY OF USE OF PARENTAL CONTROL STRATEGY: NO SCREENS BEFORE BEDTIME, MODERATED BY EXTENT OF FAMILIAL COMMUNICATION ABOUT SCREEN-TIME USE



Moderation analysis with the use of parental control strategy of built-in parental controls on devices as the independent variable, familial communication about screen-time use as the moderator, and familial conflict as the dependent variable, reveals that the main effect of use of parental control strategy (b = .6868, p = .0000) as well as the effect of the interaction term between the use of parental control strategy of using built-in parental controls on devices and familial communication (b = -.1258, p = .0040) on the outcome variable were statistically significant, while the main effect of familial communication about screen time on the outcome variable was statistically insignificant (b = .0203, p = .8627). The negative coefficient of the interaction term implies that the parental control strategy on familial conflict decreases as familial communication about screen-time use increases (Figure 7.4).

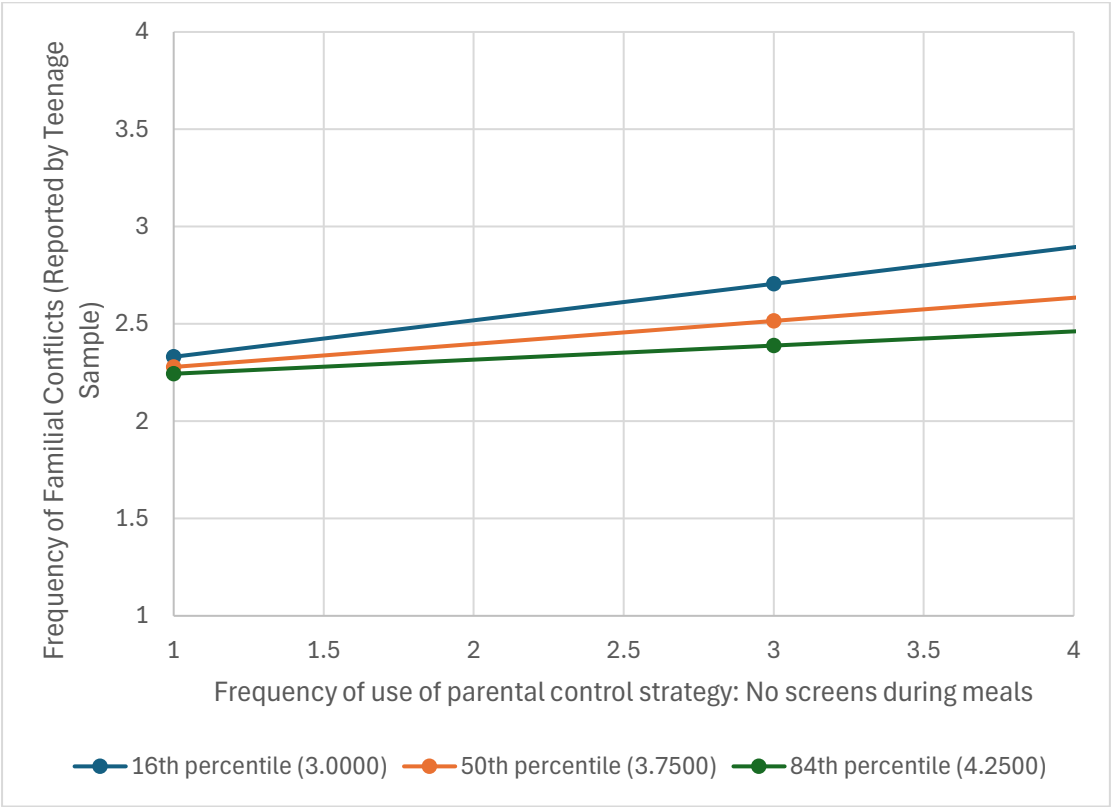
FIGURE 7.4: PREDICTION OF FREQUENCY OF FAMILIAL CONFLICTS ON FREQUENCY OF USE OF PARENTAL CONTROL STRATEGY: USING BUILT-IN PARENTAL CONTROLS ON THE DEVICE MODERATED BY EXTENT OF FAMILIAL COMMUNICATION ABOUT SCREEN-TIME USE



When we ran a moderated model with the use of parental control strategy of no screens during meals as the independent variable, familial communication about screen-time use as the moderator, and familial conflict as the dependent variable, we found that the main effect of use of parental control strategy (b = .4639, p = .0053) as well as the effect of the interaction term between the use of parental control strategy of no screens during meals and familial communication (b = -.0921, p = .0383) on the outcome variable were statistically significant, while the main effect of familial communication about screen time on the outcome variable was statistically insignificant (b = .0224, p = .8766). The negative coefficient of the interaction term implies that the

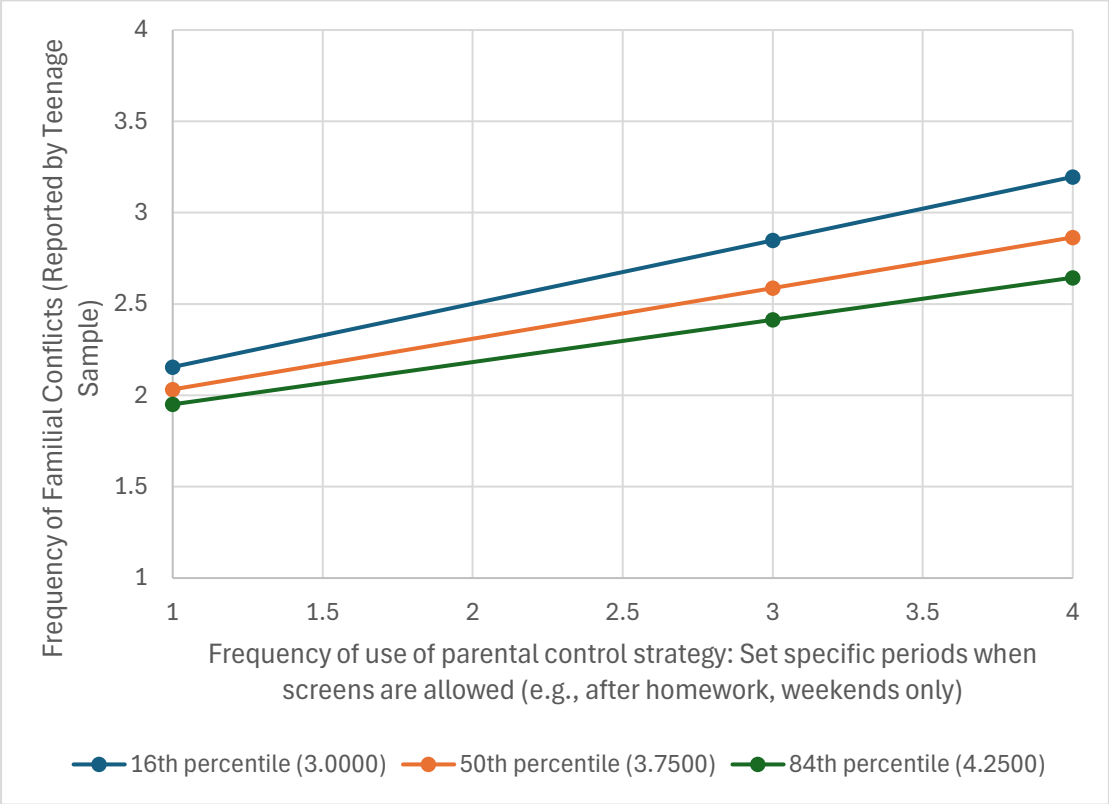
parental control strategy on familial conflict decreases as familial communication about screen-time use increases (Figure 7.5). Additionally, we found the effect that parents stipulating the rule of having no screens during mealtimes had on familial conflict to be statistically significant only at the lower and middle levels of familial communication about screen-time use. At high levels of familial communication about screen-time use, the increase in use of this type of parental control strategy did not significantly increase familial conflicts as reported by teenage participants.

FIGURE 7.5: PREDICTION OF FREQUENCY OF FAMILIAL CONFLICTS ON FREQUENCY OF USE OF PARENTAL CONTROL STRATEGY: NO SCREENS DURING MEALS, MODERATED BY EXTENT OF FAMILIAL COMMUNICATION ABOUT SCREEN-TIME USE



Finally, moderation analysis with the use of parental control strategy of setting specific periods of when screens are allowed as the independent variable, familial communication about screen-time use as the moderator, and familial conflict as the dependent variable, demonstrates that the main effect of use of parental control strategy (b = .6248, p = .0002) as well as the effect of the interaction term between the use of parental control strategy of setting specific periods of when screens are allowed and familial communication (b = -.0926, p = .0037) on the outcome variable were statistically significant, while the main effect of familial communication about screen time on the outcome variable was statistically insignificant (b = -.0710, p = .5856). The negative coefficient of the interaction term implies that the parental control strategy on familial conflict decreases as familial communication about screen-time use increases (Figure 7.6).

FIGURE 7.6: PREDICTION OF FREQUENCY OF FAMILIAL CONFLICTS ON FREQUENCY OF USE OF PARENTAL CONTROL STRATEGY: SET SPECIFIC PERIODS WHEN SCREENS ARE ALLOWED, MODERATED BY EXTENT OF FAMILIAL COMMUNICATION ABOUT SCREEN-TIME USE



Moderation analyses with the remaining parental control strategies (i.e., taking away the electronic device, reminding of excessive screen-time usage, and using third-party apps or software) as the independent variable did not result in significant interaction effects, implying that for these parental control strategies, familial communication about screen-time use does little to dampen the negative effect that parental control strategies have on parent-child relationships.

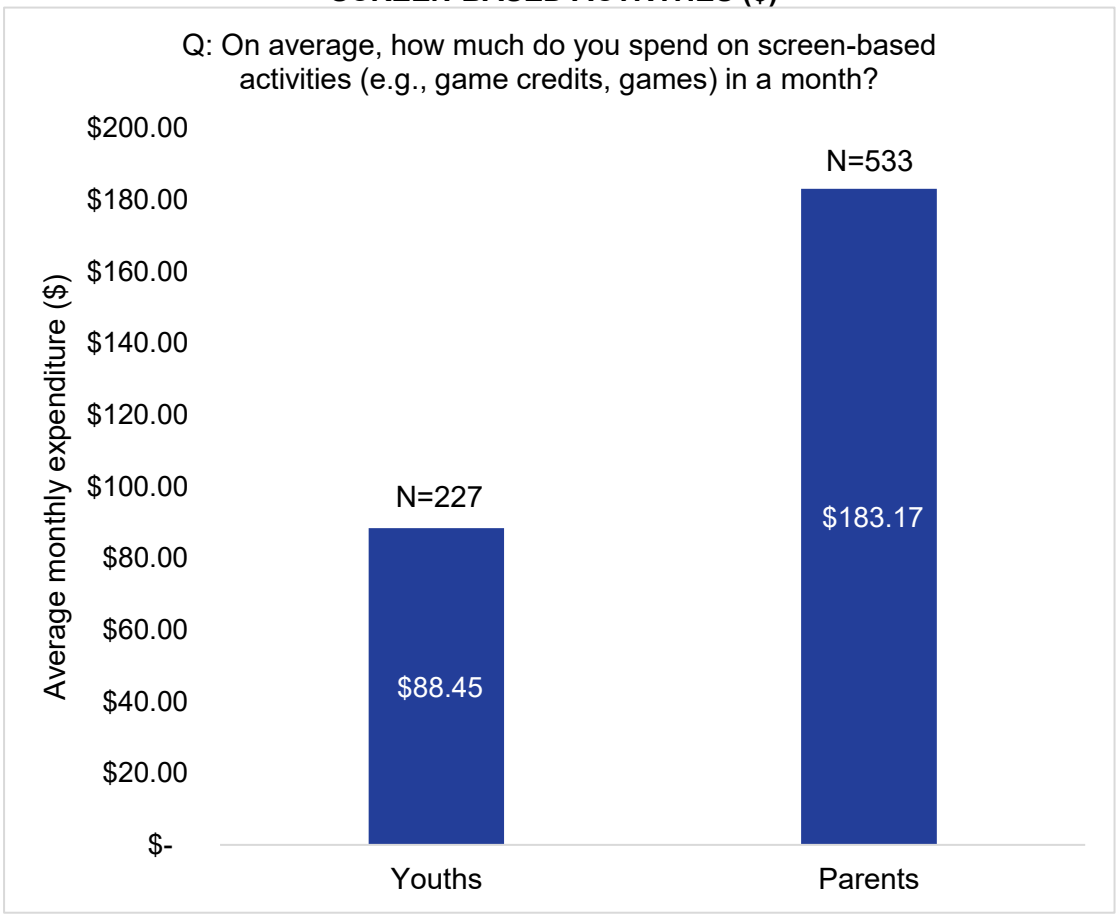
7.4 Expenditure on Screen-based Activities

7.4.1 Teenagers and parents spend an average of $88.45 and $183.17 on screen-based activities respectively

The study also sought to understand the financial implications of screen-based activities, highlighting how both teenagers and parents allocate resources towards these digital engagements. This examination sheds light on the consumer behaviours associated with screen usage, reflecting a broader picture of the investments made in digital leisure and utility.

The study finds that among respondents who reported spending on screen-based activities, teenage respondents reported spending a monthly average of $88.45 while parent respondents reported spending a higher monthly average of $183.17 (Figure 7.7).

FIGURE 7.7: AVERAGE MONTHLY EXPENDITURE ON SCREEN-BASED ACTIVITIES ($)



8. IMPACT OF SCREEN TIME ON LOWER-INCOME HOUSEHOLDS

8.1 Overview

We also explored parental perceptions and strategies around screen time in a sample of lower-income households with young dependents, offering insights into how socio-economic factors shape these experiences. Post-pandemic, digital access and dependence have intensified, particularly for lower-income families, where affordability and digital literacy may affect how parents manage their children's screen use (Ribner et al., 2021). Taking a closer look at this group helps us understand their unique constraints, coping mechanisms and potential policy implications to promote equitable digital well-being across different socio-economic backgrounds.

Comparisons between responses from parents of lower-income households and parents of the main panel were made to identify key differences, such as in perceptions of screen time and parental control strategies. The relevant statistical tables (i.e., independent sample-tests) can be found in Appendix 1.

Lower-income parents are more likely than the main sample to see their children’s screen use as excessive, especially for entertainment, and more likely to view educational and skill-building uses as beneficial, while being more sceptical of gaming and social media. They report using most parental controls more frequently, but have fewer family discussions about screen use and are less likely to set limits for themselves. Lastly, policy preferences broadly align

with the main sample: strong support for platform responsibility, school-based digital literacy and regulating harmful content, followed by moderate support for mandatory breaks and enhanced parental control, and the least support for age-based time caps where lower-income parents are even less supportive than their counterparts in the main sample.

8.2 Screen Time Perceptions of Parents in Lower-Income Households

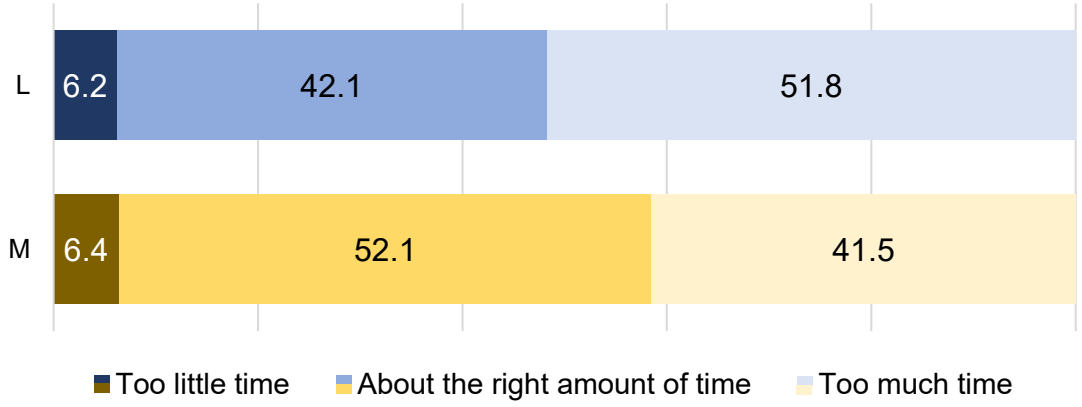
8.2.1 Over half parents from lower-income households believed that their children spent too much time on electronic devices

When evaluating their children's time spent on electronic devices, about five in 10 lower-income parent respondents indicated that they think that their children spend too much time on electronic devices, while 42 per cent think that their children spent the right amount of time on electronic devices. Just 6.2 per cent stated that their children spent too little time on screens (Figure 8.1).

Comparing responses from the lower-income panel (L) and the main panel (M), parents of the former group were more likely to think that their children spent too much time on electronic devices (Table A1.1).

FIGURE 8.1: COMPARISON BETWEEN LOWER-INCOME PARENT RESPONDENTS' (L) AND MAIN-SAMPLE PARENT RESPONDENTS' (M) PERCEPTION OF THEIR CHILD OR CHILDREN'S TIME SPENT ON ELECTRONIC DEVICES (%)

Q: Do you think your child spends too little, about the right amount or too much time on the following activities using electronic devices?

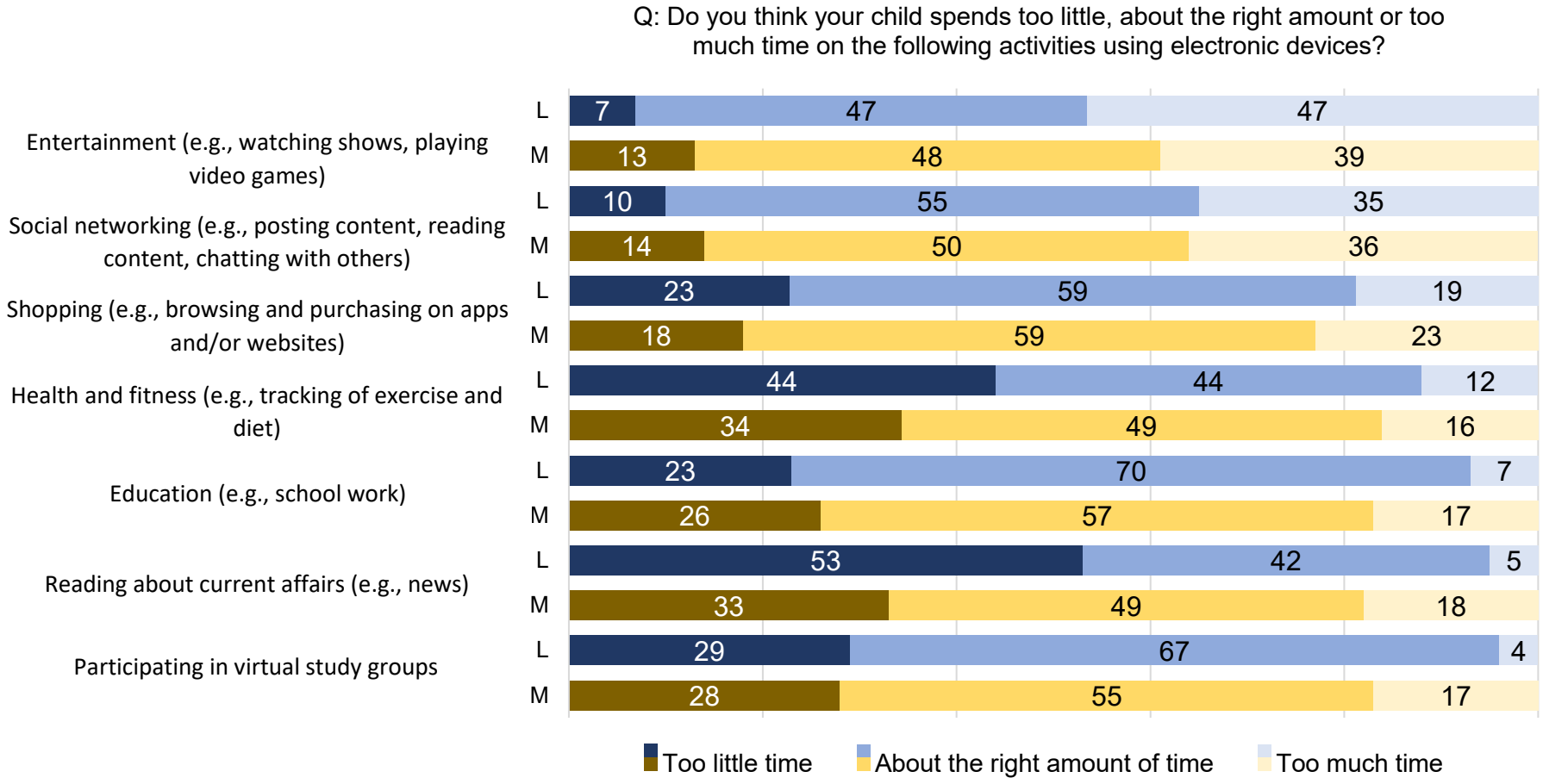


About four in 10 of the parent respondents surveyed believed that their child or children spend too much time on their electronic devices for entertainment (47 per cent) and social networking (35 per cent) purposes. In contrast, about half of the parents think that their child or children spend an appropriate amount of time on electronic devices for these purposes (47 per cent and 55 per cent for entertainment and social networking purposes respectively; see Figure 8.2).

When we compared responses from the lower-income panel (L) against the main panel (M), we found that parents of the former group (L) were more likely to think their children spent too much time on electronic devices for the purpose of entertainment (e.g., watching shows, playing videos games) and less likely to think their children spent too much time on electronic devices for the

purposes of health and fitness (e.g., tracking of exercise and diet) reading about current affairs (e.g., news) and participating in virtual study groups. No significant difference was found in terms of likelihood of thinking too much time was spent on electronic devices for the purposes of education/work (e.g., schoolwork, work), social networking (e.g., posting content, reading content, chatting with others) and shopping (e.g., browsing and purchasing on apps and/or websites) (Table A1.2).

FIGURE 8.2: COMPARISON BETWEEN LOWER-INCOME PARENT RESPONDENTS' (L) AND MAIN-SAMPLE PARENT RESPONDENTS' (M) PERCEPTION OF THEIR CHILDREN'S TIME SPENT ON ELECTRONIC DEVICES, FOR DIFFERENT PURPOSES (%)



8.3 Legitimacy of Screen-Time Use in Lower-income Households

8.3.1 Most parents viewed activities supporting their children's education and personal development positively, with seven in 10 finding them beneficial

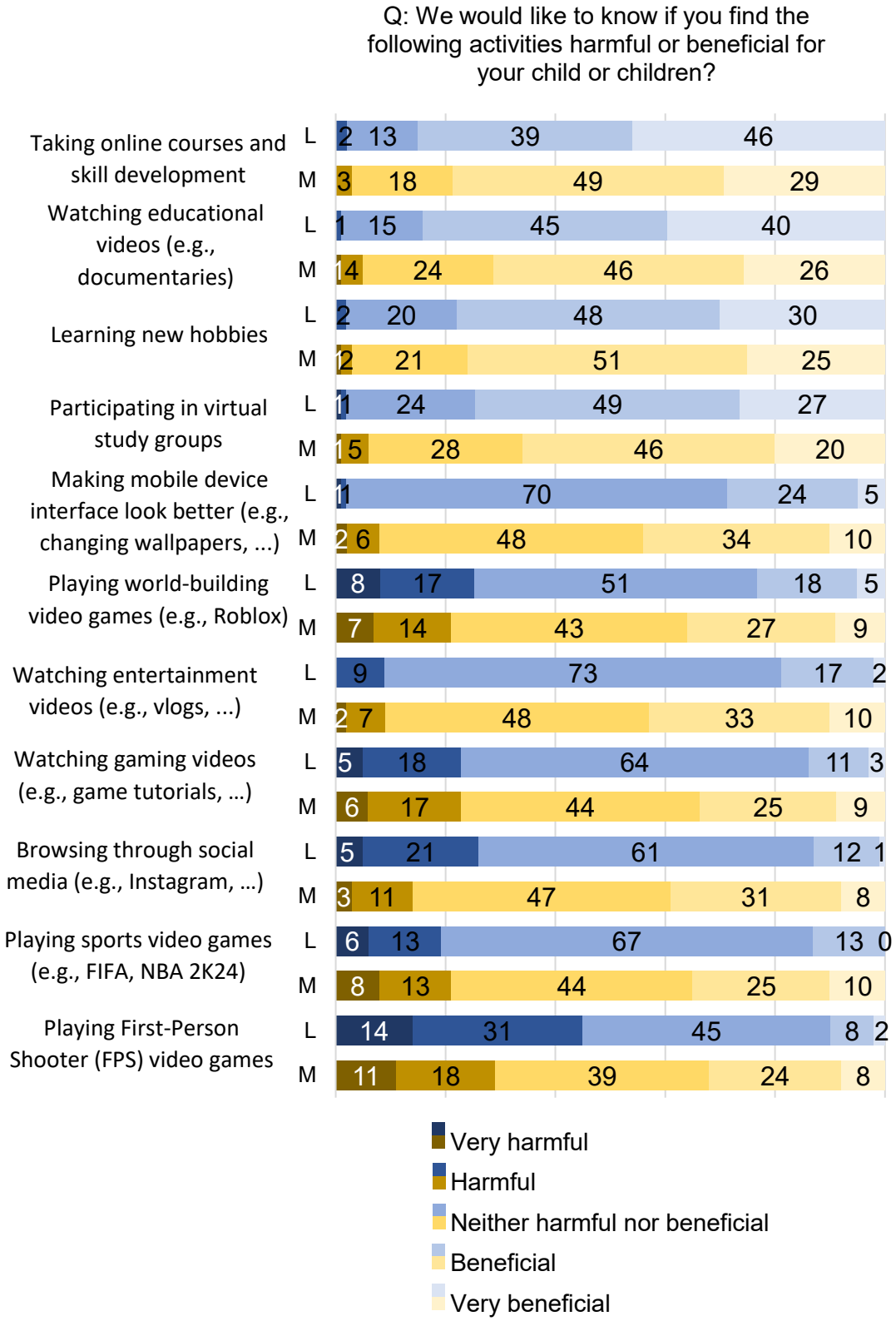
We also measured parent respondents' perception of the extent of harmfulness or benefit of various screen time activities for their children. Generally, most parents found activities supporting their children's education and personal development such as taking online courses and skill development (85.0 per cent), learning new hobbies (78.0 per cent), watching educational videos (84.4 per cent) and participating in virtual study groups (75.0 per cent) to be beneficial for their children (Figure 8.3).

On the other hand, gaming activities such as playing video games and watching gaming videos generally received mixed responses, with approximately one in four lower-income parent respondents (13.4 per cent to 23.7 per cent) finding such activities to be generally beneficial, 51.3 to 66.9 per cent finding them neither harmful nor beneficial, and about one in five parent respondents finding them to be harmful. First-person shooter games were seen as the most harmful, with 45.4 per cent rating them as harmful or very harmful, and only 2.2 per cent finding them beneficial (Figure 8.3).

Comparing responses from the lower-income panel (L) and the main panel (M), parents of the former group (L) were more likely to find watching educational

videos (e.g., documentaries), taking online courses and skill development and participating in virtual study groups to be beneficial for their children. They (L) were also less likely to find watching entertainment videos (e.g., vlogs, comedy, music videos), watching gaming videos (e.g., game tutorials, competitive gaming live streams), playing first-person shooter (FPS) video games, playing sports videos games (e.g., FIFA, NBA, 2K24), playing world-building video game s(e.g., Roblox), browsing through social media (e.g., Instagram, TikTok) and making mobile device interface look better (e.g., changing wallpapers, rearranging icons) to be beneficial for their children. No significant difference was found in terms of view on harmfulness/benefit of their children learning new hobbies on their mobile devices (Table A1.3).

FIGURE 8.3: COMPARISON BETWEEN LOWER-INCOME PARENT RESPONDENTS' (L) AND MAIN-SAMPLE PARENT RESPONDENTS' (M) VIEW ON HARMFULNESS AND BENEFIT OF VARIOUS SCREEN TIME ACTIVITIES TO THEIR CHILDREN (%)



8.4 Strategies to Reduce Screen Time in Lower-Income Households

8.4.1 Parents from lower-income households most frequently use reminders to reduce their children's screen use; they were generally more likely to use parental control strategies compared to parents in the main panel

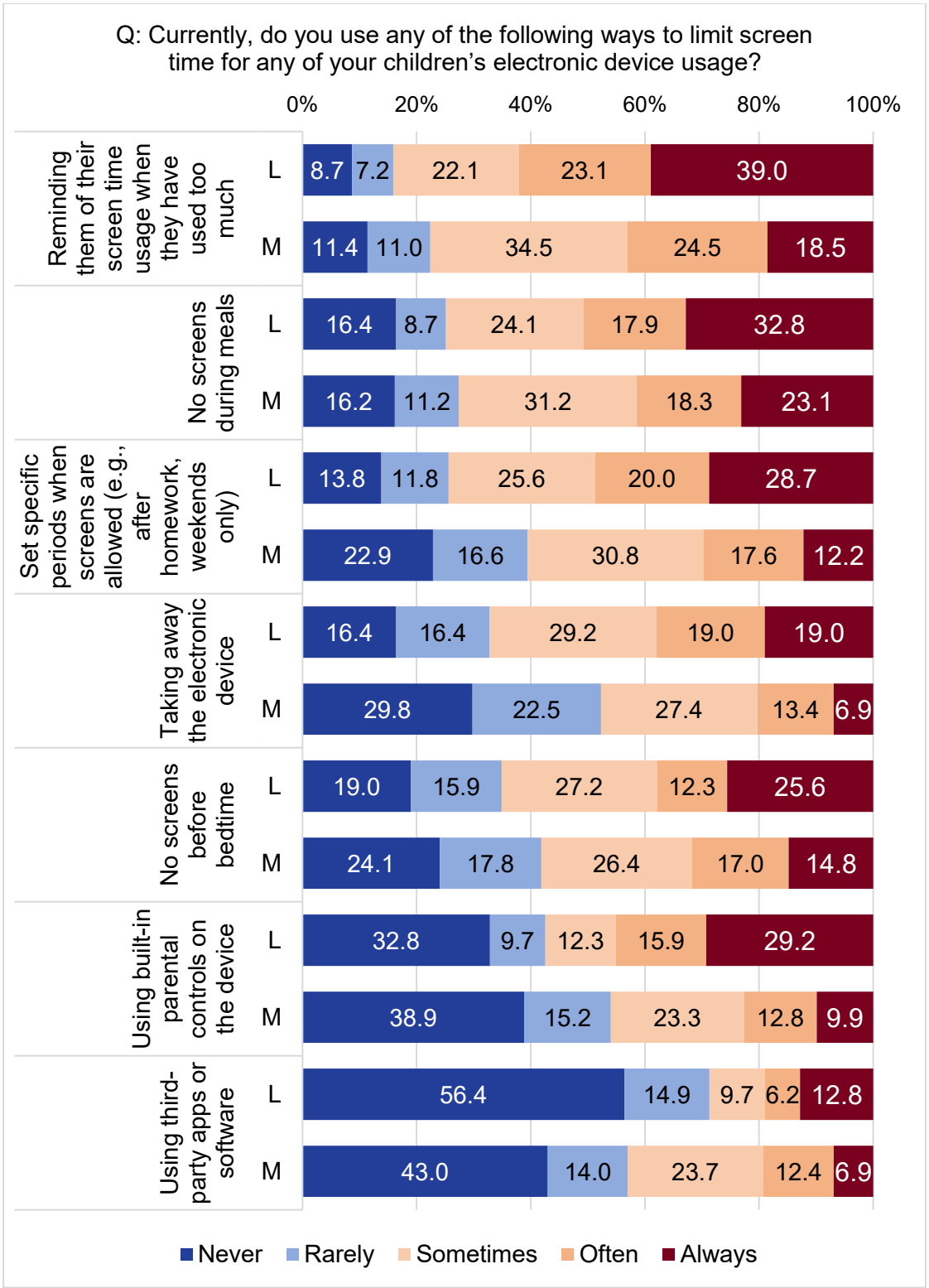
To examine existing efforts used to reduce screen-time usage, lower-income parent respondents were asked about the use of parental strategies to limit screen time for their teenage child's electronic device usage.

Parents indicated that they limited the screen time of their teenage child at least sometimes through the following measures: reminders of screen-time use (84.2 per cent); no screens during meals (74.8 per cent); using build-in parental controls on the device (57.4 per cent); setting specific periods when screens are allowed (74.3 per cent); taking away the electronic device (67.2 per cent); no screens before bedtime (65.1 per cent); using built-in parental controls on the device (57.4 per cent); and using third-party apps or software (28.7 per cent; Figure 8.4).

Parents from lower-income families were more likely to use parental control strategies more frequently, including reminders of excessive screen use, no screens during meals, setting specific periods when screens are allowed, taking away electronic devices, no screens before bedtime and using built-in parental

controls on the device. In contrast, lower-income parents were less likely to use third-party apps or software to limit their children's screen time (Table A1.4).

FIGURE 8.4: LOWER-INCOME PARENT RESPONDENTS REPORT ON THEIR USE OF VARIOUS CONTROL STRATEGIES TO LIMIT THEIR CHILDREN'S SCREEN-TIME USE (%)



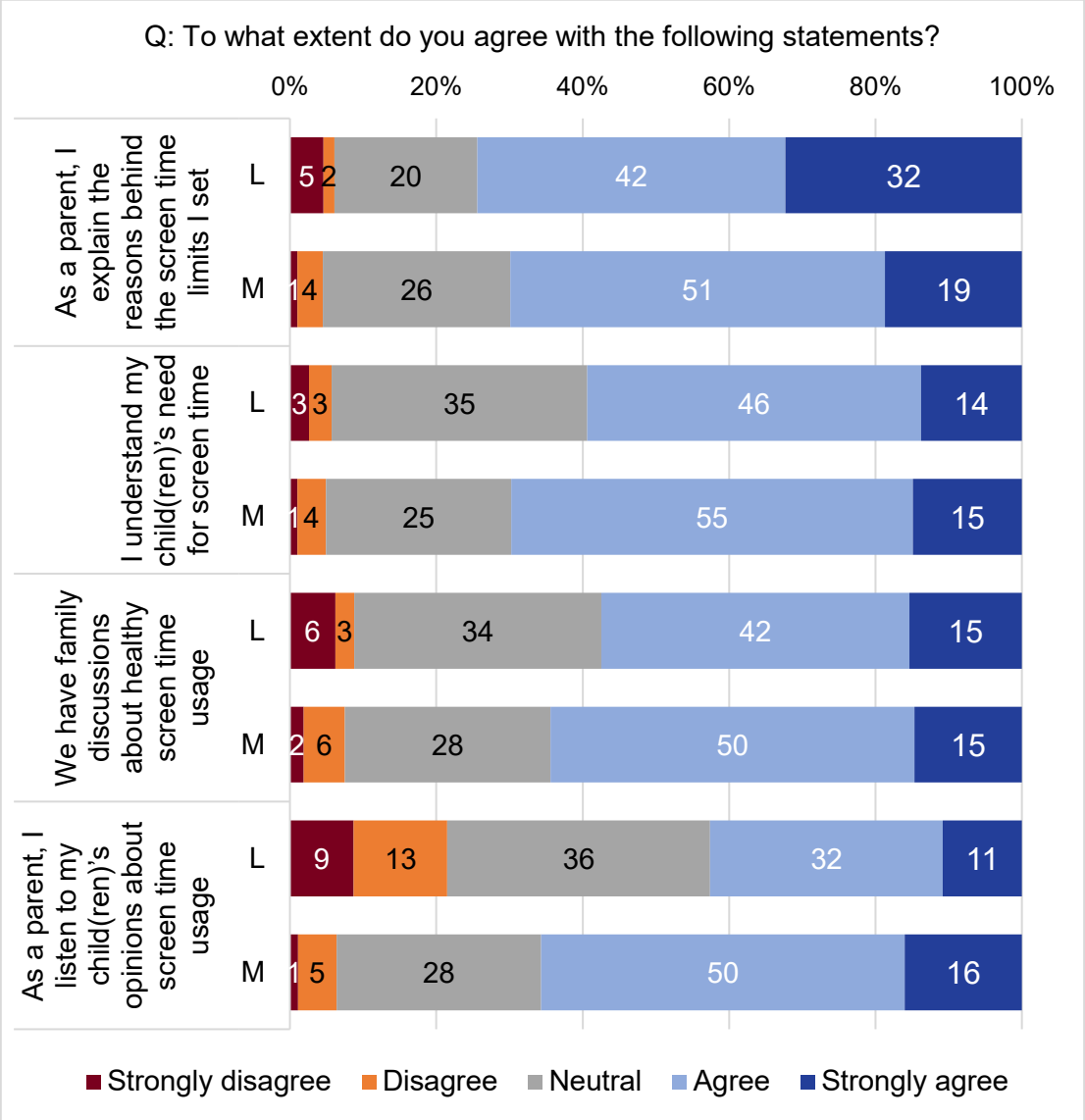
8.5 Parent-Child Communication on Healthy Screen Time in Lower-Income Households

8.5.1 Lower-income parents reported often discussing limits and listening to their children's views to foster healthier screen habits

Survey results revealed that majority of lower-income parent respondents agreed or strongly agreed that they explain reasons behind the screen time limits they set (74 per cent), understand their child or children's need for screen time (60 per cent), have family discussions about healthy screen use (57 per cent) and listen to their child or children's opinion about screen use (43 per cent; see Figure 8.5).

In terms of communication and role-modelling, the tendency to explain the reasons behind screen time limits is not significantly different between parents from lower-income households and parents from the main panel. However, parents from lower-income households were significantly less likely to understand their children's need for screen time, have family discussions about healthy screen-time usage or listen to their children's opinions compared to parents from the main panel (Table A1.5).

Figure 8.5: Lower-income parent respondents report on the extent of communication with their children regarding healthy screen-time usage (%)

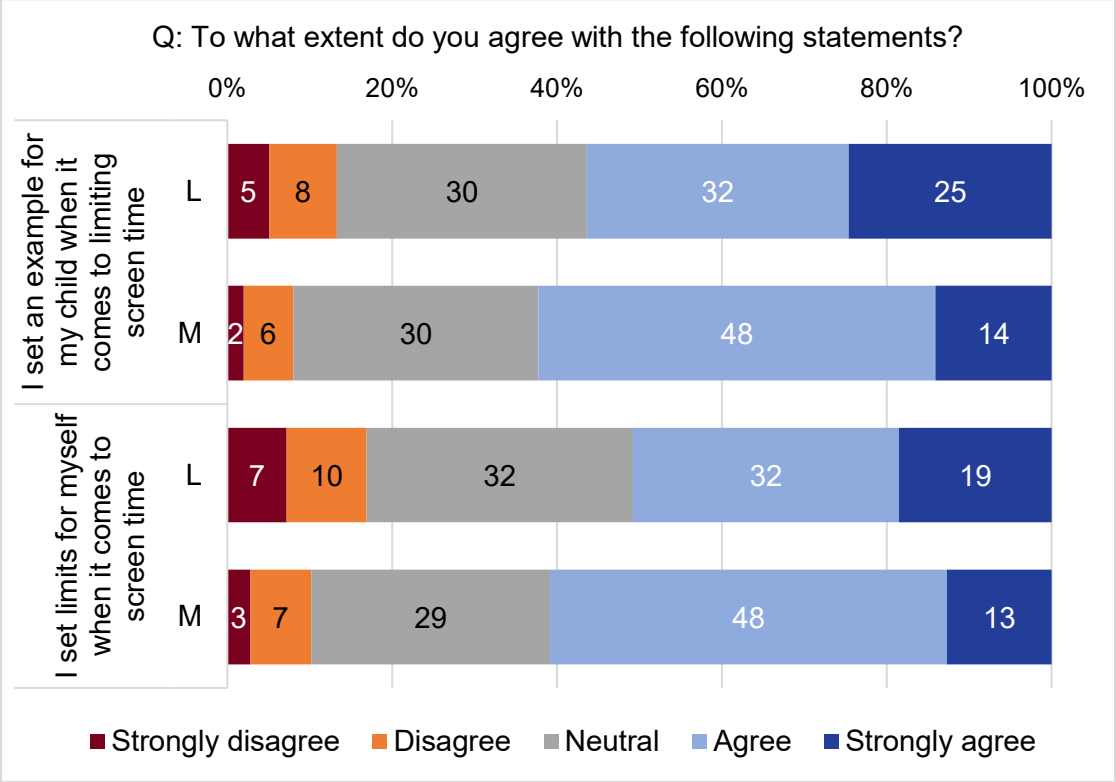


About half of the lower-income parent respondents also aspire to be a role model for their children by setting an example for their children when it comes to limiting their own screen time (56 per cent) and setting screen time limits for themselves (51 per cent; see Figure 8.6).

Comparing responses from the lower-income panel (L) and the main panel (M), parents from the former group were significantly less likely to set limits for themselves when it comes to screen time. That said, there was no significant difference with regard to setting an example for their children when it comes to limiting screen time (Table A1.6).

We found that within the lower-income panel (L), parents agreed more strongly with the idea of setting an example for their children in limiting screen time than with limiting their own screen use ($t = 3.175$, $p < .001$, Cohen's $d = .214$). Although the effect was small, this gap can be read in two ways. It may suggest that parents see themselves as role models but struggle to align their own behaviour with this intention. Alternatively, it may reflect a weaker belief in the need to restrict screen time for adults, even as they seek to model limits for their children. The difference in effect sizes was smaller within the main panel ($t = 2.442$, $p = .007$, Cohen's $d = .076$), suggesting that this gap was less pronounced for parents from the main panel.

FIGURE 8.6: LOWER-INCOME PARENT RESPONDENTS ROLE MODELLING HEALTHY SCREEN-TIME HABITS FOR THEIR CHILDREN (%)



8.6 Receptiveness Towards Policy Recommendations on Digital and Screen Time in Lower-Income Households

8.6.1 Lower-income parents appear to have mixed opinions about government-imposed screen time restrictions, but show stronger support for policies that promote digital well-being, online safety and digital literacy

There was a strong consensus (73.4 per cent) among lower-income parents that social media companies should take greater responsibility in making the internet safer, with just 2.5 per cent opposing such efforts. Education also emerged as a key area of support, with 71.8 per cent of respondents advocating

for an expanded digital literacy curriculum in schools, and there was little opposition to this (1.5 per cent). Concerns about harmful online content were evident, as 71.3 per cent of respondents agreed that more regulation is needed and only 5.2 per cent opposing such measures.

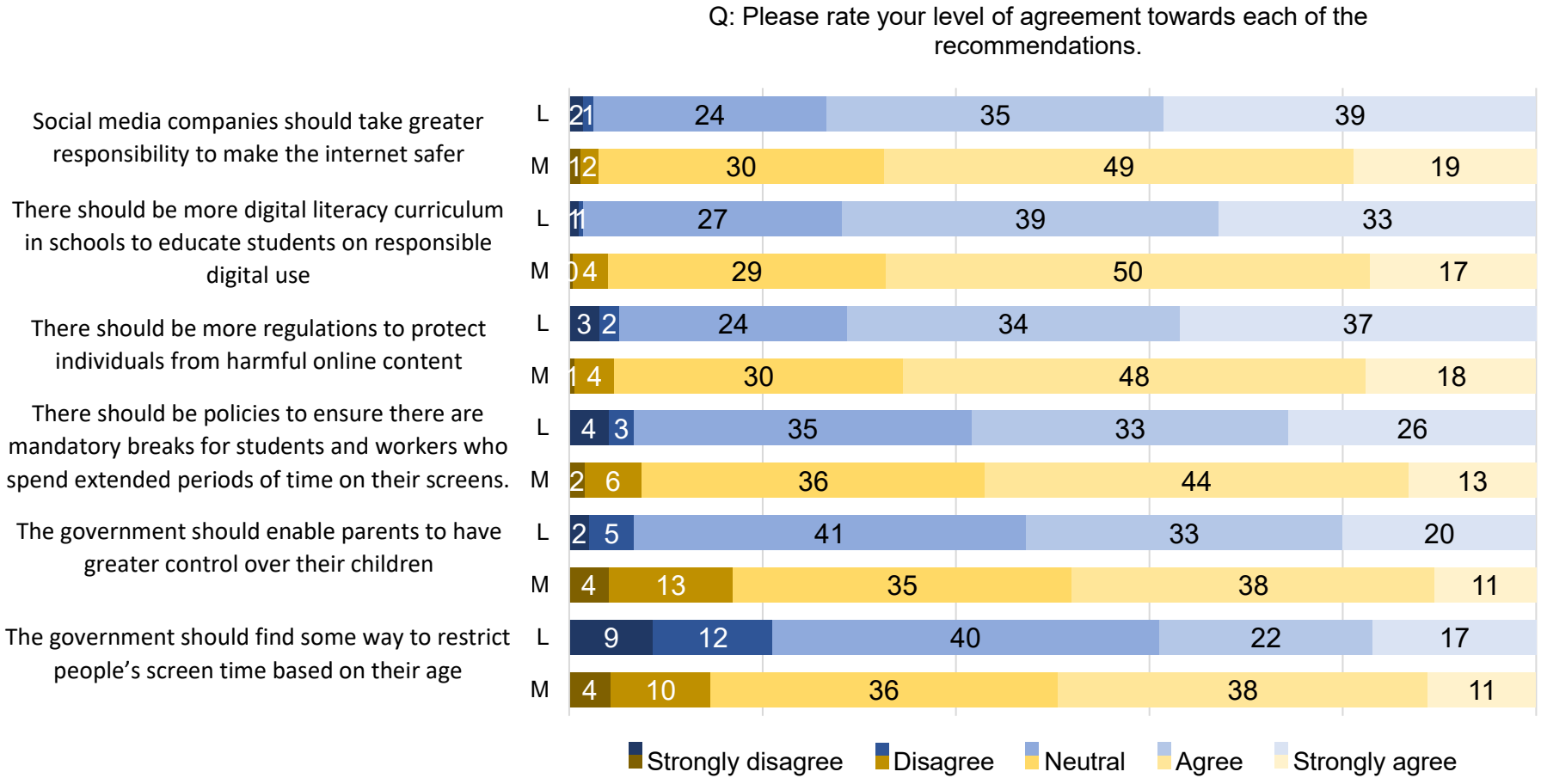
There was also support (58.4 per cent) for policies requiring mandatory screen breaks for students and workers, with minimal opposition (6.7 per cent). Similarly, 52.8 per cent supported policies that grant parents greater control over their children's screen use, while only 6.7 per cent disagreed.

Support for direct government intervention in restricting screen time based on age was the least popular among lower-income respondents, with 40.0 per cent expressing neutrality and only 39.0 per cent in favour, with to 21.0 per cent in opposition.

Comparing responses from the lower-income panel (L) and the main panel (M), only sentiments concerning direct government intervention in restricting screen time based on age was significantly different between both groups, where parents of the former group were less likely to be in support of this measure compared to parents of the latter group. This suggests that lower-income parents may prefer to retain autonomy over their children's screen time decisions rather than have government-imposed restrictions, possibly owing to a reliance on digital devices for childcare and education (Table A1.7).

Overall, the findings suggest that lower-income parents prioritise digital education and online safety over direct government control of screen time, favouring policies that empower individuals and institutions to foster responsible digital use.

FIGURE 8.7: COMPARISON BETWEEN LOWER-INCOME PARENTS' (L) AND MAIN-SAMPLE PARENTS' (M) AGREEMENT TOWARDS RECOMMENDATIONS REGULATING DIGITAL AND SCREEN-TIME USE (%)



9. DISCUSSION AND CONCLUSION

This chapter presents an overview of the key findings and possible recommendations to address the challenges associated with screen time and its impact on well-being and relationships.

9.1 Discussion of Key Findings

9.1.1 Screen use is pervasive for both teenagers and parents

The findings underscore the pervasive nature of screen-time usage across both teenage and parent populations in Singapore. A significant proportion of individuals reported spending extensive periods on electronic devices daily, particularly on smartphones and computers/laptops, highlighting a trend of increasing digital engagement. This prolonged screen exposure has been linked to several negative outcomes across various domains of well-being.

9.1.2 Excessive screen use is associated with a range of reported negative outcomes

Excessive screen time is consistently associated with a range of negative health outcomes reported by respondents. Both physical health concerns, including reduced physical activity, and mental health issues such as increased anxiety and loneliness, especially among teenagers, are of particular concern. These findings align with the international research literature suggesting that while screens serve as a coping mechanism for stress, they can exacerbate psychological distress over time. Screen time has been found to negatively

affect sleep quality for both teenagers and parents. The blue light emitted from screens is known to disrupt melatonin production, delaying sleep onset and reducing overall sleep quality.

The study also highlights the role of screen time in engendering familial conflicts, particularly between parents and teenagers. The use of parental control strategies, while effective in reducing screen time, often leads to increased tension and disputes within families. This suggests a need for more balanced approaches that foster communication and mutual understanding between parents and children.

9.2 Proposed Recommendations

9.2.1 Role of Parents, Schools, Platforms and Policymakers

Screen use is part of everyday life and brings clear benefits, such as connection, learning, convenience and creativity. The goal is not to reject screens but to curb excessive use and reduce the harms linked to overuse, especially for well-being, sleep and family relationships.

For instance, parents can leverage technology to support responsible screen use. This includes built-in controls or third-party apps to guide responsible screen use, but these tools work best when paired with open communication. Involving teenagers in setting limits and explaining the reasons behind them

builds trust and cooperation, while regular discussions about health, well-being and daily responsibilities help teenagers recognise the impact of overuse. Open dialogue also implies that parents should remain receptive to their teenagers' concerns and adjust strategies where needed. Beyond technology, encouraging sports, hobbies and family activities that do not require screens provides healthy alternatives, making screen limits easier to follow. These approaches together help families manage screen time effectively while maintaining positive relationships and supporting healthy digital habits.

In schools, digital literacy can be integrated into daily learning in classrooms. Integrating digital literacy and well-being education into school curricula to equip younger generations with the skills needed to navigate the digital landscape responsibly will be helpful. In particular, this can include teaching attention habits, how algorithms influence behaviour, strategies to avoid "doomscrolling", healthy sleep routines and simple self-limiting techniques. Clear classroom norms and regular breaks from screens help reduce excessive use and establish healthy habits that students can also practise at home. Schools can also assist families by offering guidance on using built-in controls, co-creating household rules and aligning expectations across school and personal devices. In doing so, schools help create a consistent framework between home and classroom that supports healthier, more balanced screen use for students.

For platforms, default safeguards can be strengthened to better protect younger users. Safer default settings should offer age-appropriate recommendations, built-in night time limits and downtime tools that are easy for families to use. Other features can include restrictions on autoplay and infinite scroll, extra steps to reactivate apps and dashboards that show time spent online to make usage more visible and easier to manage. Clear and transparent parental and teenager controls, with simple explanations of what each feature does and does not do, can further build trust and encourage consistent use. These measures together create an environment where healthier screen habits are supported by design rather than left to one's willpower.

Policymakers can focus on education and co-regulation. Investments in school-based digital literacy and requirements for platforms to implement strong protections, such as safer default settings and clear accountability for harmful content, can help create healthier digital environments. Structured breaks in schools and workplaces can help reduce strain without limiting necessary use. There is also need fortargeted support for lower-income households, including accessible tools, parental training on managing devices for their children and simple guides for built-in controls and collaborative rule-setting. These certainly can benefit all families but particularly lower income households which may be strapped for resources to manage screen time issues effectively. Lastly, age-based time caps should be approached cautiously given mixed public support.

These suggests that parents, educators, platforms and policymakers can and should collaborate to facilitate healthy screen engagement and to develop frameworks that promote responsible digital habits while mitigating potential adverse effects.

9.3 Conclusion

This working paper provides preliminary insights into the nature of screen use among teenagers and parents in Singapore. The findings highlight the significant prevalence of screen time across both demographics, and this extensive screen engagement correlates with various negative health outcomes, including reduced physical activity and poorer mental health and sleep quality.

The research also underscores the complex dynamics of screen use in family settings, particularly the tensions it can create between parents and their teenagers. Managing teen screen use works best when tools and timing align with communication. Structured controls, such as built-in settings, third-party apps, setting specific allowed periods and taking devices away, are linked to lower screen time, particularly when introduced early and paired with open dialogue that explains reasons and listens to teenagers' views. Without conversation, intrusive rules tend to raise conflict. In contrast, with discussion, rules become more acceptable. Furthermore, teenagers' own self-imposed limits also play a protective role.

Equity matters. Lower-income households report using most controls more often but fewer third-party apps and having less frequent family discussions, patterns that are linked to higher conflict. As digitalisation becomes increasingly ingrained in everyday life, these highlight the need for public health strategies and educational policies that are sensitive to socioeconomic realties that make healthy screen practices feasible across all households.

Future research should explore more tailored interventions that address the individual needs of diverse households, particularly those from lower-income backgrounds, as they face unique challenges in managing screen use. Additionally, longitudinal studies could provide deeper insights into the long-term effects of screen time on well-being across different life stages.

Healthier digital habits are less about avoiding screens altogether than about reshaping the online mix, strengthening offline routines, introducing structured tools early, and keeping family communication open while ensuring that these strategies are realistic and equitable for every home. By fostering a culture of informed and balanced screen use, we can better harness the benefits of technology while safeguarding well-being.

REFERENCES

Anderson, M., Faverio, M., & Park, E. (2024). *How teens and parents approach screen time*. Pew Research Center.

Andriyani, F. D., Biddle, S. J. H., & De Cocker, K. (2021). Adolescents' physical activity and sedentary behaviour in Indonesia during the COVID-19 pandemic: A qualitative study of mothers' perspectives. *BMC Public Health, 21*, Article 1864. https://doi.org/10.1186/s12889-021-11931-1

Babic, M. J., Smith, J. J., Morgan, P. J., Lonsdale, C., Plotnikoff, R. C., Eather, N., Skinner, G., Baker, A. L., Pollock, E., & Lubans, D. R. (2016). Intervention to reduce recreational screen-time in adolescents: Outcomes and mediators from the 'Switch-Off 4 Healthy Minds' (S4HM) cluster randomized controlled trial. *Preventive Medicine, 91*, 50–57. https://doi.org/10.1016/j.ypmed.2016.07.014

Berkowsky, R. W. (2013). When you just cannot get away: Exploring the use of information and communication technologies in facilitating negative work/home spillover. *Information, Communication & Society, 16*(4), 519–541. https://doi.org/10.1080/1369118X.2013.772650

Bucksch, J., Sigmundova, D., Hamrik, Z., Troped, P. J., Melkevik, O., Ahluwalia, N., Borraccino, A., Tynjälä, J., Kalman, M., & Inchley, J. (2016). International trends in adolescent screen-time behaviors from 2002 to 2010. *Journal of Adolescent Health, 58*(4), 417–425. https://doi.org/10.1016/j.jadohealth.2015.11.014

Correa-Iriarte, S., Hidalgo-Fuentes, S., & Marti-Vilar, M. (2023). Relationship between problematic smartphone use, sleep quality and bedtime procrastination: A mediation analysis. *Behavioral Sciences, 13*(10), Article 839. https://doi.org/10.3390/bs13100839

Demetrovics, Z., Szeredi, B., & Rózsa, S. (2008). The three-factor model of Internet addiction: The development of the Problematic Internet Use Questionnaire. *Behavior Research Methods, 40*, 563–574. https://doi.org/10.3758/BRM.40.2.563

Derks, D., Van Mierlo, H., & Schmitz, E. B. (2014). A diary study on work-related smartphone use, psychological detachment and exhaustion: Examining the role of the perceived segmentation norm. *Journal of Occupational Health Psychology, 19*(1), 74–84. https://doi.org/10.1037/a0035076

Fang, K., Mu, M., Liu, K., & He, Y. (2019). Screen time and childhood overweight/obesity: A systematic review and meta-analysis. *Child: Care, Health and Development, 45*(5), 744–753. https://doi.org/10.1111/cch.12701

Frison, E., & Eggermont, S. (2016). Exploring the relationships between different types of Facebook use, perceived online social support, and adolescents' depressed mood. *Social Science Computer Review, 34*(2), 153–171. https://doi.org/10.1177/0894439314567449

Haidt, J. (2024). *The anxious generation: How the great rewiring of childhood is causing an epidemic of mental illness*. Penguin Press.

Infocomm Media Development Authority. (2023). *Singapore digital society report 2023*. https://www.imda.gov.sg/-/media/imda/files/infocomm-media-landscape/research-and-statistics/singapore-digital-society-report/singapore-digital-society-report-2023.pdf

Kheirinejad, S., Visuri, A., Ferreira, D., & Hosio, S. (2023). Leave your smartphone out of bed: Quantitative analysis of smartphone use effect on sleep quality. *Personal and Ubiquitous Computing, 27*, 447–466. https://doi.org/10.1007/s00779-022-01694-w

Kiss, O., de Zambotti, M., Schaefer, E., Durley, I., Kerr, E., Dulai, T., Arra, N., Obilor, T., Camacho, L., Hsu, C., & Baker, F. (2022). 0049 Screen time and sleep in young adolescents before and across the first year of the COVID-19 pandemic. *Sleep, 45*(Suppl. 1), A22–A23. https://doi.org/10.1093/sleep/zsac079.047

Koa, A. J. A. F., Malik, M. Z., Suriyani, S., Muaningsih, M., & Lindayani, L. (2022). Physical activity pattern before and during the COVID-19 lockdown among adolescents in Indonesia. *Open Access Macedonian Journal of Medical Sciences, 10*(E), 1452–1457. https://doi.org/10.3889/oamjms.2022.8785

Konrad, C., Hillmann, M., Rispler, J., Niehaus, L., Neuhoff, L., & Barr, R. (2021). Quality of mother-child interaction before, during, and after smartphone use. *Frontiers in Psychology, 12*, Article 616656. https://doi.org/10.3389/fpsyg.2021.616656

Kovacs, V. A., Starc, G., Brandes, M., Kaj, M., Blagus, R., Leskošek, B., Suesse, T., Dinya, E., Guinhouya, B. C., Zito, V., Rocha, P. M., Gonzalez, B. P., Kontsevaya, A., Brzezinski, M., Bidiugan, R., Kiraly, A., Csányi, T., & Okely, A. D. (2021). Physical activity, screen time and the COVID-19 school closures in Europe—An observational study in 10 countries. *European Journal of Sport Science, 22*(7), 1094–1103. https://doi.org/10.1080/17461391.2021.1897166

Kwon, M., Kim, D., Cho, H., & Yang, S. (2013). The smartphone addiction scale: Development and validation of a short version for adolescents. *PLoS ONE, 8*(12), Article e0083558. https://doi.org/10.1371/journal.pone.0083558

Lemola, S., Perkinson-Gloor, N., Brand, S., Dewald-Kaufmann, J. F., & Grob, A. (2015). Adolescents' electronic media use at night, sleep disturbance, and depressive symptoms in the smartphone age. *Journal of Youth and Adolescence, 44*, 405–418. https://doi.org/10.1007/s10964-014-0176-x

Limelight Networks. (2019). *The state of digital lifestyles 2019*. https://www.limelight.com/resources/white-paper/state-of-digital-lifestyles-2019/

Linden, T., Nawaz, S., & Mitchell, M. (2021). Adults' perspectives on smartphone usage and dependency in Australia. *Computers in Human Behavior Reports, 3*, Article 100060. https://doi.org/10.1016/j.chbr.2021.100060

Liu, D., Wright, K. B., & Hu, B. (2018). A meta-analysis of social network site use and social support. *Computers & Education, 127*, 201–213. https://doi.org/10.1016/j.compedu.2018.08.024

Livingstone, S., & Helsper, E. J. (2008). Parental mediation of children's internet use. *Journal of Broadcasting & Electronic Media, 52*(4), 581–599. https://doi.org/10.1080/08838150802437396

Lua, V. Y. Q., Chua, T. B. K., & Chia, M. Y. H. (2023). A narrative review of screen time and well-being among adolescents before and during the COVID-19 pandemic: Implications for the future. *Sports, 11*(2), Article 28. https://ink.library.smu.edu.sg/soss_research/3751/

McCormack, G. R., Doyle-Baker, P. K., Petersen, J. A., & Ghoneim, D. (2020). Parent anxiety and perceptions of their child's physical activity and sedentary behaviour during the COVID-19 pandemic in Canada. *Preventive Medicine Reports, 20*, Article 101275. https://doi.org/10.1016/j.pmedr.2020.101275

Mei, X., Zhou, Q., Li, X., Jing, P., Wang, X., & Hu, Z. (2018). Sleep problems in excessive technology use among adolescent: A systemic review and meta-analysis. *Sleep Science and Practice, 2*, Article 9. https://doi.org/10.1186/s41606-018-0028-9

Oswald, T. K., Rumbold, A. R., Kedzior, S. G. E., & Moore, V. M. (2020). Psychological impacts of "screen time" and "green time" for children and adolescents: A systematic scoping review. *PLoS ONE, 15*(9), Article e0237725. https://doi.org/10.1371/journal.pone.0237725

Priftis, N., & Panagiotakos, D. (2023). Screen time and its health consequences in children and adolescents. *Children, 10*(10), Article 1665. https://doi.org/10.3390/children10101665

Ribner, A. D., Coulanges, L., Friedman, S., Libertus, M. E., & I-FAM-Covid Consortium. (2021). Screen time in the coronavirus 2019 era: International trends of increasing use among 3- to 7-year-old children. *The Journal of Pediatrics, 239*, 59–66. https://doi.org/10.1016/j.jpeds.2021.08.068

Santos, R. M. S., Ventura, S. A., Nogueira, Y. J. A., Mendes, C. G., de Paula, J. J., Miranda, D. M., & Romano-Silva, M. A. (2024). The associations between screen time and mental health in adults: A systematic review. *Journal of Technology in Behavioral Science, 9*(4), 825–845. https://doi.org/10.1007/s41347-024-00398-7

Schlachter, S., McDowall, A., Cropley, M., & Inceoglu, I. (2018). Voluntary work-related technology use during non-work time: A narrative synthesis of empirical research and research agenda. *International Journal of Management Reviews, 20*(4), 825–846. https://doi.org/10.1111/ijmr.12165

Schuster, A. M., Cotten, S. R., & Meshi, D. (2023). Established adults, who self-identify as smartphone and/or social media overusers, struggle to balance smartphone use for personal and work purposes. *Journal of Adult Development, 30*, 78–89. https://doi.org/10.1007/s10804-022-09426-3

Singapore Ministry of Education. (2021). *Digital device usage on students' health*. https://www.moe.gov.sg/news/parliamentary-replies/20210511-digital-device-usage-on-students-health

Singapore Ministry of Health. (2025). *Guidance on screen use in children*. https://www.moh.gov.sg/others/resources-and-statistics/guidance-on-screen-use

Stevens, D. P., Kiger, G., & Riley, P. J. (2006). His, hers, or ours? Work-to-family spillover, crossover, and family cohesion. *The Social Science Journal, 43*(3), 425–436. https://doi.org/10.1016/j.soscij.2006.04.011

Subramaniam, M., Koh, Y. S., Sambasivam, R., Samari, E., Abdin, E., Jeyagurunathan, A., Tan, B. C. W., Zhang, Y., Ma, S., Chow, W. L., & Chong, S. A. (2024). Problematic smartphone use and mental health outcomes among Singapore residents: The health and lifestyle survey. *Asian Journal of Psychiatry, 98*, Article 104124. https://doi.org/10.1016/j.ajp.2024.104124

Subudhi, R., & Palai, D. (2020). Impact of internet use during COVID lockdown. *Horizon Journal of Humanities & Social Sciences, 2*(S), 59–66. https://ssrn.com/abstract=3711177

Toh, S. H., Howie, E. R., Coenen, P., & Straker, L. M. (2019). "From the moment I wake up I will use it…every day, very hour": A qualitative study on the patterns of adolescents' mobile touch screen device use from adolescent and parent perspectives. *BMC Pediatrics, 19*, Article 30. https://doi.org/10.1186/s12887-019-1399-5

Trott, M., Driscoll, R., Iraldo, E., & Pardhan, S. (2022). Changes and correlates of screen time in adults and children during the COVID-19 pandemic: A systematic review and meta-analysis. *eClinicalMedicine, 48*, Article 101452. https://doi.org/10.1016/j.eclinm.2022.101452

Tushara, E. (2025, January 7). Don't shield students from screens, but teach them to use devices purposefully: Chan Chun Sing. *The Straits Times*. https://www.straitstimes.com/singapore/dont-shield-students-from-screens-but-teach-them-to-use-devices-purposefully-chan-chun-sing

Tushara, E. (2025, January 7). No devices for kids at meals and turn off the TV: Singapore issues stricter screen use guidelines. *The Straits Times*. https://www.straitstimes.com/singapore/no-devices-for-kids-at-meals-and-turn-off-the-tv-spore-issues-stricter-screen-use-guidelines

United Nations Educational, Scientific and Cultural Organization. (2020, March 24). 1.37 billion students now home as COVID-19 school closures expand, ministers scale up multimedia approaches to ensure learning continuity [Press release]. https://www.unesco.org/en/articles/137-billion-students-now-home-covid-19-school-closures-expand-ministers-scale-multimedia-approaches

Vandendriessche, A., Ghekiere, A., Van Cauwenberg, J., De Clercq, B., Dhondt, K., DeSmet, A., Tynjälä, J., Verloigne, M., & Deforche, B. (2019). Does sleep mediate the association between school pressure, physical activity, screen time, and psychological symptoms in early adolescents? A 12-country study. *International Journal of Environmental Research and Public Health, 16*(6), Article 1072. https://doi.org/10.3390/ijerph16061072

Williams, W. M., & Ayres, C. G. (2020). Can active video games improve physical activity in adolescents? A review of RCT. *International Journal of Environmental Research and Public Health, 17*(2), Article 669. https://doi.org/10.3390/ijerph17020669

Wood, A. W., Loughran, S. P., & Stough, C. (2006). Does evening exposure to mobile phone radiation affect subsequent melatonin production? *International Journal of Radiation Biology, 82*, 69–76. https://doi.org/10.1080/09553000600599775

Zhang, G., Wu, L., Zhou, L., Lu, W., & Mao, C. (2016). Television watching and risk of childhood obesity: A meta-analysis. *European Journal of Public Health, 26*(1), 13–18. https://doi.org/10.1093/eurpub/ckv213

APPENDIX 1: STATISTICAL TABLES

TABLE A1.1: INDEPENDENT SAMPLE T-TESTS COMPARING LOWER INCOME HOUSEHOLD VERSUS MAIN PANEL PARENTS' PERCEPTION OF THEIR CHILDREN'S TIME SPENT ON ELECTRONIC DEVICES

Test Variables	t-test for Equality of Means				
	t	Significance		Mean Difference[a]	Std. Error Difference
		One-Sided p	Two-Sided p		
Do you think your child or children spend too little, about the right amount or too much time on electronic devices?	2.965	.002	.003	.132	.044

[a] Lower-income households — general population

TABLE A1.2: INDEPENDENT SAMPLE T-TESTS COMPARING LOWER INCOME HOUSEHOLD VERSUS MAIN PANEL PARENTS' PERCEPTION OF THEIR CHILDREN'S TIME SPENT ON ELECTRONIC DEVICES FOR DIFFERENT PURPOSES

Test Variables	t-test for Equality of Means				
	t	Significance		Mean Difference[a]	Std. Error Difference
		One-Sided p	Two-Sided p		
Entertainment (e.g., watching shows, playing video games)	3.033	.001	.003	.143	.047
Education / Work (e.g., school work, work)	-1.056	.146	.292	-.045	.043
Social networking (e.g., posting content, reading content, chatting with others)	.415	.339	.679	.027	.065
Shopping (e.g., browsing and purchasing on apps and/or websites)	-1.110	.134	.267	-.083	.074
Health and Fitness (e.g., Tracking of exercise and diet)	-1.980	.024	.048	-.152	.077
Reading about current affairs (e.g., news)	-4.395	<.001	<.001	-.338	.077

Participating in virtual study groups	-2.136	.016	.033	-.149	.070

[a] Lower-income households — general population

TABLE A1.3: INDEPENDENT SAMPLE T-TESTS COMPARING LOWER INCOME HOUSEHOLD VERSUS MAIN PANEL PARENTS' VIEW ON HARMFULNESS AND BENEFIT OF VARIOUS SCREEN TIME ACTIVITIES TO THEIR CHILDREN

Test Variables	t-test for Equality of Means				
	t	Significance		Mean Difference[a]	Std. Error Difference
		One-Sided p	Two-Sided p		
Watching entertainment videos (e.g., vlogs, comedy, music videos)	-7.278	<.001	<.001	-.343	.047
Watching educational videos (e.g., documentaries)	4.622	<.001	<.001	.285	.062
Watching gaming videos (e.g., game tutorials, competitive gaming live streams)	-4.477	<.001	<.001	-.291	.065
Playing First-Person Shooter (FPS) video games	-4.977	<.001	<.001	-.491	.099
Playing sports videos games (e.g., FIFA, NBA, 2K24)	-4.373	<.001	<.001	-.303	.069
Playing world-building video games (e.g., Roblox)	-3.199	<.001	.002	-.249	.078
Browsing through social media (e.g., Instagram, TikTok)	-8.143	<.001	<.001	-.520	.064
Making mobile device interface look better (e.g., changing wallpapers, rearranging icons)	-3.058	.001	.002	-.160	.052
Learning new hobbies	1.351	.088	.177	.083	.062
Taking online courses and skill development	4.165	<.001	<.001	.279	.067
Participating in virtual study groups	2.396	.009	.017	.166	.069

[a] Lower-income households — general population

TABLE A1.4: INDEPENDENT SAMPLE T-TESTS COMPARING LOWER INCOME HOUSEHOLD VERSUS MAIN PANEL PARENTS' USE OF VARIOUS CONTROL STRATEGIES TO LIMIT THEIR CHILDREN'S SCREEN-TIME USE

Test Variables	t-test for Equality of Means				
	t	Significance		Mean Difference[a]	Std. Error Difference
		One-Sided p	Two-Sided p		
Set specific periods when screens are allowed (e.g., after homework, weekends only)	5.607	<.001	<.001	.556	.099
No screens during meals	3.590	<.001	<.001	.372	.104
No screens before bedtime	2.328	.010	.021	.240	.103
Using built-in parental controls on the device	3.037	.001	.003	.358	.118
Using third-party apps or software	-4.231	<.001	<.001	-.444	.105
Reminding them of their screen-time usage when they have used too much	6.084	<.001	<.001	.551	.091
Taking away the electronic device	4.626	<.001	<.001	.443	.096

[a] Lower-income households — general population

TABLE A1.5: INDEPENDENT SAMPLE T-TESTS COMPARING LOWER-INCOME HOUSEHOLDS VERSUS MAIN PANEL PARENTS' REPORT ON COMMUNICATION ON HEALTHY SCREEN-TIME USAGE

Test Variables	t-test for Equality of Means				
	t	Significance		Mean Difference[a]	Std. Error Difference
		One-Sided p	Two-Sided p		
As a parent, I explain the reasons behind the screen time limits I set.	1.204	.115	.230	.088	.073
I understand my child(ren)'s need for screen time.	-2.295	.011	.022	-.142	.062
We have family discussions about healthy screen-time usage.	-1.871	.031	.062	-.134	.072
As a parent, I listen to my child(ren)'s opinions about screen-time usage.	-6.630	<.001	<.001	-.512	.077

[a] Lower-income households — general population

TABLE A1.6: INDEPENDENT SAMPLE T-TESTS COMPARING LOWER INCOME HOUSEHOLD VERSUS MAIN PANEL PARENTS' REPORT ON ROLE MODELLING HEALTHY SCREEN-TIME HABITS FOR THEIR CHILDREN

Test Variables	t-test for Equality of Means				
	t	Significance		Mean Difference[a]	Std. Error Difference
		One-Sided p	Two-Sided p		
I set an example for my child when it comes to limiting screen time.	-.345	.365	.730	-.027	.078
I set limits for myself when it comes to screen time.	-2.061	.020	.040	-.166	.081

[a] Lower-income households — general population

TABLE A1.7: INDEPENDENT SAMPLE T-TESTS COMPARING LOWER INCOME HOUSEHOLD VERSUS MAIN PANEL PARENTS' SUPPORT FOR VARIOUS INTERVENTIONS RESTRICTING SCREEN TIME

Test Variables	t-test for Equality of Means				
	t	Significance		Mean Difference[a]	Std. Error Difference
		One-Sided p	Two-Sided p		
The government should find some way to restrict people's screen time based on their age.	-4.724	<.001	<.001	-.384	.081
There should be policies to ensure there are mandatory breaks for students and workers who spend extended periods of time on their screens.	-1.298	.098	.195	-.095	.073
There should be more regulation to protect individuals from harmful online content.	.910	.182	.364	.066	.072
The government should enable parents to have greater control over their children.	-1.365	.087	.173	-.093	.068
There should be more digital literacy curriculum in schools to educate students on responsible digital use.	1.176	.120	.241	.074	.063
Social media companies should take greater responsibility to make the internet safer.	1.541	.062	.124	.102	.066

[a] Lower-income households — general population

APPENDIX 2: ACKNOWLEDGEMENTS

This research was made possible by funding support from Channel NewsAsia, with additional support from the Ngee Ann Kongsi for the lower-income household panel. We would also like to extend our sincere appreciation to our graduate researcher, Chloe Oh, for her invaluable research assistance and contributions to this working paper.

APPENDIX 3: ABOUT THE AUTHORS

MATHEW Mathews is Head of IPS Social Lab, a centre for social indicator research and a Principal Research Fellow at the Institute of Policy Studies (IPS), Lee Kuan Yew School of Public Policy at the National University of Singapore. To date, Dr Mathew has led over 70 research projects, most of them addressing various social policy issues. Mathews has conducted several national studies on parenting behaviour. These have examined parenting styles and struggles, challenges involved in parenting alone as well as parental efforts to nurture their children. Mathews served for several years on the Families for Life Council and championed the Focal Area 'Parenting Together', under the Alliance for Action to Strengthen Marriages and Family Relationships. Mathews continues to sit on various committees and boards in the government and people sector.

Clara LEE is a Research Fellow at the Institute of Policy Studies Social Lab. She obtained her PhD in Political Science from the University of Pennsylvania. Dr Lee's research in her current capacity extends across several domains, including social and economic mobility and the political economy of labour. This builds upon her prior academic endeavours examining labour immigration within the broader international and comparative political economy contexts. The role and influence of public opinion also underpin much of her work, where she explores how beliefs and perceptions of various social phenomena shape decision-making and behaviour. Dr Lee's research employs diverse

methodologies and seeks to leverage interdisciplinary tools and epistemic frameworks to advance methods of inquiry.

Elizabeth LIM is a Research Associate at the Institute of Policy Studies Social Lab. After graduating with a Bachelor's degree in Psychology at the University of Melbourne, she joined A*STAR to research the impact of socioeconomic status and inequality on appetite regulation and well-being. She later pursued a Master in Philosophy (Psychology) at the Singapore Management University to explore the potential of gratitude in enhancing well-being and relationships. Currently, she focuses on quantitative survey methods and studying psychosocial influences on behaviour, including COVID-19's effects on Singaporeans, especially those in lower-income households. Her research interests span national identity and inclusivity, and aim to inform policy and interventions in Singapore through data-driven approaches.

Roslina YONG is a Research Associate at the Institute of Policy Studies Social Lab. She is currently pursuing a PhD in Management Studies at the Hong Kong University of Science and Technology, majoring in organisational behaviour and minoring in corporate strategy. Her research interests lie in work-related judgment and decision-making behaviours. More specifically, she conducts research on topics such as job search and employee turnover. Prior to joining Social Lab, she did research work at Nanyang Technological University and

Singapore Management University on topics such as career aspirations and leadership. She has a Bachelor's degree in Social Science (majoring in Psychology) from Singapore Management University.

About IPS Working Paper Series

The IPS Working Papers Series is published in-house for early dissemination of works-in-progress. This may be research carried out by IPS researchers, work commissioned by the Institute or work submitted to the Institute for publication.

The views expressed in the Working Papers are strictly those of the author(s) alone and do not necessarily reflect the views of the IPS.

Comments on the Working Papers are invited. Please direct your comments and queries to the author(s).

IPS Working Papers are available from the IPS at $7.00 each (before GST). Postage and handling charges will be added for mail orders.

For more information, please visit www.lkyspp.nus.edu.sg/ips or
contact email: ips@nus.edu.sg.

Institute of Policy Studies
Lee Kuan Yew School of Public Policy National University of Singapore
1C Cluny Road House 5
Singapore 259599

Web: www.lkyspp.nus.edu.sg/ips
Registration Number: 200604346E