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Usage of Technology among Preschool Children and Parents Perceptions towards Their Health and Wellbeing

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Abstract: *The increasing amount of time children are spending with electronic devices has raised questions about how the use of technology may make a difference in their lives – from entertaining them to its effect on their health and wellbeing. The impact of technology on a child's development depends on various factors such as parents awareness, content monitoring and time regulation. This paper presents the availability and usage of electronic device among preschool children and its influence on their reading habits, family time, extracurricular activities etc. The paper also presents parents awareness and perceptions towards their children usage of technology and its impact on their health and wellbeing. The sample for the study comprised of 30 families with preschool children (3-6 years age group) selected from Hyderabad. An interview schedule was used to obtain the data. Results showed that the majority of the children are using various electronic devices and parents have concern about their children health and wellbeing. Many parents agreed that the technological trends are playing an important role in the development of children. Majority of the parents also have raised concerns of their children becoming addicted to electronic devices in the future and thus some parents restricting their children from using electronic devices.*

Keywords: *Technology, Electronic devices, Preschool children, Parents, Perceptions, Usage, Availability, Health and Wellbeing*

Introduction

Technology is a pervasive force that is becoming dominant in the lives of children. Young children live in a world of interactive media. They are growing up at ease with digital devices that are rapidly becoming the tools of the culture at home, at school, at work, and in the community (Kerawalla & Crook 2002; Calvert et al. 2005; Buckleitner 2009; Lisenbee 2009; Berson & Berson 2010; Rideout, Lauricella, & Wartella 2011). There are conflicting research findings and evidence about the impact of technology on children's development. The NAEYC and the Fred Rogers Center 2012 joint position statement on technology and interactive media use with young children presents findings suggesting that technology is beneficial to children's cognitive, social, emotional, physical, and linguistic well-being as well as data showing that technology is detrimental to these aspects of children's development. This position statement indicates that technology and interactive media can promote effective learning and development when used in healthy ways by early childhood educators that still allow for the child to maintain healthy communication and social interactions with others in their life. Possible negative outcomes of technology use include sleep troubles, difficulty focusing, and delayed

language development (NAEYC & Fred Rogers Center, 2012).

The short- and long-term effects of media are still being investigated and need to be addressed immediately by parents, educators, researchers and health professionals (Rideout, Vandewater & Wartella, 2003). Funk, Brouwer, Curtiss and McBroom (2009) conducted a study investigating preschooler parents' knowledge of the professional recommendations for children's media use, specific screen media ratings, their beliefs about screen media effects, as well as how they actually monitor their children's media usage. Their findings indicated that parents allow their children to be exposed to more media than is recommended. Their results showed parent's knowledge of expert media usage recommendations was limited. Funk et al. concluded that parents must continue being educated about the different media guidelines as well as activities that are beneficial to children's development.

Objectives

1. To study the availability and usage of technology among preschool children.
2. To study the parents perceptions towards their children usage of technology and its impact on their health and wellbeing
3. To study the family usage of electronic devices and its influence on their reading habits, family time, extracurricular activities etc.

Methodology

The sample for the study comprised of 30 families with preschool children (3-6 years age group) selected from Hyderabad. An interview schedule was used for the parents to obtain the data.

Table 1. General Profile of the sample

Children N=30			Parents N=60			Families N=30		
Profile	Frequency	% age	Profile	Frequency	% age	Profile	Frequency	% age
Gender			**Age**			**No. of children**		
Boys	18	60	20-30 years	22	37	Single child	14	47
Girls	12	40	31-40 years	30	50	> 1 child	16	53
Age (in years)			> 40 years	8	13	**Type of family**		
3 -4	11	37	**Education**			Nuclear	19	63
4 -5	9	30	Intermediate	4	7	Joint	11	37
5 -6	10	23	Graduation	31	52	**Type of House**		
			Post Graduation	25	41	Independent	18	60
			Mothers			Apartment	12	40
			Working (private)	10	33	**Enough space for children to play**		
			Housewife	20	67	Yes	20	67
			Fathers			No	10	33
			Private Job	15	50			
			Govt. Job	3	10			
			Business	12	40			

Data Analysis and Interpretation

Table 2. Percentage distribution of household ownership of electronic devices N=30

Device	Availability at home		No. of devices		Whether child owned the device		Internet / satellite connection	
	Yes	No	1	> 1	Yes	No	Yes	No
Television	87	13	77	10	0	87	80	7
Smartphone	97	3	23	73	3	93	94	3
Computer	50	50	47	3	0	50	33	17
Laptop	63	37	43	20	3	60	53	10
Tablet / IPod	37	63	30	7	20	17	37	0
Game console	7	93	7	0	7	0	7	0

Table 2 shows that 87% of the families are having television at home and 97% of the families owned smart phones. Almost 90% of them are having internet/satellite connection to all their devices. Majority of the children do not owned any electronic devices and 11% of them owned phone, laptop and tab. The National Literacy Trust's annual literacy survey (2012) revealed that almost all (97%) children said they had access to electronic devices such as computers, tablets, phones and e-readers and almost all (97%) had access to the internet at home. Surveys of parents revealed that parents buy home computers and subscribe to Internet access to provide educational opportunities for their children, and to prepare them for the "information-age" (Turow, 1999).

Usage of Electronic Devices at Home (during working days)

Figure 1. Percentage distribution of child's usage : N=30

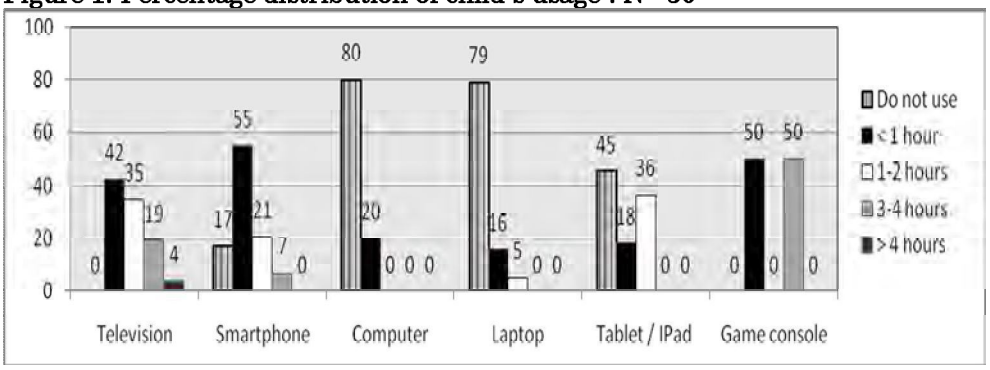

Figure 2. Percentage distribution of mother's usage : N=30

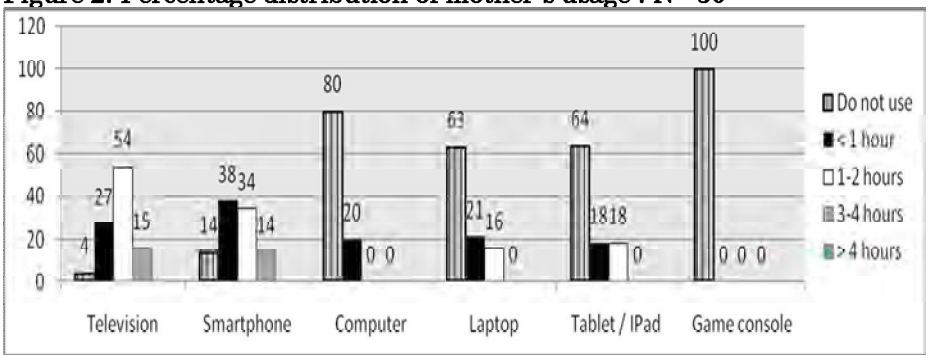

Figure 3. Percentage distribution of father's usage N=30

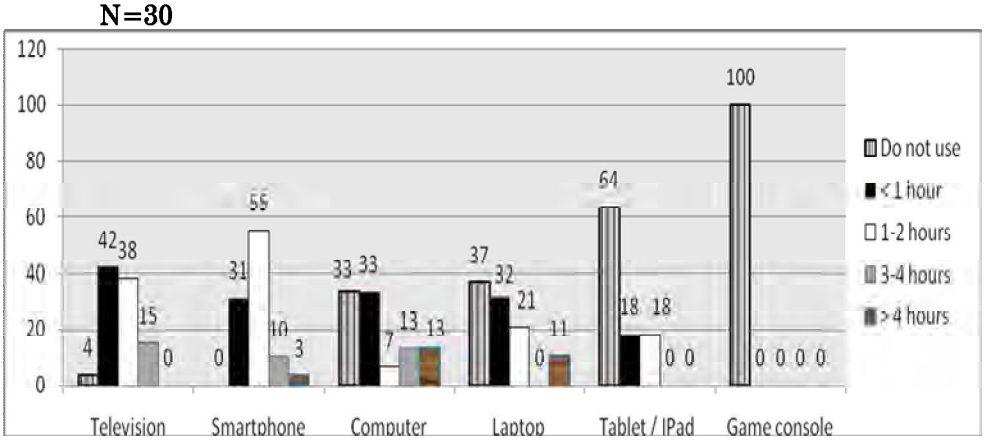

Figure 1 indicates that all preschool children (100%) are watching Television and 42% of them are wathing TV less than one hour, 35% of the sample are wathing 1-2 hours, 19% are watching TV for 3 hours and 4% watching more than 4hours in a day. 55% children are using smart phones for less than one hour, 21% using 1-2 hours and very few children are using computer and laptop daily. 50% of preschool children are using game console for less than one hour and remaing 50% are using 3-4 hours in a day.

Figure 2 shows that majority of the mothers are using television and smartphone than other electronic devices. Figure 3 shows that 42% of the fathers are wathcing Television for less than one hour and 38% are watching for 1-2 hours. 55% of the fathers are spending time with smartphones for 1-2 hours in a day. When compare with mothers, majority of the fathers are using other electronic devices like computer, laptob and tab and Ipad.

The prevalence of electronic media in the lives of young children means that they are spending an increasing number of hours per week in front of and engaged with screens of all kinds, including televisions, computers, smart phones, tablets, handheld game devices, and game consoles (Common Sense Media 2011). The American Academy of Pediatrics (2010) and the White House Task Force

on Childhood Obesity (2010) discourage any amount or type of screen media and screen time for children under 2 years of age and recommend no more than one to two hours of total screen time per day for children older than 2 (Funk et al. 2009; Campaign for a Commercial-Free Childhood 2010).

Perceptions of parents

Table 3&4. Percentage distribution of parents perceptions N=30

	Not concerned	Not much concerned	Somewhat concerned	Much concerned	Very much concerned
Health & Wellbeing	7	3	13	13	64
Language skills (verbal)	17	13	13	30	27
Literacy (reading & writing skills)	13	10	13	40	24
Social & emotional skills	13	10	13	33	31
Academic performance	7	7	26	33	27
Behaviour – imitation of characters	7	17	16	27	33
Creativity	7	17	26	23	27
Eating habits	17	10	26	20	27
Extracurricular activities	10	10	23	23	34
Sleeping pattern	10	10	13	20	47
	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Electronic devices play an important role in making children adapt to technological trends	3	13	7	57	20
Electronic devices have lots of fun things to keep children entertained	3	23	13	50	11
Electronic devices have lots of educational content that teaches important lessons	10	10	16	37	27
Traditional objects such as books, games, blocks, puzzles etc are more educational than computer based games	0	13	17	27	43
I am concerned that my child may become addicted to electronic devices in future	3	10	13	43	31
I worry about child's exposure to media when he/she is with someone else at home without parents	3	17	10	33	37

Table 3 and 4 indicate that majority of the parents have expressed concern towards their children usage of electronic devices and its influence on their health and wellbeing. Data shows that 63% of parents expressed very much concern about their children health and wellbeing. Majority of the parents have raised concern about their children language, socio-emotional skills, academic performance, influence on their behaviour, creativity, eating and sleeping patterns and effect on extracurricular activities. Educators and parents have been cautioned about the negative impact of background television (Kirkorian et al. 2009), passive use of screen media (AAP 2011b), and the relationship between media use and child obesity (White House Task Force on Childhood Obesity 2010; Birch, Parker, & Burns 2011). Possible negative outcomes have been identified, such as irregular sleep patterns, behavioral issues, focus and attention problems, decreased academic performance, negative impact on socialization and language development, and the increase in the amount of time young children are spending in front of screens (Cordes & Miller 2000; Christakis et al. 2004; Vandewater et al. 2007).

In present study, 57% of parents have agreed that electronic devices play an important role in making children adapt to technological trends and 20% have strongly agreed that statement. 43% of the sample strongly agreed that traditional objects such as books, games, blocks, puzzles etc are more educational than computer based games. 43% of the parents have raised concern that their children may become addicted to electronic devices in the future. Some researchers believe that children at a young age should avoid using technology because it keeps them from interacting with others and therefore impedes the development of their social skills (Armstrong & Casement, 2000; Cordes & Miller, 2000).

Figure 4. Percentage distribution of "generally during what time children spend with electronic devices on a typical working day?"
N=30

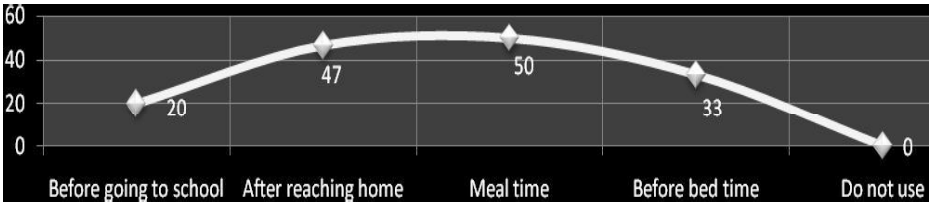

Figure 4 shows that 20% of the children are spending with electronic devices before they are going to school and 47% children are spending time after they reach home i.e. during evening hours. 50% children are spending time during their meal time and 33% of them are spending before bed time.

Figure 5. Percentage distribution of "do parents set electronic devices usage time limits to their children on a typical working day?" N=30

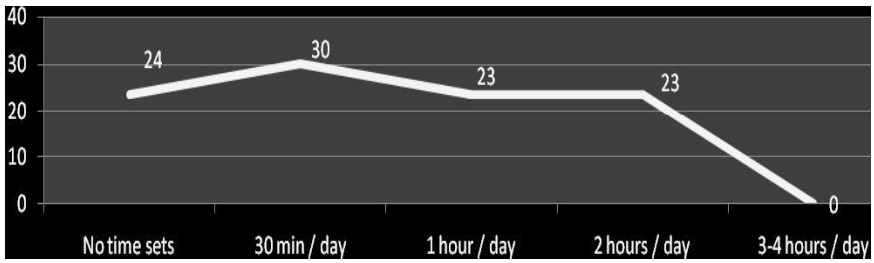

Figure 5 indicates that majority of the parents are regulating time on children usage of electronic devices. 24% of the parents are not restricting their children and 30% of the parents are regulating for 30 minutes in a day. 23% of the parents are allowing their children for 1 hour and remaining 23% are regulating for 2 hours in a day. Birch, Parker, & Burns; Institute of Medicine of the National Academies (2011) recommend that child care settings limit screen time (including television, videos, digital media, video games, mobile media, cell phones, and the Internet) for preschoolers (age 2 through 5) to fewer than 30 minutes per day for children in half-day programs or less than one hour per day for those in full-day programs. The report further encourages professionals to work with parents to limit screen time to fewer than two hours per day for children age 2 through 5.

Figure 6. Percentage distribution of various features of electronic devices operated by childrenN=30

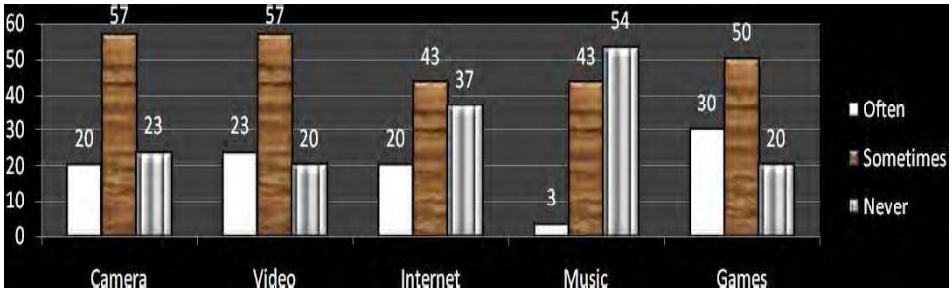

Figure 7. Percentage distribution of what programmes do children watch mostly
N=30

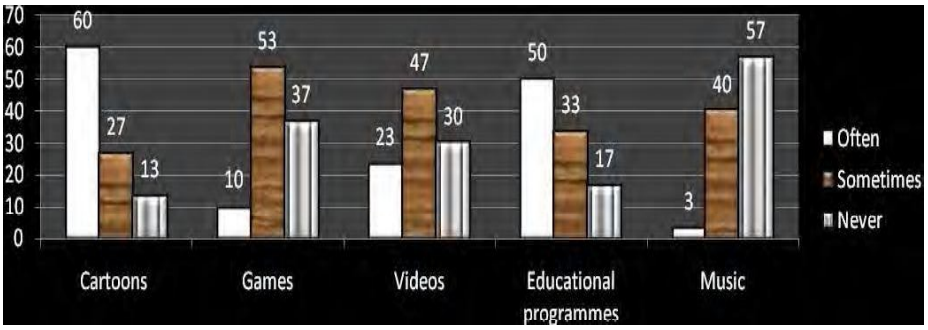

Figure 6 indicates all preschool children are operating different features in the electronic devices such as camera, video, internet, music and games. 30% of children are often playing games in electronic devices, 50% are sometimes playing games and 20% are not using games. 57% children are using video and camera features sometimes. Figure 7 shows that majority of the children (60%) are watching cartoon channels often in electronic devices. 50% of preschool children are watching educational programmes like rhymes and songs.

The content of the technologies play an important role in children's development. Conners-Burrow, McKelvey, and Fussell (2011) indicated that children's viewing of age-inappropriate content of television programs (i.e., PG-13 or R-rated videos and movies) was related to their aggressive and hyperactive behavior problems in the classroom. They stressed that it was the content of the television programs rather than the amount of time children spent watching television that had an impact on the development of their social skills.

Table 5. Percentage distribution of free time preferences of children and parents
(Children N= 30; Parents N=30)

	Often		Sometimes		Never	
Free time activities	Child	Parent	Child	Parent	Child	Parent
Playing	67	47	27	43	6	10
Reading books	10	33	30	30	60	37
Hobby classes	13	30	13	30	74	40
Art & craft activities	17	43	46	20	37	37
Spend time with electronic devices	33	13	47	47	20	40

Table 5 shows that 67% of children often prefer play and 47% of parents prefer their children to play during free time. 10% of children prefer reading books and 33% of parents prefer their children to read books during free time. 33% of children often want to spend time with electronic devices during free time and 13% of parents want to engage their children with electronic devices in free

time. Parental supervision during watching cartoons and movies enables the children to distinguish between reality and fantasy. Families should talk with their children about how violent scenes create false excitement, and how problems can be solved non-violently (Wood B, Rea SM, Plitnick B, Figueiro GM. 2013).

Table 6. Percentage Distribution of Resources available at home **N=30**

Books	Games & Sports	Toys	Craft material	Puzzles & Building blocks
70	60	90	53	63

Table 6 indicates that 90% of the families are having toys, 70% are having books at home. 63% are having educational material like puzzles, building blocks and 60% own games and sports at home. 53% of the families have art and craft material for creative activities.

Reading habit (other than academic books)

Table 7. Percentage distribution of how much time children spend in reading books on a typical working day **N=30**

None	30 min	1 hour	1 -2 hours	> 2 hours
27	50	17	3	3

Figure 8. Parent and child enjoyment of looking at reading books **N=30**

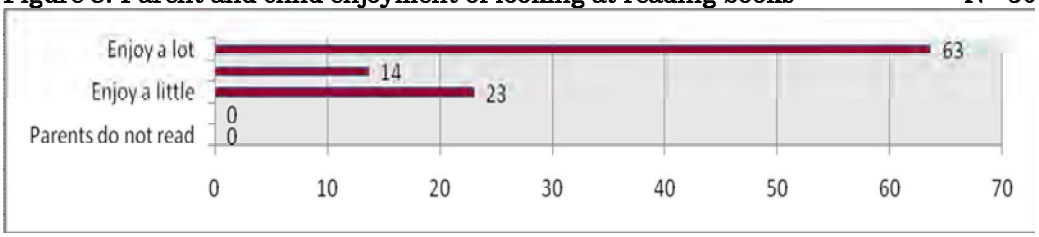

Table 7 shows that 50% of the sample spending half an hour in a day in reading books and 27% do not have reading habit. Figure 8 indicates that 63% of parents and children are enjoying a lot while reading story books etc, and none of them are having no enjoyment. The National Literacy Trust's annual literacy survey, 2012 revealed that children were more likely to say that they preferred to read on screen than on paper. More than half (52.4%) said that they would rather read using electronic devices, compared to just under a third (32%) who said they would rather read in print.

Family Time

Table 8. Percentage distribution of family members usage of electronic devices N=30

	Often	*Sometimes*	*Never*
Meal time	23	37	40
Bed time	43	30	27
Family outing	10	43	47
Travel time	13	43	44

Table 8 shows that 43% of the families are often spending with electronic devices before bed time and 23% are often spending during meal time. 47% families are not using electronic devices when they go out for shopping, parks etc. 13% families are often using electronic devices in journeys, 43% are using sometimes and remaining 44% are not using during travel time. Watching television is the first-choice leisure time activity of the families, especially in the urban areas of developing countries (Gupta R, Rasania KS, Acharya AS 2014). One recent study (Vandewater, Bickham, & Lee, 2005) established a correlation between TV viewing and parent-child interactions. Results indicated that time spent watching television both with and without parents or siblings was negatively related to time spent with parents or siblings, respectively, in other activities. Television viewing also was negatively related to time spent doing homework for 7- to 12-year-olds and negatively related to creative play, especially among very young children (younger than 5 years). There was no relationship between time spent watching television and time spent reading (or being read to) or to time spent in active play.

Conclusion: The most effective way of protecting children from the undesired effects of media is to provide the family control via media literacy education programs. The success of media literacy education of families depends on the power of communication between parents and children. One of the most important steps of this education is to set some rules about limiting the time their children spend watching TV or playing video games. Children's media use should be limited to 1-2 hours/day after they finish their homework and/or sport activities (DeGaetano G. 2007).

Carefully consider the screen time recommendations from public health organizations for children from birth through age 5 when determining appropriate limits on technology and media use in early childhood settings. Screen time estimates should include time spent in front of a screen at the early childhood program and, with input from parents and families, at home and elsewhere.

Educators also need to be knowledgeable enough to answer parents' questions and steer children to technology and media experiences that have the potential to exert a positive influence on their development (Barron et al. 2011; Guernsey 2011b, 2011c; Takeuchi 2011).

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