

The Influence of Technology and Social Media in Vocabulary Knowledge on Preschool Children: A Survey

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ABSTRACT

Summary: There are many types of different means of social media and most of the information is obtained through these means, and it has become an essential tool even in schools for educating children or in receiving information. It is used for all age groups and for different purposes and is used in almost all homes. Whether for education, for entertainment or for receiving some services. The aim of this study is to study how social media affects vocabulary development and language semantic in preschool children and how the Internet and social media are changing language in preschool children.

Methods: In this study, a questionnaire was distributed in hard copy and in online form, and it was distributed in several cities to 159 parents of children. Data was collected using a self-administered questionnaire that was made by the researcher based on previous literature, and it included two main parts. The first part included questions about children and parents' demographic data. The second part included multiple-choice and open-ended questions about parents' and children habits of technology devices and social media platform use.

Results: This questionnaire was designed for preschool children from two to five years old. More than one-third of households have two to three electronic devices, while the rest have just one device. Furthermore, almost half of children spend one hour or less every day on electronic devices, while few spend more than 5 hours. The majority of them use mobile phones to watch YouTube as a social media platform more than other apps, which have negative as well as positive effect include being distracted, anxious, using other language phrases on other side included learning new terms from the mother tongue. The findings show that children who use their own device have a much higher language level than children who use another family member's electronic device. There is also a strong negative link between a child's number of siblings and language level.

Conclusion: The increased use of social media and easier access of children to electronic devices need attention because of the relationship between them and the developmental aspects of preschool children. Decrease in the number of siblings and using own device were associated with higher language level.

Keywords: Vocabulary knowledge; Social media; Acquisition; Preschool children

INTRODUCTION

In our study, which is about the Influence of Social Media in Vocabulary Knowledge on Preschool Children. In the normal developmental milestones of language development according to Chomsky, who suggests that humans can successfully develop

communication by having creativity and productivity, which is not to have limit in the utterances that we can produce, even it's never heard [1].

Language is innate process; all normal children can develop language in the same sequence of milestones. Regardless there are differences in languages worldwide.

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The stages of language development start, when the baby cries, coo, yell, vocalize and babble. Moving to first word production, which is dependent on the words that the baby hears frequently. Language skills develops with age until reach adult like level mainly in first six years in the child's life which is the critical period [2].

The development of language in children is a surprising process that is very important for their mental maturity and education. It enables them to communicate properly with others and consolidate their relationship with them [3].

Several studies show gender differences in language development, they found that girls speak earlier than boys and continue to develop language skills better than boys [4].

In addition, language acquisition is affected by auditory, visual, and verbal sensory organs of individual. If the child developmental history was without complications, there is greater chance to develop language skills within normal limits [5]

Furthermore, socioeconomic status influences language development, the higher socioeconomic status the better language development [6].

The eighteenth century was a critical period in the development of the English language, many dictionaries and grammars were first published during this time as well as modern standard appeared. Language has altered over the ages, as the study of English in the eighteenth and nineteenth centuries established itself as a science of historical linguistics in its own right. This time period, known as late twentieth-century, modern English was characterized by more subtle changes in syntax and vocabulary, but above all, it was an era when legitimacy in English pronunciation was established. The late-modern period's study of English related to the rise of counseling, a phenomenon that has determined attitudes about spoken language in modern-day English society. There is still diversity in areas of English grammar where one would anticipate that new variants would take hold and eventually drive out older variants over the course of at most a few generations. One example would be the prepositional interruption, which judged unsuitable and, as a result, still avoided in official and instructional forms today [7].

The importance of language for communication and social, since the children have needs, wants and get into schools. They are supposed to communicate, express feeling, ask for requests and give comments; this is in relation to the environment that they include in and their daily life. To develop effective communication children must understand the relation between their own actions and the thoughts and needs of others, which is related to theory of mind that is high-level language skill [8]

When Corona Virus Disease of 2019 (COVID-19) was widespread, the way of communication changed apparently overnight. To assist minimizing the spread; many of us have changed the larger part of our intelligence with other individuals.

The ubiquitous coronavirus has altered how we interact. We have had to find alternatives for the greetings, signals, and other nonverbal cues we once took for granted because we are required to wear facial coverings and maintain a distance from one another [9].

This incorporates moving from in-person discussions to online modes of communication such as video conferencing, phone calls, writings, and wearing veils whereas inside or when social separating is not possible. The "new normal" is what we will deal with. However, we tried to adjust to a new way of living. "We have

less engagement generally with people outside, and we spend more time on Zoom, Skype, and other intermediary platforms," we said [10].

Problem statement

We are living in an era of technology, so social media became an essential part in our lives. There is different use of technology, we use it for education, communication, fun and to follow news. In addition, it is available for most of population, doesn't cost a lot of money, it's in all hands. Today all homes have internet, computer and smart phones. Furthermore, during COVID pandemic it become a tool of studying instead of being at school.

The vocabulary development of preschoolers changed as a result. Technology also develops new channels of connection with the public, families, friends, and educators. We need to examine these shifts in language development and semantics brought on by technology in our research. As there haven't been any studies conducted in Palestine that examine language changes, we need to evaluate the differences in language content between preschoolers today and in the past.

The purpose of the study

The aim of the present study is to study how social media affects vocabulary development and language semantic in preschool children and how the Internet and social media are changing language in preschool children.

The significance of the study

The relevance of this study will center on the changes that arise in preschoolers' language skills, as a result of technology's widespread use in everyday life. Also, contrast those differences with the language knowledge and content that preschoolers previously possessed.

Objectives of the Study

The following were the main objectives of the study

- To identify the effect of technology and social media in vocabulary development for preschool children.
- To highlight the views of caregivers regarding the use of technology and social media in vocabulary development.
- To make suggestions for integrating technology and social media in vocabulary development at preschool children.

Questions of the study

The following key questions was examined in the study

- What is the effect of technology and social media in vocabulary development of preschool children?
- What are the views of caregivers regarding the use of technology and social media in vocabulary of preschool children?
- What recommendation the study makes to include technology and social media role in vocabulary development preschool children?

New digital technology has grown significantly in our century and has become an indispensable element of daily life for people of all ages, including babies, toddlers, kids, and adults. The new

technology is very useful in several ways for example: for young children, it enhances the way of language acquisition; they can easily learn new words by watching movies on the YouTube or by playing games on the phone. In addition, when a youngster must talk to complete a game, there are games that improve speech. In order for a child to acquire language and build self-confidence, they must be able to communicate with everyone and not be afraid of doing so [11].

Language of the internet

Preschoolers need to know huge number of words to be able to express themselves and connect with others, so children's vocabulary grows mostly via verbal interaction with parents and other family members before they attend formal schooling [12]. The Internet has become an integral part of modern life, so without a doubt, the Internet is one of the newest technology; one that will eventually revolutionize the way languages taught and learned [13]. Thus the languages of the internet have more than 7000 languages that exist worldwide, only a few hundred are used, So Linguists are actively examining the impact of the Internet on language, as it has become a fundamental aspect of modern life [14]

Due to the impact of the Internet on language, several researchers discovered that prolonged Internet use resulted in worse cognitive function and decreased volume in numerous brain regions. The impact of everyday internet use on the development of verbal intelligence and brain architecture. They investigated the effects of internet use on regional gray matter volume (GMV) white matter volume (WMV) and verbal intelligence in a large sample of children recruited from the general population (mean age - 11.2-13.1 years; range - 5.7-18.4 years). In longitudinal analysis, a higher frequency of internet usage shown to be related with a decline in verbal intelligence and a lower rise in GMV and WMV of broad brain regions after a few years, despite no significant correlations in cross-sectional analyses [15]. For both young and older children, increased use of technology has the potential to cause social disconnection. This can have a detrimental influence on social and relationship development. According to recent study, toddlers' social skills developments are significantly influenced by screen use [16].

Language acquisition

Language is a complicated communication system that allows for infinite expression. By being exposed to linguistic data from their speech community, children acquire a native language on their own. Languages evolve dramatically and unpredictably over time due to the accumulation of tiny changes and interaction with other languages [17].

Humans have access to a variety of language acquisition techniques. There are numerous learning methods that we can employ to achieve fluent speaking, according to several examinations. One technique that can be used to extract generalization by encoding the locations of syllables inside words [18]

Three practical paths to acquiring and mastering language knowledge shape investigated by: firstly, the usage of prosodic and phonological information imperfectly correlated with syntactic gadgets and linguistic classes. Secondly, the usage of characteristic phrases to syntactically classify on phrases, and the impact of region of characteristic-phrase processing on structural mastery. In the end,

language shape is determined by the morphology internal to lexical items and by the successful recombination of those components into new objects [19].

Children require speech input in order to learn a language. The prosody of the speech input is important. When communicating with children, adults in most cultures change their code. This code differs from normal speech, particularly in terms of prosody. Prosodic qualities are a key aspect of spoken language, and by examining prosodic patterns, one can help young children learn about grammatical structures and modify child-directed speech (CDS). The meaningful sequences are distinguished acoustically so child can gather important information from the continuous speech flow easily, as well as CDS is supposed to improve linguistic sign representation. Due to the connection of prosodic and syntactic units, CDS appears to be able to promote language acquisition. Yet there haven't been any studies that the linguistically decreased CDS would make it harder to learn a first language [20]. Infants acquire the language at furious rate. New research indicates that infants employ computational strategies to detect statistical and prosodic patterns in language input, which leads to the discovery of phonemes and words) [21]. Language and pretreating abilities in the second, third, and fifth years of life reflect continuity in linguistic development from infants' earliest brain responses to phonetic stimuli, a finding with theoretical and clinical implications. There is evidence that early mastery of phonetic units of language necessitates social learning. The neuroscience of early language learning is revealing the various brain systems that underpin the human language [22].

Children and media exposure

There is a debate about the influence of children exposure to social media and other platforms. There are disadvantages that suggest that the way of thinking will be different and the level of cognitive competence will be reduced. On the other hand, social media can be a rich educational source for children and can enlighten their mindset about different topics, places and cultures [23].

Screen time for smart phones, computer, touch screen and television (TV) when child expose to these screens too much time, this will affect different aspects such as delay in motor skill development, impairments in language development and behavioral, psychosocial, academic and physical wellbeing. Moreover, non-communicable diseases (NCDs) and health hazards may develop from such a scenario. Undoubtedly, media have a significant impact on children's health, particularly in relation to violence, obesity, use of tobacco and alcohol, and risky sexual behavior. Children's behavior is also influenced by the media; if they witness bad behavior, they are more likely to engage in it themselves. Also, it affects psychological elements like fears or unpleasant dreams and lowers academic achievement [24].

There are very different advantages of using the new digital technology or the traditional technology such as: learning, new knowledge and social contacts. Also, there is disadvantages of overusing the technology, for example: in recent reports they found that the traditional media have negative effect on the person life, but these outcomes are correlated with the duration of using the television or telephone. In recent studies found that, the overuse of technology effects on sleep, learning, attention and depression. We can reduce these negative effects or the overusing of technology by replacing the time of playing on the phone or watching television in

new hoppy or different daily physical activities [25]. When teachers observe how children's attention is captured by smartphones, they get more inventive and begin to use educational platforms to teach children, such as story-telling apps, which are incredibly helpful, especially when scaffolding and questioning the plot are used [26].

Children from low-income homes, immigrants, or those with special needs, it is claimed that they can improve their social skills by utilizing social media. This allows them to engage and integrate with others more [27]. We need to raise understanding about media for children, so that they can benefit from the beneficial aspects of social media without being influenced by its negative aspects. Sadly, experts believe that people are not sufficiently informed about the risks associated with social media and how to use it responsibly [28].

Children interaction and media exposure

With the technological advancement we are witnessing nowadays, it has led to an increase in media use among people from children to adults, even preschoolers who are growing up in an environment filled with the internet, smartphones, computers, video games and other means that work to get their attention. Where mobile phones can play a role in enhancing what children learn in school, the use of educational apps enhances learning between preschoolers and early primary school age children. Unfortunately, these downloaded applications target academic skills only and are not designed for parents and children and do not depend on specific standards from specialists [29].

Television has a role in influencing children's development. Numerous studies have proven its negative impact on children's brain development. We can do a balance in using technology, for example: just one hour in the day for playing on the phone, in the other day one hour for watching TV [30]. Drawing programs can play a positive role in a child's activity and thinking. Drawing software can be used as an alternative to using crayons and colors. It is a safe and easy method [31]. There are many parents who use technology to calm their children or distract their children for example; they give them devices in order to do their housework or bedtime to sleep [32].

Recent studies have shown that the result of parents' excessive use of mobile devices affects the child's safety and the family relationship between them, as it distracts from the face-to-face interaction that plays a major role in the language, emotional and cognitive development of children [33].

MATERIALS AND METHODS

Study design

The study was conducted using descriptive cross-sectional quantitative design. It is suitable for the study aims, as it can investigate for multiple independent variables, and it is time and cost efficient. Moreover, it helps in investigating the correlation between independent and dependent variables to test the hypotheses.

Sample population and sampling

All preschoolers aged two to five who live in the study's chosen areas—Nablus, a city on the North West Bank—make up the study's population. Hebron from South West bank include camps and

cities and villages from the occupied Palestinian territories.

Sampling was convenient; in which children were choose in a randomized non-regulated method, one child after another, because it is difficult to cover all preschool children in the selected areas. A minimal sample size of 102 was determined using the G-Power software, which is appropriate for the study design that was chosen. The study was collected in selected Palestinian communities. These communities were selected to try to cover all community-based types: cities, villages and camps. Also, the selected communities were close and suitable for the researchers for a faster data collection process. A total of 159 forms were included in the sample, which was reduced from the 163 participants in the collected sample after we examined them for missing data on four forms.

Inclusion and exclusion criteria

Preschool children from the selected area whom parents agreed to participate in the study were selected, while children who were outside the selected areas, or had previous developmental or congenital issues were excluded from the study.

Study variables

Independent variables: Children and parents' demographic data, including age, residency, parents' occupation, etc., and the habits of technology devices and social media platform use among parents and their children.

Dependent variables: Children's language developmental level.

Period of the study

Data collection was conducted during the first semester of the fourth academic year, which was between September 2021 and January 2022 is thought to be a sufficient amount of time.

Data collection tool and process

A self-administered questionnaire was used to collect data. It was created by the researcher based on prior literature, other tools created to evaluate related aspects, and reviews by other experts and proofreaders before being published. Instead of parents, it has two major components. The second part included multiple-choice and open-ended questions about parents' and children habits of technology devices and social media platform use, like the number of devices, duration of daily use, purposes, and whether parental usage of technology and social media sites may have both positive and harmful effects on children's development. The second part also included a five level scale about the language level of the children as perceived by the parents.

The approval for this study to start was gained from the Institutional Review Board (IRB) in the Faculty of Medicine and Health Sciences at An-Najah National University. After the approval, the questionnaire was designed in both online and paper forms. Then questionnaire was distributed on parents with the inclusion of an informed consent that explains the purpose, confidentiality of the study and ensuring anonymity of data. We sent kind reminder, to get the forms back after two weeks then we collect them and analyze them by Statistical Package for the Social Sciences (SPSS).

Validity and reliability

The questionnaire was reviewed by several speech language

pathologist (SLP) experts, who provided input on the questionnaire's design that was largely favorable, with the recommendation of adding open-ended questions for the parents' perception and to give examples about the positive and negative effects of technology devices and social media platforms on their children.

Statistical analysis

The SPSS software used to analyze responses in the quantitative manner, including descriptive and analytical results. Descriptive analysis includes description of children and parents' demographic data, as well as the habits of technology devices and social media platforms use. On the other hand, analytical results include the investigation of study's hypotheses using the suitable correlational test, based on type of each independent and dependent variable.

Ethical consideration

First, the approval for this study to start was gained from the Institutional Review Board (IRB) in the Faculty of Medicine and Health Sciences at An-Najah National University. After the approval, Parents were given the questionnaire along with the inclusion of an informed consent that explains the purpose of the study, inclusion and exclusion criteria, as well as ensuring confidentiality and anonymity of data, and that they will be collected from students under the supervision of faculty doctor for research purpose only, and that participation is totally voluntary. Also, it explained that participants can withdraw from the study at any time without the need to explain the reason, and can access results of the study when completed.

RESULTS

Demographic data

There is a similar percentage of children (45.3%) who are between 3 and 4 years, and between 4 and 5 years of age, while children between 2 and 3 years are less than tenth of the sample (9.4%) showed in (Table 1 and Figure 1). In that male children (55.3%) are slightly more than female children (44.7%) (Table 2 and Figure 2). The largest proportion of children have two siblings (28.9%), followed by having one sibling (28.3%) and then having three siblings (23.9%), while having more than three siblings is found in 11.3% of the children, and only 7.6% of the children in the sample have no siblings shows in (Table 3 and Figure 3). Table 4 shows that more than one third of the children (37.1%) are the family's first child, while 26.4% of them are being the second child, followed by being the third child (24.5%), and 11.9% of them are more than the third child in their ranking (Table 4 and Figure 4). Regarding parents, the mean age of the fathers was 36.13 years old (SD=5.55 years), ranging from 26 to 57 years old, Table 5 shows that majority of children's fathers work in labored work (71.1%), while around fourth of them have fathers work in offices (28.3%), and minority of fathers (0.6%) doesn't work (Table 5 and Figure 5). Regarding mothers, the mean age of the mothers was 31.57 years old (SD=4.46 years), ranging from 24 to 47 years old. Table 6 and Figure 6 showed that more than one third of the mothers (38.4%) are housewives, compared to 61.6% who are working. That vast majority of children (93.1%) live in their houses without any other family member rather than parents (Table 7 and Figure 7). Finally, that there is similar percentage of children who live in urban and rural areas (39.0% and 38.4%, respectively), with less percentage of 22.6% living in camps (Table 8 and Figure 8).

Table 1: Distribution of child's age.

Variable	Values	Frequency	Percentage
Child's age	2 - 3 years old	15	9.4%
	3 - 4 years old	72	45.3%
	4 - 5 years old	72	45.3%

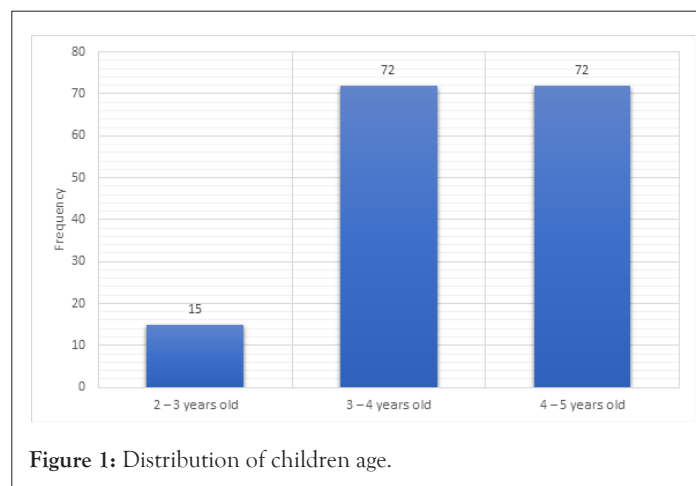


Figure 1: Distribution of children age.

Table 2: Distribution of children's gender.

Variable	Values	Frequency	Percentage
Child's gender	Male	88	55.3%
	Female	71	44.7%

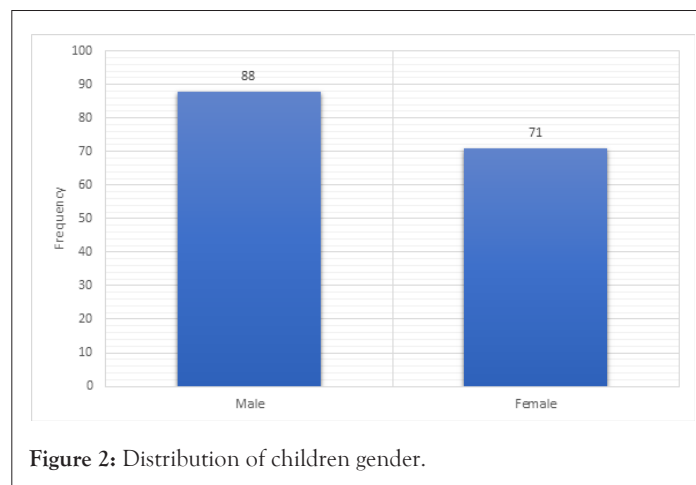


Figure 2: Distribution of children gender.

Table 3: Distribution of number of siblings for the children.

Variable	Values	Frequency	Percentage
Number of siblings	None	12	7.6%
	One sibling	45	28.3%
	Two siblings	46	28.9%
	Three siblings	38	23.9%
	More than three siblings	18	11.3%

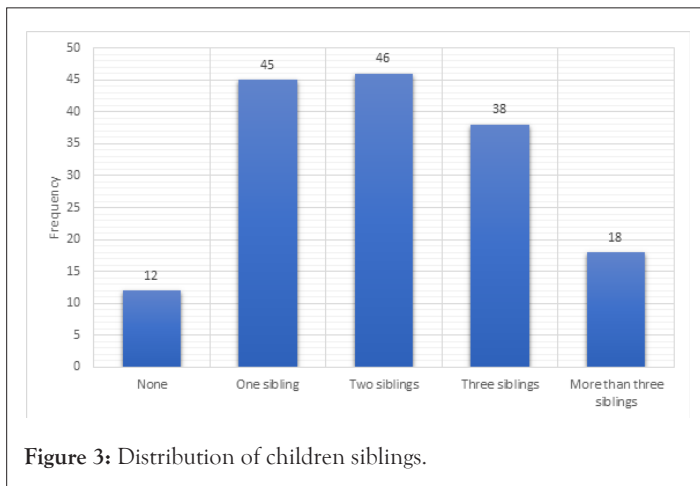


Figure 3: Distribution of children siblings.

Table 4: Distribution of children ranking among their siblings.

Variable	Values	Frequency	Percentage
Rank among siblings	First child	59	37.1%
	Second child	42	26.4%
	Third child	39	24.5%
	After the third child	19	11.9%

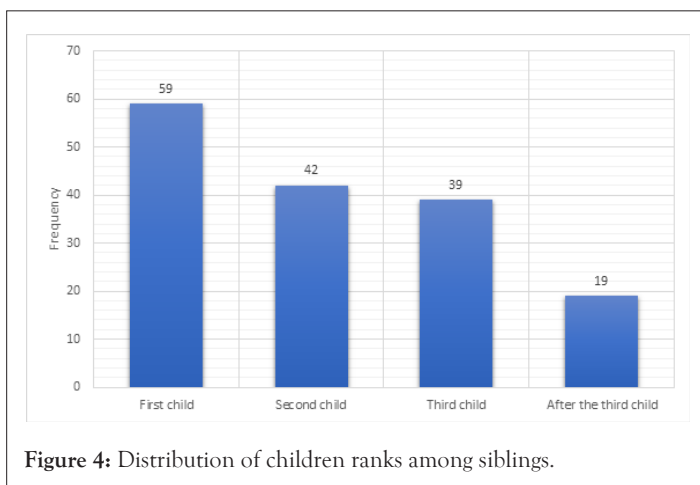


Figure 4: Distribution of children ranks among siblings.

Table 5: Distribution of fathers' jobs.

Variable	Values	Frequency	Percentage
Father's job	Doesn't work	1	0.6%
	Labored work	113	71.1%
	Office work	45	28.3%

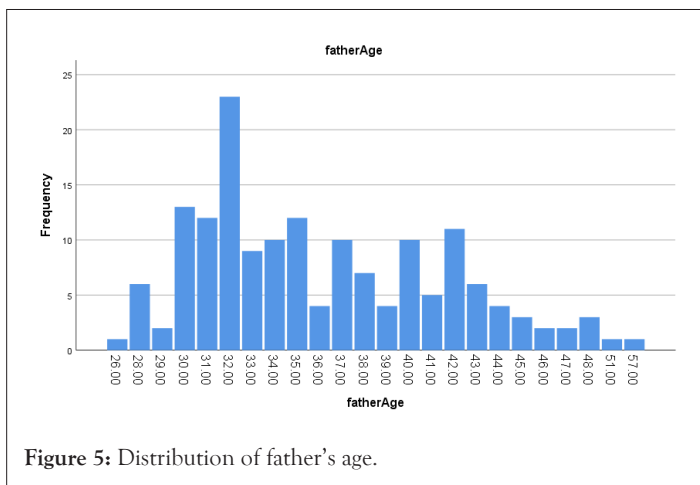


Figure 5: Distribution of father's age.

Table 6: Distribution of mother's working status.

Variable	Values	Frequency	Percentage
Mother's job	Housewife	61	38.4%
	Working	98	61.6%

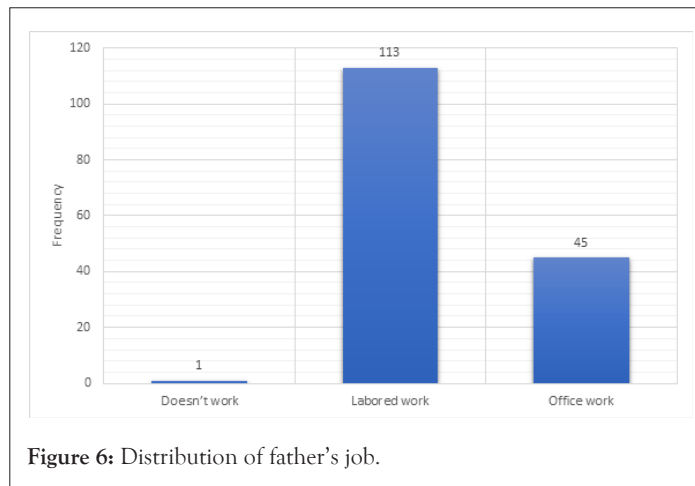


Figure 6: Distribution of father's job.

Table 7: Distribution of children living with other family members.

Variable	Values	Frequency	Percentage
Other people living with the family other than father and mother	Yes	11	6.9%
	No	148	93.1%

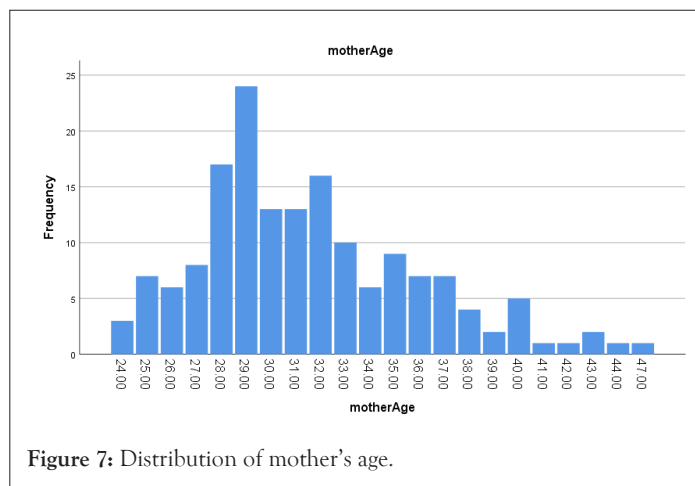


Figure 7: Distribution of mother's age.

Table 8: similar percentages of children who live in urban and rural areas (39.0% and 38.4%, respectively), with less percentage of 22.6% living in camps.

Variable	Values	Frequency	Percentage
Residency	City	62	39.0%
	Town	61	38.4%
	Camp	36	22.6%

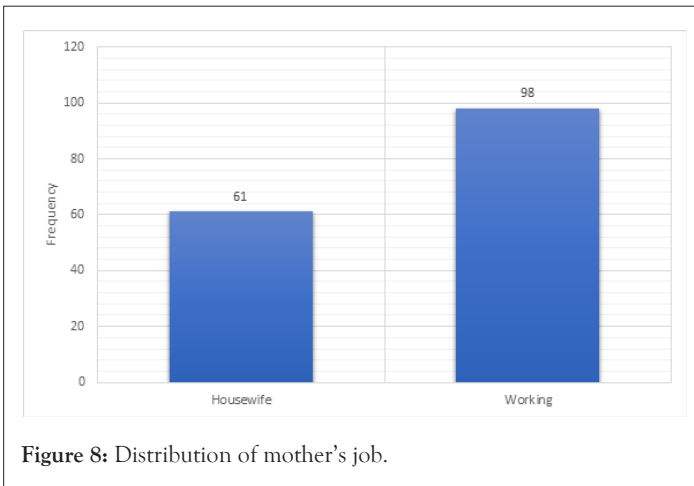


Figure 8: Distribution of mother's job.

Effect of technology and social media on the preschoolers' language development

This part is regarding the answers of the parents regarding their children's use of electronic devices and social media, and their thoughts about their negative and positive effects of the development of their children. That more than one third of the parents stated they have two to three electronic devices (37.1%) in their houses, followed by having four to five devices (30.3%), and a few of them (1.9%) just have one gadget, while more than a quarter of them (30.7%) have five or more (Table 9 and Figure 9).

Table 9: Distribution of answers regarding number of electronic devices in the house (F=Frequency, %=percent).

Question	Answers	F	%
Number of available electronics in the house	One device	4	2.5%
	Two to three devices	60	37.7%
	Four to five devices	48	30.2%
	More than five devices	46	28.9%

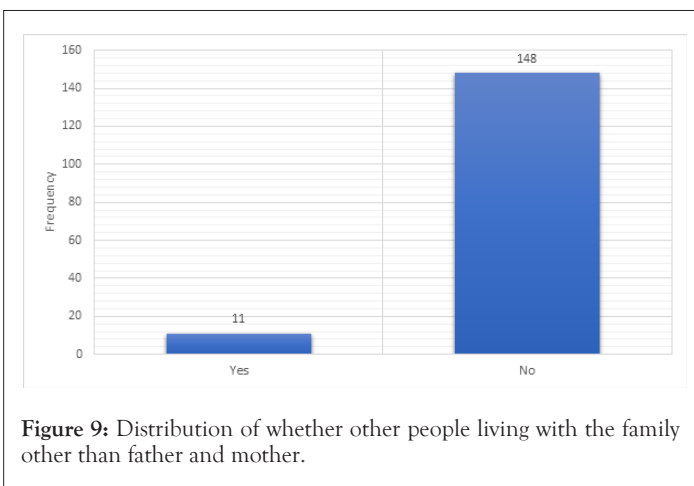


Figure 9: Distribution of whether other people living with the family other than father and mother.

That around half of the children (45.9%) spend one hour or less on the electronic devices per day, while less percentage of 42.8% spend 2 to 3 hours per day, and minority of them (6.9%) spend four to five hours and less percentage of 4.4% spend more than five hours per day using the electronic devices (Table 10 and Figure 10).

Table 10: Distribution of children's hours spent of electronic devices daily (F=Frequency, %=percent).

Question 2	Answers	F	%
Number of hours that the child spends in front of the mentioned electronic devices	One hour or less	73	45.9%
	Two to three hours	68	42.8%
	Four to five hours	11	6.9%
	More than five hours	7	4.4%

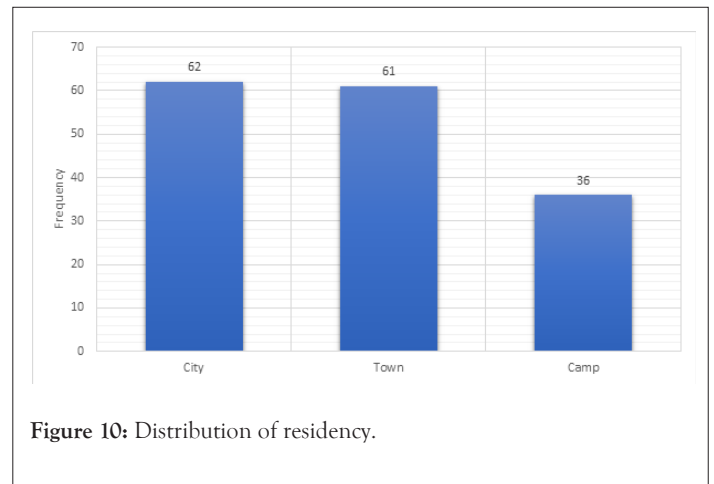


Figure 10: Distribution of residency.

That the preferred type of electronic device used by children is mobile phone (39.0%), followed by television (28.9%), and then the Tablets or laptops (10.1%), while 22.0% of children prefer no specific electronic device (Table 11). That around two thirds of the parents (66.7%) reported using social media platforms with their children while talking to their children or when playing, using songs, photos viewing and browsing (Table 12). Table 13 shows that the preferred used social media platform with children is TikTok (10.1%) followed by Facebook (5.7%) and Instagram (3.1%). The majority of parents answered with "other" platforms, which was mainly "YouTube" as written by the parents on the data sheet. Table 14 shows that 88.1% of the children use other family member's electronic devices, compared to 11.9% who own their device. Table 15 shows that the most common use of social media platforms by parents is to watch kids shows (75.5%), followed by watching different educational programmes (44.7%) and then connecting with relatives (42.8%). Other uses also reported by 23.9% of parents. Table 16 shows that about half of the parents (49.7%) stated that there are negative effects on the children caused by electronic devices and social media platforms, which were mainly distraction, decreased level of concentration, using other languages' phrases, and increased stress level. Table 17 shows that 69.2% of the parents stated the opposite, where positive effects of electronic devices and social media platforms included acquiring new phrases from the mother language and other languages, which helps in more communication process and development. Table 18 shows that nearly half of the parents stated that their child acquired specific terms related to social media platforms and electronic devices (46.5%), including terms like "message", "microphone", "message record", "video", "subscribe", "like", "notification", "request" and others. Table 19 shows that most of the parents described their children's language level as the highest among the provided answers (77.4%), where the child understands several phrases and can produce three-word or more sentences.

Table 11: Distribution of most used electronic devices by the children (F=Frequency, %=percent).

Question 3	Answers	F	%
The type of device that the child is mainly using	Mobile phone	62	39.0%
	Television	46	28.9%
	Tablet/ laptop	16	10.1%
	Nothing specific	35	22.0%

Table 12: Distribution of using social media platforms by the parents with their children (F=Frequency, %=percent).

Question 4	Answers	F	%
Do you use the social media platforms with your child when talking/playing... etc.?	Yes	106	66.7%
	No	53	33.3%

Table 13: Distribution of most used social media platforms by the parents with their children (F=Frequency, %=percent).

Question	Answers	F	%
If "Yes", which of the following is the most used? (Multiple answers)	Facebook	9	5.7%
	Instagram	5	3.1%
	Tik Tok	16	10.1%
	Other	82	51.6%

Table 14: Distribution of children owning vs using others' devices (F=Frequency, %=percent).

Question	Answers	F	%
Does your child possess his/her own device?	Has own device	19	11.9%
	Other family member's device	140	88.1%

Table 15: Distribution of social media platforms uses (F=Frequency, %=percent).

Question 6	Answers	F	%
How are social media and electronic device used by you? (Multiple answers)	Connecting with relatives	68	42.8%
	Watching kids shows	120	75.5%
	Watching different educational programs	71	44.7%
	Other	38	23.9%

Table 16: Distribution of parents' perspective on the negative effects of electronic devices and social media on children (F = Frequency, % = percent).

Question 7	Answers	F	%
Do you think there are negative effects of the electronic and social media use on your child?	Yes	79	49.7%
	No	80	50.3%

Table 17: Distribution of parents' perspective on the positive effects of electronic devices and social media on children (F=Frequency, %=percent).

Question 8	Answers	F	%
Do you think there are positive effects of the electronic and social media use on your child?	Yes	110	69.2%
	No	49	30.8%

Table 18: Distribution of parents' perspective on the positive effects of electronic devices and social media on children (F=Frequency, %=percent).

Question 9	Answers	F	%
Upon your child's use, did he/she acquire specific terms related to them?	Yes	74	46.5%
	No	85	53.5%

Table 19: Distribution of parents' perspective on the positive effects of electronic devices and social media on children (F=Frequency, %=percent).

Question 10	Answers	F	%
Describe your child's language level	Understands and generates limited phrases	10	6.3%
	Understands several phrases but generates limited phrases	7	4.4%
	Understands several phrases and can generate one-word sentences	6	3.8%
	Understands several phrases and can generate two-word sentences	13	8.2%
	Understands several phrases and can generate three-word or more sentences	123	77.4%

Analytical results

This part reviews the analytical results about the sample study, which includes the results related to the relationship between the independent variables and the development of child's language level, in order to test its hypotheses. Table 20 shows that there is no significant correlation between child's age and the language level, as the Pearson correlation value is 0.078 but is insignificant (p-value=0.378). Table 21 shows that there is a higher mean of language level among females (4.51) than males (4.43), but is insignificant (p-value=0.679). Table 22 shows that there is a significant correlation between child's number of siblings and the language level, as the Pearson correlation value is -0.171 but is insignificant (p-value=0.032), implying that as the number of siblings increased, the level of language declined. Table 23 shows that there is no significant correlation between child's rank among siblings and the language level, as the Pearson correlation value is -0.144 and is insignificant (p-value=0.070). Table 24 shows that there is no significant correlation between child's father or mother's age and the language level, as the Pearson correlation value is -0.099 and -0.130, respectively, and is insignificant (p-value=0.217 and 0.103, respectively). Table 25 shows that there

is no significant correlation between number of electronics in the house and the language level, as the Pearson correlation value is 0.041 but is insignificant (p-value=0.612). Table 26 shows that there is no significant relationship between the time spent on electronic devices per day by children and their language level (p-value=0.659). Table 27 shows that children who use their own device has a significantly higher language level (5.00) than children who use other family member's electronic device (4.37, p-value=0.028). Table 28 shows no significant relationship between parents' perceptions of the effect of electronic devices and social media platforms on the child's development and the language level among children, either it was a negative perception (p-value=0.173) or a positive perception (p-value=0.397).

Table 20: Correlation between child's age and the mean language level.

Independent variable	Pearson correlation value	p-value
Child's age	0.078	0.378

Table 21: Relationship between child's gender and language level.

Independent variable	Values	Mean language level (out of 5)	p-value
Child's gender	Male	4.43	0.679
	Female	4.51	

Table 22: Correlation between child number of siblings and the mean language level.

Independent variable	Pearson correlation value	p-value
Child's number of siblings	-0.171	0.032

Table 23: Correlation between child's rank among siblings and the mean language level.

Independent variable	Pearson correlation value	p-value
Child's rank among siblings	-0.144	0.070

Table 24: Correlation between child's father's and mother's age and the mean language level.

Independent variable	Pearson correlation value	p-value
Father's age	-0.099	0.217
Mother's age	-0.130	0.103

Table 25: Correlation between number of electronic devices in the house and the mean language level.

Independent variable	Pearson correlation value	p-value
Number of electronics in house	0.041	0.612

Table 26: Relationship between child's gender and language level.

Independent variable	Values	Mean language level (out of 5)	p-value
Daily time spent on electronic devices	1 hour or less	4.54	0.659
	2-3 hours	4.41	
	4-5 hours	4.45	
	more than 5 hours	4.00	

Table 27: Relationship between children own device vs other device and language level.

Independent variable	Values	Mean language level (out of 5)	p-value
Use of own vs other's device	Own device	5.00	0.028
	Other's device	4.37	

Table 28: Relationship between parents' perception of electronic devices and social media effect and language level.

Independent variable	Values	Mean language level (out of 5)	p-value
Parent's perception of negative effect	Yes	4.33	0.173
	No	4.58	
Parent's perception of positive effect	Yes	4.50	0.397
	No	4.33	

DISCUSSION

The sample size in the study is 159 children, their age between 2-5 years, the higher percentage were for the groups of children their age between (3-4) and (4-5) years equal to 72. On the other hand, the least group number is 15 children from 2-3 years. Furthermore, the number of male and female was approximately equal (88 and 71 respectively). In addition, the results show that the largest proportion of children have two siblings, and the smallest group has no siblings. Also, more than one third of the children are the family first child. About the parents in the sample, fathers' age was ranging between 26-57 years and the majority working in labored work. Regarding mothers their age ranging between 24-47 years. On the one hand, one third of the mothers are housewives. On the other hand, two third of them are working.

Furthermore, most of children are living with their parents and siblings without other family member. Regarding to the living place equal percentage for children lining in urban and rural areas and less are living in camps. This part is regarding the answers of the parents regarding their children's use of electronic devices and social media, and their thoughts about their negative and positive effects of the development of their children.

The results of our study revealed that more than one third of families have two to three electronic devices and the least have one

device only. In addition, approximately around half of the children spend one hour or less on the electronic devices per day, while the minority spend more than five hours. Most of the children prefer using mobile phone as an electronic device, however least of them are prefer Tablet/ laptop. Furthermore, the majority of parents prefer using social media platform while talking with their children, playing, listening to songs and photos viewing. Further, majority of parent answer that they prefer using YouTube with their children as a social media platform and less using Instagram platform. Depending on the use of the devices, most children doesn't have own device, instead they are using family member devices. Regarding to the purpose of using electronic devices with children was mostly related to watching kid's shows.

The proportion of social media's positive and negative effects is equal. The negative effect explained by having the child distracted, stressed, uses other language phrases and have decreased level of concentration. However, the opposite where positive effects of electronic devices and social media platforms included acquiring new phrases from the mother language and other languages which helps in more communication process and development was the majority choice. Approximately half of the parents show that their child acquired specific terms related to social media platforms and electronic devices, such as "message", "mic", "message record", "video", "subscribe", "like", "notification", "request" and others. Depending on parent's assessment of their child language level, the higher percentage assessed their child as being in the highest level. It may comprehend a number of phrases and can produce three words or more sentences.

The analysis of results reveal that there is significant correlation between children who use their own device has a significantly higher language level than children who use other family member's electronic device, also significant negative correlation between child's number of siblings and the language level. (Meaning that increased number of siblings decreased language level). Regarding the remaining variables, analysis reveals no correlation with language level. In our study, there was no significant correlation between the number of daily hours of using the electronic devices and social media among children and their language level, taking in consideration that a previous literature stated that the impact of daily internet use on the verbal intelligence and brain structure development has not been studied [13]. On the other hand, our results are in opposite of the previous article in the finding regarding the negative effect of excessive use of internet on cognitive functioning, while the previous article did not state this relationship in a quantitative way. In addition, a big difference between the two studies is that the recruited children in our study were between 2 and 5 years old, while in the previous study they were between 5.7 and 18.4 years old, this means that cognitive behavioral studying is very different related to different psychological developmental milestones and criteria.

Regarding the previous study found the difference between it and our study is that there was no specific measurement to social disconnection or social skills development [14]. While the previous study stated a negative development of the children with prolonged screen use, our study stated no significant difference between daily use time of social media and electronic devices with language level. Although there is a difference between social skills as a whole and language level in specific, they can lead to each other.

It was stated that some learning mechanisms may affect fluent speaking, such as generalized extraction of syllables inside words,

which may play a role in their native language that they acquired from their surrounding communication with family members in specific [16]. In our study, 46.5% of the parents stated that their children acquired specific terms from their social media and electronic devices use, which applies to the previous article about the possible role of electronic devices use on the acquisition of words and linguistic development rather than native language from family members.

The shared point between the current study and previous study of that parents' communication with the child needs focus and proper use of words and terms, especially when they mentioned prosodic characteristics [18]. In our study, we found that 66.7% of the parents use social media and electronic devices when communicating with children, as well as when playing and sharing songs and photos, etc., which may have an effect of the type of words that the child acquires rather than native language from parents. This is important because of the fact that is mentioned that infants acquire language at astonishing rates, even though it is still unclear in its process [20]. The process of child's words acquisition should be understood and directed properly by the parents.

In our study, we found that 44.7% of parents stated that their children use the electronic devices for educational kids' programmer, which is good because, as mentioned in which social media can be used for educational purposes to enlighten their mindset about different topics, cultures and places [21]. This also goes parallel with the disadvantages of the prolonged social media that were mentioned by especially about behavioral and language development [22]. Other disadvantages regarding NCDs and tobacco and alcohol use are more focused in older children, which is the main difference between the previous study and our study. In the study they mentioned an important point that applies to our study, which is the importance of monitoring children use of social media and electronic devices, in terms of time and content [23]. This also goes parallel with what was mentioned about the role of teachers in noticing children use and guide them to the proper route [24]. In conclusion, there must be an integrated focus from both parents and teachers regarding children use of electronic devices.

It was mentioned as an important point regarding the relationship between the children and their parents as affected by the excessive use of social media platforms [30]. In our study, we found that 42.8% of children use is focused on relative contacting, which may be different from the general communication theme found in western countries, which may help in increasing communication in our region [34-36].

CONCLUSION

The increased use of social media and easier access of children to electronic devices need attention because of the relationship between them and the developmental aspects of preschool children. Our study aimed to investigate the relationship between social media and electronic devices use and the language development using a cross-sectional approach on a sample of 159 preschool children using a structured questionnaire.

Results showed that most parents have two devices in their houses, with around 1 hour of use by their children daily, mainly using mobile phones, and parents mostly use them when communicating with their children. Also, most of the children use was on YouTube using other family member's device, mostly for kid's shows. Around

half of the parents think there are negative and positive effects of social media and electronic devices of the language level of the child, with most of the children have the highest language level on the used scale. Only number of siblings and using own device were associated with higher language level, while other factors were not associated with higher or lower language level in preschool children.

Limitations

- There have been no studies done on this topic in Palestine or the Arab world.
- Due to our hectic schedule as students were in their final semester, the time window was constrained. Difficulty in performing this review in the practical field due to widespread of 2019 coronavirus and lack of financial support.
- Because only An-Najah National University provides access to the references used in this research, the study was restricted to these specific studies.
- Due to the researchers' residence, only a small portion of the West Bank was included in the sample, which did not represent the entire region.
- The use of an online questionnaire is less beneficial than anticipated; just 50 persons participated.

Recommendations

- Increase level of awareness among parents about the positive and negative possibilities of consequences regarding social media platforms and electronic device use.
- Do more studies with larger samples and in more places to examine how social media affects children's language development.
- Use this study to set the basis for future studies and as guidance for stakeholders to improve educational programmes for parents about their role in preventing side effects of social media and electronic devices on their children.
- Applying more researches in west bank regions to compare between regions and use of social media with children and the differences in impact.

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