Artículos Científicos

Vulnerabilidad ante el uso del Internet de niños y jóvenes de comunidades mayahablantes del sureste de México

Vulnerability to Internet Use in Children and Youth of Mayan-Speaking Communities in Southeast Mexico

Vulnerabilidade ao uso da Internet de crianças e jovens de comunidades de língua maia no sudeste do México

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Resumen

La Internet aporta muchos beneficios educativos a niños y jóvenes. Sin embargo, también expone a los estudiantes jóvenes a ciertos riesgos: *a)* tener acceso a contenido inapropiado, *b)* interacción con otros niños o adultos, *c)* exposición a prácticas agresivas de *marketing* y *d)* abuso infantil, sexual y emocional. Este artículo describe los resultados de una encuesta sobre la vulnerabilidad que enfrentan los niños y jóvenes de ocho comunidades de habla maya en el estado de Yucatán al sumergirse en la Web, particularmente en el cuidado de la privacidad de sus datos personales, su reputación digital y el ciberacoso. El estudio fue cuantitativo de tipo

descriptivo y transversal. Los participantes fueron 410 jóvenes, 51 % hombres y 49 % mujeres. Los resultados de la encuesta se compararon con las políticas sobre el uso de Internet descritas en documentos oficiales, como el Plan Nacional de Desarrollo de México (2013-2018), *Derechos del Niño en la Era Digital* del Fondo de las Naciones Unidas para la Infancia [Unicef] (2017) y la Ley para la Protección de los Derechos de Niños, Niñas y Adolescentes del Estado de Yucatán (2015). Los resultados proporcionan evidencia de que los niños y los jóvenes de las comunidades de lengua maya tienen información y preparación muy limitadas con respecto a la seguridad cibernética y sobre los riesgos que podrían enfrentar al usar las redes digitales. Otros hallazgos indican que cuanto mayor sea el nivel de educación de los padres, mejores serán las habilidades tecnológicas de los jóvenes y mayor el uso responsable del Internet.

Palabras clave: educación, Internet, medio rural, población indígena, vulnerabilidad social**.**

Abstract

The Internet contributes many benefits to the education of children and young people. However, it also exposes young students to risks such as: *a)* having access to inappropriate content, *b)* interaction with other children or adults, *c)* exposure to aggressive marketing practices, and *d)* child, sexual and emotional abuse. This article describes the results of a survey on the vulnerability faced by children and young people from eight Maya-speaking communities in the state of Yucatan on the use of the Internet, particularly on caring for the privacy of their personal data, their digital reputation, and cyber bullying. The study was quantitative, descriptive and transversal. The participants were 410 youth, 51% were male and 49% females. Survey results were contrasted with the policies on internet use described by official documents, such as the National Plan of Development (2013-2018) for Mexico, *Children's Rights in the Digital Age* of the United Nations Children's Fund [Unicef] (2017) and the Law for the protection of the Rights of Children and Adolescents of the State of Yucatán (2016). Findings provide evidence that children and young people from the Mayan-speaking communities have very limited information and preparation regarding the security in the use of Internet and about the risks that they could face while using digital networks. Other findings indicate that the higher the level of education of the parents, the better the technological skills of the youth and their responsible use of the internet.

Keywords: education, Internet, rural context, indigenous population, social vulnerability.

Resumo

A Internet traz muitos benefícios educacionais para crianças e jovens. No entanto, também expõe jovens estudantes a certos riscos: a) ter acesso a conteúdo inapropriado; b) interação com outras crianças ou adultos; c) exposição a práticas agressivas de marketing; d) abuso infantil, sexual e emocional. Este artigo descreve os resultados de uma pesquisa de vulnerabilidade enfrentada por crianças e jovens de oito comunidades de língua maia no estado de Yucatán quando mergulham na Web, principalmente no cuidado com a privacidade de seus dados pessoais, sua reputação digital e O cyberbully O estudo foi quantitativo descritivo e transversal. Participaram 410 jovens, 51% homens e 49% mulheres. Os resultados da pesquisa foram comparados com as políticas de uso da Internet descritas em documentos oficiais, como o Plano Nacional de Desenvolvimento do México (2013-2018), Direitos da Criança na Era Digital do Fundo das Nações Unidas para a Infância. [UNICEF] (2017) e a Lei de Proteção dos Direitos da Criança e do Adolescente do Estado de Yucatán (2015). Os resultados fornecem evidências de que crianças e jovens nas comunidades de língua maia têm informações e preparações muito limitadas sobre segurança cibernética e os riscos que eles podem enfrentar ao usar redes digitais. Outros achados indicam que quanto maior o nível de educação dos pais, melhores as habilidades tecnológicas dos jovens e maior o uso responsável da Internet.

Palavras-chave: educação, Internet, ambiente rural, população indígena, vulnerabilidade social.

Introduction

The technological development generated by the Internet and its multiple applications has created a generation that is constantly facing challenges, generating skills and attitudes linked to the use of digital technologies and that daily strengthens new skills to facilitate their insertion into the knowledge society. However, in parallel to these advances, threats have appeared in various formats that are increasingly difficult to identify, which jeopardize the safety of users who do not have the appropriate training to recognize, detach or avoid being prey to such dangers. . These, in most cases, impact the lives of people, and can even cause great damage.

The proliferation of Internet services has grown exponentially. Records indicate that in 1990 only 3 million had access to the Internet (of which 73% lived in the US and 15% in Western Europe), currently more than 4000 million people are connected to the Network

throughout the world (Internet World Stats, 2018). Various studies conducted worldwide (Dominguez, Chen, Ortega, McCalman, 2016; Park, Khan and Petrina, 2009; Daza et al., 2009; Driscoll, 2007) show that the applications and tools that the Internet offers to young people contribute to improve their opportunities to achieve certain learning; This also allows them to enhance their communication, access to information and their creative abilities (González and Salcines, 2015). However, Montgomery (2000) mentions that they can also have some negative effect on adolescents, since they can be used as a commercial objective for the dissemination and sale of very diverse products (violent games, alcohol, tobacco, musical productions and pornography) , and create addictions that affect your health, for example, lack of concentration (Jeong, Hyoungje, Jung-Yoon and Hwang, 2016; Griffin, 2014). Even, as mentioned by the World Health Organization [WHO] (2012), the Internet offers children predators instant access to a large group of potential victims and the opportunity to create their own "communities" to exchange ideas and reinforce their wishes lascivious Undoubtedly, the anonymity that emerges from the Network is a variable that favors this phenomenon (Llamas y Pagador, 2014).

Along the same lines, the United Nations Children's Fund [UNICEF] (2017) mentions, through the Innocenti Research Center (IRC), that the Web, despite the numerous opportunities and benefits it offers children and young people, given the influence it exerts on their educational level and social inclusion, has also exposed them to dangers that transcend age limits, geographic location and real-world boundaries. This means that children and young people run the risk of finding images of sexual abuse in cyberspace, of being seduced or being involved in conversations of a sexual nature or in situations of sexual exploitation by adult offenders, as well as being targeted for harassment. and intimidation in the online environment. As García (2011) mentions, children being digital natives begin to use technology in an innate way, which often causes a lack of caution when navigating in that environment. This leads to various threats such as: phishing (illegal request for keys), cyberbullying (or harassment through the Internet) or grooming (impersonation of identities by adults posing as minors).

For all the aforementioned, there is a need in this study to describe the vulnerability that children and youth belonging to the Maya-speaking communities of Yucatan may have regarding the use of the Internet. While it has been shown that this technology is beneficial for various activities in our lives, it has also been shown that it puts at risk the mental and physical health of minors who do not know how to use it responsibly. On the other hand, studies on the subject are mostly carried out in urban contexts and neglect rural contexts, where the problem

is even greater due to existing technological gaps, lack of access, cultural issues and lack of empowerment in the use of information and communication technologies (ICT) of parents.

Background of risks in the use of the Internet

Given the importance at present of the increasing use of the Network by children and young people, several countries in the world have carried out important research to identify the risks that may arise when navigating in this digital space, as well as the well-being that can occur if Use responsibly.

Hull (2010) mentions that in 2009 the United Kingdom Department for Children, Schools and Families (DCSF) published a report on the attitudes of young people and parents about Internet safety as part of a public policy called Every Child Matters: Change for Children. This report, continues Hull (2010), was based on a series of personal interviews with 1433 parents of children aged 0 to 17 years throughout the United Kingdom and 833 children. The most important findings were that: a) Internet security is apparently not a major concern for parents of children ages 5 to 17 and b) the level of parental concern about material on the Web seems to be significantly higher than the perceived risks surrounding the use of the Internet. In addition, 74% agree to have doubts about the content and material, 43% agree that their children run the risk of consulting inappropriate content and 12% declare that their children have seen or done something inappropriate online. An important fact is that of 18% of children who experienced inappropriate or harmful content on the Internet, only 55% did "something" about it. More specifically, 34% avoided or blocked the website by themselves, 12% spoke with someone (mostly parents) and only 4% informed the authority (police, website or internet provider). Finally, 74% of parents and 82% of children mention that the school has taught them to use the Internet safely (Hull, 2010).

In Australia, Swist, Collin, McCormack and Third (2015), through the Commissioner for Children and Young People WA, conducted a study about social networks and the well-being of children and young people. In this work, the authors mention that eight key domains of the impact of social networks on children and young people were identified: 1) physical and mental health, 2) identity and relevance, 3) formal and informal learning, 4) play and recreation , 5) consumer practices, 6) civic and political commitment, 7) risk and safety and 8) family and intergenerational relationships. Additionally, the review made by the authors has identified that the positive and negative impacts are contextual and that experiencing a certain level of risk is necessary to build resilience online and offline. Likewise, it was found that social networks can

serve to support the self-directed learning and aspirations of marginalized children and youth and that they can positively influence the consumption patterns of children and young people by facilitating support networks and attitudes towards financial well-being and promoting the financial literacy of young people. However, the study also mentions that they can be used to spread politically extremist messages that can potentially lead to harmful practices. A very important fact found in this work, based on The Australian Research Alliance for Children and Youth (2016), states that children and young people who are loved are safer and more resilient. And Cabero (2014), to a certain extent reinforcing the above, mentions that if children and young people receive motivation, support and understanding when they are in a virtual context, their perception regarding well-being will be high, which will allow them to succeed professionally and the personal

For its part, the Council of the Organization for Economic Cooperation and Development [OECD], 2012), which, as we know, is home to 34 countries (Czech Republic, Denmark, Luxembourg, Finland, United Kingdom, United States and Mexico , to name a few), developed a work entitled The protection of children online: risks faced by children online and policies to protect them. There it is mentioned that the Internet is an essential infrastructure for economic and social interaction. While it provides benefits to all its users, it also carries a spectrum of risks. In this regard, García (2013) points out that the continuous use of the Internet often causes a break in the activities of daily life. Specifically, the ease of access that social networks have makes them a susceptible area to generate addiction in users. At the same time, other risks that can trigger the use of the Internet and social networks are based on access to inappropriate or violent content and that can incite criminal behavior and harassment (Echeburúa and De Corral, 2010).

The use of the Network facilitates the development of digital skills that are essential to achieve full integration in the knowledge society (Hargittai, 2010; Gui and Argentin, 2011; Livingstone and Helsper, 2010). The OECD declares that it is an important tool for education, creativity, self-expression and the development of identity and social skills in children and youth. These are among the users who use it the most and spend a large part of their daily life interacting with other users through it (Ahn, 2011). In a recent study, Ahn (2012) points out that children and young people use social networks to interact with friends, mediate in romantic relationships, organize social groups, support each other and develop their own identities. However, it recognizes that they are more vulnerable to risks than adults. Since, as the number of children and young people who use the Internet increases and this introduction

moves away from the age at which they begin to identify and address these risks, they become an important cyberbulling target.

The risks to children online reflect the broad spectrum of their use of the Internet. The Online Safety and Technology Working Group (OSTWG), the US Internet Safety Technical Task Force (ISTTF) and the Australian Communications and Media Authority (ACMA), have developed several risk classifications for creators of online child protection policies (OCDE, 2009).

In London, Livingstone and Third (2017) critically analyze the figure of the child and describe the experience of risks and children's and youth rights in the digital age. They comment that despite the fact that children and young people are acclaimed simultaneously as pioneers of the digital age, the Internet has been conceived largely, implicitly or explicitly, as an adult resource in terms of provision, regulation and ideology. Along the same lines, Livingstone, Carr and Byrne (2015) point out that, although the figure of the child is commonly mentioned in public expressions of concern for rights in the digital environment to call attention to what is threatened, innocence, Privacy, freedom and human fragility, the provision and regulation of the current Web, including the emerging Internet rights laws, give little specific attention to children. The authors affirm that in practice children's rights are the responsibility of the parents, but undoubtedly they can fail in the guarantee work. In fact, this was the reason why the United Nations (UN) Convention on the Rights of the Child (CRC) was formulated to ensure that states intervene and support children's rights when necessary .

Along the same lines, Unicef (2017) describes the typologies of risks and damages related to ICTs and associates them with three categories: content, contact and behavior, as shown in table 1.

Tabla 1. Tipología de los daños relacionados con las TIC

Tipología	Contenido (Niño como receptor)	Contacto (Niño como participante en actividad iniciada por adultos)	Conducta (Niño como víctima/actor)
Daños			

Agresión y violencia	• Autoagresión y autolesión • Contenido suicida • Discriminación • Exposición a contenido extremista, violento, sangriento	• Radicalización • Persuasión ideológica • Discurso de odio	• Acoso cibernético, acecho y hostigamiento • Hostil y violento • Actividad de pares
Abuso sexual	• No deseado, dañino • Exposición a contenido pornográfico	• Acoso sexual • Solicitud sexual • Preparación sexual	• Abuso sexual infantil • Producción y consumo de material de abuso infantil • Imágenes indecentes producidas por niños
Explotación comercial	• *Marketing* integrado • Juegos de apuesta en línea	• Violación y uso indebido de datos personales • Hackeo • Fraude y robo • Extorsión sexual	• Transmisión en vivo de abuso sexual infantil • Explotación sexual de niños • Tráfico con fines de explotación sexual • Explotación sexual de niños en viajes y turismo

Fuente: Burton, O'Neill y Bulger (s. f.)

Faced with this series of risks, first world countries and international organizations are constantly making efforts. For example, in the United Kingdom from the Council for Child Internet Safety [UKCCIS] (2015); in Australia with the National Framework for Protecting Australia's Children 2009-2020 (Council of Australian Governments, 2009); in China with the Asia-Pacific Bureau Digital Safety of Children and Youth [APAC] (Internet Society, 2017); the Organization for Economic Cooperation and Development (OECD) with the Council on the Protection of Children Online (2012) and the United States from the Department of Health and Human Services (Children's Bureau - Preventing Child Abuse and Neglect, 2013). All this to improve the conditions of children and young people in the use of the Internet. However, when comparing these actions with the efforts made in some developing countries such as Mexico, it is observed that it is insufficient and does not live up to the situation we want for these countries. The problem becomes more acute when talking about vulnerable contexts, where there is little access to the Internet, deep digital gaps and little or no training in parents for the management of digital technologies.

Particularly in the case of Mexico, the LX Legislature of the Chamber of Deputies, through the Research and Analysis Service, proposed the Legal Regulation of the Internet (Trejo, 2006). This document details the history of the Internet in Mexico and emphasizes the advantages that this technology has brought to society, starting with the exchange of goods and services and ending with the possibilities of being able to take education and culture to more places away from civilization. Similarly, the authors admit that this does not mean that it cannot be used for harmful purposes or for the commission of crimes, and reaffirm that the danger posed by web pages that incite racial, cultural or social discrimination, pornography, extreme forms of violence and the unauthorized distribution of scientific works, in some cases even national security is threatened when instructions are issued for the assembly of bombs or drug production, the authors reaffirm, as they said, that all these dangers they must be the object of study by law, because it is a system by which different types of relationships are established between human beings. In addition, the main problems of the Internet (illicit and harmful content), the rights to privacy of the person, as well as the principles that protect privacy in this context (information principle, principle of choice, concept) are mentioned of access, security and enforceability).

In that same trend, through the National Institute of Access to Information [INAI] (2015), the Digital Access Commission of the Chamber of Deputies reported that the country topped the list of victims of computer crimes worldwide during 2010 Likewise, it is considered the second nation with the highest production of child pornography, where social networks mean a valuable catalog for pedophiles.

Given this situation in our country, several questions arise: Are children's rights in practice the parents' responsibility? What is the consultation document detailing the rights of children and youth in digital environments in Mexico? What is the range of enhanced protections that the State has detonated to protect our children and youth in their online work? Is there a verifiable informed consent requested from parents so that their children can access the services of the information society? All these questions are part of the concern for the protection of children and adolescents in the virtual environment, since the level of expansion of these tools has led young people to be exposed to information, values, ideas and opportunities beyond their families, religious or community leaders, through a medium that many adults do not understand or access in the same way.

Given the above, García (2013) states that, despite the wide range of resources available to parents to monitor and regulate their children's use of the Internet, whether due to

lack of skills or technological knowledge, they fail to supervise or control them effectively. In addition to the above, exposure to so much information has the potential to transform aspirations and behaviors. Consequently, unless parents are directly involved with technologies or share their experiences online, their ability to understand their children's experiences and offer effective protection will be limited.

As can be seen, the system for the cyber protection of children and young people in Mexico is still incipient compared to that of some developed nations, which have implemented detailed actions in the last 20 years to reverse the dangers and improve the protection of both population groups.

Method

The research presented was constituted by a non-experimental quantitative paradigm, with a descriptive scope and of a transversal type, since the measurement and data collection was carried out in a single moment (Hernández, Fernández and Baptista, 2013). The design of the study was of the survey type: it allowed describing the opinion and attitudes of the people by recording and analyzing the data they provided during the investigation. (Isaac y Michael, 1995).

Figura 1. Diseño del estudio tipo encuesta

Fuente: Arnau, 1995

Following the phases of the survey-type study proposed by Arnau (see figure 1), in its first phase the objective was to guide the study: describe the vulnerability to the use of the Internet by children and youth belonging to eight Maya-speaking communities of Yucatán (Abala, Acanceh, Cuzamá, Homún, Hunucmá, Mayapán, Tecoh and Ticul). Specifically in situations such as the following: care of personal data, digital reputation, interaction in digital networks and cyberbullying. It is worth mentioning that this work was based on the implementation of a training program called Reduction of the Digital Divide in Young and Adult People (REBREDIG-PJA). This program lasted five months and was composed of 13 competition units (see table 2).

Tabla 2. Unidades de competencia del programa REBREDIG-PJA

Código	Unidades de competencia	Elementos del dominio	Duración/Semanas
D1	Conocimientos de la computadora	7	1
D2	Producción de documentos	7	1
D3	Conocimientos de los derechos de autor	4	1
D4	Aplicaciones y programas	3	2
D5	Localización de información	4	1
D6	Almacenamiento y recuperación	3	1
D7	Comunicación	4	1
D8	Interacción en Internet	4	2
*D9	Cuidado con datos personales	5	2
*D10	Seguridad	6	2
*D11	Riesgos en el uso de Internet	4	2
*D12	Interacción en redes	5	2
*D13	Consecuencias de las TIC a la salud	5	2

*D: Competencias relevantes para el estudio

Fuente: Elaboración propia

The competence units were built and presented in a gradual order of difficulty: from the basic knowledge of a computer (connect, turn on / off, keyboard knowledge) to the consequences that ICTs can have on health (postures, addictions). In the construction, three community advisers from the Institute of Adult Education of the State of Yucatán (IEAEY) and three experts from the area of information technology belonging to the Autonomous University of Yucatan (UADY), as well as students of the Bachelor of Administration of Information Technology of the UADY.

Of the 13 competence units, the ones that were relevant and that were analyzed in greater depth by the nature of the study were the following: D9 (Beware of personal data), which integrated five reagents related to the data generated on the Internet and its protection; D10 (Security), which was made up of six items related to messages from unknown senders or with unknown content, as well as the protection of their equipment; D11 (Risks in the use of the Internet), which was made up of four reagents related to hazards, sites and personal care when using the Network; D12 (Network interaction), consisting of five reagents focused on the security locks of my accounts, pages, networks and profiles, and D13 (Consequence of

ICTs to health), consisting of five reagents that focused on risks psychological and physical health as a result of the use of ICT.

In the second phase the population was selected and sample for the study. The total population (425) that was available for the research project was made up of children, youth and adults from the eight rural populations of Yucatan already mentioned who agreed to participate in the study. For the selection of the participants, a non-probabilistic sampling was carried out for convenience (Casal and Mateu, 2003), based on the predominant criteria: being a minor, belonging to a rural community and being speaking. It is because of the aforementioned that the sample consisted of 410 children and young people, who met the aforementioned criteria for the study (see table 3).

Tabla 3. Edad y sexo de los participantes

Edad	Hombre	%	Mujer	%	Total
11	9	60	6	40	15
12	5	33.3	10	66.7	15
13	16	44.4	20	55.6	36
14	81	42.8	108	57.2	189
15	58	57.5	43	42,5	101
16	33	73.3	12	26.7	45
17	4	44.4	5	55.6	9
Total	∑ = 206		∑ = 204		∑ = 410

Fuente: Elaboración propia

As can be seen, of the total population, most of the participants were between the ages of 14 and 15 respectively.

In the third phase of data collection, the instrument that would serve this purpose was developed. The design of the questionnaire was based on what was proposed by Domínguez, Vázquez, Suaste and Cab (2016). Its structure takes into account demographic and personal data relevant to the study and a Likert-type measurement scale with one step and six levels was adopted. Through this scale the participants reflected on the level they have for the realization of the competition (CCC), considering a numerical scale ascending 0-5. At the same time, they were asked to assess whether competition would be important to get a job (CICT) and if they would be interested in learning this competence (EIA) (see table 4).

Tabla 4. Ejemplo de enunciado y formato de respuesta de cada dominio

Competencias	CCC						CICT		EIA	
	0	1	2	3	4	5	Sí	No	Sí	No
DOM 10. Seguridad										
Actúo con prudencia cuando recibo mensajes de remitentes o con contenidos desconocidos	0	1	2	3	4	5	Si	No	Si	No

Fuente: Elaboración propia

For the conceptual basis of the instrument, some works by authors such as Dominguez et al. (2016), Suárez, Almerich, Gargallo, Aliaga (2010) and Cano (2005). As can be seen, the instrument was made up of three sections: 1) competences, 2) importance for employment and 3) interest in learning the competence. The first section integrated questions to be answered with a Likert-type assessment scale of primary data collection in a single step and six levels that denote the extent to which the competition is held. Consequently, with the use of a dichotomous scale, the participant was directed to answer how important the competition is in order to get a job; and finally, if I would be interested in learning it. Next, in table 5, the reliability analysis of the three sections that formed the instrument is presented.

Tabla 5. Secciones del instrumento y sus indicadores técnicos

Secciones de la escala	Alpha de Cronbach
Dominio de competencia	.979
Importancia para el empleo	.985
Interesado en aprenderla	.959
Total	.960

Fuente: Elaboración propia

As can be seen in the previous table, the designed instrument proved to be reliable. Similarly, the questionnaire included open questions about the reality studied. Some of the most relevant responses in the opinion of the interlocutors focused on the following: how they could

improve their safety regarding the use of technology in their daily lives, situations to which they have been exposed when using social networks, the influence of context on security and the reasons that prevent security in rural communities from improving.

The data was collected in the facilities assigned for the research project and it was through the questionnaire that was administered in a single moment. The instrument was answered in paper and pencil format. The process had the collaboration of children and young Maya speakers, instructors and the person in charge of the research. The instructors were in charge of providing the questionnaires and giving instructions to answer them. The person in charge of the investigation, on the other hand, informed about the objective of the questionnaire and asked the respondents for their complete sincerity for each of their responses. Similarly, he was always aware of the doubts or comments that may arise during the administration of the instrument.

In the fourth phase, the data obtained through the Statistical Package for the Social Sciences (SPSS) program was coded and analyzed. As a result, descriptive statistics tests were performed in which the average of the data was obtained, as well as the standard deviation. This allowed us to determine the level of competence that the study participants had regarding the care of data, security, risk in the use of the Internet, interaction in networks and the consequence of ICTs in health. Graphs of stacked lines were also made with markers that allowed analyzing the behavior of the variables age, sex and schooling of the parents regarding the competences of data care, security, risk in the use of the Web, interaction in networks and consequence of ICT in the health of children and young Maya speakers.

Results

This section presents the results of the five competencies that were analyzed in this study. The findings correspond to the opinions of the 410 children and youth who participated in the study. Table 6 shows the first results corresponding to the competences analyzed.

Tabla 6. Estadística descriptiva de las competencias

Código	Competencia	N	$\bar{\bar{X}}$	SD	σ
MedDom09Meno18	Cuidado con los datos personales	410	2.26	1.31	1.72
MedDom10Meno18	Seguridad	410	2.48	1.37	1.88
MedDom11Meno18	Riesgo en el uso de Internet	410	2.54	1.46	2.15

| MedDom12Meno18 | Interacción en redes | 410 | 2.75 | 1.35 | 1.83 |
| MedDom13Meno18 | Consecuencias de las TIC en la salud | 410 | 2.54 | 1.69 | 2.86 |

Fuente: Elaboración propia

The table above shows the descriptive statistics of the competences that were selected for their relevance for the realization of this study. The findings show that the smallest average was obtained by the MedDom09Meno18 competition (beware of personal data, $\bar{X} =$ 2.26), followed by competition MedDom10Meno18 (security, $\bar{X} = 2.48$) thirdly there was a tie between the competition MedDom11Meno18 (risk in the use of the Internet, $\bar{X} = 2.54$) and MedDom13Meno18 (consequences of ICTs on health, $\bar{X} = 2.54$). As can be seen, the typical values in the five competitions analyzed range between 2.26 and 2.75, which means that the knowledge that children and young people have in the Maya-speaking communities is very incipient with respect to issues related to the care with personal data, the security, risks in cyberspace, interaction in networks among others. The previous situation of the ignorance of children and young people about these issues is magnified by being combined with some relevant variables (for example, sex of the participants, the level of education of the parents and the age).

Next, to deepen the understanding of the problem studied, the effect of the aforementioned variables on each of the relevant competencies of this study was analyzed. Figure 2 shows the behavior of the scores of the five competencies analyzed by age of the participants and, in it, important characteristics are noted that stand out.

Figura 2. Comportamiento de las competencias analizadas por edad de los participantes
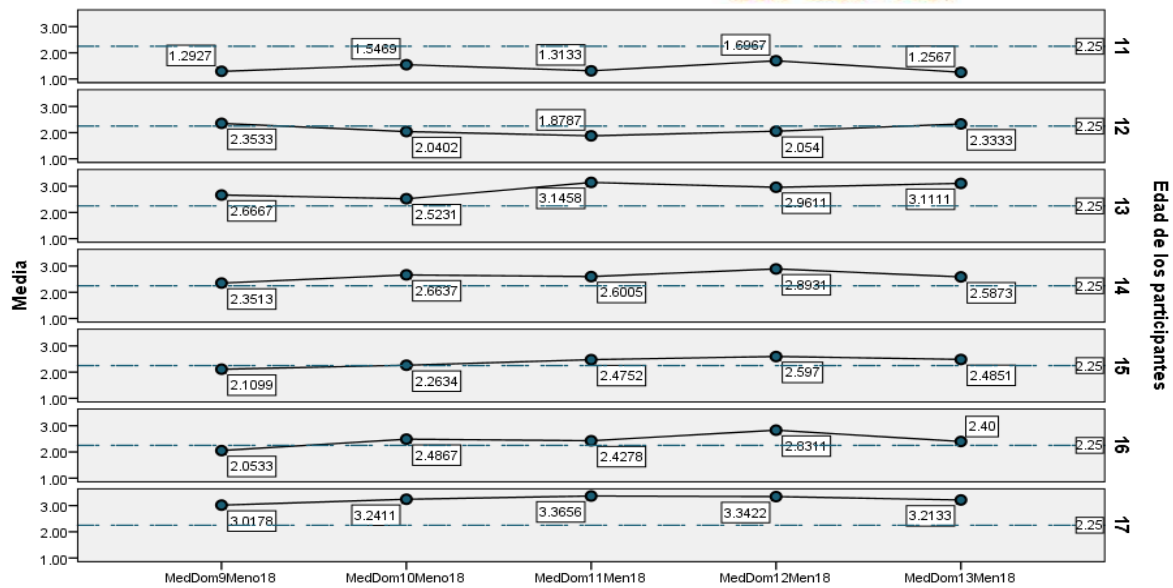
Fuente: Elaboración propia

First, the scores obtained by the participants show that the children and young speakers who are between the ages of 11 and 12 presented the lowest results related to the safety of Internet use compared to their counterparts of a few years plus. This situation sharpens the problem, since, as mentioned by Livingstone (2013), the OECD (2012) and Hull (2010), children are the most vulnerable population in the use of technologies and are more exposed and prone to risky activities in line, as well as abuses that can cause permanent damage to their lives.

Second, the students who are in the field close to the age of majority (17 years old) presented slightly higher scores than three, which means that they have a level close to good in terms of data care skills personal, security, risk in the use of the Internet and interaction in networks.

Third, of the 410 children and young people who participated in the study, about 70% (290 subjects) are in the age range of 14 and 15 years, which means that the majority of the participating population is barely above the average score, but with low scores for the scale used.

Another of the indicators analyzed in this study was the influence of sex on the behavior of the variables analyzed. The results showed relevant aspects that are observed in Figure 3, and are described below.

First, in terms of the five competencies analyzed, men obtained higher scores than women, which means that girls and young people are more vulnerable and exposed to the risks involved in the handling of personal data, security , Internet browsing and the consequences of

ICTs on your health, a fact that could collaterally threaten your privacy, your freedom and human frailty.

Figura 3. Comportamiento de las competencias analizadas por sexo de los participantes
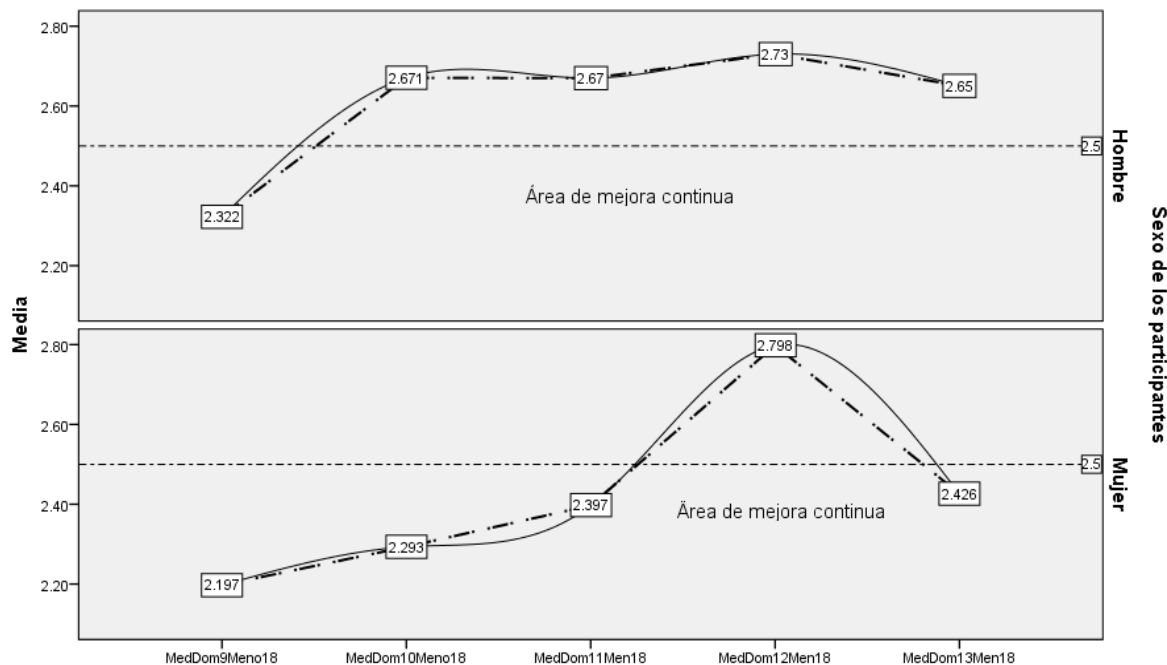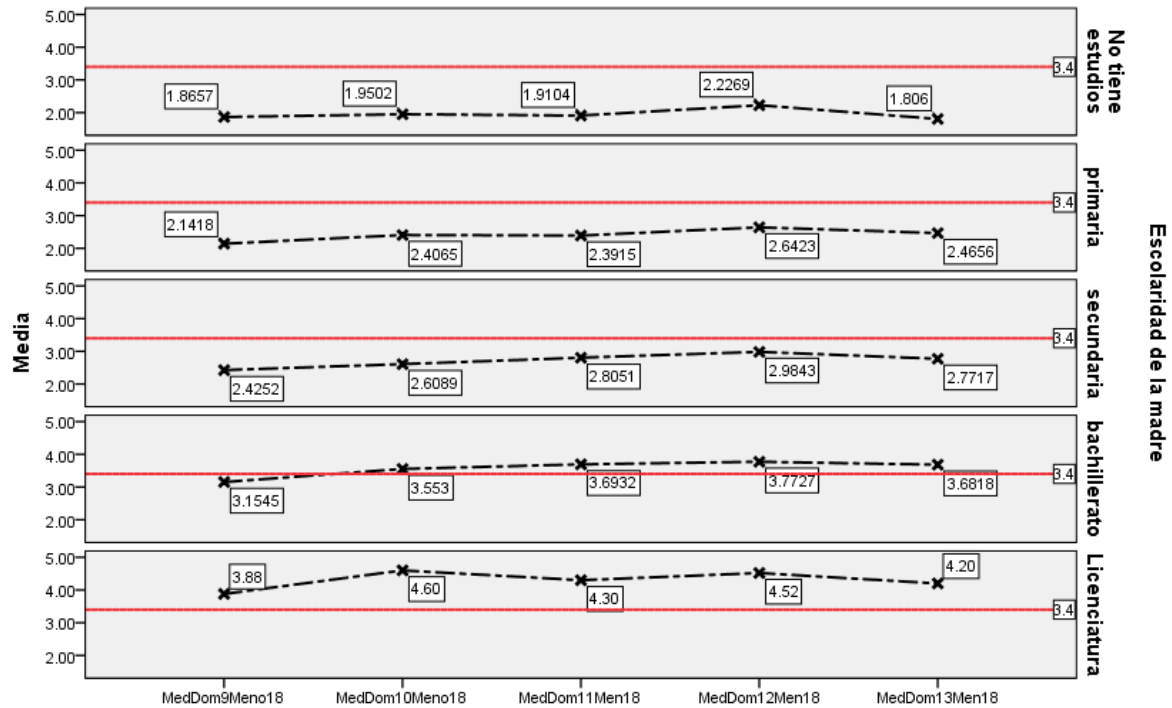

Fuente: Elaboración propia

Second, the competition in which Maya-speaking girls and young women scored higher than that of men was that related to network interaction, which is directly linked to attributes such as: having knowledge of the procedures to lock my information in networks, use a privacy setting to approve who can access my profile, share my profile with my contacts / friends list, add as friends to the people I really know, modify the basic privacy settings offered by the services in line to improve my protection.

Third, among some of the reasons to which the little knowledge that both sexes present can be attributed to them, sharpening themselves more in Maya-speaking girls and young women, are the following: ignorance of the risks in the absence of the low or low level of empowerment of the users in the use of the Internet, the low academic level of parents and their little or no involvement in the supervision of their children's activities online, the exploration of risks without a guide or support, the collateral effects of the digital divide and Finally, very little is taught in rural schools about safe and responsible practices in relation to digital technologies.

Another of the variables of interest in this study was the effect of parents' academic training on the safety of Internet use, analyzing each of them separately. In the case of the mother, the results are shown in Figure 4.

Figura 4. Comportamiento de las competencias analizadas por escolaridad de la madre
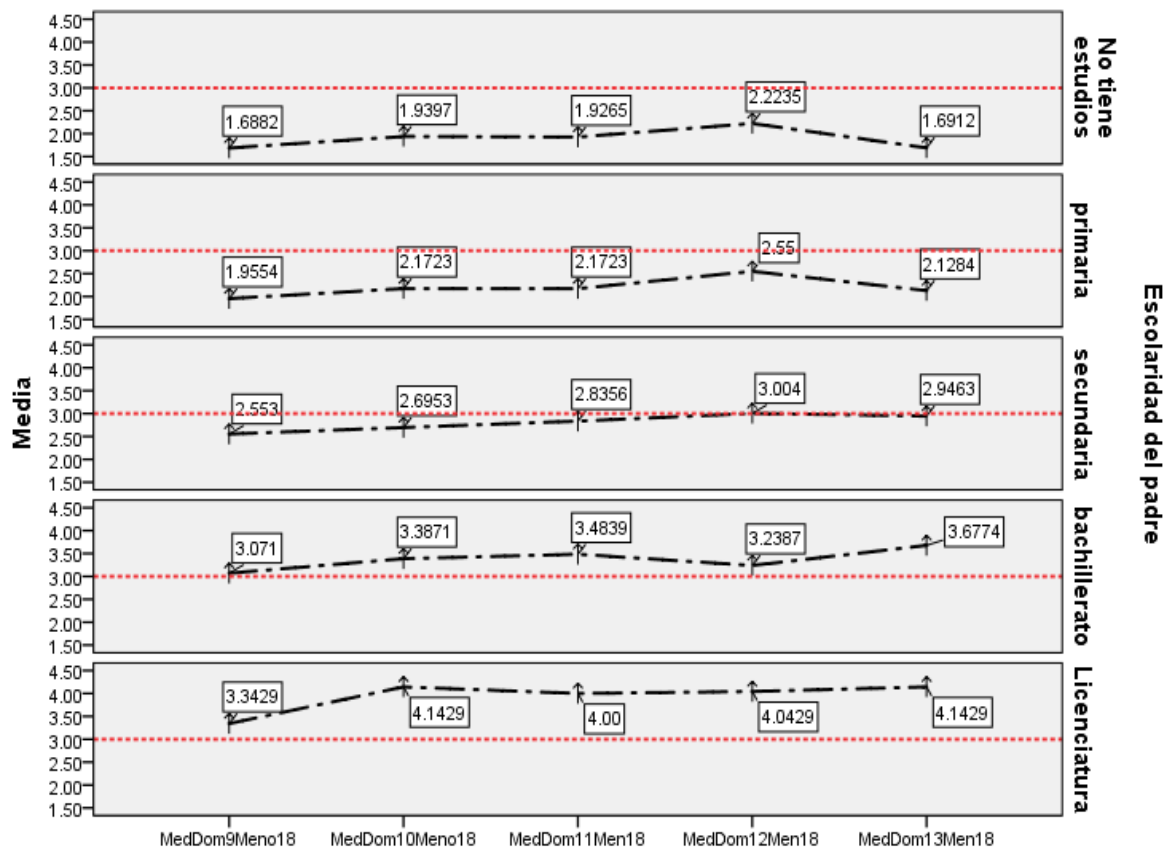

Fuente: Elaboración propia

First, the results critically show that the mother's academic training does have an influence on parenting methods with respect to the use of this technology. As can be seen in figure 4, the higher the schooling of the mother, the children and the young Maya speakers obtain better scores with respect to the competences analyzed.

Second, the MedDom12Men18 (network interaction) competition that involves attributes such as knowing the procedures to secure your information, setting up who can see my profile, modifying the basic privacy settings, was where the Maya-speaking girls and youngsters obtained the highest score, regardless of the education of their mothers.

Third, as can be seen in Figure 4, only children and young people who have mothers with bachelor's degrees (1.2% of the population surveyed) in the communities have above-average levels in all competencies analyzed, which could be attributed to the fact that the levels of development and empowerment permeate the family, which improves their levels of upbringing with respect to the use of digital technologies.

Finally, the father's schooling was another of the variables that were relevant in this study. For this, the results show patterns similar to those found in Figure 4, where the mother's schooling was analyzed.

Figura 5. Comportamiento de las competencias analizadas por escolaridad del padre

Fuente: Elaboración propia

First, the results consistently indicate that the greater the academic training of the father, the better the technological competences related to safety in children and young people in the participating communities.

Second, in comparison with the mother's academic training, Figure 5 shows that Maya-speaking children and young people who have parents with baccalaureate and bachelor's education levels already have above-average levels of proficiency at least in competitions analyzed.

Third and last, the competition that obtained the lowest scores, regardless of the father's academic training, was the MedDom9Men18 (careful with personal data), which involves attributes such as the positions below: I know the advantages and risks related to the exposure of the personal data in the network, I generate a public profile (personal and / or professional)

online adjusted to my needs, I create several digital identities depending on the objective or context, I control the information and data that I produce on the network, I protect my digital reputation and / or that of others on the network.

Discussion

As can be seen today, the robustness of digital technologies in the development and growth of our peoples is undeniable. However, it is important to be clear that the progress and innovation that these tools bring not only leads to good things for a community; they also imply inherent risks that are necessary to know, control and anticipate, especially in the most vulnerable and disadvantaged populations. Never before has it been so easy for bullies, sex offenders, traffickers and children who harm children to contact potential victims around the world. Unicef (2017) mentions that digital connectivity has made children more accessible and vulnerable through unprotected social network profiles and online gaming forums that allow criminals to be anonymous, reduce the risk of identification and prosecution , thanks to which they have been able to expand their networks, increase their profits and persecute many victims at the same time.

This study revealed the issue of childhood and adolescence and its exposure to the use of digital technologies, which is of great relevance both in the international, national and state level, since it is a stage of life in that human beings are at a high point of vulnerability, even more so in rural contexts. In the case of Mexico, the document issued by the National Human Rights Commission [CNDH] and the National Institute of Historical Studies of the Revolutions of Mexico [Inehrm] (2015), Right of Access and Use of Information Technology and the Communication, mentions that the integration of ICT helps to combat poverty, improve the quality of education, health services, the delivery of government services; in general terms, to improve the daily life of citizens. However, the same document does not specifically state what are the rights and limits regarding the practices of digital media for children and youth in the country, which leads to legal loopholes to balance the protection of these groups populations in line with their ability to maximize the opportunities and benefits of connectivity.

In the context of the state of Yucatán, the General Secretariat of the Legislative Power (2015), through the H. Congress of the State of Yucatan, issued the Law for the Protection of the Rights of Girls, Children and Adolescents of the State of Yucatan. And specifically in chapter III (State authorities and distribution of competences), article 23 (Attributions of the

Ministry of Education), it is mentioned that the Ministry of Education, for compliance with the purpose of this law, will have, among other powers, the next: establish mechanisms to promote the responsible and safe use of Information and Communication Technologies. Contradictorily, on the official website of the Ministry of Education of the Government of the State of Yucatan (Segey), no document was found to provide information and guidance regarding child protection and safety on the Internet that allows keeping children safe online.

Some examples of these good practices around the world are The UK Council for Child Internet Safety (UKCCIS) in the United Kingdom, which is a council formed by more than 200 organizations from government, industrial, legal, academic and charitable sectors that work in partnership to help keep children safe online. Another example is the public consultation organized by the Department of Communication of the Australian Government, called Ehancing Online Safety for Children, which was carried out in 2014 to improve the online safety of children as part of the main electoral commitments. This consultation proposes the mechanisms for the rapid removal of harmful material for a child from social networking sites, the establishment of a children's electronic security commissioner, options for dealing with cyber bullying and the examination of legislation to determine whether A new simplified crime of cyberbullying must be created.

Finally, the Internet Society, through the APAC, in the region of the Association of Southeast Asian Nations (ASEAN), made up of countries such as Malaysia, Indonesia, Cambodia, Vietnam, Thailand, Singapore, Burma, Laos, Papua New Guinea and Timor Oriental, carried out in 2017 a study called Mapping Online Child Safety in Asia-Pacific, which offers an analysis of online child safety in that geography. The study provides information on current legislation and policies to address child safety online, focusing on the following topics: content (children's access to sexual images and pornography), use / conduct (using cameras and mobile phones for inappropriate purposes , Internet and cyberbullying addiction) and interaction / communication (social networking sites and childcare, online prostitution and the production and distribution of child pornography).

However, despite the enormous amount of research that has been carried out (UNICEF, 2017; Livingstone, 2013; Baas, de Jong and Drossaert, 2013; Strasburger, Jordan and Donnerstein, 2012; Hull, 2010) to improve Internet security Children and young people remain a challenge, in part because the definitions of terms and categories that are relevant to Internet security often vary and are inaccurate, and cannot be generalized to all cultures and contexts. So these situations can make it difficult to identify specific gaps in the technical reports,

manuals and results of the specialized literature. In addition to this situation, it is recognized that the digital divide exacerbates inequalities in access to information and knowledge, socialization with peers, visibility and management of basic tools to perform in the knowledge society (Domínguez, Vázquez, Suárez y Cab, 2016; Domínguez, Cisneros y Cab, 2017).

Conclusions

The various results obtained from the analyzed data show that the knowledge that girls, boys and young people have in Mayan-speaking communities regarding the issues related to the care with personal data, security, risks with the use of the Internet, interaction in networks among others, is very incipient. When analyzing the variables sex, age and education of the parents, regarding the competences of risks and cybersecurity, it could be shown that children between 11 and 12 years had lower results related to safety in use of the Internet, so the 17-year-old participants showed more security pending when connecting to the Web. Regarding the sex variable, it was observed that girls and young women are the most vulnerable and exposed to the risks involved in the handling of personal data, security, the risk in the use of the Internet and the consequences in the use of ICT The parents' schooling variable showed that the greater the degree of study of the parents, the greater the responsible use of the Internet by Maya children and young people. As can be seen in the results of the study, the influence of the variables age, sex and parents' education on the knowledge of the care of personal data, the security of contents and unknown senders, the privacy of communications was evidenced. , the preservation of identity and harassment through the Network. A reality could also be shown that this problem is rarely studied in rural contexts; Most studies are presented in urban context.

It is important to mention that the implications of this study were analyzed in the context of the rights of children and young people in Yucatán, so that the proposals and content accessible through the Internet and other technologies do not contain free violence, or racist, sexist messages or degrading, the use of cameras and mobile phones for inappropriate purposes, Internet addictions, child pornography, cyberbullying and respecting the rights and image of children, especially children with disabilities and contexts rural that are immersed in conditions of high social marginality. Particularly, it is necessary that organizations (national, state) that are interested in advancing in the formation of law initiatives, guides, manuals and investigations attached to rigorous quality standards validate the results of this study with data collected from their respective contexts, which will not only contribute to promoting and

professionalizing the field of child information security, but will also enhance ICT as a tool to take into account for the exercise or violation of the rights of children and youth in urban and rural communities.

Last but not least, this paper lays the groundwork for designing and carrying out a series of interventions that aim to digitally literate girls, boys and young people to use and navigate responsibly on the Internet. It also provides serious and evidenced information for future research with another type of approach, such as qualitative. This would allow us to identify in depth the reasons why minors perform certain unsafe actions when they surf the Internet, as well as serve to apply better solutions depending on the context for the welfare and safety of girls, boys and young people.

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