# Construction of an Instrument to know the use and exposure of the web in children of primary level

## Children with web exposure

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*Abstract*—The objective of the following work is: To build and validate an instrument to know the use and exposure of the web in children of primary level.

The study populations were children between 10 and 11 years old, of both sexes attending official primary schools, morning shift.

The work was based first on the development of an instrument called (CEWENI) Questionnaire of use and exposure of the web in children of primary level, which consisted of 34 items organized in: Recreation, Socialization, Prevention, Exposure to Risk.

The Instrument was carried out considering the bibliographic review and of instruments carried out for similar purposes. Subsequently, the Instrument was applied to 250 children with a measurement and standard deviation of 10.3 ± .564 in primary schools to perform a validation of Construct, Criterion, Appearance and Content. The internal consistency according to Chronbach's Alpha of (.84).

Correlations were observed between the mostly statistically positive variables of the instrument, so we can say that the (CEWENI) is an instrument that can be useful in epidemiological studies and research of the use of social networks and the web and can be an advantageous tool for professionals in mental health and other medical and social areas.

However, it is recommended to carry out more studies with a larger population to verify the validity in other populations, to analyze other characteristics such as specificity and sensitivity, with the intention of using it more safely in the individual approach.

*Keywords—Internet, social networks, vulnerability (risks), rights and protection.*

## INTRODUCTION

Due to technological advances, the media and work have changed, facilitating the massive use of the internet and social networks, influencing the way we relate socially has generated new situations both positive and negative, which, largely due to the ignorance of users, about the Web, do not know the inherent risks of social networks, risks that only become important now they affect them negatively. In this sense, it is important to know, protect and make each user aware of the pro and cons of social networks and the appropriate use of the information provided, and the privacy you have when entering and being part of one of the many existing social networks, since this must be understood as the first protection filter that everyone can assume as a defense; because the legal norms although they are regulated, they do not always have sufficient applicability to protect rights that have been violated virtually.

Communication through virtual social networks and messaging, such as Facebook, Instagram, Twitter, Snapchat, Tik Tok, Messenger, WhatsApp and blogs, among others, has become one of the main means to

relate to friends, employees, and colleagues. Social media offers an economic, ubiquitous, and massive

medium, and has generated many expectations due to the potential to support different functions of an organization. Many organizations implement social media platforms as knowledge management systems to increase shared knowledge (Ellison, Gibbs, & Weber, 2015). (1)

In this research it is proposed to build and validate an instrument to know the use and exposure of the web in children of primary level, to identify the internal and external risks existing in social networks, to generate awareness in their parents about these and how to protect children from information and social relationships that they could obtain and establish using social networks.

### Problem statement

Is it possible to know the use and exposure of the web in children at the primary level, through an instrument that integrates the themes of Recreation, Socialization, Prevention, Risk Exposure?

### The construction of this instrument is important as it offers:

A means of registration that is easy to use and fill in by children under the supervision of the investigator that allows the assessment of risk exposure.

An instrument that through adequate validation can be used later in primary and secondary schools as a means of detecting exposure to risk and acting accordingly with prevention strategies in the populations studied

### General Objective

Build and validate an instrument to know the use and exposure of the web in primary level children of official schools.

### Specific Objectives

-Identify, through a literature review, the main risk factors, beliefs, precipitating factors, and protective

factors that influence the risk of use and exposure to the web.

-Analyze instruments developed for the detection of the risk of use and exposure to the web, which have been documented and used nationally and internationally, this with the intention of integrating factors and items that have proven to be related to the risk of use and exposure to the web and include them as possible questions of the instrument.

-Develop a questionnaire that serves as an instrument for measuring and recording the risk of use and exposure to the web in the Mexican population.

-Evaluate the use and exposure of the web in children through the application of the Risk of Addiction-adolescent scale to Social Networks and the Internet (ERA-RSI) which will be used as a gold standard.

-Validate the instrument in the population of official primary schools and correlate the results with the Risk of Adolescent Addiction to Social Networks and the Internet (ERA-RSI) scale

### METHODOLOGY

### Design and procedures

The design of this research corresponds to a non-experimental, descriptive study, in which the information collected through the contribution of specialists in the field, theoretical analysis and previous research will be used to create a self-applicable instrument that includes items on the different areas identified as related to the use and exposure to the web that manages to detect and record risk factors in the population. Mexican school.

## The instrument was validated through 4 ways

## Appearance Validation

The validity of appearance aims to determine if the instrument measures what it should measure, it is not a statistical concept, but depends on the judgments that experts make about the relevance of the items of the scale. Usually, it is experts in the field who determine if in their concept the instrument in appearance measures the desired qualities and people who are going to be evaluated. The importance of this form of validity lies in the applicability and acceptability of the items as relevant according to the entity to be measured, in this sense it consulted experts in the field, doctors, psychiatrists, communicators specialized in children and adolescents.

## Content Validities

Content validity refers to the extent to which the constituent elements of a measuring instrument are appropriate to what the measuring instrument is intended to measure and to what extent these elements constitute a representative sample of what is to be assessed.

It is intended that when making the items of a scale these adequately cover all the domains of the entity to be measured, understanding a domain as a group of characteristics that are commonly present in the entity. Thus, the items are exploration tools that allow us to evaluate the presence of these domains, for which the questionnaire was applied to students of 5th and 6th grade of primary level of official primary schools of the Iztacalco delegation, with the consent of their parents and school authorities. The analysis of internal consistency of the domains and factorial validation according to Chronbach's alpha was carried out.

## Criterion Validity

An instrument should be compared with a previously existing form of measurement that has proven suitable for the measurement of the entity (gold standard) to establish whether the scores obtained from a scale are valid. When the comparison between both instruments is made and there is an adequate correlation, it is then certain that the scale has criterion validity.

In this sense, we sought to measure the use and abuse of social networks through the Risk of Adolescent Addiction to Social Networks and the Internet (ERA-RSI) scale (2) with the intention of comparing the new instrument with another already validated and used worldwide, with the aim of complying with the validity of the criterion.

## Construct Validation

It refers to the adequacy of inferences made based on observations or measurements, specifically whether a test measures the intended construct.

The theoretical aspects related to the factors that are identified as risks for behaviors in the use and exposure of the web in children and adolescents were validated.

In the exploration of the relevant literature, in addition to verifying that most of the information refers to populations of university students and other countries, where they describe the use of new technologies, the Internet, pathological gambling, video games, among others, do not perform it in school or adolescent ages, so we gave ourselves the task of developing an instrument with the characteristics we wanted, and that it has reliability and psychometric validity. This research is aimed at conducting and evaluating a questionnaire on the use and abuse of social networks in Mexican schoolchildren and adolescents in Mexico City.

## Population and Sample

To carry out the validation of the instrument, a total of 250 boys and girls from primary schools in Mexico City between the ages of 10 and 11 of both sexes were contacted.

## Inclusion criteria for participants

-Boys and girls enrolled in 5th and 6th grade of official schools

-Boys and girls between 10 and 11 years of age.

-Signature of informed consent by their parents and school authorities.

### Exclusion criteria

People outside the field of study, with ages that are not between 10 and 11 years old

Children whose parents do not sign informed consent and/or school authorities disagreed with the child's participation in the study.

### Procedure

To carry out the Questionnaire (CEWENI) in the realization of each of the items , the diagnostic criteria were taken into account, according to the rules of construction of items for Likert type questionnaires (DeVellis, 2012 (3); Fishman & Galguera, 2003 (4); Furr, 2011 (5).

All the items that make up the Questionnaire (CEWENI) were reviewed by experts in children and adolescents, as well as in the methodology for the elaboration of questionnaires, the observers contributed their observations and based on these observations the pertinent changes were made to the questionnaire. For the assessment of the items, it was decided to apply the dichotomous rating system (YES or NO) considering the academic level of the population, age, etc. (Argimón JM, Jiménez J. Doyma; 2004) (6)

Once the evaluation by expert criteria was concluded, a pilot application was carried out in a sample of 50 students who met the inclusion criteria; they were asked to indicate for each item whether it was clearly understandable; in the same way, they could ask directly for any of them. With this application, the wording of four items was corrected and the stage of preparation of the preliminary survey was concluded.

Subsequently, the questionnaire was applied in the primary schools of the Iztacalco delegation of Mexico City, to boys and girls of 10 and 11 years enrolled in 5th and 6th grade of primary, the application was made in the classroom, the instrument was distributed and instructions were given to fill, the students were read question by question and the students were guided, at the end of the application they were asked to review the questionnaire and make sure they did not lack any answer, at the end the questionnaires were reviewed and it was verified that there was no lack of answers, the application was carried out under the strict supervision of the researcher. Likewise, the Social Networks and Internet Test (ERA-RSI) was applied.

### Data processing and processing of results

The results were processed based on the objectives that were set with the help of specialized computer programs, such as the statistical package S. P. S. S. (Statisthycal Program for Social Sciences) version 17.

## Results

### Sociodemographic Aspects

The total sample that could be obtained was 250 girls and boys, of which 140 were male and 110 were female, all aged between 10 and 11 years, with a measurement and standard deviation of 10.3 ± .564 the instrument could be validated with the sample obtained satisfactorily. **(Table 1)**

| Table 1.- Distribution of the population according to sex | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percentage | Valid percentage | Cumulative percentage |
| Valid | male | 140 | 56.4 | 56.4 | 56.4 |
| | female | 110 | 43.6 | 43.6 | 100.0 |
| | Total | 250 | 100.0 | 100.0 | |

### Factor analysis

The data of the Factor Analysis in some of the items are low, so the interpretation of the Factor Analysis was not recommended. In Table 2. It is indicated that

the data (the items) do not represent strong factorial correlations, that is, the groupings that appear in the Rotated Matrix table are not entirely valid so they should not be interpreted for the purposes of this moment of the research because there was no larger sample that would allow a better analysis.

## KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy= .123

Bartlett's Test of Sphericity Approx chi square 12262.903

Df5671

Sig. < 0.000

In the rotated component matrix table, the 34 items are grouped into three factors

It is observed that in some of the Items the KMO is low, however, the (CEWENI) can serve as a guide to assess the 34 items of the questionnaire and their methodological importance.

Items that do not score on any factor because they are less than 0.30 are suggested to be deleted or modified. Reagents that only appear with factorial load in one factor are the most important within it.

**Questionnaire Factor Analysis (CEWENI)**
**Rotated Component Matrix**
**Component**

|  | 1 | 2 | 3 |
|---|---|---|---|
| Q1 |  | .562 |  |
| Q2 |  |  | .489 |
| Q3 |  | .548 |  |
| Q4 | .658 |  |  |
| Q5 |  | .497 | .378 |
| Q6 | .465 |  |  |
| P7 | .752 |  |  |
| P8 |  | .496 |  |
| P9 | .635 |  |  |
| Q10 |  | .768 |  |
| Q11 | .562 |  |  |
| Q12 |  |  | .694 |
| Q13 | .378 |  |  |
| Q14 | .541 |  |  |
| Q15 |  | .354 |  |
| Q16 | .321 | .412 |  |
| Q17 |  |  | .589 |
| Q18 | .389 | .852 |  |
| P19 | .641 |  |  |
| Q20 |  |  | .547 |
| Q21 | .652 |  |  |
| Q22 |  | .321 |  |
| P23 | .694 | .307 |  |
| Q24 |  |  | .650 |
| P25 |  | .552 | .347 |
| P26 | .347 |  |  |
| P27 |  | .384 | .471 |
| P28 | .471 |  |  |
| P29 |  | .645 | .547 |
| Q30 |  | .657 | .347 |
| Q31 |  | .506 |  |
| P32 |  | .652 |  |
| Q33 | .546 |  |  |
| P34 |  | .378 | .321 |

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization

## Appearance Validates

We consulted with experts in the field (paidopsychiatrist, neurologist, and psychiatrist) who made recommendations for the construction of each question and each block that forms the questionnaire, as well as their suggestions in the items of binary answers (yes or no), through which the risk and protection factors were evaluated at their discretion in an appropriate way.

The recommendations for each item were made by the following specialists

-Dr. José Antonio Martínez Cortes (Neurologist at the INR)

-Dr. Yolanda del Río Carlos (Paidopsychiatrist INR)

-Dr. Minerva Dehesa Moreno (PSYCHIATRIST INR)

-Dr. Jorge Villalpando (Internal Medicine (HRALM)

The questionnaire (CEWENI) consists of a set of self-application items that can be answered affirmatively or negatively (YES or No) grouped into 4 items mentioned below

1. - Recreation

2. - Socialization

3.- Prevention

4.- Exposure to Risk

## Formulation of the questionnaire for detection of use and abuse of the web (CEWENI)

The questionnaire consists of a set of self-application items that can be answered affirmatively or negatively (Yes or No) grouped into 4 areas listed below

## RECREATION

1. Do you have a cell phone?
2. Do you use social networks?
3. Which?
4. Have you created fake profiles?
5. The time of use of social networks is more than 5 hours a day?

6. You have increased the use of the cell phone by applications, downloads, blogs, channels, etc. of the web?
   Yes                                   or                                   Not
   OTHERWISE

7. Do you play online games?

## SOCIALIZATION

8. Do you accept friend requests from strangers on the web?
9. Do you share photos or videos on social networks?
10. Do you have profiles on more than two social networks?
11. Do you have more than 250 friends on Facebook?
12. Have you accepted friend requests from people you don't know?
13. Have you struck up strong friendships with people you've never seen?

## PREVENTION

14. Your parents or cell phone or computer provider were you given usage rules, restrictions, or usage limits?

15. Were you informed of the risks of using the web?
16. You have app restriction, downloads or web browsing?

17. Do you have restrictions on users and who visits your social networks?
18. Do you know the term grooming?
    (Deliberate actions by an adult with the intention of creating bonds of friendship with a child on the Internet, with the aim of obtaining a sexual satisfaction through erotic images or pornographic of the minor or even as preparation for a sexual encounter.)

19. Have you been a victim of grooming?
20. Do you know the term sexing?
    (Share on social networks and with mobile phones videos or personal photos of a sexual nature.)

21. Have you been a victim of sexting?
22. Do you know the term cyberbullyng?
    (When a child or adolescent is tormented, threatened, harassed, humiliated, or humiliated by another minor via the internet, mobile phone or any other digital technology.)

23. Have you been a victim of this?

## EXPOSURE TO RISK

24. Do you accept friend requests from strangers?
25. Have you hesitated with people you've never seen in real life?
26. Have you made appointments with people you met online?
27. Have you taken pictures in your underwear and shared them?
28. You have taken pictures of private parts of your body and have you shared them?

29. You have decreased your physical activity, such as going out to play, walk, talk, go to the parks?
30. Do you do any sports? Which one?
31. Do you wear glasses? Since when?
32. You have skipped the schedule of some meal for continuing to use the computer or cell phone?
33. What is your school average?
34. You've kept the same average of grades in this school year?

### Content Validities

The instrument was applied to students in the 5th and 6th grades of primary schools in the official primary schools of the Iztacalco delegation, with the consent of their parents and school authorities. The analysis of internal consistency of the domains and factorial validation according to Chronbach's alpha was carried out

The reliability by internal consistency of each of the factors was analyzed through the alpha coefficient (Cronbach, 1951), in addition the respective 95% confidence intervals were calculated, applying fisher's procedure (Romano, Kromrey& Hibbard, 2008 (7); Romano, Kromrey, Owens & Scott, 2011(8), for being the one that has proven to have the best coverage and least bias.

### Total reliability

Cronbach 'Alpha Num of items

**.84         34**

The Alpha Cronbach had a value of .84 with a total of 34 items. This integrates the reliability and correlation of each item with respect to the other items of the total scale designed.

The Alpha Cronbach is significant when it is greater than .7 and is considered extremely good in what corresponds to the correlation of assets when it is greater than .95, in some cases you can think that several of the items can be very similar and be asking the same thing, so it is necessary to assess this possibility and try to eliminate elements that imply a lot of similarity in the answers.

### Alpha Cronbach Internal Consistency Analysis of the Questionnaire (CEWENI) (Table 2)
### Item-Total Statistics

|  | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's alpha if item is removed |
|---|---|---|---|---|
| Q1 | 54.51 | 13.673 | .425 | .868 |
| Q2 | 54.21 | 13.459 | .356 | .868 |
| Q3 | 53.57 | 14.135 | .015 | .845 |
| Q4 | 53.89 | 14.044 | .268 | .881 |
| Q5 | 53.84 | 14.171 | .260 | .883 |
| Q6 | 54.05 | 14.194 | .163 | .891 |
| P7 | 54.10 | 13.793 | .267 | .879 |
| P8 | 54.48 | 14.177 | .223 | .886 |
| P9 | 53.94 | 13.586 | .383 | .868 |
| Q10 | 53.73 | 14.572 | .251 | .889 |
| Q11 | 53.74 | 14.474 | .282 | .987 |
| Q12 | 53.71 | 14.543 | .358 | . 9 87 |
| Q13 | 53.75 | 14.488 | .251 | .988 |
| Q14 | 54.35 | 13.763 | .294 | .877 |
| Q15 | 54.42 | 14.376 | .132 | .894 |
| Q16 | 53.93 | 13.471 | .433 | .864 |
| Q17 | 54.42 | 13.965 | .258 | .881 |
| Q18 | 53.82 | 14.670 | .087 | .898 |
| P19 | 53.71 | 15.347 | .273 | .810 |
| Q20 | 53.74 | 14.586 | .217 | .890 |
| Q21 | 53.82 | 14.614 | .108 | .896 |
| Q22 | 54.03 | 13.130 | .482 | .855 |
| P23 | 53.77 | 14.852 | .043 | .800 |
| Q24 | 53.71 | 14.543 | .358 | .887 |
| P25 | 53.77 | 14.404 | .256 | .886 |
| P26 | 53.70 | 15.238 | .223 | .807 |
| P27 | 53.76 | 14.839 | .056 | .899 |
| P28 | 54.04 | 14.335 | .126 | .895 |
| P29 | 53.89 | 14.698 | .052 | .801 |
| Q30 | 53.38 | 14.462 | -.065 | .859 |
| Q31 | 54.22 | 14.174 | .158 | .892 |
| P32 | 54.22 | 14.174 | .158 | . 892 |
| Q33 | 53.70 | 15.238 | .223 | .899 |
| P34 | 53.76 | 14.839 | .056 | .895 |

### Criterion Validity

We sought to measure the use and abuse of social networks through the Risk of Adolescent Addiction to Social Networks and the Internet (ERA-RSI) scale with the intention of comparing the new instrument with another already validated and used worldwide, with the aim of complying with the validity of the criterion. The Social Media and Internet Addiction-Adolescent Risk Scale (ERA-RSI) with which the new instrument was compared consists of 29 items with answer options 1: Never or nothing; 2 Sometime or Little; 3: Quite a few times or quite a lot; 4: Always or A lot. And it is divided into the following topics: Symptoms of Addiction, Social Use, Geek Traits (extravagant, eccentric, or rare behaviors, or individuals who obsessively and excessively indulge in certain hobbies), and Monophobia.

The structure of the scale, its reliability and validity were analyzed. The results confirmed the internal consistency of the scale (Cronbach's alpha = .90). The test-retest correlations in the items of the total scale ranged from r = .76 to r = .88, confirming the temporal stability of the test. In conclusion, the ERA-RSI can be applied to adolescents as a screening test

to detect the risk of addiction to social networks and the internet in the four dimensions studied.

Social Media and Internet Addiction-Adolescent Risk Scale (ERA-RSI) **1 = Never or nothing; 2 = Sometime or little; 3 = Quite a few times or quite a lot; 4 = Always or A lot.**

| How much and when do I use social media and the internet? (Symptoms-addiction) | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| 1. Considering all the times I visit the RSI and WhatsApp, without being dedicated to the study, the time I spend daily in them is: (1) About 1 hour; (2) About 2 hours; (3) Between 3 and 4 hours; (4) More than 4 hours | | | | |
| 2. I use the RSI in my study and/or work hours | | | | |
| 3. Right now I would feel anger if I had to do without IHR | | | | |
| 4. I access the RSI anywhere and at any time | | | | |
| 5. I believe that connecting to IHR has interfered with my academicwork /works | | | | |
| 6. I've lost hours of sleep by connecting to social media and watching series | | | | |
| 7. I hide in my house the time I connect to the RS | | | | |
| 8. If I don't have internet access, I feel 29. I worry if no one talks to me when we're connected Total nomophobia Total scale of addiction | | | | |
| 9. I update my status | | | | |
| **Total symptoms of addiction** | | | | |
| **The most common use I make of social networks is: (Social-use)** | 1 | 2 | 3 | 4 |
| 10. I consult the profiles of my friends | | | | |
| 11. I use chat | | | | |
| 12. I upload photographs and/or videos | | | | |
| 13. We discuss the photographs between friends | | | | |
| 14. I see what my contacts are doing in the last few hours | | | | |
| 15. Meeting old friends | | | | |
| 16. The number of photographs I have published on the RSI and the internet is: (1) less than 100, (2) 101 to 1000, (3) 1001 to 3000; (4) greater than 3000 | | | | |
| 17. Make new friends | | | | |
| **Total social use** | | | | |
| **I spend time on the RSI for: (Traits-Geeks)** | 1 | 2 | 3 | 4 |
| 18. Play virtual and/or role-playing games | | | | |
| 19. Joining stakeholders | | | | |
| 20. Search for information about sexuality | | | | |

| | | | | |
|---|---|---|---|---|
| 21. Enter the erotic pages | | | | |
| 22. Having sexual encounters | | | | |
| 23. I use cell to write erotic messages | | | | |
| **Total geek traits** | | | | |
| **I have a cell, Smartphone, Phone and ... (Nomophobia)** | | | | |
| 24. I feel safer or more accompanied knowing that at any time I can communicate with someone | | | | |
| 25. I think it is safer to send a photograph by mobile phone than to hang it on other RSI | | | | |
| 26. If they don't respond immediately to my messages, I feel anxiety and distress | | | | |
| 27. I would be furious if my phone was taken away | | | | |
| 28. I need to know whether the recipient has read my message | | | | |
| 29. I worry if no one if no one talks to me when we are connected | | | | |
| **Total nomophobia** | | | | |
| **Total scale of addiction** | | | | |

| | P29 | Q30 | Q31 | P32 |
|---|---|---|---|---|
| I18 | **-.695**[**] | -.243 | **-.386**[*] | -.094 |
| I19 | **-.695**[**] | -.252 | **-.376**[*] | -.105 |
| I21 | **-.696**[**] | -.236 | **-.325**[*] | -.084 |
| I22 | **-.695**[**] | -.244 | **-.371**[*] | -.081 |
| I23 | **-.695**[**] | -.244 | **-.371**[*] | -.081 |

The correlations between the different items proposed in the Questionnaire (CEWENI) and the correlations with the Risk Scale of Adolescent Addiction to Social Networks and the Internet (ERA-RSI) are presented.

Significant correlations are observed at level 0.01 between P1 and P9 P2 and P9, P3 and P9, P4 and P8, P9; P4 and P8, P9; P5 and P12; P6 and P12; P7 and P8, P11, P12. (Recreation and Socialization) **(Table 3).**

**Table 3. Correlations (CEWENI) between the areas Recreation and Socialization**

| Socialisation | Recreation | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Q1** | Q2 | Q3 | Q4 | Q5 | Q6 | P7 |
| P8 | **0.012** | 0.173 | -0.018 | **.250**[**] | 0.088 | 0.133 | **.277**[**] |
| P9 | **.267**[**] | **.418**[**] | **.201**[*] | **.230**[*] | 0.154 | 0.134 | -0.019 |
| Q10 | **0.1** | .203[*] | 0.028 | -0.109 | -0.093 | .294[**] | -0.182 |
| Q11 | **0.111** | -0.016 | -0.174 | 0.179 | .229[*] | 0.072 | **.288**[**] |
| Q12 | **0.077** | -0.18 | -0.091 | **.335**[**] | **.392**[**] | **.226**[*] | **.201**[*] |
| Q13 | **0.128** | 0.05 | -0.105 | 0.123 | 0.171 | 0.012 | -0.019 |

**** The correlation is significant at level 0.01**
***Correlation is significant at level 0.01**

Likewise, correlations were found between P31 and I6, I7: P33 and I1, 12; P34 and 11 and 12 among the items of Risk Exposure and Symptoms of Addiction.

**Table 4. Correlations (CEWENI) and (ERA-RSI) between the items Risk Exposure and Addiction Symptoms Risk exposure**

**\*\* The correlation is significant at level 0.01**
**\*Correlation is significant at level 0.01**

Correlations were observed between P29 and I18, I19, I21, I22, I23; P31 and I18, I19, I21, I22, I23 between the items Risk exposure and Time in the IHR for: Traits –Geeks **(Table 5).**

**Table 5. Correlations (CEWENI) and (ERA-RSI) between the items Risk Exposure and Time in the IHR for: Traits -Geeks)**

Correlations were observed between the Questionnaires (CEWENI) and (ERA-RSI) between Risk Exposure and Addiction Symptoms; Social Use and Recreation; Geek Traits and Risk Exposure, **(Table 6).**

**Table 6. Correlations between the Questionnaire (CEWENI) and (ERA-RSI)**

| Scale (CEWENI) | Scale (ERA-RSI) | | | |
|---|---|---|---|---|
| | Symptoms Addition | Social Use | Geek traits | Monophobia |
| **Recreation** | | 0.658** | | |
| **Socialisation** | | | | |
| **Prevention** | | | | |
| **Risk** Exposure | 0.791** | | 0.696** | |

**\*\* The correlationis significant at level 0.01**

According to the statistical analysis, it is observed that the scale (CEWENI) has a good correlation between the various areas proposed. (See Table No. 6)

In relation to the scale (ERA-RSI) there is a positive and significant correlation in the variables **Symptoms Addition / Exposure to Risk (r= 0. 079 p<0.01); Social Use/ Recreation (r=0. 0.79 p<0.01); Geeky Traits / Risk Exposure (r=0. 696 p<0.01) which indicates a level of validity concurrent with the scale** (ERA-RSI) that was used as a gold standard, to validate the instrument at the criterion level.

## Construct Validation

The theoretical aspects related to the factors that are identified as risks for behaviors in the use and exposure of the web in children were validated.

In the creation of the Questionnaire on the Use and

| Symptoms of Addiction | Q30 | Q31 | Q33 | P34 |
|---|---|---|---|---|
| I1 | 0.17 | -0.258 | **.391**<sup>*</sup> | **.391**<sup>*</sup> |
| I2 | 0.17 | -0.258 | **.391**<sup>*</sup> | **.391**<sup>*</sup> |
| I6 | -0.156 | **-.374**<sup>*</sup> | 0.305 | 0.305 |
| I7 | -0.273 | **-.378**<sup>*</sup> | 0.25 | 0.25 |
| I8 | -0.293 | **-.389**<sup>*</sup> | 0.273 | 0.273 |

Abuse of Social Networks in Mexican Adolescents of CDMX, in the exploration of the literature pertinent to the subject, we find, most of the research studies developed in populations of university students, as well as in other countries, having as a study objective the description of the use of new technologies, Internet, pathological play, video games, among others, but not in ages of children and adolescents, corresponding to our sample, so we find it difficult to find an instrument with the characteristics we wanted, and that in turn has reliability and psychometric validity. The use of the web, suffered a vertiginous increase from the pandemic by SARS-19 COVID, being reported as a factor of relevance and importance by parents, guardians and teachers.

Through the psychological theoretical construction, we can observe the risk factors and protective factors that are present in the use of networks or use of the web on different platforms, in such a way the excessive or unregulated use can create different scenarios in each user, such as an addiction among others.

Madrid (2000) (9) describes that psychological addictions are characterized by repetitive behaviors that are pleasant at first, but once they are installed as habits, they generate states of need that cannot be controlled and are associated with high levels of anxiety. To reduce this anxiety people develop addictive behavior; this is produced not so much by the search for gratification that would be pleasure, but to reduce the level of anxiety produced by the fact of

not executing it that would be for avoidance, in this vicious circle is that addictions develop.

The use of social networks, the web in general and the permanence without reason in the use of different mobile devices can characterize an addictive state, and this phenomenon is observable by triggering symptoms such as feeling anxious or irritable; inhibiting basic physiological needs, such as eating or inability to fall asleep, as well as forgetting social needs, self-esteem, security or self-realization. Madrid, (2000) (9. Ibid.) describes that there are two psychological mechanisms, pleasure-repetition/displeasure-avoidance, which allow us to understand that this phenomenon can be defined as a full-blown addiction. Being the only difference, from the rest of addictions, the presence or absence of substances.

Regarding the development of addiction, other authors such as Echeburúa, Amor &Cenea, (1998) (10); Griffiths. (1998) (11); Grohol, (1999) (12); Young, (1996) (13) propose the existence of the disorder of Internet addiction, postulating the main components of addictive acts such as physiological effect, psychological dependence, habitual action, cultural origins, social response, affective economic maintenance and self-representation, likewise, make evident the negative impact on relationships and social skills, evidencing in conjugal relationships, friendships, work, economy and the legal status of people (Greenfield. 1999) (14).

Several studies mention the effects or negative impact of addiction to the web and technology, as in the study of university students in Lima, Peru, where consumption habits on the Internet are analyzed: frequency and purpose of use; the indicators of risk of Internet addiction, and the personality of 66 students from a particular university in Metropolitan Lima. These variables are analyzed together with the dimensions and facets of the NEO-PI-R Personality Inventory (15) from the model of the five factors. There is an association between the facets values and actions, belonging to the Openness dimension, and

the risk of Internet addiction. There is also a negative relationship between the number of symptoms of Internet addiction and the Consciousness dimension, especially with the facets of self-discipline, sense of duty, motivation for achievement and reflection.

Other effects are those mentioned by Young, KS and Rogers, RC (1998) (16) in their studyexaminó the relationship between depression and pathological Internet use (PIU). The profiles of 259 internet addicted users with an average age of 32 years were collected, conducted through an online survey, and the data were analyzed using the Beck Scale Depression Inventory. The results show that there were mild to moderate levels of depression. The findings suggest that clinical depression is significantly associated with higher levels of personal internet use. It is concluded that the evaluation of suspected cases of IPU should also assess depression.

Cruzado, Muñoz-Rivas and Navarro (2001) (17) reviewed research on Internet addiction disorder and observed methodological difficulties, some of them related to the instruments and the precise determination of the object of study. In their conclusions, they recommend developing studies with normal populations and that variables related to the pathological use of this resource be included.

As mentioned, in various parts of the world studies and research are being developed around the topic of addiction in the use of the web and technology, the pioneering works are by Echeburúa& Corral, 1994 (18); Echeburúa, Amor & Cenea, 1998 (19) Goldberg, 1995 (20); Cruzado et al., 2001 (17.ibid.); Cruzado, Matos & Kendall, 2006 (21); Navarro & Rueda, 2007 (22); Pacheco, Palomar & Zavala, 2010 (23); among others.

Chóliz and Villanueva (2011) (24); Chóliz, Villanueva and Chóliz (2009) (25); Echeburúa and Corral (2010) (26); Marco and Chóliz (2012) (27). Chóliz and his collaborators, they have developed instruments to measure network addictions and in turn have given themselves the task of carrying out the intervention work and being able to attack the current problem,

which is increasing in increasingly younger populations, as described by the studies carried out by Astonitas (2005) (28) that tells us about an instrument that he built from the indicators of the DSM-IV to study Internet addiction. So do Lam Figueroa et al. (2011) (29) who validated a shorter instrument. Vilca and Gonzales (2011) (30), meanwhile, built the Social Media Addiction Risk Questionnaire (CrARS). The Samejima Graduated Response Model (MRG) The model was developed by Samejima (1969) (31); Embretson & Reise, 2000 (32); Ostini & Nering, 2010 (33), 2006 (34); Van der Linden & Hambleton, 1997) (35)

Among the studies carried out, the addictive factor stands out, the cause being the uncontrolled use of these technologies, but we cannot deny that the day-to-day use among humanity will continue, since this has allowed work, school and social activities to continue. Such is the case in the face of the pandemic caused by SARS-19 Covid, where the use of technology became relevant to be able to continue with the demands mainly of a work and school environment, on the other hand, not so positive, addiction to social networks spread very quickly, especially in the younger sectors, even becoming a matter of existence or non-existence, this derived from being or not present in social networks.

Within the utilities of mobile phones, all kinds of applications are observed that allow downloads of any type of material, it is not limited to the use of calls, in addition to all have immediate portability. The constant improvement of technology, mobile phones, applications and networks, makes communication faster, solving problems, communicating immediately, interconnecting work, school, recreation, among others; making it more attractive. The advantages can be observed, however, the disadvantages are also remarkable, for example, the reduction of social interaction between the subjects. We are facing a paradoxical scenario, where it cannot be denied that the measured use of these technologies and other

measures is where action must be taken. Otherwise, we will have unpleasant scenarios.

Cruzado Díaz Lizardo, Matos Retamozo Luis, Kendall Folmer Rommy (2006) (21.ibidem), conducted a study with the aim of recognizingthe clinical and epidemiological characteristics of hospitalized patients diagnosed with "internet addiction" at the National Institute of Mental Health Honorio Delgado – Hideyo Noguchi. The mean age was 18.3 ±3.8 years. The most frequent personality traits were antisocial (40%). Three patients suffered from pulmonary tuberculosis during their addiction. With a history of family dysfunction in 80% of patients and 56.7% with a family psychiatric history. 83.3% of patients started using the internet at least two years before admission and 50% connected more than 6 hours a day. 90% of patients focused primarily on network games. The main symptoms were irritability (80%) and decreased academic performance (76.7%). The highest comorbidity was found with affective disorders (56.7%). Six (2%) presented ideation or suicidal attempt. Thirteen (43.3%) with a history of excessive use of video games, concluding that patients with Internet addiction are characterized by their young age, high time of daily use of the Internet, predominance of use of network games and marked frequency of psychopathic behaviors, showing a significant personal, academic and family relationship deterioration and suggest prospective studies to better specify the characteristics of this emerging pathology.

As a factor of protection, it becomes relevant, to take care among the younger sector, the use and consumption of these technologies. Currently the changes that the pandemic has brought to face the needs, gives us a window of opportunities regarding the addiction to the use of the web such as re-educating the measured use of mobile phones, learning to dose their use, making routines of productive use, recreation, communication, among others. Technologies will continue to advance and become more attractive and decisive, so it does not

depend on the technology itself, but on how it is used. Some mobiles begin to have notices of responsible and measured use, informing the user of the number of hours in front of the screen, it would be expected that people take into account this indicator as a warning and in turn generate a more balanced use between their various activities. Currently there is a generation where younger users have greater independence from parents, find multifunctionality and significance, allows them to be visible to their peers, and being native users surpass their parents, having the latent risk of developing an addiction as already described by the authors.

In a study conducted by. Mariano Chóliz; Veronica Villanueva; Mari Carmen Chóliz (2009) (25. ibid.), A survey was conducted with 2,486 adolescents, between 12 and 18 years old, in which the main parameters of mobile phone use were analyzed. The main objectives were both the description of the pattern of habitual use of the mobile by adolescents, and the analysis of gender differences in some essential aspects, such as consumption, attitudes towards the mobile, or functions that are carried out, obtaining statistically significant differences between women and men in the main parameters of mobile use and its function.

For Echeburúa, Enrique; de Corral, Paz (2010) (26. ibid.), the concept of "Internet addiction" is described as the explanation for understanding the loss of control and harmful use of this technology. In the research they conducted, they address the problem of the inappropriate use of technologies such as the Internet and its impact especially on young people. They mention that some people become obsessed with the Internet, and are unable to control its use, endangering work and their interpersonal relationships. They report that the use and abuse of the Internet are related to psychosocial variables, such as psychological vulnerability, stressors and family and social support. It highlights the importance of developing preventive strategies both within the family and at school, as a basis for risk factors and the

demographic characteristics of the subjects. They detail that the psychological treatment of choice for this type of addiction would be the control of stimuli and gradual exposure to the Internet, followed by a relapse prevention program. Externalizing requires more information on appropriate programs for younger patients, as well as motivational strategies for treatment and continuing research in this field of rehabilitation.

Herrera Harfuch, Maria Fernanda; Pacheco Murguía, and collaborators (2010) (36) describe a sample of 63 students with the aim of finding a relationship between Facebook addiction, low self-esteem, depression and lack of social skills, 60.3% were women and 39.7% men, and the highest percentage of age was 22 years, with respect to the results, statistically significant differences were found between addicts and non-Facebook addicts, allowing them to see that there is a statistically significant relationship between Facebook addiction and low self-esteem, depression and lack of social skills. Deducing that Facebook addicts are more prone to depression, to have fewer social skills and to show lower self-esteem.

Coinciding with what has been described in the literature and that in recent years the use and number of hours dedicated to these technologies, the web and video games all minors and adolescents are being made invisible.

## DISCUSSION

The proposal of the instrument and each of its items was elaborated based on the bibliography, instruments and research consulted, in addition to the recommendation of specific items by specialists in child psychiatry and with the review by other competent professionals.

The reliability of the instrument is positive and statistically significant. According to the statistical analysis it can be noted that in general the scale (CEWENI) has a good correlation between the various proposed areas. In relation to the scale (ERA-RSI) there is a positive and significant correlation in

Symptoms Addition / Exposure to Risk (r = 0. 079 p<0.01); Social Use/ Recreation (r=0. 0.79 p<0.01); Geeky Traits / Risk Exposure (r=0. 696 p<0.01) which indicates a level of validity concurrent with the scale (ERA-RSI) that was used as a gold standard, validating the instrument at the criterion level.

According to the above, it can be said that the instrument can be used by professionals as a tool to evaluate the detection of use and abuse of the web. The questionnaire is useful in epidemiological and research studies, being an advantageous tool for professionals in mental health and other medical and social areas.

## CONCLUSIONS

In the present study, the Questionnaire (CEWENI), showed an adequate validity and an internal consistency alpha Cronbach of 0.84 after modifying some items according to the criteria of the experts. According to the statistical analysis, it is observed that in general the questionnaire (CEWENI) has a good correlation between the different areas proposed. In relation to the gold standard Scale Questionnaire (ERA-RSI), it has a positive and significant correlation. Therefore, the questionnaire (CEWENI) can provide us with information on at-risk populations, as well as being an impulse for new research that allows us to know the risk of the use of social networks in children and adolescents.

### Limitations

It is important to conduct more studies with an older population to verify other characteristics such as specificity and sensitivity of the instrument.

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