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ADAPTATION AND VALIDATION OF THE QUESTIONNAIRE ON EXPOSURE TO VIOLENCE IN YOUNG PEOPLE

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Abstract

For just over a decade, interpersonal violence has impacted the daily life of the Mexican population, particularly adolescents. With the aim of having an instrument that assesses the perception of violent events in different contexts, the objective was to adapt and validate the "Questionnaire exposure to violence" (CEV), to which was added a group of items related to exposure to violent events through the mass media (TV, social networks and streaming). The findings show that the CEV has a high psychometric quality in the Mexican adolescent population, and that the inclusion of items related to the perception of the occurrence of violent events through the mass media proved to be useful to evaluate violence on this scale. The model obtained in the confirmatory factor analysis was verified by means of absolute indices (GFI, AGFI, CFI, RMSEA and NFI Delta1), which were above the minimum acceptable, showing two clearly defined factors: the perception of violence in physical contexts and in mass media contexts.
KEY WORDS: *psychometric quality, interpersonal violence, violence in mass media, youth*.

Resumen

Desde hace poco más de una década la violencia interpersonal ha impactado la vida cotidiana de la población mexicana, particularmente la de los adolescentes. Con la intención de contar con un instrumento que permita valorar la percepción de eventos violentos en distintos contextos, se planteó el objetivo de adaptar y validar el "Cuestionario exposición a la violencia" (CEV); al que se le agregó un grupo de ítems relacionados con la exposición a eventos violentos a través de los medios de comunicación (TV, redes sociales y plataformas de entretenimiento). Los hallazgos muestran que el CEV cuenta con una alta calidad psicométrica con adolescentes mexicanos y, que, la inclusión de ítems relacionados con la percepción de la ocurrencia de eventos violentos en medios de comunicación resultó de utilidad para evaluar la violencia con esta escala. El modelo obtenido en el análisis factorial confirmatorio mostró índices absolutos (GFI, AGFI, CFI, RMSEA y NFI Delta1) por encima del mínimo aceptable, mostrando dos factores claramente

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definidos, la percepción de violencia en contextos físicos y en medios de comunicación.
PALABRAS CLAVE: *calidad psicométrica, violencia interpersonal, violencia en medios de comunicación, jóvenes.*

Introduction

Today, violence is one of the leading causes of death of millions of people around the world, as well as a trigger for various physical, psychological and social problems, which is why the World Health Organization has considered it a public health problem. One of the substantive issues to address this phenomenon has to do with the generation of empirical evidence that allows to know its magnitude, characteristics and possibilities of intervention to mitigate the impact of this phenomenon on the health of the population (Pan American Health Organization [PAHO], 2003). Hence, conducting research studies on this issue is fundamental.

Nowadays, violence is understood as "the intentional use of force or physical power, in fact or as a threat, against oneself, another individual or a group or community, causing or having the probability to cause injury, death, psychological damage, developmental disorders or deprivation" (PAHO, 2003; p. 5), which allows to visualize that there are a series of behaviors that can trigger violence, or that may be impacting on the population in general but young people particularly.

Studies carried out in children and young people have identified that violence, especially interpersonal, can be experienced in different ways and at different times during these stages of life. In fact, some authors point out that an individual may experience three or more different violent situations in the same stage of life, which leads to considering a polyvictimization in different areas, since its effects can significantly alter their well-being and mental health (Finkelhor et al., 2005a,b; Finkelhor et al., 2007; Finkelhor et al., 2009; Turner et al., 2010).

Various research studies have shown that there are several psychosocial factors that predict violence, some of an individual nature, such as being male, having an aggressive personality, high impulsivity, anxiety, low mood, behavioral problems and low intelligence (Benjet et al., 2019; De Ribera et al., 2019; Farrington, 1998; Negy et al., 2013). As for interpersonal predictors, being a member of a large family, having divorced parents, deviated social relations, having early sexual relations, suffering victimization and u using psychoactive substances are the outstanding factors (Bennett et al., 2008; De Ribera et al., 2019; Derzon, 2010; Farrington, 1998; Negy et al., 2013). Finally, some other social factors can be highlighted, such as belonging to a low socioeconomic stratum (Derzon, 2010; Zhen-Duan, et al., 2020) and living in neighborhoods of large cities of the continent (such as Lima, Buenos Aires, Medellin, São Paulo and Mexico City) with presence of violent events (beatings, witnessing death or serious injuries, assaults or threats with weapons, sexual harassment or other violent events) (Benjet et al., 2019).

Another relevant point about the phenomenon of violence is its growing involvement with the mass media; that is, digital contexts also referred to in the present work as mass media, that is, television (TV), Information and Communication Technologies (ICTs) and social networks. As a result of the digital revolution, along with the perception of anonymity, disinhibition of users (Echeburua & Requesens, 2012), lack of parental control and lack of restrictions on their use (Alvarez-Garcia, Garcia, Cueli and Nunez, 2019), people have been exposed to situations of both direct violence (Cyber bullying among students) and involuntary exposure to violent events (audiovisual content; Catalina et al., 2014; Patton et al., 2014) that is usually presented without context and is intended to cause morbid, disgust and shock (Livingstone et al., 2014).

As for online streaming and entertainment services, violence is usually present in the most popular content and tends to be intense, explicit, significant, graphic, intentional and unjustified. This can lead to accelerating desensitization and increasing violent behavior among users of this type of content (Krongard & Tsay-Vogel, 2018); This is consistent with the literature on the exposure of violent events on TV and movies and their relationship with violent behavior (Bandura et al., 1963; De Ribera et al., 2019; Johnson, 2002; Huesmann & Taylor, 2006).

Due to the complexity of the phenomenon and the researchers' own theoretical-methodological approaches, various instruments or scales have emerged that explore the different expressions of violence in different scenarios, different perspectives, different conditions. For example, the Index of Spouse Abuse (Hudson & McIntosh, 1981), or the Conflict Tactic Scales- Parent-Child (Straus et al., 1998), is in the field of domestic violence.

As to school context, the peer victimization scale has been developed, aimed at the adolescent population (Mynard & Joseph, 2000). On the other hand, the community context has been evaluated by the Questionnaire on Exposure to Insecurity and Violence for Adolescents (CEIVA, Gomez et al., 2013).

Expanding the number of scenarios to be evaluated, the Exposure to Community Violence Survey (SECV; Richters & Saltman, 1990) and the Screen for Adolescent Violence Exposure (SAVE, Hastings & Kelley, 1997) have been designed.

In addition, some instruments that evaluate violent events in specific populations have been identified, such as the Evaluation of Children's Exposure to Community Violence (Zavaschi et al., 2002), and the Evaluation of Children's Exposure to Community Violence (Zavaschi et al., As well as the Juvenile Victimization Questionnaire (JVQ; Finkelhor et al., 2005).

On the other hand, scales have been designed to measure the exposure of violence on TV programs, such as the Children's Report of Exposure to Violence (CREV; Cooley et al., 1995), or the exposure to violent events on digital media such as the scale of victimization among adolescents through Mobile Phone and the Internet (CYBVIC, Buelga et al., 2012).

It should be noted that one of the instruments that explores different physical contexts (family, school, community) and one of the most traditional mass media

(TV) in which violence in children and adolescents is present, is the Questionnaire on Exposure to Violence ("Cuestionario de exposición a la violencia", CEV; Orue & Calvete, 2010).

Mexico has been considered one of the countries in Latin America with the greatest violence, with a crime prevalence rate of 24,849 victims per 100,000 inhabitants during 2019 (National Institute of Geography and Statistics [INEGI], 2020). This rate has increased due to the so-called "war against drug cartels," which has led to a deterioration in the mental health of those directly victimized (Feinstein, 2012) and indirect witnesses of threatening communications from these criminal groups, The brutality of their massacres and their confrontations with the police (Flores & Atuesta, 2018). Some studies have shown that the victimization of different types of community violence is common in young Mexicans, being the most frequent indirect and a predictor of symptoms of post-traumatic stress (Orozco-Ramirez et al., 2020). In addition, a study with mothers and children found a high prevalence of exposure to intimate partner violence in the home together with different forms of interpersonal victimization (physical, psychological, emotional, sexual, negligence and indirect violence) experienced by children in their family and community environment (Erolin et al., 2014).

Due to the increase of different forms of violence in much of the Mexican territory of our unfolding century (Cisneros & Cunjama-Lopez, 2011). Since 2011, the National Survey of Victimization and Perception on Public Security (ENVIPE) was launched, as a means for recording this phenomenon based on certain indicators that allow exploring its magnitude and significance. This instrument has shown, particularly in the last decade, that in the state of Veracruz (a state in the Gulf of Mexico), extortion, fraud, home burglary and homicides have increased. These situations have substantially increased the perception of insecurity in the population (INEGI, 2021).

In this context, it is relevant to mention that, from the field of psychology, the development of research that allows, through standardized instruments, the generation of evidence that to know specifically some areas where events related to violence are presented to a greater extent and to generate evidence that allows for the development of strategies of attention. For this aim, and considering the different scales that have been mentioned, the EVS is one of the instruments that, in addition to having been adapted and validated to the Mexican population (Lopez et al., 2011), it explores some contexts/scenarios of exposure to violence in the adolescent population, as well as some of the instruments that have been adapted and validated to the Mexican population (Lopez et al.,). a population group that has been most affected. However, the only mass media considered in the instrument is TV, which opens the possibility of including other types of contexts related to technological media, such as social networks (Facebook, Twitter, WhatsApp, Instagram, YouTube, etc., just to mention a few) and entertainment or streaming platforms (Netflix, Claro Video, HBO Go, Cinepolis KLIC, Blim, Disney Plus, Star Plus and Amazon Prime Video, among others), in which a high relationship with exposure

to different expressions of violence has also been documented (Herrera-Lopez et al., 2018; Lacunza et al., 2019; Patton et al., 2014).

Due to the exacerbation of the phenomenon toward other areas of daily life through the mass media, the objective arose to explore its manifestation in different significant scenarios of Mexican adolescents, through the use of a standardized instrument. Thus, the CEV could provide greater indicators on the phenomenon, by adding a series of items related to exposure to violent events in mass media (social networks and entertainment or streaming platforms).

Method

Participants

Through a non-experimental, cross-sectional study, ex post facto, the questionnaire of exposure to violence was administered, considering, for the definition of the sample size, the methodological criteria of Oros de Sapia and Neifert (2006), who recommend including between 3 and 5 people for each item in the validation of a scale. Thus, through a non-probabilistic sampling, for convenience, the participation of at least 135 people was determined, considering the number of items on the scale (27) multiplied by the maximum value suggested by the authors (5).

Thus, information was obtained from 320 high school students from two schools with somewhat similar socio-urban characteristics, located in the capital city of the state of Veracruz, Mexico. 53,1% females; 46,3% males (0,6% did not respond), with an age average of 15,8 years (SD = 0,63), in a range between 14 and 19 years. Regarding the occupation 93,1% were only students, while 3,6% had a job.

Instruments

The *Questionnaire on Exposure to Violence* ("Cuestionario de exposición a la violencia", CEV; Orue & Calvete, 2010) designed for the Spanish population and adapted to the Mexican population by Lopez et al. (2011) was used. The instrument evaluates expressions of violence to which adolescents are exposed in four contexts (school, home, streets/neighborhood and TV), considering three types of violence (physical, verbal and threats). This, through 21 items (nine of direct exposure/victimization and 12 of indirect exposure/observation where they were witnesses) to which is given Likert type response of 5 points (0= Never, 1= Once, 2= Sometimes, 3= Many times, and 4= Every day). For this study, six items of indirect exposure to situations of violence on social networks were added to the original instrument (Facebook, Twitter, WhatsApp, Instagram, YouTube, Twitter, WhatsApp, for example) and entertainment or streaming platforms (Netflix, Claro Video, HBO Go, Cinepolis KLIC, Blim and Amazon Prime Video, among others).

In some studies the scale showed a good reliability (α between .71 and .80 for each area in the Spain version and a α of .87 in the Mexican adaptation) as well as a very acceptable validity (in the confirmatory factor analysis of the Spain version, a good statistical adjustment was observed and in the Mexican version five factors were reported to explain 61.90% of the variance) (López et al., 2011; Orue & Calvete, 2010).

Procedure

The authorities of two high school institutions were contacted to invite them to participate in the research. After having explained the objectives of the project, a letter of intent was signed to maintain the commitment for the conduction of the study. Each school sought out the strategy to inform parents about the study and obtain their consent. With a visit to their classrooms, the students of the 2018-2019 school year were invited. The objective of the study was explained and the anonymity was guaranteed and confidentiality of the information provided. Those who did not agree to participate were asked to remain seated in their place allowing others to complete the instrument. The students were asked to answer all the questions and, in case of any doubt about the content of the questionnaire, they had to go and ask the administrator of the questionnaire.

The school authorities acted as responsible bodies for the students, and at the time they authorized and signed the letter of intent of the project, they consented to the ethical care of the study. Parents of students who belonged to the groups selected to participate in the survey gave their consent. Also, students were invited to participate in the study highlighting their anonymity and confidentiality of the information provided, participating only those who verbally agreed to collaborate. Both in the application of the instrument and in the care of information, both international standards such as the Declaration of Helsinki (World Medical Association, 2013), and regulations of Mexico in relation to research in Humans, were taken into account as well as the Regulation of the General Law on Health for Research related to Health (Department of Health, 1983).

Data analysis

In principle, each of the items of the scale was performed an analysis of response quality, bias and kurtosis. To estimate the reliability, a Cronbach alpha analysis was carried out with the items corresponding to each context, seeking for the resulting correlation coefficient in general to be greater than that obtained if any item was eliminated.

As for validity, in principle a correlation matrix was elaborated to determine the method to be used in the exploratory factor analysis (either orthogonal or oblique); Once this was defined, the Kaiser-Meyer-Olkin index (KMO) and Bartlett sphericity test (χ^2) were estimated for each context and globally, considering all the items

originally contained and eliminating, if applicable, those with a low statistical weight. The mentioned analyzes were carried out with the IBM SPSS software v. 24.0.

Subsequently, a confirmatory factor analysis was performed using the IBM AMOS software v. 24.0, which analyzed the statistical and conceptual congruence of the scale through tests such as GFI (goodness of fit index) (Jöreskog & Sörbom, 1986) and AGFI (adjusted goodness of fit index): Absolute best-performing indexes (Hoyle & Panter, 1995), range from 0 to 1 and those exceeding .9 are considered as suitable models. CFI (comparative fit index): One of the most used and best performing relative indexes (Tanaka, 1993) also ranges from 0 to 1, with the value of .9 being the minimum required to defend the model (Bentler & Bonnet, 1980) and RMSEA (root mean square error of approximation): Measures of error of the model, indicators of a good fit with values below .05 (Browne & Cudeck, 1993). Finally, NFI (normed fit index): evaluates the decrease of the χ^2 statistic of the adopted model with respect to the base model. It must reach a minimum value of .90.

Finally, in order to analyze the quality of the reliability of the model, an analysis was performed through the Omega test, hoping that its coefficient was higher than that obtained in Cronbach's alpha.

Results

Item analysis

Through descriptive statistics, the 27 items that made up the scale were analyzed: 9 that explored direct exposure to violent events and 18 related to indirect violent events. An analysis of the quality and diversity of responses was carried out, and it was found that for all the items there was at least one response in each category level (from never to every day). In all the items an atypical distribution was obtained and in an expected way, since the situations of violence evaluated have a wording for which a low occurrence would be expected. On the other hand, an analysis of discrimination and directionality was elaborated, which allowed to identify again, that all the items are relevant and important, due to the statistical values obtained.

Reliability analysis

Once the quality of each item was analyzed, we proceeded to develop a Cronbach's alpha analysis by context, as did the authors of the scale. It was found that the correlation coefficients obtained in each context were always above the values per item, so each and every one of them was preserved (Table 1). For each evaluated context, correlation coefficients above .76 were obtained, a value that reflects a level of reliability more than acceptable. Both in the contexts originally

raised in the scale and in the exposure to violent events through social networks and entertainment or streaming platform.

Once the analysis for each context was carried out, Cronbach's alpha coefficient was estimated globally in the 27 items making up have formed the instrument, obtaining a correlation coefficient of .90, This implies that the scale has an important statistical consistency for what it intends to measure.

Table 1

Cronbach's alpha correlation coefficient of the Questionnaire on Exposure to Violence

Context of violence	Number of items	Cronbach's alpha
School	6	.808
Street/Neighborhood	6	.780
Home	6	.856
TV	3	.766
Social networks (Facebook, Twitter, WhatsApp, Instagram, YouTube, for example)	3	.772
Entertainment or streaming platforms (Netflix, Claro video, Blim, Clik, Amazon Prime Video, for example)	3	.903
Global	27	.903

Validity analysis

Exploratory factor analysis

This analysis involved, at first, the elaboration of correlation matrices to define the method to be considered in the factorial analysis itself. Thus, the correlation matrix calculated for most of the studied contexts showed moderate to low scores, so the orthogonal method was used; however, in the context of social networks, correlations were predominantly moderate to high, so the analysis was elaborated using the oblique method.

For the context of violence at school, considering the six items that make up this block, in the factor analysis KMO measure of .83 was obtained, a value of χ^2 of 558.65 in the Bartlett sphericity test, significant to .001; with a single factor, which explains a variance of 51.99%, with internal correlation coefficients above .63 (Table 2).

On the other hand, the factor analysis carried out with the six items evaluating the context of violence in the street/neighborhood, a KMO measure of .75 was obtained, an χ^2 of 606,58 in the Bartlett sphericity test, significant to .001; With a unifactorial characteristic, which explains 49,61% of the variance, with correlation coefficients above .60 (Table 2).

As for the factor analysis carried out with the six items evaluating the context of domestic violence, a KMO measure of .85 was obtained, an χ^2 of 805,23 in the

Bartlett sphericity test, significant to .001; with a unifactorial characteristic, which explains 59.21% of the variance, with correlation coefficients above .73 (Table 2).

Table 2
Matrix of main components of the items corresponding to the different physical contexts evaluated by the Questionnaire on Exposure to Violence

Physical context/Items	Factor loadings
School	
How often you have been insulted at school?	.771
How often have you seen one person insulting another individual at school?	.766
How often have you seen one person threaten to hit another individual at school?	.763
How often you have seen someone hit or physically hurt another person at school?	.719
How often you have been hit or physically hurt at school?	.658
How often has anyone threatened to hit you at school?	.637
Street/neighborhood	
How often has anyone threatened to hit you out in the street?	.767
How often have you been hit or physically hurt out in the street?	.728
How often have you been insulted out in the street?	.726
How often have you seen one person threaten to hit another individual out in the street?	.708
How often have you seen one person insulting another individual out in the street?	.683
How often have you seen anyone hit or physically hurt another person out in the street?	.603
House	
How often have you been insulted at home?	.821
How often they have threatened to hit you at home?	.783
How often you have seen someone hit or physically hurt another person at home?	.775
How often have you seen one person insulting another individual at home?	.756
How often have you been hit or physically hurt at home?	.743
How often have you seen one person threaten to hit another individual at home?	.735

On the other hand, as for the context of violence on TV shows, it was found that in the factor analysis, carried out with the three items that make up this context, a KMO measure of .69 was obtained, A score of χ^2 of 242.65 in the Bartlett sphericity test, with a significance value at .001; a factor explaining 68,20% of the variance was obtained, with correlation coefficients in each item above .82 (Table 3).

As for to the factor analysis carried out with the three questions evaluating the context of violence on social networks, a KMO measure of .69 was obtained, an χ^2

of 256,46 in the Bartlett sphericity test, with a significance at .001; with a factor that explains 68.77% of the variance, with correlation coefficients above .80 (Table 3).

In the factor analysis carried out for the three items evaluating the context of violence in programs of entertainment or streaming platforms, a KMO measure of .74 was obtained, an χ^2 of 623.03 in the Bartlett sphericity test, with a significance value at .001; with a factor that explains 83,86% of the variance, with correlation coefficients in each item above .89 (Table 3).

Table 3

Matrix of main components of the items corresponding to the different digital contexts of mass media that evaluates the Questionnaire on Exposure to Violence

Digital context/Items	Factor loadings
TV	
How often have you seen one person insulting another individual on TV?	.830
How often have you seen one person threaten to hit another individual on TV?	.827
How often you have seen anyone hit or physically hurt another person on TV?	.821
Social networks	
How often have you seen one person threaten to hit another individual on social media (Facebook, Twitter, WhatsApp, Instagram, Youtube, for example)?	.858
How often you have seen anyone hit or physically hurt another individual on social media (Facebook, Twitter, WhatsApp, Instagram, Youtube, for example)?	.808
How often have you seen one person insulting another individual on social media (Facebook, Twitter, WhatsApp, Instagram, Youtube, for example)?	.821
Entertainment or streaming platforms	
How often have you seen one person threaten to hit another individual on entertainment or streaming platforms (Netfilx, Claro Video, Blim, Clik, Amazon Prime Video, for example)?	.931
How often you have seen someone hit or physically hurt another person on entertainment or streaming platforms (Netfilx, Claro Video, Blim, Clik, Amazon Prime Video, for example)?	.922
How often have you seen one person insulting another individual on entertainment or streaming platforms (Netfilx, Claro video, Blim, Clik, Amazon Prime Video, for example)?	.894

To conclude with the exploratory analysis of the validity of the scale, a general factorial analysis was developed with the 27 items, in order to identify their organization through the expected contexts (six factors: School, street / neighborhood, home, TV, social networks and streaming); In which more than acceptable scores were obtained in both the KMO test (.862) and Bartlett sphericity

test (χ^2= 4340.56, p< .001). After several analyses, four well-defined factors were obtained (violence in the contexts of mass media, at home, at school and in the street/neighborhood), which explain 55,6% of the variance (Table 4). It is noticeable that in the analysis, the mass media factor unified the items corresponding to the contexts related to exposure to TV programs, to social networks and to entertainment or streaming platforms.

Table 4
Matrix of main components of the Questionnaire on Exposure to Violence

Factor (context) / Items	Factor loadings			
	1	2	3	4
1. *Mass media*				
How often have you seen one person threaten to hit another individual on entertainment or streaming platforms (Netfilx, Claro Video, Blim, Clik, Amazon Prime Video, for example)?	.808			
How often have you seen someone hit or physically hurt another person on entertainment or streaming platforms (Netfilx, Claro Video, Blim, Clik, Amazon Prime Video, for example)?	.786			
How often have you seen one person insulting another individual on entertainment or streaming platforms (Netfilx, Claro video, Blim, Clik, Amazon Prime Video, for example)?	.773			
How often have you seen one person threaten to hit another individual on TV?	.704			
How often have you seen one person threaten to hit another individual on social media (Facebook, Twitter, WhatsApp, Instagram, Youtube, for example)?	.686			
How often have you seen one person insulting another individual on TV?	.674			
How often have you seen one person insulting another individual on social media (Facebook, Twitter, WhatsApp, Instagram, Youtube, for example)	.668			
How often you have seen anyone hit or physically hurt another person on TV?	.648			
How often you have seen anyone hit or physically hurt another individual on social media (Facebook, Twitter, WhatsApp, Instagram, Youtube, for example)?	.510			
2. *Home*				
How often you have been insulted at home?		.790		
How often have you seen anyone hit or physically hurt another person at home?		.768		
How often has anyone threatened to hit you at home?		.765		

Factor (context) / Items	Factor loadings			
	1	2	3	4
How often you have been hit or physically hurt at home?		.736		
How often have you seen one person insulting another individual at home?		.729		
How often have you seen one person insulting another individual at home?		.707		
3. *School*				
How often have you seen one person insulting another individual at school?			.745	
How often have you seen one person threaten to hit another individual at school?			.683	
How often have you been insulted at school?			.682	
How often you have been hit or physically damaged at school?			.599	
How often have you seen anyone hit or physically hurt another person at school?			.546	
How often has anyone threatened to hit you at school?			.483	
4. *Street/neighborhood*				
How often has anyone threatened to hit you out in the street?				.850
How often have you been hit or physically hurt you out in the street?				.788
How often have you been insulted out in the street?				.623
How often have you seen someone hit or physically hurt another person out in the street?				.593
How often have you seen one person threaten to hit another individual out in the street				.517
How often have you been insulted on the street				.516

Confirmatory factor analysis

For the elaboration of this analysis, we proceeded to estimate the six variables resulting from the scale in the exploratory analysis, which were congruent with the theoretically expected according to what was reported in the original instrument of Orue and Calvete (2010), forming the variables context of violence in: School, home, street/neighborhood, TV, social media, and entertainment or streaming platforms.

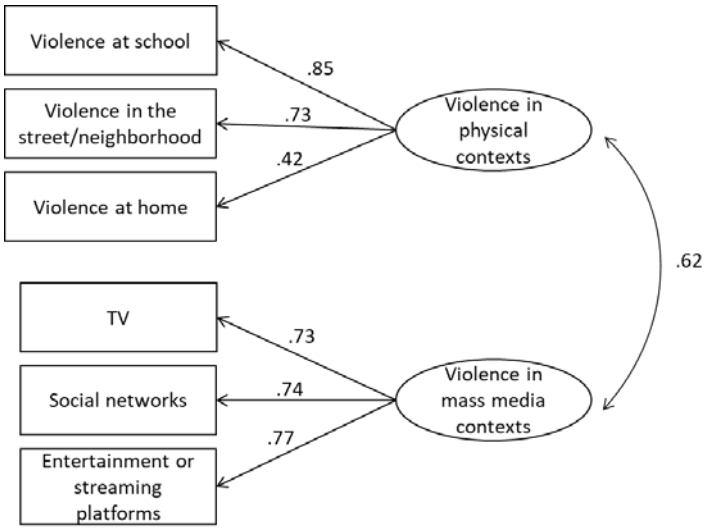
It should be noted that when defining the components of the model, two latent variables were created: The first groups those related to violence in physical contexts (school, house and street/neighborhood) and the second, those involving exposure to violent events in mass media contexts (TV, social networks and streaming) (Figure 1).

A high correlation can be observed in exposure to violent events on TV, social media and entertainment or streaming platforms, which can be classified as exposure to violence in mass media. Also, a high correlation is observed in the

perception of violent events in school and in the street, although a moderate to low correlation is recorded in violence at home, each part of the exposure to contextual violence. Finally, a moderate correlation was found and in an expected way between violence through the mass media and the context, this confirming that the measuring instrument used manages to explore multiple conditions and scenarios of exposure to violence.

Figure 1

Explanatory model of the Questionnaire on Exposure to Violence in physical contexts and in mass media contexts



After the elaboration of the analysis with the 320 participants in the study, recursion was found in the model, and despite obtaining a value of χ^2 (8) = 26.02 higher than expected, having a significance to .001, it was considered relevant after analyzing the specific evidence that gives validity and which is detailed below. In the absolute indices a GFI of .974, an AGFI of .933 and a CFI of .969 were obtained, values above the acceptable minimum (.90) according to Bentler and Bonnet (1980), which implies a good functioning of the model. Indicators of an acceptable fit were also obtained, since the RMSEA test was .084, close to the .05 recommended by Browne and Cudeck (1993). Finally, the NFI Delta1 test was .956, it reached the minimum acceptable value which is .90.

It should be noted that an analysis was carried out with the Omega statistical test, in which a coefficient of .900 was obtained.

Ratings of exposure to interpersonal violence

In a score of 0 to 4 points, where a score further away from zero implies a greater exposure to violent events, it was found that in all scenarios evaluated with the instrument there is a presence of violence, being more frequent in the mass media, and less frequent at school and in the street / neighborhood, and where less violence is perceived, in the opinion of the respondents, is in the family context, the house.

Table 5
Perception of exposure to violent events

Scenario	*M*	*DT*	Min.	Max.
School	0.95	0.685	0.00	3.33
Home	0.40	0.606	0.00	3.50
Street/neighborhood	0.94	0.597	0.00	3.67
TV	2.17	0.876	0.00	4.00
Social media	2.14	0.914	0.00	4.00
Entertainment or streaming platforms	1.98	1.077	0.00	4.00
Violence in physical context	0.77	0.494	0.00	2.78
Violence in context *mass media*	2.10	0.805	0.00	3.89
Global	1.43	0.562	0.08	2.94

In accordance with the above, the exposure to violent events on the mass media is greater than that recorded in the contexts explored (Table 5). Finally, when estimating an overall score in terms of exposure to violence in general, it has to be considerably low in its average rating, due to the nuances that exist with respect to the different scenarios in which it was evaluated.

Discussion

The findings in the study show that the questionnaire of exposure to violence (EVS; Orue & Calvete, 2010) has a high quality in its reliability (alpha correlation coefficients above the acceptable minimum .75) and validity in the Mexican adolescent population (well-defined factors, with the theoretically expected, with an explained variance between 49% and 68%), which confirms what was obtained by Lopez et al (2011).

It should be added that all items considered in the version of this study were preserved intact; that is, no items had to be omitted. In addition, the questionnaire measured with a high psychometric quality the exposure to violence on the mass media incorporated for this study (social networks and streaming). The inclusion of these items related to the perception of the occurrence of violent events on either TV, social networks or entertainment platforms, also known as steaming, they were useful to evaluate this component in the phenomenon of violence on this scale.

Although the authors of the EVS (Orue & Calvete, 2010) focused attention on the expression of direct and indirect violence; in the present study, the results

showed a distribution focused on the different contexts where the occurrence of this type of events is perceived, on the mass media (TV, social networks and streaming), home, school and street/neighborhood.

Likewise, the grouping into a single factor of exposure to violence in the physical contexts resulting from the test corresponds with the literature, where the joint prevalence of different types of violence in both community and family settings is emphasized (Erolin et al., 2014; Orozco-Ramirez et al., 2020). On the other hand, as for the factor of exposure of violence in mass media, it was found that it occurs with high frequency in the three contexts that make up the factor, which is consistent with the theoretical information in which the frequent violent exposure through ICTS is recognized in a decontextualized and graphic way (Catalina et al., 2014; Krongard & Tsay-Vogel, 2018; Patton et al., 2014).

As for the confirmatory factor analysis of the EVS, it is noteworthy that the proposed model was consistent with what was theoretically expected, finding a high positive correlation between exposure to violent events in the different social contexts evaluated: school, the street/neighborhood and home, which is consistent with other studies (Orue & Calvete, 2010; Lopez et al., 2011). Also, a high correlation was observed in the exposure to violence on the mass media: Streaming, social networks and TV. Technologies where the content to be consumed is (apparently) freely chosen by users, although it must be recognized that current entertainment content (particularly on TV and streaming) tends to frequently show scenes with high content of violence, which is also with other research studies (Krongard & Tsay-Vogel, 2018; Bandura et al., 1963; De Ribera et al., 2019; Johnson, 2002; Huesmann & Taylor, 2006).

On the other hand, it is surprising that, in a rating range from zero to four points, the average rating in physical contexts is below the value one, this implies that participants perceive a low frequency of exposure to violent events either at home, school or neighborhood. This, by way of hypothesis, may be due to a "naturalization" of violence in adolescents in these contexts, as proposed by the World Health Organization [WHO], 2009; or, in effect, students participating in the study are almost not exposed to violent events.

Conversely, average scores of exposure to violent events were higher in mass media context, in spatial TV and social media, entertainment platforms ranked third. This draws attention, since users have the possibility to choose the type of audiovisual content to observe, which leads to hypothesize that there is a certain search or interest in this type of content by adolescents. A situation that mental health professionals should be interested in, since they are behaviors that, as other authors indicate, are also generators of violence in users (Krongard & Tsay-Vogel, 2018; De Ribera et al., 2019).

Although EVS has relevant psychometric characteristics to evaluate exposure to violent events in the adolescent population, it would be important to include some items related to cyberbullying, a topic that has increased importance in recent years (Herrera-Lopez et al., 2018). In the same way, it would be useful to explore in the

items the role of the "aggressor" and not only that of victim and observer, since the information on the perception of the phenomenon would be greatly enriched.

On the other hand, the analysis could be expanded in the other dimensions than those originally measured by the instrument, either by qualifying direct/indirect violence and verbal/physical violence/threats, as well as the role that is assumed in each situation, either as victim/observer.

Finally, it would be worth assessing the relevance of the scale in other population groups, such as children and/or young adults, since these other population sectors are also exposed to this type of events in their daily lives.

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