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Techno-addiction to sex in the youth population: Proposal of items for the design of a detection and screening scale

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Abstract

Introduction: There are not many questionnaires that explain the use of Internet focused on sexual activity in the network and the sexual problems that derive from it, from the use of technology for sexual purposes, and these questionnaires are less frequent if we refer to the child, adolescent and youth population (Stefano Eleuteri, Francesca Tripodi, Irene Petruccelli, Roberta Rossi, Chiara Simonelli, 2014). **Objective:** Present some articles-parameters for the design of an early detection and screening scale about the problematic use of the Internet for sexual activities in adolescents and young people, that informs us if an individual has a problem or not, or risk of having it regarding the sexual

activity on the Internet, which will then lead to the creation in the future of a tool that can assess the causal-origin of sexual behaviors through the Internet and its relationship with the lack of impulse control and disturbances in daily life. **Method:** The method used to design the scale consisted in the creation of a theoretical model from a meta-bibliographical analysis, in the proposal of psychosocial factors that integrate the phenomenon, and in the analysis of the previous existing scales in this field, from which were obtained independent items-factors. To find the theoretical model exposed, we tried to identify the shortcomings, to understand the coincidences and to look for the disorder as origin. **Results:** As a result, we obtain, through previously extracted factors as well as from previous theoretical models, certain items established in the DSM-5 that in the future will help us build an early detection and screening scale for the youth population, and based on the causal origin of the behavior when an individual decides to "look for sex on the Internet". **Conclusions:** 11 items-factors are presented as solid proposals, not considered previously, for the creation of a future valid clinical tool for measuring the problem of using the Internet for sexual purposes based on the DSM-5, and which are based on: depression, anxiety, aggressiveness, social phobia, attention deficit and hyperactivity disorder (ADHD), compulsivity, obsession and impulsivity. At the same time, in the future, we intend to be able to collect information about the nature of the problem.

Keywords

Addiction; Sex; Information and Communication Technologies (ICT); Young; Detection and Screening Scale; Clinic.

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Translation of paper by **Yuhanny Henares** (Academic translator, Universitat de Barcelona)

1. Introduction

It seems there aren't many questionnaires targeted in a more specific manner to assessing sexual

activity and sexual problems in Internet (Stefano Eleuteri, Francesca Tripodi, Irene Petruccelli, Roberta Rossi, Chiara Simonelli, 2014) derived from the use of the technology with sexual purposes, and moreover, these questionnaires are even less existing if we refer to the infantile, teenager and youth population. In this sense, we deem relevant to be able to obtain a specific tool and capable of evaluating the causal origin of sexual behaviors through Internet and its relationship with the lack of impulse control and disturbance in daily live. For this, we are going to consider the great areas surrounding said problematic. Said areas will be reviewed, because it seems that, from the scientific communities' side there is no unanimity in the delimitation of the phenomenon. Thus, we will show the main areas that have been considered for this research project with the purpose to thoroughly understand the possible different parameters considered until now. The four main areas we work are as follows:

- Sex / Sexuality.
- Internet use.
- Adolescents/Youth.
- Disorders / Addiction.

2. Objective

The objective of this article is focused in presenting some items for the design of an early detection and screening scale of the youngest population. Said design will be able to create, in the future, a tool that could assess the causal origin of sexual behaviors through the Internet and its relationship with lack of impulse control and the disturbance in daily life.

In a way, the general objective of this paper is to consider the possibility to obtain a specific tool for the infantile-young population which can inform whether an individual has a problem with sexual activity on the Internet or not, as well as if he or she is under risk, or even predict whether there is a certain pathology. Furthermore, this tool we will obtain in the future could prognose a predisposition towards the disorder or adjacent disorders that are part of said problematic, confirming the comorbidity that occurs in these types of phenomena.

3. Methods

This scale design is accompanied by a theoretical model explaining the evolution of the phenomena through the different relationships existing in other previous models, also through the extraction and analysis of integrating factors, and through the reflection of different existing scales related to the phenomenon through factors.

The procedure used was articulated as follows:

1. We performed a bibliographic review of theoretical models and previous scales referring both to sex on the Internet as well as sexual disorders, and also other adjacent disorders.
2. We extracted from the DSM, the disorders that are recognized in the current DSM-5 which

directly relate to sexual disorders as well as disorders considered adjacent such as depression, anxiety, hostile behavior, social phobia, attention deficit/ hyperactivity, as well as compulsivity or other disorders described therein.

3. From the meta-analysis about the two previous topics, that is, theoretical models, preceding scales and DSM-5 disorders, we obtained some specific factors.
4. Based on extracted factors, we obtained the items of the future scale following a qualitative method, where we obtain different scales models until getting to the 11 items suggested.

3.1. Theoretical model

The theoretical model considered is based on the following issues:

1. On disorders recognized in DSM-5, that comprise our factors, such as: Depression. Anxiety, Aggressiveness, Social Phobia, Attention Deficit and Hyperactivity, Compulsivity, Obsession, Impulsivity.
2. The model is based in the CAUSAL ORIGIN of behavior, compulsivity, and the classical features of addiction (Tolerance, Abstinence, Disturbance of daily life, and Relapse).
3. It is also based on the fact that the origin of behavior is determined from theories of interiorization and exteriorization (sardinero garcía et al., 1997) of emotions, evaluated through thoughts (i think), feelings (i feel) and beliefs (i believe) as elements of interiorization of emotions and of executed behaviour/action (I act) as exteriorization element of internal emotions.
4. Additionally, the model is based on the disorders' comorbidity, explained through adjacent disorders because factors are considered independent.
5. The model is based in the multiple feedback, because it considers feedback that occurs in the psychological process of the individual (where some emotions respond to some specific stimuli), as well as the feedback within the process itself and the technological design of Internet, through fast, changing, multiple, cheap contents, and also through notifications and alerts, etc. (therefore, some stimuli respond to specific emotions.)
6. The model explains the recreational use, and boredom considering the creation of a habit.
7. Also, variables for the model proposed herein, suggest that sex addiction on the Internet disorders are considered a subtype of sex addiction. Moreover, it is considered that hypersexual disorders are a subtype of the obsessive-compulsive disorder (OCD), due to a direct relationship between hypersexuality and compulsivity, a lack of impulse control and a recurrent obsessive thought.
8. The proposed model includes the two possible forms of sex addiction on the Internet: Cybersex and Pornography suggested by Silvia Sánchez Zaldivar *et al.* (2009).
9. Lastly, the model proposed develops an additional theory where the current paraphilic sexual disorders will be considered as follows with the usage of technology:
 - Voyeuristic behavior → Techno-Voyeuristic Behavior
 - Exhibitionism → Techno-Exhibitionism
 - Compulsive masturbation → Techno-Masturbation

Based on these concepts, also the term “Techno-addiction” is elaborated, appearing in the title of this paper.

3.2. Previous scales

Previous scales considered in this research refer, on one hand, both to preceding scales about sex on the Internet, build mainly for adults. And on the other hand, to scales that delimit adjacent disorders, which are extracted from existing scales about disorders recognized in the DSM-5, for children, adolescents and adults; specifically, about disorders described on items shown.

3.2.1. The scales analyzed about sex on the Internet

Analyzed scales about sex on the Internet:

- Internet Sex Screening Test (ISST), by Delmonico (1997). There are subsequent versions such as Internet Sex Screening Test (ISST) by Delmonico and Miller (2003). In Spain, Rafael Ballester Arnal, Ma Dolores Gil Llario, Sandra Gómez Martínez and Beatriz Gil Juliá (2010) have adapted and validated ISST for its application in the Spanish population.
- Instrument created by Goodson, McCormick and Evans (2000).
- Cyber-Pornography Use Inventory(CPUI) (Grubbs, Sessoms, Wheeler and Volk, 2010).
- Online Sexual Experience Questionnaire (Shaughnessy, Byers and Walsh, 2011).
- Internet Addiction Test-Sex (IATsex) (Brand, Laier, Pawlikowski, Schchtle, Schöler and Altstötter-Gleich, 2011), is a modified version of IAT (Internet Addiction Test), where the terms “online” or Internet are replaced respectively by “online sexual activity” and “Internet websites for sex”.
- Internet Usage Scale for Sexual Purposes -Modified- (Velezmoro, Negy and Livia, 2012) is a modified version of the survey of Goodson et al. (2000).
- Cyber Pornography Use Inventory (CPUI) by Grubbs, Sessoms, Wheeler and Volk (2010). Due to the historical component regarding sex and religion, we have created an instrument to evaluate the use of pornography on Internet that could be efficacious on religious populations (Joshua B. Grubbs, John Sessoms, Dana M. Wheeler and Fred Volk, 2010).
- Some of the same authors creators of the previous CPUI inventory, specifically Joshua B. Grubbs, Fred Volk, Julie J. Exline, Kenneth I. Pargament, (2015), try to shorten and fine-tune CPUI to explore the associations between the perceived addiction of pornography on the Internet and the psychological functioning, with CPUI-9. It also explores the problematic use of pornography on Internet, hypersexuality and the addiction to pornography on Internet, and the perceived addiction to pornography on Internet through “individual differences”.

3.2.2. The scales analyzed on sexual disorders

Analyzed scales about sexual disorders:

3.2.2.1. Scales related to sexual disorders

- Problematic Pornography Use Scale (PPUS) which psychometric development have been performed by Ariel Kor, Sigal Zilcha-Mano, Yehuda A. Fogel, Mario Mikulincer, Rory C. Reid, Marc N. Potenza (2014). Even though this scale does not consider the technologic use, it was analyzed granting relevance to the other side of the disorder; that is, the side of sexual disorders highlighting the use of pornography, because it coincides with the scale proposed in this paper when we refer to “Looking for sex on the Internet”, meaning looking for pictures or erotic/ pornographic videos or sex chats.

3.2.2.2. Scales related to compulsive sexual disorders

- Sexual Compulsivity Scale (SCS) (Rafael Ballester Arnal, Sandra Gómez Martínez, Ma Dolores Gil Llario, Pedro Salmerón Sánchez, 2012). It was analyzed due to the relevance of sexual compulsivity for this kind of sexual disorders and that, besides, compulsivity is also shared with technology use.

3.2.2.3. Scales concerning sexual behavior in children

- Child Sexual Behavior Inventory (CSBI). This inventory is designed to obtain information about sexual behavior in children as well as to understand the normative sexual behavior in childhood (William n. Friedrich, Jennifer Fisher, Daniel Broughton, Margaret Houston and Constance R. Shafran, 1998). According to these authors, sexual behavior in children was related to the age of the child, mother’s education, family sexuality, violence and family stress. Sexual behaviors in children can be expressed through a evolutive course in ranges of 2 to 5 years old, of 6 to 9 years old, and 10-12 years old, where it seems that the first sexual behaviors in children come from the imitation of sexual behaviors that have been seen or that they have heard of. We are also informed that there is a relationship between family variables and sexual behaviors; and besides, there seems to be an association between sexual behaviors and general behavior problems. This inventory is designed to be applied to parents (William n. Friedrich, Jennifer Fisher, Daniel Broughton, Margaret Houston and Constance R. Shafran, 1998).

3.2.2.4. Scales related to sexual symptoms

- Sexual Symptom Assessment Scale (SSAS). Scale adapted by Raymond, N. et al. (2007). This scale mainly refers to problematic sexual behaviors, and refers to the urge in participating in problematic sexual behavior, frequency and dedicated time, to the concern for participation, it also refers to impulses control, and thoughts about participation, as well as the control of thoughts about participation; besides, it explains the tension and anticipated excitement about participation, excitement and pleasure the subject felt upon participation, emotional anguish provoked, and personal problems (in relationships, legal, work and health problems) derived from a problematic sexual behavior.

3.2.3. The scales analyzed on the adjacent disorders, depending on factors

The analyzed scales about adjacent disorders, depending on factors:

3.2.3.1. Scales concerning depression disorder

The scales reviewed with the objective of evaluating sadness, unhappiness, the feeling of being misunderstood by others, and the lack of love, are the following:

- Beck Depression Inventory (BDI) that evaluates the cognitive component of depression such as hopelessness, lack of focus, lack of self-esteem, among others. It is also helpful in measuring depressive behavior, affective and physiological symptoms. It is designed to be applied in the adult population, although there also exists another version for the infantile population (Kovacs and Beck, 1977).
- Beck Hopelessness Scale (1974) for self-application that identifies the psychotic disorder with suicide risk.
- Automatic Thoughts Questionnaire (ATQ-30) performed by Hollon SD and Kendall PC (1980) where its items are related with the negatives thoughts associated to depression that appears automatically.

None of these scales included items that referred to the technological use nor the behavior derived thereof that is related to depressive disorders.

3.2.3.2. Scales concerning anxiety disorder

The scales that were reviewed with the objective to evaluate uneasiness, stress, lack of confidence or lack of trust, anguish, and feeling of being altered, which includes psychological tension, deriving in a technological use, are the following:

- Spanish version of The Spence Children's Anxiety Scale, where its items represent panic attack/agoraphobia, separation anxiety, social phobia, fear about physical damage, obsessive compulsive disorder and generalized anxiety, where Laura Hernández-Guzmán, Graciela Bermúdez-Ornelas, Susan H. Spence, Manuel Jorge González Montesinos, José I. Martínez-Guerrero, Javier Aguilar Villalobos and Julia Gallegos Guajardo (2010) considered that only the separation anxiety disorder is the only factor typical from childhood and adolescence; and also pointed out that the classification made is maintained in DSM-IV-TR. However, the anxiety scale for children of Spence (SCAS) is interesting for us because it also contains components that analyze the obsessive-compulsive disorder and social phobia.
- State-Trait Anxiety Inventory (STAI) for the general population where its items comprise state-trait, and anxiety-trait through items elaborated from basic statements that are normally used for the self-description of oneself.

None of these scales included items that made reference to the technological use nor behavior derived from said use that is related to anxiety and sexual anxiety.

3.2.3.3. Scales regarding aggression and violence disorder

The scales reviewed to evaluate anger and rage, where jealousy is included; and which were chosen because they are considered instruments to assess personality and its disorders. They are as follows:

- Aggression Questionnaire-Refined version which David Gallardo-Pujol, Uwe Kramp, Carlos García- Forero, Meritxell Rérez-Ramírez, Antonio Andrés-Pueyo, (2006) adapt for the Spanish population. This questionnaire is based on the Buss- Durkee Hostility Inventory (BDHI), that according to David Gallardo-Pujol, Uwe Kramp, Carlos García-Forero, Meritxell Rérez-Ramírez, Antonio Andrés-Pueyo, (2006); and Buss AH and Perry M. (1992) is redefined to improve its psychometric properties, and the result was the Aggression Questionnaire (AQ). The Spanish adaptation of the AQ refined version is a short scale where its items measure four aspects of aggression: physical aggression and verbal aggression, that entails hurting or damage others, representing the instrumental component or behavior engine; it also measures hostility, which consists on feelings of bad will and injustice, it represents the cognitive component of behavior, besides jealousy is also included inside hostility; and anger, which entails physiological excitement and preparing for aggression (in our case, there is preparation to look for sex on the Internet), it represents the emotional or affective component of behavior. Besides, this questionnaire has been used to investigate the suicidal idea and eating disorders.
- It also reviewed another version of the Aggression Questionnaire (AQ) which is the brief aggression questionnaire that appear in the research of Gregory D. Webster; C. Nathan DeWall; Richard S. Pond Jr.; Timothy Deckman; Peter K. Jonason; Bonnie M. Le; Austin Lee Nichols; Tatiana Orozco Schember; Laura C. Crysel; Benjamin S. Crosier; C. Veronica Smith; E. Layne Paddock, John B. Nezlek; Lee A. Kirkpatrick; Angela D. Bryan; Renée J. Bator, (2013) and which evaluate the same four previous factors of physical aggression, verbal aggression, anger and hostility.
- From the Buss-Durkee Hostility Inventory (BDHI) we obtain (item 4) “I get angry easily but passes right away”, which coincides with (item 7) “... I get upset easily although it passed quickly”, from the Aggression questionnaire – refined version and adapted to Spanish by David Gallardo-Pujol, Uwe Kramp, Carlos García-Forero, Meritxell Rérez-Ramírez, Antonio Andrés-Pueyo, (2006). In both cases, it is possible to observe how, in a way, it can denote a changing character and of outburst before anger definitions “it passes right away” or “it passes fast”.

None of these scales had items that referenced the technological use related to aggressiveness, violence, and hostility.

3.2.3.4. Scales related to attention deficit hyperactivity disorder (ADHD)

The following are the scales that were reviewed to evaluate difficulty, uneasiness, distraction, and the difficulty to focus (get distracted easily), avoiding difficult tasks, and not completing school homework:

- Adult ADHD Self-Report Scale-V1.1 (ASRS-V1.1) Symptoms Checklist – (World Health Organization, 2003). This scale is designed so that questions are answered through the simulation of a dialog between the patient and the expert which consists in 18 criteria of DSM-IV-TR. Its 18 items are divided in 2 parts, being the first one (part A) the one they consider have the baseline items for the screening of ASRS-V1.1., and references the attention deficit, regarding the activity before difficulty. On the other hand, part B, explains hyperactivity. In short, this scale includes

items that evaluate the attention deficit and hyperactivity. In general, from this tool we value difficulty: difficulty to keep attention, difficulty to focus, being distracted, and feeling uneasy, and even feeling urged.

- SNAP IV Scale adapted for Argentina for the evaluation of attention deficit and hyperactivity (Nora Grañana, Alba Richaudeau, Carlos Robles Gorriti, Martín O'Flaherty, María Elena Scotti, Lucila Sixto, Ricardo Allegri and Natalio Fejerman, 2011) that include items to evaluate children and teenagers, and that is designed to be administered to parents and teachers. Items are divided into two domains: Attention deficit and hyperactivity-impulsivity, divided into three ADHD subtypes: (a) with predominance of attention deficit; (b) with predominance of hyperactivity-impulsivity; and (c) mixed.

None of these scales included items that referred to technological use nor behavior derived thereof, related to the attention deficit and hyperactivity.

3.2.3.5. Scales related to disorders regarding social environment or social anxiety, such as social phobia and social integration

To be able to detect problems regarding social phobia, we reviewed the following scales:

- Liebowitz Social Anxiety Scale Test (LSAS) – (R. G. Heimburg and R.E. Becker, 2002). This scale has been developed by the psychiatrist and researcher Dr. Michael R. Liebowitz to assess the way social phobia plays a role on the life of people through a variety of situations. Items of this scale respond to two questions expressed by fear and avoidance, and it is addressed to the general population. From the LSAS scale we highlight the observation by which the subject can cause the opening of another communication routes, as can happen with Internet, where other identities are created and the anonymity seems to be helpful in the acquisition of social abilities.
- Questionnaire of social anxiety for children (CASO-N24) developed by Vicente E. Caballo, Benito Arias, Isabel C. Salazar, Marta Calderero, María J. Irurtia and Thomas H. Ollendick (2012). This questionnaire measures the social anxiety in children ranging from 9 to 15 years old, and where its items practically reproduce completely the factorial structure of the previous questionnaire for adults, finding one more factor. The 6 factors: (1) Interaction with the opposite sex, (2) Talking in public/ interaction with teachers, (3) Exposing oneself/ make a fool of oneself, (4) Interaction with strangers, (5) Expression of discomfort, disgust or anger, and (6) Acting in public.

None of these scales had items that referred to the technological use related to social phobia, social anxiety, anti-social behavior, or social interaction.

3.2.3.6. Scales referring to disorders related to obsession, compulsion and impulsivity, including references to obsessive-compulsive disorder (OCD)

3.2.3.6.1. Obsession and compulsion

This disorder was considered from the difficulty to control thoughts. In order to detect recurrent thoughts that may become obsessive, and finally in compulsivity related to sex and the technological

use, we highlight the following scales that comprise the obsessive-compulsive disorder (OCD):

- Nelson's OCS-CBCL subscale (Nelson *et al.*, 2001), for the evaluation of the obsessive-compulsive disorder in the infantile-youth population that analyses its validity in a Spanish sample Santiago Batlle, Lurdes Duñó, Ester Camprodon, Xavier Estrada, Marta Aceña, Elena Pujals and Luis Miguel Martín (2013). According to Santiago Batlle *et al.* (2013). The main feature of the OCD is the recurrent presence of obsessions and compulsions that interfere in the daily life of the individual. This scale is created from CBCL as tool for detecting disorders included in the DSM (Santiago Batlle, Lurdes Duñó, Ester Camprodon, Xavier Estrada, Marta Aceña, Elena Pujals and Luis Miguel Martín, 2013; Achenbach and Dumenci, 2001; Achenbach and Rescorla, 2001; Achenbach and Rescorla, 2007). Following this line, researches of the psychiatry department of the University of Washington have developed a subscale of CBCL for screening OCD in childhood and adolescence (OCS-CBCL) (Santiago Batlle, Lourdes Duñó, Ester Camprodon, Xavier Estrada, Marta Aceña, Elena Pujals, and Luis Miguel Martín, 2013; Nelson, Hanna, Hudziak, Botteron, Heath and Todd, 2001). OCS-CBCL is designed to be applied to parents, but also there are versions for teachers and of self-application for young people. OCS-CBCL is a brief 8-item scale.
- The Obsessive Compulsive Inventory –revised (OCI-R) by Foa *et al.* (2002) includes 18 items that refer to experiences that many people have in their daily lives.

We haven't found items in any of these scales that referred to the technological use nor the behavior derived thereof related with the obsessive-compulsive disorder.

3.2.3.6.2. Impulsivity

Impulsivity was represented through the following scales, with the objective of finding the relationship between said scales with the item that will correspond, in our future scale, to impulsivity assessment. Thus, impulsive behaviors have been defined as non-premeditated and explosive behaviors, and impulsivity was the trend to show unexpected and thoughtless behavior. To this concept we add afterwards, besides irresistibility, the intense and repetitive desire to perform an act even if it entails negative consequences (Lilian Salvo G. and Andrea Castro S., 2013; Moeller F, Barratt E, Dougherty D, Schimtz J, Swann A., 2011). It is suggested that impulsivity is a multidimensional concept, that is constituted by traits including the trend to make decisions in a fast manner, the trend to act without thinking and the trend to get involved in risky behaviors (Lilian Salvo G. and Andrea Castro S., 2013; Stanford M, Mathias C, Dougherty D, Lake S, Anderson N, Patton J., 2009; Squillace M, Picón J, Schmidt V, 2011; Steinberg L, Sharp C, Stanford M, Tharp A., 2013). Most of the time, the individual perceives an increasing tension or excitement before fulfilling the action or act, and as consequences of performing said act, the individual receives pleasant, gratification or relief experiences. After the act, there might be regret or not, self-reproach or guilt (Lilian Salvo G. and Andrea Castro S., 2013; American Psychiatric Association, 2000). Impulsivity is part of different disorders, representing a diagnosis criteria or a significant symptom (Lilian Salvo G. and Andrea Castro S., 2013). Additionally, impulsivity has been mainly related with suicide behavior (Lilian Salvo G. and Andrea Castro S., 2013; Bobes J, Sáiz P. García-Portillo M, Bascarán M, Bousoño M., 2004; Nock M., 2009), and with

aggressiveness (Lilian Salvo G. and Andrea Castro S., 2013; Stanford M, Mathias C, Dougherty D, Lake S, Anderson N, Patton J., 2009; Martínez-Tenorio F, Hernández-Daza M, Chávez-Dueñas M, 2007; Arias N, Ostrosky-Solís F., 2008), although it is also correlated with multiple impulsive disorders such as self-aggressions, looking for sensations, alcohol and drug consumption, bipolar disorder, attention deficit and hyperactivity, eating behavior disorders, borderline personality disorder and disorder of antisocial personality (Lilian Salvo G. and Andrea Castro S., 2013; Stanford M, Mathias C, Dougherty D, Lake S, Anderson N, Patton J., 2009; Steinberg L, Sharp C, Stanford M, Tharp A., 2013; Patton J, Stanford M, Barratt E, 1995; Andreu J, Fernández M, Penado M, 2012; Sierra P, Livianos L, Peris L, Rojo L, 2011). Which explained the feedback relationship between disorders (adjacent), and the close association with disorders (factors). These scales were the following:

- Barratt Impulsivity Scale (BIS-11) that Lilian Salvo G. and Andrea Castro S. (2013) use in teenagers, is comprised by three subscales: (1) cognitive impulsivity, (2) motor impulsivity, and (3) unplanned impulsivity.
- Plutchik Impulsivity Scale (EI), that Miguel Á. Alcázar-Córcoles, Antonio J. Verdejo, José C. Bouso-Sáiz (2015) have validated for the Spanish speaking teenage population. These authors inform about the high positive correlations with the scale of violence risk, look for sensations and with the personality dimensions of the EPQ questionnaire (antisocial, psychoticism, honesty and neuroticism). Impulsivity is one of the most important factors that explain the violent behavior and other behaviors such as hyperactivity or addictive behavior (Miguel Á. Alcázar-Córcoles, Antonio J. Verdejo, José C. Bouso-Sáiz, 2015). This research conveys that there are lower scores of impulsivity if aggression is targeted towards people that towards things, and in this sense it seems that Internet has been successful in turning the individual into an object as well as to turn him an object for acquisition, therefore it is possible that the “screen effect” is able to support this line in order to consider that aggressiveness is higher through Internet than through actual “face to face” relationships. Another surprising finding was that girls showed the same impulsivity as boys, however, girls showed significantly lower scores in all looking for sensations components, except looking for experiences (Miguel Á. Alcázar-Córcoles, Antonio J. Verdejo, José C. Bouso-Sáiz, 2015).

In general, none of the reviewed scales refer to the technological use or Internet, and this is due to the fact that they have followed the criteria of disorders ranked in the DSM for the selection of scales that will be used in the future instrument. Hence, we can say that in no scale of these characteristics which are included in the DSM refers to the technological use at all, so it is accurate that we start to consider its measurement as disorder in the near future.

3.3. Factors

From the analysis of the previous models and the analyzed scales we obtained the following factors, these factors will be considered as disorders recognized in the DSM-5. Likewise, these factors will be considered independent factors because they will be able to measure despite discarding compulsivity. Additionally, they will also allow us to confirm the existence of comorbidity for this kind of

problematic, as well as to unveil the disorder in its origin. Said factors-disorders are the following:

- DEPRESSION.
- ANXIETY.
- AGGRESSIVENESS.
- SOCIAL PHOBIA.
- ATTENTION DEFICIT AND HYPERACTIVITY.
- COMPULSIVITY.
- OBSESSION.
- IMPULSIVITY.

4. Results and discussion

Considering the aforesaid, that is, the analysis of the previous theoretical models, of factors, of DSM-5 and previous scales related to the sex addiction on Internet and with adjacent disorders, the results obtained were 11 independent items able to assess in an independent manner since they are considered independent factors that include basic features of addiction: Tolerance, Abstinence, Disturbance of daily life, and Relapse.

The following items suggested in this research based on DSM, that analyze the origin-cause of behavior, as well as emotions or emotional states, unified under one term “looking for sex on the Internet”:

1. When I feel sad, unhappy, that nobody understands me, or that I lack love, I look for sex on the Internet.
2. When I feel lots of uneasiness inside me, I look for sex on the Internet.
3. When I feel insecure, with lack of confidence in myself, I look for sex on the Internet.
4. When I feel bored and without knowing what to do, I look for sex on the Internet.
5. When I feel upset or angry, I look for sex on the Internet.
6. When I feel like having fun, spending a good time, I look for sex on the Internet.
7. When I feel very lonely and without friends, I look for sex on the Internet.
8. When I am studying something difficult or that I dislike, I look for sex on the Internet.
9. When something reminds me about sex (a TV image, a picture, an advertisement, a person ...) I feel the urge to looking for sex on the Internet.
10. I have tried to stop looking for sex on the Internet, but I haven't been successful.

11. Looking for sex on the Internet sometimes, hinders me from doing other things I would like to do.

As a result of this research we obtain, through some previously extracted factors, as well as from previous theoretical models, specific items that in the future will be helpful in elaborating an early detection and screening scale for the young population based in the causal-origin of behavior when an individual decides “looking for sex on the Internet.”

It is about extracting some factors based on the disorders recognized in the DSM-5. Said factors are: depression, anxiety, aggressiveness, social phobia, attention deficit and hyperactivity, compulsivity, obsession and impulsivity.

Additionally, we examined the existing measuring tools for each one of these eight factor-disorders: depression, anxiety, aggressiveness, social phobia, attention deficit and hyperactivity, compulsivity, obsession and impulsivity, where in none of said measuring tools there was reference to the technological use.

From the aforesaid we suggest some items based on these eight independent factors described previously. And, lastly, the purpose is unified under the premise: “Looking for sex on the Internet.”

Additional to the 11 suggested items, besides the factors we suggest based on DSM-5, they also comprise the classical features of addiction; explain the creation of the habit out of boredom and amusement or recreation/ sexual game; consider self-esteem; support on the solitary behavior (showing it as reflection of addiction as well); and furthermore, project the power of image.

In short, we have attempted to introduce some items that, in the future, will be part of an assessment, detection and screening short scale that could measure without referring to explicit sexual figures, making its application easier in minors without any kind of prejudice for their future sexuality.

5. Conclusions

The 11 items we introduce as solid proposals to evaluate the causal origin of behavior when an individual decides to look for sex on the Internet seem to be valid, using a short scale, as well as the evaluation of emotions (feelings, thoughts and beliefs) that pushes the subject to said search for sex on Internet. Besides, we understand that when an individual decides to look for sex on the Internet, what he or she is really looking for, is for emotions, in this case sexual, therefore the study of emotions seems to be important for measuring this kind of problems and/ or pathology.

The 11 items presented in this paper as possible components of a new way of measuring this problematic, allow us to obtain a scale as valid measuring clinic tool in the future. At the same time, in the future there will be attempts to gather information about the nature of the problem, simultaneously with offering awareness through the application of the questionnaire to young people as a learning experience.

In a way, with the design of these items we attempt to justify these kind of problematics/ pathologies as disorders developed from the technological use, supporting in DSM-5. Thus, this research favors a possible inclusion for the next version of DSM for disorders related to technological use and sexuality.

It seems these 11 items introduced in this paper could be optimal to be administered to children, adolescents and young people besides adults, because for assessing and evaluating the problematic, said items do not refer to any explicit sexual figure as happens with other scales for adults.

In short, we have suggested 11 items that evaluate factors described previously, and that said factors seem relevant because they can optimally measure something that has not been considered before for the evaluation of this kind of problematic.

6. Future researches

To create an early detection and screening scale that is able to inform whether a subject has problems or no, whether he or she is under risk, or even if the individual suffers pathologically.

To create a scale that allows us to identify the sexual problem regarding the use of technology an individual might have.

7. List of references

Achenbach, T.M., y Dumenci, L. (2001). Advances in Empirically Based Assessment: Revised Cross-Informant Syndromes and New DSM-Oriented Scales for the CBCL, YSR, and TRF: Comment on Lengua, Sadowski, Friedrich, y Fisher. *Journal of Consulting and Clinical Psychology*, 69, 699-702.

Achenbach, T.M., y Rescorla L.A. (2001). *Manual for the ASEBA School-Age Forms & Profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth, and Families.

Achenbach, T.M., y Rescorla, L.A. (2007). *Multicultural Supplement to the Manual for the ASEBA School-Age Forms & Profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth & Families.

Alcázar-Córcoles, Miguel Á.; Verdejo, Antonio J. y Bouso-Sáiz, José C. (2015). Propiedades psicométricas de la escala de impulsividad de Plutchik en una muestra de jóvenes hispanohablantes. *Actas Esp Psiquiatr*, 43(5):161-9.

American Psychiatric Association (2000). *Diagnostic and statistical manual of mental disorders (4th ed., texto rev.)*. doi: 10.1176/appi.books.9780890423349

Andreu Rodríguez, Jose Manuel; Peña Fernández, M^a Elena; Graña Gómez, José Luis (2002). Adaptación psicométrica de la versión española del Cuestionario de Agresión. *Psicothema*, 14 (2): 476-482.

Andreu Rodríguez, José Manuel; Peña Fernández, María Elena; Penado Abilleira, María (2012). Agresividad Reactiva y proactiva en adolescentes: efecto de los factores individuales y socio-contextuales. Tesis doctoral. Facultad de Psicología. Departamento de Personalidad, Evaluación y Tratamiento Psicológico I (Personalidad, Evaluación y Psicología Clínica). Universidad Complutense de Madrid.

Arias García, Nallely; Ostrosky Solís, Feggy (2008). Neuropsicología de la violencia y sus clasificaciones. *Revista Neuropsicología, Neuropsiquiatría y Neurociencias*, 8(1):95-114.

Ballester Arnal, Rafael; Gil Llario, Ma Dolores; Gómez Martínez, Sandra y Gil Juliá, Beatriz (2010). Propiedades psicométricas de un instrumento de evaluación de la adicción al cibersexo. *Psicothema*, 22(4):1048-1053.

Ballester Arnal, Rafael; Gómez Martínez, Sandra; Gil Llario, Ma Dolores y Salmerón Sánchez, Pedro (2012). Sexual Compulsivity Scale: Adaptation and Validation in Spanish Population. *Routledge Taylor & Francis Group, Journal of Sex & Marital Therapy*, 0:1-14.

Barrat E. (1959). Anxiety and impulsiveness related to psychomotor efficiency. *Perceptual and Motor Skills*, 9: 191-8.

Barrat E. (1985). Impulsiveness subtraits: Arousal and information processing. In Spence JT, Izard CE editors. *Motivation, Emotion and Personality*. North Holland: Elsevier Science, 137-46.

Battle, Santiago; Duñó, Lurdes; Camprodon, Ester; Estrada, Xavier; Aceña, Marta; Pujals, Elena y Martín, Luis Miguel (2013). Subescala OCS-CBCL de Nelson para la Evaluación del Trastorno Obsesivo-Compulsivo Infanto-juvenil: Análisis de Validez en una Muestra Española. *Revista de Psicopatología y Psicología Clínica*, 18 (1):81- 92.

Beck, AT; Weissman, A; Lester, D. y Trexler, L. (1974). The measurement of pessimism: The hopelessness Scale. *Consult J Clin Psychol*, 42(6):861-865.

Bobes J, Sáiz P, García-Portillo M, Bascarán M, Bousoño M. (2004). *Comportamientos suicidas. Prevención y tratamiento*. Barcelona: Ars Médica.

Brand, M., Laier, C., Pawlikowski, M., Schchtle, U., Schöler, T., & Altstötter-Gleich, C. (2011). Watching pornographic pictures on the Internet: Role of sexual arousal ratings and psychological-psychiatric symptoms for using Internet sex sites excessively. *Cyberpsychology, Behavior, and Social Networking*, 14, 371-377.

Buss, A. H., & Perry, M. P. (1992). The aggression questionnaire. *Journal of Personality and Social Psychology*, 63, 452-459.

Buss, A.H. y Durkee, A. (1957). An inventory for assessing different kinds of hostility. *Journal of Consulting and Clinical Psychology*, 21: 343-349.

Caballo, Vicente E.; Arias, Benito; Salazar, Isabel C.; Calderero, Marta; Irurtia, María J. y Ollendick, Thomas H. (2012). Un Nueva Medida de Autoinforme para Evaluar la Ansiedad/Fobia Social en Niños: El “Cuestionario de Ansiedad Social para Niños” (CASO-N24). *Behavioral Psychology / Psicología Conductual*, 20 (3):485-504.

Delmonico, D. (1997). Internet Sex Screening Test. [http:// www.sexhelp.com](http://www.sexhelp.com) (19 Marzo 2010).

Delmonico, D. L., & Miller, J. A. (2003). The Internet Sex Screening Test: A comparison of sexual compulsives versus non-sexual compulsives. *Sexual and Relationship Therapy*, 18, 261-276.

Eleuteri, Stefano; Tripodi, Francesca; Petruccelli, Irene; Rossi, Roberta y Simonelli, Chiara (2014). Questionnaires and scales for the evaluation of the online sexual activities: A review of 20 years of research. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 8 (1), art. 2. doi: 10.5817/CP2014-1-2.

Foa, E.B., Huppert, J.D., Leiberg, S., Hajcak, G., Langner, R. (2002). The Obsessive-Compulsive Inventory: Development and validation of a short versión. *Psychological Assessment*, 14: 485-496.

Friedrich, William N.; Fisher, Jennifer; Broughton, Daniel; Houston, Margaret y Shafran, Constance R. (1998). Normative Sexual Behavior in Children: A Comtemporary Sample. *Pediatrics* Vol.101 No4, e9.

Gallardo-Pujol, David; Kramp, Uwe; García-Forero, Carlos; Pérez-Ramírez, Meritxell y Andrés-Pueyo, Antonio (2006). Assessing aggressiveness quickly and efficiently: the Spanish adaptation of Aggression Questionnaire-Refined versión. *Elsevier, ScienceDirect, European Psychiatry, Eurpsy-2418*.<http://france.elsevier.com/direct/EURPSY>

Goodson, P., McCormick, D., & Evans, A. (2000). Sex and the Internet: A survey instrument to assess college students' behavior and attitudes. *CyberPsychology & Behavior*, 3, 129–149.

Grañana, Nora; Richaudeau, Alba; Robles Gorriti, Carlos; O'Flaherty, Martín; Scotti, María Elena; Sixto, Lucila; Allegri, Ricardo y Fejerman, Natalio (2011). Evaluación de déficit de atención con hiperactividad: la escala SNAP IV adaptada a la Argentina. *Rev Panam Salud Pública*, 29(5):344-349.

Grubbs, Joshua B.; Sessoms, John; Wheeler, Dana M.; Volk, Fred (2010). The Cyber- Pornography Use Inventory: The Development of a New Assessment Instrument. *Routledge Taylor & Francis Group, Sexual Addiction & Compulsivity*, 17:106-126.

Grubbs, Joshua B.; Volk, Fred; Exline, Julie J. y Pargament, Kenneth I. (2015). Internet Pornography Use: Perceived Addiction, Psychological Distress, and the Validation of a Brief Measure. *Routledge Taylor & Francis Group, Journal of Sex & Marital Therapy*, 41(1):83-106.

Heimberg, R. G., & Becker, R. E. (2002). *Cognitive-behavioral group therapy for social phobia: Basic mechanisms and clinical strategies*. New York, NY: Guilford Press.

Hernández-Guzmán, Laura; Bermúdez-Ornelas; Graciela; Spence, Susan H.; González Montesinos, Manuel Jorge; Martínez-Guerrero, José I.; Aguilar Villalobos, Javier y Gallegos Guajardo, Julia (2010). Versión en español de la Escala de Ansiedad para Niños de Spence (SCAS). *Revista Latinoamericana de Psicología*, 42 (1):13-24.

Hollon, SD y Kendall, PC. (1980). Cognitive self-statement in depression: Development of an automatic thoughts questionnaire. *Cogn Ther Res*, 4: 383-395.

Kor, Ariel; Zilcha-Mano, Sigal; A. Fogel, Yehuda, Mikulincer, Mario; C. Reid, Rory y Potenza, Marc N. (2014). Psychometric development of the Problematic Pornography Use Scale. *Elsevier, ScienceDirect, Addictive Behaviors*, 39: 861-868.

Kovacs, M; Beck AT. (1977). An empirical-clinical approach toward a definition of childhood depression. In: Schulterbrandt JG, Raskin A, editors. *Depression in childhood: Diagnosis, treatment and conceptual models*. New York, NY: Raven Press, 1-25.

Martínez-Tenorio F, Hernández-Daza M, Chávez-Dueñas M. (2007). Niveles de agresividad e impulsividad en pacientes psiquiátricos de un hospital de tercer nivel. *Neurol Neurocir Psiquiat*, 40: 35-40.

Moeller F, Barratt E, Dougherty D, Schmitz J, Swann A. (2011). Psychiatric aspects of impulsivity. *Am J Psychiatry*, 158: 1783-93.

Nelson, Elliot C.; Hanna, Gregory L.; Hudziak, James J.; Botteron, Kelly N.; Heath, Andrew C.; Todd, Richard D. (2001). Obsessive-Compulsive Scale of the Child Behavior Checklist: Specificity, Sensitivity, and Predictive Power. *Pediatrics*, 108 (1) e14.

Nock, Matthew K. (2009). Why Do People Hurt Themselves? New Insights Into the Nature and Functions of Self-Injury. *SAGE journals*, 18(2): 78-83.

Patton JH, Stanford MS, Barratt ES. (1995). Factor structure of the Barratt impulsiveness scale. *J Clin Psychol*, 51(6):768-74.

PlutchikR, VanPraagH (1989). The measurement of suicidality, aggressivity and impulsivity. *Progress in Neuropsychopharmacology Biology and Psychiatry*, 13: 523-34.

Raymond, N et al. (2007). The Sexual Symptom Assessment Scale (SSAS). *Sexual Addiction & Compulsivity*, 14(2): 119-129.

Salvo G., Lilian y Castro S., Andrea (2013). Confiabilidad y validez de la escala de impulsividad de Barratt (BIS-11) en adolescentes. *Rev Chil Neuro-Psiquiat*, 51(4): 245-254.

Sánchez Zaldívar, Silvia e Iruarrizaga Díez, Itziar (2009). Nuevas Dimensiones, Nuevas adicciones: La Adicción al Sexo en Internet. *SciELO, Intervención Psicosocial*, Vol.18 n.3 Madrid.

- Sardinero García, Eva; Pedreira Massa, J.L. y Muñiz, J. (1997). El cuestionario CBCL de Achenbach: Adaptación española y aplicaciones clínico-epidemiológicas. <http://www.copmadrid.org/webcopm/publicaciones/clinicas/1997/Vol8/Arti3.htm>
- Shaughnessy, K., Byers, E. S., & Walsh, L. (2011). Online sexual activity experience of heterosexual students: Gender similarities and differences. *Archives of Sexual Behavior*, 40, 419-427.
- Sierra P., Livianos L., Peris L., Rojo L. (2011). Impulsividad, búsqueda de sensaciones y agresividad en pacientes bipolares tipo I y II. *Revista de Psiquiatría y Salud Mental*, 4(4):195-204.
- Spence, S. H. (1998). A measure of anxiety symptoms among children. *Behavior Research and Therapy*, 36, 545-566.
- Squillace, M., Picón Janeiro, J., Schmidt, V. (2011). El concepto de Impulsividad y su ubicación en las teorías psicobiológicas de la personalidad. *Revista Neuropsicología Latinoamericana*, 3(1): 8-18.
- Stanford, M. S., Mathias, C. W., Dougherty, D.M., Lake, S.L., Anderson, N.E., Patton, J. H. (2009). Fifty years of the Barratt Impulsiveness Scale: An update and review. *Personality and Individual Differences*, 47(5): 385-395.
- Steinberg, L. Sharp, C., Stanford, M. S., Tharp, A.T. (2013). New tricks for an old measure: The development of the Barratt Impulsiveness Scale-Brief (BIS-Brief). *Psychological Assessment*, 25(1): 216-226.
- Velezmore, R.; Negy, C.; Livia, J. (2012). Online sexual activity: cross-national comparison between United States and Peruvian college students. *Arch Sex Behav*, 41(4): 1015-25.
- Webster, Gregory D.; DeWall, C. Nathan; Pond, Richard S. Jr.; Deckman, Timothy; Jonason, Peter K.; Le, Bonnie M.; Lee Nichols, Austin; Orozco Schember, Tatiana; Crysel, Laura C.; Crosier, Benjamin S.; Smith, C. Verónica; Paddock, E. Layne; Nezlek, John B.; Kirkpatrick, Lee A.; Bryan, Angela D. y Bator, Renée J. (2013). The Brief Aggression Questionnaire: Psychometric and Behavioral Evidence for an Efficient Measure of Trait Aggression. *Wiley Periodicals, Inc. Aggressive Behavior*, 9999: 1-20.

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