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Association of Internet addiction and alexithymia – A scoping review

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HIGHLIGHTS

- Internet for social interaction may appear favorable to individuals with alexithymia and may lead to over use.
- Alexithymia has been shown to play an important role in etiopathogenesis of addictive disorders.
- The current evidence base points towards association between alexithymia and internet addiction but has limitations.
- Knowledge linkage between alexithymia and internet addiction could be key to initiate preventive interventions.

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ABSTRACT

It has been hypothesized that individuals with alexithymia who have difficulty in identifying, expressing, and communicating emotions may overuse Internet as a tool of social interaction to better regulate their emotions and to fulfill their unmet social needs. Similarly, an increasing body of evidence suggests that alexithymia may also play an essential role in the etiopathogenesis of addictive disorders. We conducted a scoping review of questionnaire-based studies of problematic Internet use/Internet addiction and alexithymia. From initial 51 studies, all of the final 12 included studies demonstrated a significant positive association between scores of alexithymia and severity of Internet addiction. However, the causal direction of the association is not clear because the interplay of numerous other variables that could affect the relation has not been studied. There are limitations in the methodology of the studies conducted. Hence, we emphasise the need for longitudinal studies with stronger methodologies.

1. Introduction

The concept of compulsive or problematic use of Internet as a variant of addictive behavior was introduced in 1998 by Dr. Young who observed that "excessive use of the Internet resulted in significant personal, family, and occupational problems similar to those documented in other established addictions, such as pathological gambling, eating disorders" and termed it as Internet Addiction (IA) (Young, 1998a). It has been argued that definitions based solely on addiction and impulse control model are too narrow to capture the population of problematic Internet users and could lead to premature conclusions about the new disorder and the patients. Hence, a less controversial term "Problematic Internet Use" is favored (Shapira, Lessig, Goldsmith, et al., 2003). Since the inception of concept, this construct has garnered considerable interest and controversy. A plethora of research has been conducted in this area over the last two decades. Internet addiction (IA) is characterized by uncontrollable and compulsive Internet use, resulting in problems in multiple domains such as poor academic and professional performance, diminished sleep quality and hygiene, and relational maladjustment (Scimeca et al., 2014). Young adults and adolescents such as university/high school students have been demonstrated to be at especially higher risk of developing IA (Frangos, Fragkos, & Kiohos, 2010; Young, 2004). IA is reported to be manifested predominantly in young adults, with estimated prevalence rates ranging up to 38% across a variety of population groups (Chakraborty, Basu, & Vijaya Kumar, 2010). A number of studies are being conducted to explore the physiological, psychosocial as well as biological correlates of Problematic Internet Use/Internet Addiction. Amongst the psychological correlates, the construct of alexithymia has recently gained focus. The concept of alexithymia was first coined by (Sifneos, 1973) to describe the relative lack of emotional skills in so-called psychosomatic patients. Alexithymia is characterized by reduced capacity to identify, analyze and express emotions, restricted imagination, and an externally oriented thinking. These characteristics can be considered as core constructs whereas there are other correlates like difficulties in discerning and assessing the emotions of others, difficulties building

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and maintaining interpersonal relationships, less perceived social support, smaller social networks, reduced social skills etc (Timoney & Holder, 2013).

Due to difficulty in discerning and assessing the emotions of others, individuals with alexithymia have inadequate emotional responding and lack of empathy (Feldmanhall, Dalgleish, & Mobbs, 2013). On the basis of proliferating research evidence on the construct of alexithymia, currently alexithymia is largely being considered as a personality trait (Salminen, Saarijärvi, Toikka, Kauhanen, & Äärelä, 2006) although a few studies propose it to be a state-dependent mechanism as a consequence of psychological distress such as depression or anxiety (de Groot, Rodin, & Olmsted, 1995; Honkalampi, Hintikka, Antikainen, Lehtonen, & Viinamäki, 2001).

Taylor, Bagby, and Parker (1991) have demonstrated that alexithymic individuals attempt to regulate their emotions through compulsive behaviors (Taylor et al., 1991). Over the last few decades, the role of alexithymia in substance use disorders and behavioral addictions have garnered interest in researchers and an increasing body of evidence suggests that alexithymia may play an important role in the etiopathogenesis of addictive disorders (Morie et al., 2016). Emotion regulation skills, which are considered to be an integral part of coping has been shown to be weak in alexithymic individuals which may be one of the factors perpetuating the compulsive behaviour/drug use (Kavanagh, 1986). As many as 78% of individuals with alcohol-use disorders have been reported to have high scores on scale measuring alexithymia (Rybakowski, Ziółkowski, Zasadzka, & Brzeziński, 1988), with percentages typically in the range of 45 to 67% (Thorberg, Young, Sullivan, & Lyvers, 2009). Alexithymia has also been associated with a family history of alcoholism (Pombo, da, Ismail, Cardoso, & Figueira, 2015). When compared to non-addicted individuals, those with substance-use disorders more frequently exhibit alexithymia (Ghalehban & Besharat, 2011). Alexithymia is also frequently seen in participants who are undergoing drug abuse treatment (Lyvers et al., 2014). Individuals with high levels of alexithymia demonstrate difficulty in developing healthy and intimate social relationships because of their inability to identify and respond to emotional states accurately (Rieffe, Oosterveld, & Terwogt, 2006; Heaven, Ciarrochi, & Hurrell, 2010). A few studies have also investigated the relation between pathological gambling and alexithymia and found high levels of alexithymia in these subjects (Toneatto, Lecce, & Bagby, 2009; Bonnaire, Bungener, & Varescon, 2013; Mitrovic & Brown, 2009). It has been hypothesized that individuals engage in such compulsive behaviors to avoid disturbing emotions (Taylor, Bagby, & JDA, 1999).

Alexithymia and emotional intelligence through independent constructs; overlap considerably and have a strong but inverse relationship (Parker, Taylor, & Bagby, 2001). The evidence suggests that emotional intelligence is moderate to strong predictor of addiction-related behaviors like Internet misuse and gaming abuse (Parker, Taylor, Eastabrook, Schell, & Wood, 2008). It has been suggested by the studies that Problematic Internet Use is inversely related to the emotional intelligence (Engelberg & Sjöberg, 2004).

It can be hypothesized that several specific characteristics of the Internet as a medium of social interaction may appear favorable to alexithymic individuals concerning relational interactions. It has been suggested that Internet may be a favored medium for people who have difficulties in establishing relationships, because of the absence of physical presence and proximity together with the absence of the direct observation of others (McKenna & Bargh, 2000). Thus, individuals who have difficulties with identifying, expressing, and communicating emotions may overuse this tool in order to better regulate their emotions and to fulfill their unmet social needs and in consequence to that, alexithymia may be hypothesized to positively predict Internet addiction severity. In a similar context, this study aims to examine the available information through a systematic review of existing studies which have explored the association between alexithymia and Problematic Internet Use (PIU)/Internet Addiction (IA).

2. Methods

The PRISMA guidelines for systematic reviews and meta-analysis were employed for the conduct of the literature search following a systematic and structured approach (Rieffe et al., 2006). Major medical, health and psychological literature databases including PubMed, MEDLINE with Full Text, Cochrane Database for Systematic Review, and PsycINFO were used, and the search included all publication years (till April 2017). The keywords used for the systematic search were: ("excessive Internet use" or "problematic Internet use" or "pathological Internet use" or "Internet addiction" or "excessive computer use" or "Internet gaming" or "computer gaming" or "Internet gaming addiction" or "Internet gaming disorder" AND "alexithymia". No particular definition of Problematic Internet Use or Internet Addiction was used to operationalize the inclusion of studies. The inclusion criteria of the studies in this review were original research studies (cross-sectional, case-control, and cohort) conducted in any population involving any age group which has explored the relationship between Internet related problems and alexithymia. Exclusion criteria included reviews, opinion, and editorials, although their reference lists were searched in turn for any studies not retrieved by the electronic search. Studies which involved computer gaming without the use of the Internet as a medium were also excluded. Upon completion of the search on the electronic database, titles and abstracts of the identified articles were assessed for their suitability to be included in the review. Additional searches were also conducted on other "grey" literature databases such as Google Scholar. After assessing the titles and abstracts, the full text of the articles deemed suitable were retrieved for further examination of the contents of the studies to determine their final inclusion in the review. Furthermore, the reference lists of the selected articles were also examined for additional suitable publications that might have been overlooked in the previous search. Data extraction was carried out under the following headings (as applicable): sample characteristics, including age, gender and sample size; study design; instruments used; and study findings. Two authors (AM & PS) independently carried out data extraction. Results were compared, and any discrepancies were resolved by mutual consensus. Table 1 contains a detailed description of all the articles in this review.

3. Results

The initial search lead to 51 studies from all the databases. Among them, 39 studies were excluded on the basis that either these studies these did not talk about the relationship between Internet use and alexithymia or were overlapped when searched from different search engines. The number of studies was included after preliminary screening was 12 (Fig. 1).

Majority of the studies have been conducted in European or North American countries. Three studies have been conducted in Turkey. There were no studies from any of the Asian, African or Latin American countries. All the studies conducted were cross-sectional in design which only allows considering associations and not any causal paths. Among the studies included three studies (Yates, Gregor, & Haviland, 2012; Schimmenti, Passanisi, Caretti, et al., 2017; Lyvers, Karantonis, Edwards, & Thorberg, 2016) used mediation analyses that allow testing some potential explanatory paths. No longitudinal/cohort studies could be obtained. There were also no intervention studies targeting Internet addiction and alexithymia.

3.1. Sample characteristics

All except one study were conducted in high school, university or college students or young adults. One study was conducted specifically in adult social network gamers (Geisel, Panneck, Stickel, Schneider, & Müller, 2015). The age range of subjects in the studies was 13–30 years. Only one study employed random sampling method (Schimmenti et al.,