

Autism Spectrum Disorder and Video Games: Restricted Interests or Addiction?

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Abstract

Case Report

Introduction: Autism Spectrum Disorder (ASD) is characterized by difficulties in social communication and the presence of restricted and repetitive interests (RI). Video game use is frequent in this population, raising the question of whether it constitutes a behavioral addiction or the expression of a typical RI of ASD. **Case report:** M.S., 17 years old, diagnosed in childhood with ASD and normal intelligence, was brought to consultation for irritability, social withdrawal, and school absenteeism, linked to an almost exclusive investment in mobile video games. The initial presentation suggested video game addiction, with several criteria present (preoccupation, loss of control, irritability upon cessation, interference with daily life). A depressive syndrome was observed during the psychiatric interview. After multidisciplinary follow-up and treatment with sertraline 50 mg/day, mood improvement and progressive cessation of gaming were observed after four months. This evolution led to reconsidering the behavior as a restricted interest rather than an addiction. **Discussion:** The distinction between video game addiction and restricted interests in ASD remains complex. Intensive gaming behaviors may reflect a search for predictability, structure, and sensory stimulation, characteristics of RIs, rather than pathological loss of control. Studies show that adolescents with ASD, especially at a high functioning level, have an increased risk of excessive use, often modulated by comorbidities such as ADHD and mood disorders. Individualized assessment, integrating cognitive, emotional, and familial dimensions, is therefore essential to differentiate addiction from RI. **Conclusion:** This case illustrates the clinical difficulty of distinguishing a restricted interest from an addiction in adolescents with ASD. Favorable evolution under treatment and follow-up supports the hypothesis of an exacerbated RI rather than an addictive disorder. These observations highlight the importance of a multidisciplinary and nuanced approach in the evaluation and management of video game-related behaviors in ASD.

Keywords: Autism Spectrum Disorder, video games, addiction, restricted interests, executive functions, neurodevelopment.

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INTRODUCTION

Video game use among children and adolescents with autism spectrum disorder (ASD) is increasingly common [1]. This practice raises questions about its implications: does it reflect restricted interests (RI), characteristic of ASD, or does it constitute a form of behavioral addiction [2]? Understanding this distinction is essential for clinical assessment, therapeutic follow-up, and family support [3]. This article presents an illustrative case report, followed by a literature overview, to explore the complex links between video games, restricted interests, and addictive behaviors in individuals with ASD [4].

CASE REPORT

M.S., 17 years old, is a patient diagnosed in childhood with autism spectrum disorder (ASD) and normal intelligence. He was brought to consultation by his mother due to behavioral changes over the past year: irritability, social withdrawal, and almost exclusive engagement in mobile video games, accompanied by school absenteeism. The psychiatric interview revealed a depressive syndrome. Initially, M.S.'s behavior was interpreted as video game addiction, as several classical criteria were present (intense preoccupation, irritability upon cessation, loss of control, abandonment of school and social activities). However, with multidisciplinary follow-up and treatment with sertraline 50 mg/day, the patient progressively stopped gaming after four months,

with mood improvement and resumption of daily activities. This evolution led to the conclusion that the behavior was more consistent with a typical ASD restricted interest, highlighting the difficulty of distinguishing a restricted interest from a true addictive disorder and the importance of careful clinical follow-up.

DISCUSSION

1. Prevalence and video game use in ASD

Among neurotypical adolescents, the prevalence of video game addiction is estimated between 1.5 and 10% [5]. In individuals with autism spectrum disorder (ASD), video game use generally appears more intense and earlier, particularly among high-functioning boys and those whose cognitive skills allow optimal exploitation of the complex and structured aspects of games. This practice often falls within the framework of restricted interests (RI), central features of ASD, defined by sustained and persistent focus on specific activities [6]. In this context, video gaming constitutes a structured daily occupation, associated with high emotional investment, and whose intensity greatly exceeds that observed in neurotypical adolescents [7].

The Problem Video Game Playing Test (PVGTT) assesses the severity of use by measuring preoccupation, tolerance, withdrawal, and interference with daily life [8]. However, it is difficult to distinguish addiction from RI, as repetitive behaviors around video games may reflect the neurodevelopmental profile of ASD (predictability, structure, sensory stimulation) rather than pathological addiction [9]. Thus, intensive video game use in ASD reflects a complex interaction between intrinsic preferences related to RIs, neurobiological factors, and vulnerability to problematic behaviors [10]. It is essential to consider this context to interpret questionnaire results and differentiate what constitutes a natural restricted interest from true video game addiction [11].

2. Video games as potential addiction

Several studies have shown that individuals with ASD spend more time playing video games and exhibit behaviors resembling those observed in behavioral addictions. These behaviors can be analyzed along several dimensions:

Preoccupation and compulsivity

Adolescents with ASD show intense focus on video games, with thought and speech often centered on this activity [12]. This constant preoccupation may take on an obsessive character, with repetitive discussions about strategies, levels, or game characters. This focus mirrors one of the fundamental criteria of addiction, namely intrusive thoughts and lack of control over behavior.

Tolerance and withdrawal symptoms

In some young people with ASD, a tolerance phenomenon appears: they feel the need to progressively increase gaming time to experience pleasure or

satisfaction. When gaming is interrupted, signs of distress or irritability may occur, resembling a withdrawal process similar to that observed in other behavioral addictions [13].

Interference in daily life

Intensive video game use can disrupt several aspects of daily life. Studies report negative impacts on sleep, decreased academic performance, and reduced social interactions. These consequences reflect significant functional interference, a central criterion in the definition of video game addiction in the general population [14].

Neuropsychological factors and comorbidities

Several neuropsychological factors contribute to this vulnerability. Deficits in inhibitory control and impulsivity favor the persistence of gaming behavior, while altered emotional regulation can reinforce the search for immediate stimulation provided by video games. Moreover, the presence of common comorbidities in ASD, such as attention deficit hyperactivity disorder (ADHD), increases the risk of overuse and development of problematic behaviors [15].

Thus, intensive video game use in individuals with ASD cannot be interpreted solely as a pastime: there are behavioral, emotional, and neuropsychological dimensions suggesting a specific vulnerability to addiction, requiring particular attention in clinical assessment [16].

3. Video games as restricted interests (RI)

Autism Spectrum Disorder (ASD) is characterized by restricted interests (RI), which are persistent and intense focuses on particular objects, activities, or subjects. Video games often represent one of these interests in adolescents with ASD.

Prevalence of technology-centered Ris

Several studies have shown that video games constitute a frequent RI in this population [18]. Baron-Cohen and Wheelwright (1999) reported that many children with ASD showed marked interest in technology, including computers and audiovisual content. More recently, Anthony *et al.*, (2013) observed that video games represented the main RI for a significant proportion of high-functioning adolescents with ASD [19]. These results highlight that video games are not only popular but also preferred and regularly sought by these youth.

Intensity and focus

RIs in ASD are distinguished by abnormal intensity and consistency. Affected adolescents may dedicate long hours to video games at the expense of other school, social, or leisure activities. This persistent focus should not be immediately interpreted as addiction: it is a structuring behavior consistent with the neurodevelopmental needs inherent to ASD, such as the

search for predictability, structure, and appropriate sensory stimulation [20].

Positive effects of Ris

Unlike addictive behaviors, some RIs, including video games, may have beneficial effects. Adolescents can develop social skills by interacting with peers online, improve cognitive and motor skills through planning, hand-eye coordination, and problem-solving, and experience a sense of well-being associated with achievement in the game [21]. Finke *et al.*, (2018) also noted that RIs can promote the development of specific abilities, such as logical reasoning or managing complex systems.

Thus, for some adolescents with ASD, video games are not merely a pastime: they constitute a structuring and beneficial RI, providing cognitive and emotional stimulation adapted to their neurodevelopmental profile, rather than a pathological addiction [22].

4. Differentiating video game addiction from restricted interests (RI) in ASD

The distinction between problematic video game use and restricted interests (RI) in adolescents with ASD remains challenging [23]. Tools like the Problem Video Game Playing Test (PVGTT), often used in studies, were designed for neurotypical individuals and rely on parental reports [24]. Addiction implies a personal perception of loss of control and continuation despite negative consequences, which can be difficult to assess by parents alone [25].

Clinically, the overlap between RI and addiction complicates interpretation. Adolescents with ASD may think and talk continuously about their video games not due to addiction, but because these games constitute a central RI. Similarly, observed social and academic impacts may reflect fundamental characteristics of ASD rather than addictive behavior [26].

On the neuropsychological and biological level, several factors are common to both phenomena. Loneliness, anxiety, low self-esteem, and executive function alterations—particularly inhibitory control—are frequent in adolescents with ASD and in those presenting video game addiction. The brain reward system is also involved: adolescents with ASD respond more intensely to non-social stimuli, such as video games, enhancing their appeal. These shared mechanisms explain why some RIs may resemble addictive behaviors [27].

Finally, clinical assessment must consider the potentially positive effects of RIs, such as cognitive development, motivation, and social skills, which contrast with the typical negative effects of addiction. Thus, intensive video game use in ASD may represent

both a beneficial restricted interest and a risk behavior, highlighting the need for an individualized and developmental approach to guide interventions and family follow-up [28].

5. Video games and ASD: Guidelines for balanced use

In children and adolescents with autism spectrum disorder (ASD), video games represent both opportunities and risks. Their integration into an educational or therapeutic framework can be beneficial, provided adequate supervision. Recent studies suggest several recommendations to promote balanced and constructive use.

Selecting appropriate and validated games

Serious games and interactive digital platforms specifically developed for ASD have shown positive effects on cognitive functions, communication, and social skills [29,30]. Active games or “exergames,” such as Just Dance 2022, have been effective in improving inhibitory control and promoting emotional regulation [31]. These results emphasize the importance of privileging scientifically validated games adapted to the child’s profile.

Limiting and structuring playtime

Prolonged and unregulated use can lead to social difficulties, withdrawal, and academic disruption [32,33]. It is recommended to set durations appropriate to the child’s age and needs, avoiding that gaming becomes an exclusive restricted interest. The diversity of daily activities should be maintained to preserve developmental balance.

Promoting parental supervision and co-participation

Research shows that parental involvement is a key factor for beneficial use. Co-participation (playing together, commenting on content, setting clear rules, and monitoring online interactions) promotes both regulation of use and development of social skills [34,35]. It also allows gaming to be part of a relational dynamic rather than isolated.

Integrating games into a therapeutic framework

Used as complementary tools in interventions, video games can enhance motivation, increase engagement, and serve as tools to work on specific skills (anxiety, communication, metacognition). The Mindlight study, for example, showed a reduction of anxiety symptoms in children with ASD [36]. Integrating games into a comprehensive therapeutic program maximizes their beneficial effects.

Monitoring the benefit/risk balance

Regular follow-up is essential to detect signs of problematic use: sleep disturbances, social isolation, dependency, or decreased school motivation. In some cases, games may constitute a structuring and reassuring restricted interest; in others, they may exacerbate pre-existing difficulties [25,37,38]. Clinical vigilance must

therefore be constant to adjust practice to the individual profile.

CONCLUSION

Video game use in individuals with autism spectrum disorder (ASD) represents both a therapeutic opportunity and a potential risk. While it can enhance motivation, cognitive, and social skills, excessive use can interfere with daily life and accentuate repetitive behaviors. An individualized approach, integrating neuropsychological particularities, comorbidities, and family context, is therefore essential to promote balanced and beneficial use. Future research should better define the conditions for therapeutic use of video games, particularly exergames, to optimize their effects on the health and well-being of individuals with ASD.

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