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STUDY PROTOCOL

Mapping the theories, content, and outcomes of family-based interventions for children and young people with gaming disorder: A scoping review protocol [version 1; peer review: 2 approved]

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Abstract

Background: Despite the growth of gaming disorders globally, evidence of the formal involvement of family in treating gaming disorders is limited. When children are affected by gaming disorder, the family may encounter challenges in managing the behavior and in the lack of information regarding the gaming disorder, resulting in inconsistent parenting, which may further exacerbate the problem. Thus, it is essential to involve the family in formal interventions. The current scoping review plans to identify the theories, content, and outcomes of family-based interventions for children and young people with gaming disorders.

Methods: This scoping review will follow the Joanna Briggs Institute (JBI) methodology. The population, Concept, and Context (PCC) were used to develop the review question. The studies published in the indexed databases will be searched systematically, and the reference list of included full texts will be searched for relevant studies. Intervention studies published in English from January 2010 to December 2022 will be included. Two independent reviewers will screen the studies against eligibility criteria. The data will be extracted and presented in a tabular and narrative style.

Discussion: This scoping review will help better understand content, outcomes, and theories underpinning family-based interventions for children and young people with gaming disorders. Findings will inform the stakeholders about the current topic and guide the potential research areas.

Registration details: The protocol has been registered in Open Science Framework with the DOI:

Open Peer Review Approval Status 1 2 version 1 view view view

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Any reports and responses or comments on the article can be found at the end of the article.

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Keywords

Gaming Disorder, Family-Based Interventions, family, scoping review, video gaming, treatment



This article is included in the Addiction and

Related Behaviors gateway.



This article is included in the Gambling and

Gaming Addiction collection.

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Author roles: V S H: Conceptualization, Investigation, Methodology, Resources, Validation, Writing – Original Draft Preparation; Abraham M: Conceptualization, Investigation, Methodology, Resources, Validation, Writing – Original Draft Preparation; Prabhu S: Conceptualization, Investigation, Methodology, Resources, Validation, Writing – Original Draft Preparation; Shi J: Conceptualization, Methodology, Validation, Writing – Review & Editing; Dsouza DD: Conceptualization, Investigation, Methodology, Project Administration, Supervision, Validation, Writing – Review & Editing

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Introduction

Online gaming is a popular leisure activity in the present digital age. The highly evolving process includes no gaming to occasional gaming, high-frequency gaming, and uncontrolled gaming. Online gaming has attracted an increasing number of children and adolescents¹ i. Furthermore, its availability 24/7 makes online gaming possible to engage children and adolescents any time of the day and for a prolonged period. Undoubtedly, the Coronavirus disease 2019 (COVID-19) pandemic has caused increased numbers in gaming disorders².

Gaming may become problematic if it causes disruptions in school and work life^{3,4}, sleep^{5–7} and social life⁵. Dysfunctional gaming patterns have become a significant concern for children and adolescents in recent years, with increasing research publications since the World Health Organization's inclusion of gaming disorders in the International Classification of Diseases 11th edition⁸. Problematic gaming behavior may not be connected only to intra-personal characteristics of an individual but also involve social variables, including parental and family factors⁹.

The family is the primary unit for social skills development for children, and the parent-child relationship remains vital. Families assist in organizing a child's daily needs, and a supportive family offers the most reliable network throughout childhood, early adulthood, and beyond. The family develops a special emotional bond with their child through nurturing¹⁰. From a clinical perspective, including families in intervention is critical as parents may help regulate the gaming behavior of children and young people, as positive parenting and family dynamics were associated with decreased rates of problematic gaming while positive attachment with parents was associated with lower rates of problematic gaming9. However, an authoritative or demanding parenting style correlated with higher rates of problematic gaming9. In addition, the dysfunctional family relationship also contributed to an increase in gaming behavior¹¹.

A dearth of literature exists on interventions to prevent or treat gaming disorders. The current interventions available for gaming disorders include cognitive behavioural therapy, family therapy, motivational interviewing, individual counselling, solution-focused therapy, and combinations of these¹². Despite the growing gaming behavior among children and young people, there is limited research on family-based interventions. Including parents in the intervention promotes children's initial engagement and ongoing participation. It also helps the parents learn to set limits on playing video games and (re)establish communication with children¹³. To the best of our data search, no previous reviews have been carried out to methodically map and categorize family-based interventions for children and young people with gaming disorders. Therefore, this review is aimed to map the theories, content, and outcome of family-based interventions.

Review question

This scoping review aims to map the theories, content, and outcome of family-based interventions for children and young people with gaming disorders.

- 1. What are the theories, content, and outcomes presented across interventions for families with children and young people with gaming disorders?
- 2. Which interdisciplinary health care professionals (*e.g.*, educational background, qualifications) are involved in family-based interventions for children and young people with gaming disorders?
- 3. What functional outcomes are reported regarding family-based interventions with children and young people with gaming disorders?

Protocol

This scoping review is developed following Joanna Briggs Institute (JBI) Manual for scoping review¹⁴. The results will be reported according to the Preferred Reporting Items for Systematic Reviews and the Meta-Analyses extension for Scoping Reviews (PRISMA-ScR). The Population, Concept, and Context (PCC) were used to develop the review question. JBI manual for scoping review guides the inclusion of studies that will be included in this review. A pilot search of PubMed and the Cochrane Database of Systematic Reviews was conducted, and no reviews were identified. If there are any changes to the protocol, the final review will amend with justification. The primary outcome of this review is to identify the theories, content and outcome of family-based interventions for children and young people. The secondary outcome health professionals involved and the functional outcome. The scoping review protocol is registered on 23rd April 2023 in Open Science Framework (Registration DOI: https://doi.org/10.17605/OSF.IO/ TXWBH)¹⁵.

Eligibility criteria

Participants. This scoping review will consider the studies investigating family-based interventions to prevent or treat gaming disorders between parents of children and young people, primary caregivers, and professionals (psychiatrists, nursing, occupational therapist, and schoolteachers). The age range selected for children is from (0-10 years) and young people from (10-24 years), a term used by World Health Organization to combine adolescence and youth¹⁶. Studies with participants receiving unimodal or multi-model family-based interventions will also be included. Studies with children and young people with co-occurring conditions will also be considered.

Concept. The concept of interest is any research addressing family-based interventions to prevent or treat gaming disorders for children and young people. The review will consider family defined as parents, primary caregivers such as grandparents who live with the child, and legal guardians. The studies

included in this review must explicitly discuss family-based interventions for gaming disorders. In addition, the program development and validation of family-based interventions will be considered.

Context. This scoping review will consider studies involving family-based interventions for children and young people with gaming disorders conducted in physical contexts such as schools, hospitals, private clinics, outpatients, community, or digital platforms. The studies eligible for review will not be limited to any geographical location.

Types of evidence sources. This scoping review will consider all interventional studies, such as randomized controlled trials, pre-test-post-test study designs, non-randomized controlled trials, quasi-experiments, pilot studies, case series, case reports, and prospective and retrospective clinical studies. In addition, reviews and mixed-method studies will be included. Qualitative studies focusing on developing and evaluating the effects of interventions will also be eligible. The following studies will be excluded: studies that are not written in English, conference presentations, abstracts, theses, studies with participants older than 24 years old and studies published before 2010.

Search strategy

Studies published in indexed databases PubMed, Scopus, EMBASE, and CINAHL will be searched. An initial search was developed and trailed in PubMed, Scopus, and CINAHL. Subsequently, the most suitable keywords and indexed terms

were identified, and a complete search strategy was developed and trailed in PubMed, Scopus, and CINAHL. The strategy was adapted for each search since the index terms varied in some databases (Table 1). A librarian was consulted with search terms, words, and databases. Reference lists of included studies will be hand searched to identify other relevant studies. The studies published in the years 2010–2022 will be included in the review. An extensive study range was considered, as no previous reviews were published on family-based interventions for children and young people with gaming disorders.

Study selection

The studies will be collated and exported to Microsoft Excel for Microsoft 365 with citation details and abstract keywords from all the electronically searched databases. Subsequently, duplicates will be removed. The two independent reviewers will screen selected sources' titles and abstracts to identify the eligibility criteria for full-text extraction. The reason for exclusion will be recorded in the scoping review presented in a PRISMA-ScR. A third reviewer will be consulted for any conflicts. The final results of the search will be reported in the scoping review and represented in the PRISMA-ScR flow diagram¹⁷.

Data extraction

Two independent reviewers will extract the data, and the third reviewer will be consulted on any discrepancies and perform a final check. The data to be extracted is outlined in Table 2 with the basic summary of the studies. The main interest of the review is presented in Table 3.

Data extraction chart

Table 1. Search strategy.

Scopus, PubMed, CINAHL, EMBASE				
Participants	"Digital gam*" OR "computer gam*" OR "video gam*" OR "online gam*" OR "gaming addiction" or "mobile gam*" OR "Internet gam*" OR "compulsive gaming" OR "excessive gaming" OR "gaming addiction" OR "gaming dependency" OR "gaming disorder" OR "pathological computer gaming" OR "pathological gaming" OR "pathological internet gaming" OR "pathological video gaming" OR "problematic computer gaming" OR "problematic digital gaming" OR "problematic gaming" OR "problematic internet gaming" OR "problematic mobile gaming" OR "problematic online gaming" OR "problematic video gaming" OR "problematic videogaming" OR "video game addiction" OR "videogame addiction"			
Intervention	"Family based therap*" OR "family centered intervent*" OR "family focused therap*" OR "caregiver educat*" OR "parental educat*" OR "parenting strategies" OR "family care" OR "psychotherap*" OR Family OR parent OR "family therapy" OR psychoeducation			

*MeSH headings will be used in PubMed when appropriate

Table 2. Basic summary of the eligible studies.				
Publication title, author and year				
Study year, location, setting, study design				
Health professionals				
Measures used				
Outcome measures post-intervention at each stage of follow-up				

Table 3. Mapping of theories content, the outcome of a family-based intervention.

Author Title Publication date	Practice approach	group (Intervention details type and frequency, delivery mode,	Service delivery -Control group (Intervention details type and frequency, delivery mode, session duration, duration follow- up)	Outcomes	Functional outcomes
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Data analysis and presentation of the results

A summary table will be provided with detailed information on every included source as per the predefined data extraction sheet. We will summarize the first objective by grouping the theories used in family-based interventions along with content of the development program and what was the outcome of the intervention. The second objective will list health care professionals involved in the intervention. The third objective will report the functional outcome of the intervention. Descriptive analysis will include frequencies of theories used and outcomes. Furthermore, the findings will be described in a narrative style, organized according to the theories underpinning the family-based interventions.

Ethics and dissemination

We will conduct the scoping review of existing studies and will not recruit any participants directly; thus, ethical approval will not be required. We intend to submit the paper for publication in a peer-reviewed journal.

Study status

We have developed the keywords for the search strategy and will run the search in predefined databases by the end of August 2023.

Discussion

Family-based interventions' underpinning theories and content with children and young people with gaming disorders are relatively new. A scoping review will be the best method as it will ensure the literature covered is as broad as possible from all the multidisciplinary studies. It is anticipated that the results of this review will provide clear and in-depth evidence of the theories applied in family-based interventions. Publishing a planned scoping review protocol is in keeping the good transparent research practice. The synthesized knowledge will describe family-based interventions and the theories, content, and outcomes they entail. This review will help inform various stakeholders, including researchers, clinicians, and therapists from various disciplines, on the importance and applications of family-based interventions. The outcome of the scoping review will also inform future research planning. For example, researchers can collaborate with the existing family-based interventions that various healthcare professionals, organizations and schools implement, and evaluate them in different locations and cultures. The limitations expected in the scoping review will be only studies published in English will be included, studies with important data is missed if published in other languages.

Data availability

Underlying data

No data associated with this article.

Extended data

OSF: Mapping the theories, content, and outcomes of family-based interventions for children and young people with gaming disorder: A Scoping Review Protocol. https://doi.org/10.17605/OSF.IO/TXWBH¹⁵

Reporting guidelines

OSF: PRISMA-P and PRISMA-ScR checklist for "Mapping the theories, content, and outcomes of family-based interventions for children and young people with gaming disorder: A Scoping Review Protocol" https://doi.org/10.17605/OSF.IO/ TXWBH¹⁵

Data are available under the terms of the Creative Commons Attribution 4.0 International license (CC-BY 4.0).

Authors contributions

Harishini V S

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Marcos Bella-Fernández

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This article describes a protocol for a scoping review which the authors are intended to perform on family-based interventions in gaming disorders in young patients (children, adolescents, and young adults). Family-based interventions have been designed to treat gaming disorders on the basis that family and social variables may impact its appearance and treatment.

Abstract

The abstract clearly summarizes the goal and the rationale of this scoping review. It also emphasizes that the protocol is registered in OSF. No improvement is needed.

Introduction

The background states that gaming disorder is a prevalent disorder among young people. Research on gaming disorder is growing to the point that it was included in the ICD-11 as a disorder. I would add that it was also recently mentioned in the DSM-5-TR under the name of Internet Gaming Disorder.

The introduction focuses on therapies and specifically on family-based interventions. They also argue that family and social variables have an impact on gaming disorder appearance; here lies the rationale for this type of interventions.

Review question

The authors pose three review questions, regarding the theories, content, and outcomes of these interventions, which professionals administer them, and the reported functional outcomes. The questions are scientifically sound and easily operationalized. I have no comments on them.

Protocol

The authors will follow the Joanna Briggs Institute Manuslfor scoping review. I am not familiar with this, so perhaps the authors could briefly say what characterizes this manual, if that is possible. They will elaborate a report following the PRISMA-ScR guidelines.

There is one sentence in the protocol paragraph which appears to have something missing: "The secondary outcome health professionals involved and the functional outcome". Maybe it should be something like: "The secondary outcome *is* health professionals involved and the functional outcome"?

The authors used the Population, Concept, and Context approach to develop the research questions. As mentioned earlier, the questions are perfectly developed in my opinion.

Regarding the sources, the authors are in general including peer-reviewed articles and excluding these and other grey literature sources. Also, the syntaxes described in Table 1 appear to we exhaustive enough to capture many valuable entries, so perhaps grey literature is not necessary in this review. However, if the authors see that they have not retrieved a sufficient number of entries, perhaps they will have to contemplate including these and other grey literature. I would also suggest the authors to include searches in PsycInfo, apart from the many other databases they are already going to use.

The plan to present and disseminate the results seems perfectly valid for me. The only issue is the date for the research; perhaps it should be updated if the authors have not performed the searches in August 2023.

In summary, this scoping review promises to be a valuable addition to the existing literature. Best of luck with it.

Is the rationale for, and objectives of, the study clearly described?

Yes

Is the study design appropriate for the research question?

Yes

Are sufficient details of the methods provided to allow replication by others? Yes

Are the datasets clearly presented in a useable and accessible format? Not applicable

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Literature reviews, video games, gaming disorder.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Reviewer Report 07 February 2024

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Ben J Riley

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This article reports a priori protocol for a scoping review. The scoping review intends to review the theories, content, and outcomes of family-based interventions for children and young people with gaming disorder.

Abstract

The abstract is clear and provides all the necessary information.

Introduction

The term online gaming is introduced. Gaming can of course occur both on and offline. The opening paragraph suggests this scoping review will focus on online gaming. If this is correct, I suggest an explanation as to why online gaming is the focus along with a distinction between on and offline gaming (gaming disorder naturally can include both on and offline gaming). If the focus is not intended to be online gaming only, I suggest removing the first word "Online" and simply opening with "gaming".

The negative effects of excessive gaming are often sensationalised by the media. Gaming indeed increased during COVID-19, however, this was also associated with many benefits for people (as several articles report). Gaming, as we know, has many benefits for young and older people. I like to see a sentence or two noting such benefits in the introductions of articles that address the harms associated with gaming. E.g., "While there are several positive effects of engaging in gaming such as [creativity, cognition, social, physical...] excessive gaming can be harmful...."

The justification for the scoping review is sound. The three review questions are clear and measurable.

Protocol

A word is missing from the sentence "The secondary outcome health professionals..." suggestion: "The secondary outcomes comprise health professionals involved, and the functional outcome reported." Are there two or three outcomes – later in the protocol it refers to three objectives. Please check this sentence. It may be clearer to write "The second and third objectives comprise health professionals involved and the functional outcome."

Eligibility criteria

Check if "between" is the correct word for the sentence This scoping review will consider the studies investigating family-based interventions to prevent or treat gaming disorders between parents of children and young people, primary caregivers, and professionals (psychiatrists, nursing, occupational therapists, and schoolteachers). "among" may be a better word.

Context

Were online/internet-delivered interventions considered? If not, I suggest make it clear if they

were excluded.

Types of evidence sources.

If grey literature will be excluded, I suggest making this clear. E.g., "This scoping review will consider all peer-reviewed interventional studies, such as..." Then add "grey literature" to the sentence that lists the exclusion criteria.

I suggest please justify why the search will involve articles published from 2010. Yes, 12 years is an extensive range, however, internet gaming took off in the '90s; why limit it to 2010-22? This is not a problem, but the decision should be justified.

Discussion

A further limitation will be articles published before 2010 will not be included.

I hope these comments are helpful, and best of luck with this interesting and relevant review.

Is the rationale for, and objectives of, the study clearly described?

Yes

Is the study design appropriate for the research question?

Yes

Are sufficient details of the methods provided to allow replication by others? $\ensuremath{\mathsf{Yes}}$

Are the datasets clearly presented in a useable and accessible format?

Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Problem gambling, cognitive behavior therapy, literature reviews

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

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