ORIGINAL ARTICLE

Association between gaming and wellbeing in young adults – A mixed methods study

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ABSTRACT

Objective: The risk of gaming addiction or gaming disorder has become a cause of concern over the past years. This mixed methods study reports young adults' experiences and self-ratings of the association between gaming and wellbeing/coping. The study aimed at producing information about gaming experiences and potential gaming addictions. The research questions were: 1) How do young adults rate the effect of gaming on various aspects of their wellbeing? and 2) How do young adults describe the association between gaming and coping in their own words?
Methods: Data were collected from 18–29-year-old young adults (n = 34) in the west of Finland in March and April 2025 using an online survey tool. Inductive content analysis was used for qualitative data, and central values and distributions in percentages for quantitative data.
Results: The respondents did not report addiction to gaming; over 90% of them felt able to control their gaming. Most of them emphasized the positive effects of gaming on their life quality and social relationships. Most respondents found that gaming had helped them relax. Part of the respondents reported sleep problems. When analyzing the results, it should be noted that self-assessment of addiction cannot necessarily be considered reliable.
Conclusions: Gaming can be seen both neutral, positive and negative with respect to coping, depending the person's individual life situation.

Key Words: Gaming, Wellbeing, Young adults, Experiences

1. INTRODUCTION

Digital gaming has become a part of daily life for many individuals, especially for adolescents and young adults. Mobile devices have made gaming convenient at any time. In the United States, 85% of adolescents reported playing video games.[1] In China, it was estimated that 62.3% of minors spend their online time playing games.[2] In Finland, The Finnish Player Barometer carried out during the Covid-19 pandemic in May and June 2020, showed that active digital gaming had increased from to 63.6% from 60.5% in 2018. The survey was based on a nationally representative, random sample of 914 respondents, representing the 10–75-year-old population.[3] Gaming is commonly associated with young males, but recent surveys suggest that women and older age groups also spend considerable time on gaming.[4]

Digital gaming can have many positive impacts. Learning new languages is one example. Halbook et al.[5] have pointed out that the effects of gaming on well-being are moderated by and depend on the motivation for gaming, outside variables, the presence of violence, social interaction, and physical ac-

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tivity. Playing digital games can be experienced as a means of self-fulfillment and as a factor that promotes self-esteem and well-being in a situation where a person does not feel that they are getting positive experiences from the world outside of games.[6] In such cases, digital gaming can produce experiences of competence, success and community. Many young people equate gaming with having fun and a distraction from daily stresses. For part of the players, competitive gaming is a serious area of interest.[7] Summing up relevant research from the past decade, it can be concluded that gaming has become a form of social networking with positive impacts on areas such as entertainment, social wellbeing and education.[8] It has been argued that games per se should not be considered "good or bad."[5]

Gaming may become a problem if it disrupts important functions of an individual's life, such as sleeping or nutrition, or affects their work, studies or social relationships in a negative way.[9] Excessive gaming may result in sleeping problems, tiredness and lack of concentration[10] and develop into a disorder. The gaming disorder has been included in the International Classification of Diseases (ICD-11) since 2018.[11] It is characterized by impaired control over gaming, increasing priority given to gaming over other activities, and continuation or escalation of gaming despite negative consequences. A diagnosis requires severe symptoms to be present for at least 12 months.[11] Neuroimaging studies suggest that internet gaming disorder can cause neurocognitive impairment[12] and emotional difficulty.[13]

It should be noted in this context that the definition of internet addiction is controversial. It is important to ask what causes addiction; users are not addicted to the internet, but to a specific online service, such as a specific game, Facebook, etc.[14] Secondly, Kato, Shinfuku and Tateno,[15] who studied Japanese hikikomori, a.k.a. socially withdrawn individuals, have raised a valid question: The hikikomori are almost always excessive internet users, and it is easy to argue that excessive use of the Internet causes social withdrawal. Kato and colleagues have rightly asked whether reverse causality is actually true. Third, when analyzing the causes of addiction, e.g., to a certain game, one has to remember the immersion effect. In a game design, the target is to create an addictive game to ensure that the player will return to it.[16] Csíkszentmihályi[17] talks about a flow state, where players become immersed in the game world, forgetting everything happening around them. From the player's perspective, an immersive game is meaningful because it provides pleasure through success. If the game is too easy or too difficult, players loses interest and no immersion occurs.

The global prevalence of internet gaming disorders among adolescents and young adults was found to be 9.9%, in a study based on two systematic reviews and meta-analyses covering 155 reports in 33 countries.[18] A meta-analysis involving 61 studies across 29 countries from Kim et al.[19] produced an overall pooled prevalence of gaming disorder of 3.3%; 8.5% in males and 3.5% in females in the general population. Both Kim et al.[19] and Darvesh et al.[20] warn that the reported prevalence ranges should be interpreted with caution. There has been no consensus on how to measure or accurately estimate the prevalence of gaming disorder. The estimates have been highly heterogeneous based on participant demographics and research methodologies; the prevalence has ranged from 0.21%-57.50% in general populations, 3.20%-91.00% in clinical populations, and 50.42%-79.25% in populations undergoing intervention (severe cases).[20] In Finland, it has been estimated that approximately 3% of the population live with a gaming disorder.[21]

The gaming disorder is associated with mental health problems. In the scoping review of Darvesh et al.,[20] the five most frequently reported health-related variables were depression, Internet addiction, anxiety, impulsiveness and attention-deficit hyperactivity disorders. Loneliness, too, can make individuals more vulnerable to a gaming disorder.[9] Gaming can become a way of coping with depression, which may lead to more severe addiction.[22] Individuals, who play to relieve symptoms of depression or anxiety, may not recognize the evolving addiction. Gaming may also function as a way to escape real-life challenges and fears. In addition, excessive gaming may change brain structure and function so as to support compulsive gaming.[10] Possible risk factors for internet gaming disorder include stress, long average game time, family dysfunction, poor academic performance, bullying, social problems, hyperactivity/inattention, anxiety, depression, emotional distress and low self-esteem.[18]

Taking up the topic of a potential gaming disorder is not easy for concerned family members, especially if the individual is not aware of any problems.[10] If the person agrees to see a professional, motivating interviews can be used to assess the role of gaming in the individual's life and to explore what change and support they wish. Cognitive behavioural therapy, including Cognitive Retraining and Functional Treatment (CRAFT), family therapy and medication can be used to treat the gaming disorder.[10, 23]

To sum up, digital gaming and use of screen time have increased rapidly in the past few years. Further epidemiological studies should be conducted using rigorous methodological standards to more accurately estimate the prevalence of gaming disorder.[19] This study reports 18–29-year-old adults' experiences and self-ratings of the association be-

tween gaming and wellbeing/coping. The study aimed at producing information about gaming experiences and potential gaming addictions. The research questions were:

1. How do young adults rate the effect of gaming on various aspects of their wellbeing?

2. How do young adults describe the association between gaming and coping in their own words?

Coping here refers to behavioral, cognitive, and emotional efforts or strategies to handle and manage stressful events or negative psychological and physical outcomes.[24,25] Mental wellbeing (or positive mental health) is seen as including both hedonic elements, such as happiness, pleasure and life satisfaction, and eudaimonic elements, or self-realisation and functioning as a citizen.[26,27] Social wellbeing refers to an individual's feelings of social integration, social acceptance, social contribution, social actualization, and social coherence. Social wellbeing is a particularly important contributor to overall wellbeing in young people.[28]

2. METHODS

2.1 Research design

This is a mixed methods study with quantitative and qualitative data gathered from 34 young adults in Finland.

2.2 Data collection and analysis

Data was collected in March and April 2025 using an online survey tool called Webropol. The target group consisted of 18–29-year-old young adults in the west of Finland. A location-specific facebook page was used to access the target group. The questionnaire was also delivered to the target group electronically through an e-mail link in two folk high schools. Folk high schools are educational institutions that offer adult education in general education and vocational education and training, and open university courses in collaboration with various universities.

The questionnaire started with six background questions: age, gender, employment status, marital status, housing and education. Secondly, the questionnaire included one open question: How does gaming affect your coping? Last, the questionnaire involved 20 sets of multiple choice questions with Likert scale response options. The questionnaire was designed by the research group based on an integrative literature review. The set of multiple choice questions reported on in this article (19 questions) alternated between positively and negatively worded statements, for example: "Gaming helps me get sleep" and "Fast-paced games make it harder to get sleep." Part of the questions dealt with the support available for potential gaming addiction.

Inductive content analysis was used for qualitative data. The material was read through several times and searched for units of meaning that answered the research question. These units were rewritten in a reduced form, while still retaining the original meaning of the material produced by the respondents. Categories were formed based on similar contents and combined into higher order categories and into a final main category. The original data was consulted from time to time to ensure plausible analysis.[29] Since the amount of quantitative data was limited, only the statistics of the survey tool Webropol were used to determine central values and distributions in percentages.

2.3 Ethics and reliability

The study followed national guidelines on good scientific practice.[30] The target group members received a cover letter containing detailed information about the purpose and use of the study. Participation was voluntary and anonymous. This study was approved by the Institutional Review Board of Seinäjoki University of Applied Sciences. The research board agreed that no ethical statement was necessary from a spesific research ethics committee, since the study did not involve patients. A response to the online survey was regarded as consent to participate. The study was conducted per the ethical principles of the Declaration of Helsinki. A response to the online survey was regarded as consent to participate.

Evaluating the reliability and validity of the quantitative results,[31] the research team found that the reliability of the study may be decreased by the limited sample. However, the instrument was considered to accurate measure what it intended to measure. The results are likely to be generalizable at national level. The qualitative results can be transferable both nationally and internationally. They represent credible self-reported accounts of respondents' experiences. The investigator, who conducted the inductive content analysis, paused to consider reflexibility or her preconceptions of the topic. To increase confirmability, the analytical process was described carefully.[32,33]

3. RESULTS

3.1 Demographic data

The respondents were 34 young adults from western Finland, 20 women (58.8%) and 12 men (35.3%). They belonged to the following age groups: 18–20 (8.8%); 21–23 (32.3%); 24–26 (26.5%) and 27–29 (32.4%). Most of them were either students (42.4%) or employed (39.4%). Six respondents did not give an answer to the employment status question.

Half of the respondents (50%) had a vocational qualification, nearly a third held a higher education degree (32.3%), and the rest had finished general upper secondary education

(11.8%) or comprehensive school (5.9%). The largest group, 15, (44.1%) did not have a stable relationship. Nearly one third (32.4%), were married or cohabiliting, and 23.5% had a stable relationship. The respondents lived alone (39.4%), with a spouse or partner (30.3%), with parents 15.2%, with spouse/partner and children (12.1%) or in a flatshare (3.0%).

3.2 The quantitative results

Table 1 shows the distribution of responses across the Likert scale. Relaxation stood out as the major positive effect of gaming. Most respondents or over 74% found that gaming had helped them relax rather much or very much. The median of all responses was 4 (rather much effect) and the mean 3.8. Secondly, more than half of the respondents rated highly the positive effect of gaming on their life quality, loneliness and depression. Most of the respondents chose the response option "rather much" effect (median 4) for these items. In line with these results, 35.5% of the respondents found that gaming had improved their social relationships. A considerable proportion (over 45%) also reported that gaming had relieved their anxiety rather much or very much, or helped them forget difficult emotional experiences (nearly 39%). Last, the greatest group of respondents (38.7%) were not aware of any positive effect of gaming on their ability to concentrate, and approximately one third reported that their concentration had improved very little or rather little.

Table 1. Self-rated association between gaming and wellbeing

	1	2	3	4	5	Mean	Median
Gaming improves my concentration	19.4%	12.9%	38.7%	12.9%	16.1%	2.9	3.0
Gaming helps me get sleep	22.6%	29.0%	41.9%	6.5%	0.0%	2.3	2.0
Gaming improves my life quality	12.9%	9.7%	22.6%	35.5%	19.3%	3.4	4.0
Gaming decreases the time I spend sleeping	45.2%	12.9%	22.6%	16.1%	3.2%	2.2	2.0
Fast-paced games make it harder to get sleep	35.5%	16.1%	22.6%	19.4%	6.4%	2.5	2.0
Gaming sometimes increases my heart rate if I play late in the evening or at night	48.4%	9.7%	19.3%	22.6%	0.0%	2.2	2.0
What happens in games is carried over into my dreams	61.3%	16.1%	6.5%	16.1%	0.0%	1.8	1.0
Games allows me to relax from daily stresses	12.9%	0.0%	12.9%	38.7%	35.5%	3.8	4.0
Gaming helps me forget difficult emotional experiences	19.4%	12.9%	29.0%	25.8%	12.9%	3.0	3.0
Gaming is helpful if I feel anxious	19.3%	9.7%	25.8%	32.3%	12.9%	3.1	3.0
Gaming is helpful when I feel depressed	22.6%	9.7%	6.4%	41.9%	19.4%	3.3	4.0
Gaming relieves my loneliness	19.4%	6.4%	12.9%	38.7%	22.6%	3.4	4.0
Gaming improves my social relationships	35.5%	6.4%	16.1%	22.6%	19.4%	2.8	3.0
I feel addicted to games	71.0%	12.9%	12.9%	3.2%	0.0%	1.5	1.0
I feel guilty because games take up too much time from studying	61.3%	9.7%	22.6%	6.4%	0.0%	1.7	1.0
I know where to seek help if gaming starts to take up too much of my time	35.5%	3.2%	12.9%	19.4%	29.0%	3.0	3.0
I am able to control my gaming	3.2%	0.0%	6.5%	29.0%	61.3%	4.5	5.0
If necessary, people close to me help me reduce gaming	9.7%	3.2%	29.0%	22.6%	35.5%	3.7	4.0
I know where to find support on the internet if gaming takes ups too much of my time and attention	30.0%	10.0%	20.0%	6.7%	33.3%	3.0	3.0
Total	30.8%	10.0%	20.1%	21.9%	17.2%	2.8	3.0

Note. 1= very little, 2 = rather little, 3 = neither little nor much, 4 = rather much, 5 = very much

The respondents reported less negative effects of gaming. Part of them reported adverse effects on sleep; approximately one in four respondents had experienced that fast-paced games had made it harder for them to fall asleep. Just under a fifth had slept less as a result of playing games. In addition, approximately one in five had observed increased heart rates when playing late at night. The median for these questions, however, was 2, which means that most respondents reported "rather little" effect on their sleep or heart rate.

Most respondents, 71% (median 1), were very clear about not having a gaming addiction, and nobody reported being very much addicted. Similarly, the majority reported that they very much (61.3%) or rather much (29%) capable of controlling their gaming habits (median 5). Most respondents (61.3%) disagreed with the statement that they experienced

guilt because games took up too much time from studying.

More than half of all respondents trusted that people close to them would help them in reducing gaming if necessary. The responses were polarized as regards respondents' information about where else they could seek face-to-face or online help for excessive gaming; approximately one third knew very well where support was available, whereas another third had rather little information about the support they could turn to.

3.3 Qualitative results

As shown in Table 2, various respondents saw gaming differently, either as neutral, negative or positive with respect to coping. Eight respondents used almost identical wording to state that gaming did not affect their coping significantly. In addition, one individual played so little that the question was irrelevant. Another group of respondents emphasized the positive effects of gaming; it was seen to relieve stress and promote social interaction. According to these respondents, playing games had helped them relax and "switch off" from work. They had been able to forget daily worries when immersed into the game world. To quote some respondents,

"It takes your mind away." (V6)

"It resets your mind after a long day." (V11)

"It takes your mind off of daily worries." (V12)

The respondents experienced gaming as a form of social interaction, which made them feel connected to the gaming community, provided joy and success and promoted their mental wellbeing. Playing was seen to be interactive teamwork and a way to escape loneliness. At best, it had meant making new friendships. In the respondents own words,

"I cope better when I get to play and catch up with my friends." (V4)

"Gaming with friends helps me cope because of the social interaction and laughing." (V7)

"Playing online or board games with a bunch of friends cheers me up suprisingly much in these times of poor economy." (V12)

For the third group of respondents, gaming brought along some detrimental effects on their mental, social and physical wellbeing. When prolonged, gaming took up too much attention, resources and time from studies, reduced face-to-face contacts and caused anxiety. Playing too late at night hindered falling asleep in time and decreased the quality of sleep. The respondents wrote, for example,

"It increases my anxiety if I play too long, that is more than 1.5-2 hours." (V20)

"I get problems at school if I play a lot and have no energy to learn for the exams." (V14)

Table 2. Descriptions of the association between gaming and wellbeing

Reduced statement	Sub-category	Generic category	Main category
Gaming does not affect coping much	Gaming has little effect on coping	Gaming seen as neutral with respect to coping	Association between gaming and daily coping
Gaming does not affect coping at all			
Gaming is a way to relax	Gaming reduces stress	Gaming seen as positive with respect to coping	
Gaming can reset your thoughts			
Gaming removes your sorrows			
Cannot cope without gaming			
Playing games with friends improves coping	Gaming promotes social wellbeing		
Gaming facilitates discussion			
Gaming with friends is stimulating			
Gaming promotes coping through social interaction			
Gaming can increase anxiety when prolonged	Gaming deteriorates mental wellbeing	Gaming seen as negative with respect to coping	
Gaming has a negative effect on school, no energy to learn for exams			
Gaming reduces sleep if you play too late	Gaming deteriorates physical wellbeing		
Gaming reduces face-to-face contacts	Gaming deteriorates social wellbeing		

4. Discussion

This study reported experiences and self-ratings of the association between gaming and wellbeing/coping in 34 young adults in Finland. The results of the qualitative and quantitative analyses were largely in line: Gaming relieved anxiety, loneliness, and depression and enhanced relaxation. For the majority, gaming was a positive hobby with positive effects. Part of them reported adverse effects on sleep. It is noteworthy that the qualitative analysis found that gaming also caused anxiety for a small number of respondents. The respondents did not feel that they were addicted to games. It should be noted, however, that this was their subjective opinion, with which family and other significant people might disagree. In other words, self-assessment of addiction cannot necessarily be considered reliable. It is possible that an addiction is not recognized or not admitted due to feelings of guilt or shame. Individuals aware of their e-gaming addiction may also choose not to respond to surveys on the the topic.

The study clearly shows that respondents mostly consider their gaming a pleasurable rather than an addiction that they should be concerned about. This view is supported by the fact that most respondents had contacts and activities outside the gaming world considered part of normal everyday life. These included, for example, relationships, studying and working. Although this is no guarantee that a person is not addicted, but reveals that they are not hikikomori or socially withdrawn individuals living purely in the virtual world.

Part of the respondents did not know where to access professional help for excessive gaming if required. Online addiction tests should be marketed more effectively and healthcare professionals trained to identify, prevent and intervene with gaming disorders.

Further studies should be conducted using rigorous methodological standards to estimate the prevalence of gaming disorder more accurately.[19] As pointed out by Kim et al.[19] and Darvesh et al.,[20] it is important to ensure that prevalence studies target the general population. In this study, the young adults represented their age group in a region in Finland. The low number of respondents is a limitation to the study. In further research, it would be interesting to compare the views of families or other close people with the person's own perception regarding the risk of a gaming disorder.

5. Conclusions

Gaming can be seen both neutral, positive and negative with respect to coping, depending the person's individual life situation. Gaming may become a problem if it disrupts individual's sleeping or nutrition, or affects their work, studies or social relationships in a negative way. It's challenging that individuals, who play to relieve symptoms of depression or anxiety, may not recognize the evolving gaming addiction. From the perspective of nursing, it is important to train professionals to identify, prevent and intervene early with gaming disorders.

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Authors contributions

Every author participated in planning the concept and design of the research and defining the intellectual content of the research. MS-T wrote the first draft of the manuscript with AH. MS-T developed the statistical analysis plan and performed the statistical analyses. She also conducted inductive content analysis. Each co-author contributed to either the delivery of the study or helped to devise the protocol. All authors have given final approval for the current version to be published.

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Conflicts of Interest Disclosure

The authors declare they have no conflicts of interest.

Informed consent

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The Publication Ethics Committee of the Sciedu Press. The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

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Data availability statement

The datasets generated during and analyzed during the current study are available from the corresponding author on reasonable request.

Data sharing statement

The data can be requested from the corresponding author. Original data are in finnish.

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