The relationship between parenting styles and internet gaming disorders among secondary school children from the East Coast District in Malaysia

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ABSTRACT

This research aimed to explore the link between parenting styles and gaming disorders among secondary school students in Kelantan, Malaysia. A quantitative correlational survey design was employed, utilizing online survey questionnaires for data collection. The instruments utilized were the Internet Gaming Disorder (IGD) and the Parenting Style Dimensions Questionnaire (PSDQ). A total of 209 respondents from a secondary school participated in the study. Results revealed a significant positive correlation between authoritarian parenting style and gaming disorders among secondary school students. This study serves as a pilot investigation to identify factors associated with gaming disorders, particularly among adolescents. In conclusion, the findings suggest valuable insights for future interventions addressing parenting and internet gaming disorders. Further exploration of the relationship between parenting styles and gaming disorders is recommended for a deeper understanding of this phenomenon.

Keywords: authoritarian, authoritative, gaming disorders, secondary school students

INTRODUCTION

The gaming industry has experienced exponential growth in recent years, particularly among the younger population. With advancements in technology, video and online games have become increasingly captivating and challenging, boasting stunning graphics, high-definition videos, realistic characters, and powerful game systems. However, despite the enjoyment derived from gaming, many individuals, especially the youth, may overlook its potential adverse effects, which can mirror those associated with behavioral and substance addictions, including withdrawal, tolerance, and impairment in normal functioning (Tokunaga, 2017).

Recognizing the significance of gaming-related issues, the World Health Organization (2018) officially introduced Gaming Disorder (GD) as a formal diagnostic entity in the 11th edition of the International Statistical Classification of Diseases and Related Health Problems (ICD–11). This classification aims to provide clarity and distinction between Internet Gaming Disorder (IGD) and hazardous gaming behaviors (Benarous et al., 2019). The DSM–5 has outlined nine criteria as the primary diagnostic requirements for IGD, requiring patients to exhibit specific symptoms, such as impaired control over gaming and prioritizing gaming over other activities (Mihara & Higuchi, 2017).

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Research indicates that IGD can significantly impact adolescents, posing risks for anxiety, depression, social instability, and suicidal ideation and behaviors (Mihara & Higuchi, 2017). Moreover, individuals with IGD often experience withdrawal symptoms, such as recurring game-related thoughts and irritability upon cessation of gaming (Kaptsis et al., 2016). This problematic behavior can lead to interpersonal difficulties, including impaired relationships with parents and a lack of basic social skills to handle conflicts (Cheng et al., 2018; Naskar et al., 2016; Wartberg et al., 2017).

Parenting styles play a crucial role in shaping adolescents' behaviors and coping mechanisms, including their susceptibility to problematic gaming. Authoritative parenting, characterized by warmth and responsiveness, is often associated with reduced risk of IGD, as it promotes self-regulation and adaptive coping strategies in children (Kawabata et al., 2011). In contrast, authoritarian parenting, marked by high control and low responsiveness, and permissive parenting, characterized by high warmth but low control, have been linked to higher IGD risk due to a lack of consistent boundaries or excessive pressure, respectively (Yen et al., 2019). These findings underscore the importance of exploring how different parenting styles influence the development of IGD to inform prevention and intervention efforts.

The prevalence of IGD has been extensively studied, particularly among teenagers, with varying incidence rates reported across different regions. In European samples, incidence rates range from 1.2% to 5.0%, while in Asian samples, they range from 7.5% to 26.7% (Feng et al., 2017; Laconi et al., 2017; Mihara & Higuchi, 2017). The widespread use of the internet among adolescents is evident, with over 90% of European adolescents and a significant portion of Chinese adolescents engaging in online gaming activities (China Internet Network Information Center, 2016; Symons et al., 2017). Furthermore, data from the Romanian National Institute of Statistics (2023) indicates high internet usage rates among Romanian users, highlighting the global prevalence of internet-related activities. Notably, the prevalence of IGD varies across demographics, with males and younger individuals exhibiting higher prevalence rates compared to females and adults (Mihara & Higuchi, 2017). These findings underscore the importance of further research in understanding the complexities of Internet Gaming Disorder and its implications for different populations.

Background

Several studies on Spanish population samples suggest that while a certain degree of authoritarianism may promote adherence to societal norms (Musito & Garcia, 2004), authoritative parenting styles prove to be more conducive to positive socialization. Baumrind (1971) delineated four distinct parenting styles based on levels of demandingness and responsiveness: authoritative (high demandingness and responsiveness), permissive (low demandingness and high responsiveness), authoritarian (high demandingness and low responsiveness), and neglectful (low on both dimensions). Within this framework, authoritative styles emerge as optimal for fostering positive socialization. According to Georgiou and Stavrinides (2013), a permissive parenting style correlates most strongly with bullying victimization, while an authoritarian style is closely associated with violent behavior.

In recent years, the popularity of online gaming has surged, bringing with it a host of issues related to excessive participation. According to Mihara et al. (2016) young individuals who dedicate ten or more hours daily to online gaming often suffer from disorders including irritability, physical aggression, depression, and various socio-academic challenges stemming from sleep deprivation, disrupted circadian rhythms, exhaustion, malnutrition, seizures, and pressure sores. Medical and psychosocial challenges encountered by patients at the Tung Wah Group of Hospitals Integrated Centre on Addiction Prevention and Treatment in Hong Kong encompass mood disturbances, social and academic withdrawal, physical inactivity, heightened frustration, violence, and family discord. Notably, the clinic has observed a trend of increasingly younger individuals seeking assistance, predominantly adolescents, due to gaming addiction.

A study by Peeters et al. (2018) underscores the complexity of gaming addiction, emphasizing the necessity for comprehensive intervention. Investigating internet-specific parenting practices and adolescent symptoms of social media disorder (SMD) and internet gaming disorder (IGD), the research found that strict parenting neither mitigates nor exacerbates IGD risk. These findings align with Choo et al. (2015), who reported minimal impact of restrictive mediation on problematic gaming a year later.

Intriguingly, greater internet usage frequency was associated with heightened IGD and SMD symptoms in boys, suggesting that excessive online gaming may be detrimental.

In a study conducted by Özgür (2019), parenting styles, known to significantly influence adolescent development, were found to play a pivotal role in adolescent internet and technology usage. Investigating the impact of internet parenting styles on adolescent online gaming addiction, the study involved 1336 adolescents from secondary and high schools. Analysis revealed that parenting styles influence online game addiction, particularly in households where laissez-faire internet parenting styles prevail. Adolescents raised in such environments exhibit higher levels of video game addiction compared to those in homes characterized by authoritative or authoritarian parenting styles. This finding corroborates previous literature (Anandari, 2016; Bonnaire & Phan, 2017; Lee & Morgan, 2018; Toker & Baturay, 2016) indicating that adolescents lacking familial support and involvement are more prone to gaming addiction symptoms.

METHODOLOGY

Sampling technique

This study was conducted among the secondary school students of Sekolah Menengah Kebangsaan Cherang Ruku, Sekolah Menengah Kebangsaan Kamil, Sekolah Menengah Kebangsaan Seri Aman, Sekolah Menengah Kebangsaan (A) Dato' Ismail and Sekolah Menengah Kebangsaan Tok Janggut at Kelantan. The respondents were aged 14 and 16 years old. The respondents were required to have access to smartphone or computer at home and have played online games. The respondent must be able to understand and comprehend Malay language.

The sample size was calculated by using G*Power 3.1.9.4 software, with an estimated medium effect size of 0.3, a power of 0.8, and an alpha value of 0.05. Based on the calculation, the minimum sample size needed to adequately detect the correlation between the variables was 84. By considering possible data that would be missing or incomplete, 20% of the calculated sample will be added which makes the total estimated sample size to be 101.

Procedures

This is a quantitative study using a correlational research design. Approval for this study was obtained from the Human Research Ethics Committee of Sultan Idris Education University (approval code: 2020-0152-01) prior to the commencement of the study. Respondents were informed about the research study, confidentiality, and their rights regarding the data. They were also allowed to withdraw from the study at any time without providing an explanation.

Data collection was conducted through an online survey questionnaire using purposive sampling with specific inclusion criteria: teenagers from Malaysian secondary schools aged 13 to 17 years old who were able to complete the online survey independently, and non-consent students were excluded from this study. The counselling teacher from the school was approached to assist in distributing the survey link and encouraging students to participate. Respondents were required to complete the Internet Gaming Disorder Scale-Short-Form (IGDS9-SF) and the Parenting Styles and Dimensions Questionnaire (PSDQ). Both instruments were provided in the Malay language to align with the students' linguistic preferences, ensuring ease and comprehension in completing the questionnaire.

Instruments

Sociodemographic Questionnaire

A sociodemographic information question was also used to get the respondent's background information, including age, gender, race, and parent information. The age categories consist of four answers in which respondents need to choose one out of four provided. Then, there are two options for

gender which were male and female. The races consisted of four options: Malay, Chinese, Indian, and Other. As for the parent information category, the options given were "Having mother only, having father only, staying with both mother and father, and lastly, staying with a guardian".

Internet Gaming Disorder Scale-Short-Form (IGDS9-SF)

Internet Gaming Disorder Scale-Short-Form (IGDS9-SF) is an instrument developed by Pontes and Griffiths (2015). The nine-item dichotomous IGD scale was used to assess the prevalence of gaming disorders among adolescents, young adults, and middle-aged gamers. This scale consists of 9 items with a five-point Likert scale ranging from 1= Never, 2= Rarely, 3= Sometimes, 4= Often, and lastly 5= Very often. If 5 or more criteria were met by the instrument, they were considered addicted to the game.

According to T'ng and Pau (2020), this inventory assesses nine criteria which are (1) developing preoccupation with internet games, (2) experiencing withdrawal symptoms when the internet game is removed, (3) developing tolerance with greater time spent in internet games, (4) failing to control the participation in internet games, (5) losing interest in previous hobbies and entertainment due to internet games, (6) continually involving in internet games despite knowing the negative impacts (i.e., psychosocial problems), (7) lying to family members, therapists, and others regarding the amount of time spent on the internet gaming, (8) using internet games as a means to avoid negative moods or feelings, and (9) losing significant relationships or other opportunities (e.g., job/career or education) due to excessive internet gaming, preoccupation, withdrawal, tolerance, persistence, displacement, problems, deception, escape and conflict. This scale consists of 9 items with a five-point Likert scale ranging from 1 (never) to 5 (very often). For this instrument, if 5 or more criteria are met this way, it is considered an addiction. According to the DSM-5, gaming disorder is present when a person meets five (or more) of the nine criteria during a period of 12 months (American Psychiatric Association, 2022).

Other than that, according to Przybylski et al. (2017), the meaning of preoccupation with internet gaming is when the individual thinks about previous gaming activity or anticipates playing the next game, in other words, internet gaming becomes the dominant activity in daily life. Next, people might experience withdrawal symptoms when internet gaming is taken away. These symptoms were typically described as irritability, anxiety, or sadness, but there are no physical signs of pharmacological withdrawal. After that, the need to play online games for longer periods developed tolerance. Moreover, loss of control means being unable to control participation in internet games. Next, continued use means excessive use of internet games despite knowledge of psychosocial problems. Misleading others means having deceived family members, therapists, or others regarding the amount of internet gaming. Additionally, using online games as an escape refers to using them to forget about or get rid of a bad attitude. (e.g., feelings of helplessness, guilt, anxiety). Other than that, reduced interests mean loss of interest in previous hobbies and entertainment, except internet games. Risked opportunities mean "has jeopardized or lost a significant relationship, job, or educational or career opportunity because of participation in internet games".

Parenting Styles Dimensions Questionnaire (PSDQ)

The PSDQ consists of 62 items assessing the three parenting styles suggested by Baumrind (1967, 1971): the authoritative, the authoritarian, and the permissive. Twenty-seven items belonged to the authoritative style (e.g., "My parents encouraged me to talk about my troubles"," Cronbach's Alpha ranged .91-.96), 20 items to the authoritarian style (e.g., "My parents slapped me when I misbehaved," Cronbach's Alpha ranged .83-.87), and 15 items to the permissive style (e.g., "My parents stated punishments to me but didn't actually do them," Cronbach's Alpha ranged .50-.71). Two versions were evaluated, the first regarding the father's parenting style and the second, the mother's parenting style. Adolescents were asked to answer using a 5-point scale anchored by 1 (never) and 5 (always).

A Short Version of the PSDQ was used in this study. According to Oliveira et al. (2018), the Short Version of the PSDQ consists of 32 items rated on a five-point Likert-type scale ranging from 1 (never) to 5 (always). On each item, the parent must inform the frequency with which he or she uses the specific behavior described. The 32 items can be grouped into three styles and seven dimensions of parenting. The authoritative parenting style includes 15 items divided into three dimensions: support and affection, regulation, and autonomy. The authoritarian style has 12 items and consists of three

dimensions: physical coercion, verbal hostility, and punishment. The permissive style consists of one dimension, indulgence, which is composed of five items. The parenting dimensions were calculated as the arithmetic means of the scale items, and the parenting styles are the arithmetic mean of its dimensions. Therefore, the score in all dimensions and styles ranges from 1 to 5, with higher scores indicating more use of its dimensions or styles.

Participants

A total of 209 respondents from secondary school students in Kelantan participated in this research. In the respondents' profile, the frequency and percentage of the age, gender, race, and parent's information of the respondents are summarized in the table and figure form.

Most of the respondents were Form 4 students who recorded 159 respondents (76.1%), while Form 2 students recorded 50 respondents (23.9%). The mean and standard deviation for the Form 2 students were 15.5 and 0.866 respectively. The majority of the respondents are female, with 136 respondents (65.1%) and the minority of the respondents are male with 73 respondents (34.9%). Most of the respondents are Malay, with 196 respondents (93.8%), followed by Chinese (4.8%), Indian (1%), and the rest are others with 1 respondent (0.5%). According to the parent's information, the students staying with parents were 185 respondents (88.5%) followed by those staying with mothers only 14 respondents (6.7%), those staying with a guardian seven respondents (3.3%), and only 3 respondents staying with fathers only (1.4%). Table 1 below shows the frequency and percentage of the sociodemographic information of all respondents.

Table 1: Frequency and percentage of the sociodemographic information of respondents

Demographic	Categorical	Frequency (N)	Percent (%)	Mean	SD
Age	14 years	50	23.9	15.5	0.866
	16 years	159	76.1		
Gender	Male	73	34.9		
	Female	136	65.1		
Race	Malay	196	93.8		
	Chinese	10	4.8		
	Indian	2	1.0		
	Others	1	0.5		
Parents Information	Stay with father only	3	1.4		
	Stay with mother only	14	6.7		
	Stay with both	185	88.5		
	Stay with guardian	7	3.3		

RESULTS

Results of Pilot Study

A pilot test was conducted to assess the practicality and feasibility of the methodologies and to identify any unanticipated issues that could affect the main study (Viechtbauer et al., 2015). The pilot test for this study was conducted using the Internet Gaming Disorder (IGD) and Parenting Styles Dimensions Questionnaire (PSDQ). It was reported that the value of Cronbach's alpha for IGD was $\alpha = 0.948$. It

shows that the value of internal consistency is acceptable. In addition, for PSDQ, the value of Cronbach's alpha was α = 0.784. The result also indicates an acceptable internal consistency.

Gaming Disorder among Secondary School Students in Kelantan

Table 2 shows the level of gaming disorder among secondary school students in Kelantan. Based on the result, the majority of the respondents have high-level gaming disorder with 148 respondents (70.8%), and the minority of respondents have low-level gaming disorder with 61 respondents (29.2%). The mean and standard deviation for gaming disorder shows 35.75 and 12.912, respectively. A high-level gaming disorder indicates that the person has a gaming disorder.

Table 2: Gaming disorder among secondary school students

Level Gaming Disorder	Frequency (N)	Percent (%)	Mean	SD
Low (0-24)	61	29.2	35.75	12.912
High (24 and above)	148	70.8		

Parenting Styles among Secondary School Students in Kelantan

Table 3 shows the parenting styles among secondary school students in Kelantan. Based on the result, the majority of the respondents have authoritarian parenting styles with 147 respondents (70.3%) followed by authoritative with 52 respondents (24.9%). Meanwhile, the minority of the respondents are permissive parenting styles with 10 respondents (4.8%). Permissive parents mean they were more lenient when it comes to taking care of their children. This hands-off kind of parenting could ultimately harm the development of the child. The mean and standard deviation for parenting styles showed 2.758 and 0.370 respectively.

Table 3: Parenting Styles among Secondary School Students

Parenting Styles	Frequency (N)	Percent (%)	Mean	SD
Authoritative	52	24.9	2.758	0.370
Authoritarian	147	70.3		
Permissive	10	4.8		

Correlation analysis of parenting styles and gaming disorder

The results of the Pearson correlation analyses indicate significant relationships between parenting styles and Internet Gaming Disorder (IGD). An authoritarian parenting style exhibits a strong positive correlation with IGD (r = 0.727, n = 148, p = 0.001), suggesting that higher levels of authoritarian parenting are associated with greater IGD severity. Conversely, an authoritative parenting style shows a strong negative correlation with IGD (r = -0.781, n = 148, p = 0.001), indicating that higher levels of authoritative parenting are associated with lower IGD severity. Additionally, a permissive parenting style demonstrates a weak positive correlation with IGD (r = 0.240, n = 148, p = 0.003), suggesting a minor association. These findings collectively reject the null hypotheses and highlight the influence of parenting styles on IGD outcomes.

DISCUSSION

This study was conducted in Kelantan, a state, on the east coast of Malaysia to look into the relationship between parenting styles and gaming disorders among secondary school students. There is a positive correlation between authoritarian parenting style and gaming disorder, referring to the parents who showed little warmth in educating their children. According to Karaer and Akdemir (2019), parenting

style refers to the ways or techniques parents employ in the upbringing of their children. This view emphasizes the ways initiated by parents in the general development of children.

The parents who adopted the authoritarian parenting style refer to parents who emphasize obedience and conformity and expect that rules are obeyed without explanation in a less warm environment. Authoritarian parents will show little affection to their children. Parents instruct and order, do not consider the children's opinion as a group and discourage verbal give-and-take. As a result, the children will feel isolated, and they tend to look for outdoor entertainment such as involving in gaming which leads to addiction. Hence, it will contribute to gaming disorders among them. This was similar to the finding by Choi et al. (2018), as family environment influences adolescent behaviour.

A negative correlation between authoritative parenting style and gaming disorder was found in this study. Parenting style was selected as the social factor for this study based on the extensive use of this predictive or risk and protective factor on adolescent behavior. Authoritative parents closely monitor their children with warmth and emotional support, as well as responsiveness and firm boundaries. Authoritative parents most successfully promote positive behavioural and emotional outcomes in adolescents and best foster effective family connections. It agrees with the finding reported by Kim and Kim (2021) that attitudes among students were associated with parenting style. Adopting this kind of parenting style could enable the adolescent to differentiate the influence of gaming disorder. In line with that, they do not involve in gaming disorders. It is supported by Li et al. (2018) as there are associations between parenting style and gaming disorder among children. The authoritative parent fosters a child's developing sense of independence by gradually expanding the range of liberties granted to the child in accordance with the child's maturity, responsibility, and dependability. Adolescents with authoritative parents were more easily to control in terms of social problems that widely affect adolescents.

In terms of permissive parenting style, it was found that there is a negative correlation between the respective parenting style and gaming disorder. Permissive parents provide warmth and emotional support with few restrictions. Permissive parents tend to be overindulgent, make few demands, rarely use punishment, and allow their children to make their own decisions regardless of the consequences. Children raised by permissive parents tend to lack self-discipline.

As a result, the respective parenting style gives influence towards gaming disorders among adolescents as their parents are not strict with their children's behavior. This happens when parents did not expect developmentally appropriate behaviour from their children. This is in line with Zhang et al. (2019) where permissive parenting style influences adolescent behavior as has been proven among Chinese adolescents. A permissive parenting style has a positive correlation with internet addiction among adolescents as they feel free to do what they want to do. Adolescents determine their behavior based on their preferences and what they would like to do.

Consequently, this type of parenting is likely to be negatively associated with children's psychosocial development, and children of permissive parents exhibit characteristics such as narcissistic tendencies, social irresponsibility, and self-centered motivation. In line with that, it is important to ensure an effective parenting style is applied in educating children. The family is a social arrangement that exerts significant influence on children's development and parenting styles, and influences the social environments of children within the family. Moreover, parenting is an ecological variable that significantly influences a child's personality development.

The findings of this study contribute to understanding the role of parenting styles in the development of gaming disorder among adolescents. By identifying the specific influences of authoritarian, authoritative, and permissive parenting, the study highlights areas for targeted interventions. These insights could inform the development of parenting programs or educational campaigns aimed at promoting healthier parent-child dynamics to mitigate the risk of gaming disorder.

Limitation

This study has several limitations. Time constraints posed a significant challenge, as the COVID-19 pandemic delayed data collection, resulting in a prolonged period required to gather sufficient responses. Additionally, the study relied on self-reported data, which may have introduced recall bias, as participants might have inaccurately remembered or reported past experiences (Hassan, 2006; Raphael, 1987). Furthermore, obtaining consent from participants under the age of 18 presented

difficulties, as it required parental or guardian approval, which added complexity and potential delays to the recruitment process.

Future Recommendations

This research can be further extended by comparing the impact of parenting styles on gaming disorder among adolescents from diverse demographic or cultural backgrounds. Additionally, increasing the sample size could provide more robust insights into the influence of parenting styles on adolescents' behaviors, particularly regarding specific parenting practices. Future studies could also explore other factors influencing the relationship between parenting style and adolescents' behaviors, such as genetic predispositions, environmental influences, or peer relationships.

CONCLUSION

Parents provide substantial influence on adolescent behavior in general and have particularly important roles to play concerning adolescent attitude. The way that parents raise their children is an important factor in their children's growth and development. Parents become the main influence on their adolescent's behavior. In this particular research, parenting style influence gaming disorder among adolescents. Due to that, parents need to implement good parenting styles to ensure their children could meet the demands of the specific culture or subculture in which they live. Parenting style becomes the main determinant of adolescents' behavior and attitude. Parents are the main companions and guardians which are closely attached to the children.

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