

Advertising in the Digital Area: Playing Online Games Pose a Risk to Come Upon Improper Advertisements

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Today, the patterns of playing games have changed significantly and have turned into a virtual form. Digital games contribute significantly to children's attention and cognitive development, motivation, and sensory development positively, on the other hand, they reduce sociability, increase feelings of violence and cruelty, and pose a risk for abuse and peer bullying.^{1,2}

This study aimed to evaluate the risk of witnessing inappropriate and disturbing images, written expressions, speech, and advertisements with other demographic data in children playing online games.

The preliminary descriptive and cross-sectional study was conducted on 252 adolescents aged between 11 and 18 years old who have been admitted to the hospital for any reason and accepted to join the study in a tertiary children's hospital. Adolescents who gave a positive history of playing digital games were enrolled in the study. Then, participants were divided into 2 groups as online digital game players and offline digital game players.

A questionnaire including demographic data, characteristics of the games played, and the environment about game options was used to collect the data. The environment included the query about images and written expressions and also the digital advertising features encountered during the game period. Participants were asked whether they met any image and written expressions that bothered them during the game. Then, they were asked an open-ended question without giving multiple choices. Additionally, they were questioned whether they saw any advertisement during the period of game. After that, they were once again requested to write the kind and content of the advertisement.

Statistical Package for Social Sciences 21 was used to evaluate the data obtained from the study and to create the tables. The compatibility of the continuous variables (quantitative variables) obtained by measuring the normal distribution was investigated by Kolmogorov-Smirnov. Chi-square (χ^2) test and, where necessary, Fisher's exact test were used for the comparison of categorical variables. The Mann-Whitney *U* test was used for the 2 groups for non-parametric test conditions were met. In all statistical analyzes, $P < .05$ was accepted as the level of significance.

Written informed consent was taken from the patients and the parents. The local institutional review board approved the study. Ethics committee approval was also obtained.

The preliminary study included 252 adolescents playing digital games. Of them, 224 (88.8%) participants were online game players, while 28 (11.1%) adolescents reported playing offline digital games ($P < .05$). Among 13.7 ± 2.9 mean-aged online game players, 140 (62.5%) were male, though it was 12 (42.8%) males in 13.5 ± 3.2 mean-aged offline game players. The percentages of inappropriate and disturbing images, expressions, and digital advertising were given in Figure 1. Although no significance was present between groups in witnessing disturbing or inappropriate images, online game players reported seeing sexual, shameful,

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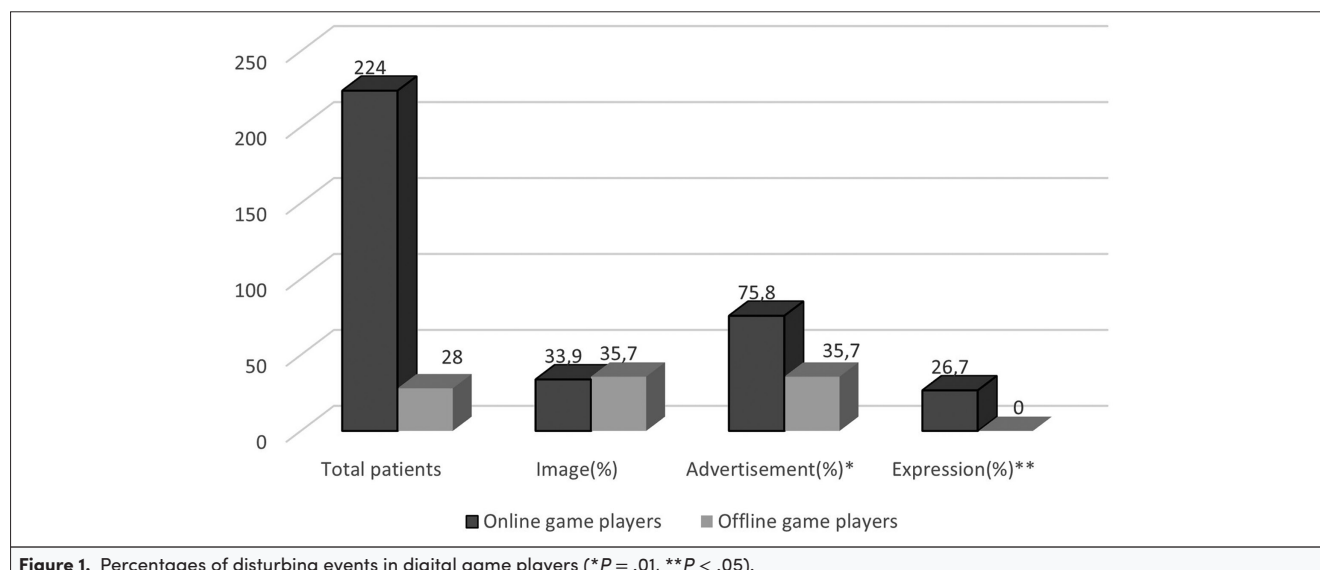
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pornographic images by 34% and horrible, terrible, scary views by 9%. Online game players stated to witness significantly higher digital advertisements ($P = .01$). However, only 51% reported the content and theme within the digital ad observer, 27.2% recorded to see sexual, shamed content in the adds. The main heading of the significantly high improper expressions encountered included profanity, curse, slang language, and disturbing nickname in online game players ($P < .05$).

The preliminary study results demonstrated that digital game platforms especially when played online put adolescents at risk of exposure to uncontrolled digital advertising areas. Adolescents reported facing sexual content and embarrassing material in ads as well as abusive verbal content when playing online games.

Children are reported to be able to identify the intention of advertising after the age of 12, new marketing approaches spread to collect data for consumer trends. On the other hand, these attitudes also influence the consumption habits of children. Data serve the information that adolescents have increased risk to exposure to alcohol content, tobacco, and also electronic cigarettes by advertising in the digital area.^{3,4} Although there are publications about the effects of substance use in children, the data on negative images and sexual content are limited.⁴⁻⁶ This study does draw attention to dangers in this area as a preliminary study.

Unwanted exposure to online sexual solicitation or pornography is defined as being exposed to naked people or online sexual activity images without searching particular words related to pornography and usually being exposed involuntarily. Data derived from multivariate analysis of adolescents reported that higher levels of online game use predict online sexual solicitation behavior.¹ Digital advertisements and related options should be the area to be focused on.

Recently, the American Academy of Pediatrics released a policy statement for digital advertising to children to prevent and mitigate negative results.⁶ It is important to develop new policies

in the area of digital advertising to protect children. In addition, the fact that children are significantly more exposed to bullying, insults, and inappropriate images during online games, it is crucial to take new precautions for vulnerable children for newly designed online games.⁷⁻⁹

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