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Digital game playing motives among adolescents: Relations to parent–child communication, school performance, sleeping habits, and perceived health

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ABSTRACT

The aims of this research were to describe Finnish adolescents' different motives for digital game playing, and to examine relations between digital game playing and parent–child communication, school performance, sleeping habits, and perceived health. A questionnaire was used to assess a nationwide postal sample of 12–18-year-old Finns (6761 respondents, response rate 69%) in winter 2003. Among respondents, 4085 adolescents played digital games and answered questions on digital game motives. Two main motives emerged: instrumental (learn new things and procedures, have a common topic for conversation, use and develop game playing skills, experience different roles/worlds) and ritualized (pastime, entertainment; recover, relax; escape everyday life, forget worries). The importance of all motives increased for participants with longer playing times. Instrumental motives were more important to boys and younger respondents. They were associated with earlier bedtime, worse perceived health, better mother communication, and better school grades, but only among boys. The importance of ritualized motives increased with age and was related to better school performance, worse sleeping habits, and worse perceived health in both sexes. Digital games seem to have the same basic functions as media in serving adolescents' mood management and stimulation seeking. Among boys, gaming is part of the male socio-cultural communication context.

1. Introduction

Digital (also referred to in literature as computer or video) game playing is very popular among young persons. About 75–90% of school-aged children play digital games. Boys are more likely to play than girls, and they play more frequently and for longer periods than girls (Buchman & Funk, 1996; Colwell & Payne, 2000; Durkin & Barber, 2002; Griffiths, 1997a; Ho & Lee, 2001; Phillips, Rolls, Rouse, & Griffiths, 1995; Punamäki, Wallenius, Nygård, Saarni, & Rimpelä, 2007). The amount of playing decreases with age during adolescence (Buchman & Funk, 1996).

A great number of digital games (40–80%) involve violent elements, such as fighting or destruction, defined as acts causing or designed to cause injury or death to another character (Dietz, 1998; Funk, Hagan, & Schimming, 1999; Salakoski, Mustonen, Sipari, & Pulkkinen, 2002; Thomson & Haninger, 2001). Digital games have been developed to be visually more realistic, and the interactive nature of playing and the active role of the player have become more common. These features increasing visual reality may lead to a sense of immersion or psychological flow characterized by focused concentration, distorted sense of time, and temporarily lost awareness of self (Csikszentmihalyi, 1988; Harvey, Loomis, Bell, & Marino, 1998). At the same time computer-mediated communication is more impersonal and offers less rich information than face to face contacts (Berry, 1993; Clark, 1996; Sproull & Kiesler, 1991).

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There is a concern about the potential detrimental effects of digital games on child and adolescent behavior, health and development. Results are, however, inconsistent in that some studies show neutral or even positive effects, whereas others show increasing aggression, weak social relations or poor academic performance (for reviews see Bensley & Van Eenwyk, 2001; Sherry, 2001; Subrahmanyam, Greenfield, Kraut, & Gross, 2001). Few results exist on the health effects of game playing (for a review see Wartella, O'Keefe, & Scantlin, 2000). Even less is known about the reasons and motives underlying digital game playing. These factors may be important in understanding how digital games affect child and adolescent development and health.

Research on the motivation to use traditional media show that people use media actively and selectively (Ferguson & Perse, 2000; Perse, 1992), seeking different uses and gratifications for themselves (Rubin, 1993, 1994). Two models are prominent as explanations of media use: balance theory and the activation model. According to balance theory, people seek cognitive and emotional balance through mood management. Media serves this by helping people to compensate one mood with another, more desirable one (Bryant & Zillmann, 1984; Zillmann, 1988). For instance, Potts and Sanchez (1994) found that viewing drama and comedy can serve as a means of escape from a depressive mood. The activation model explains media use as a part of individual's search for optimal physiological arousal level (Donohew, Palmgreen, & Duncan, 1980; Rowland, Fouts, & Heartherton, 1989; Zillmann, Hezel, & Medoff, 1980; Zuckerman, 1988). One way of finding arousal is to turn to the media when bored or understimulated.

Researchers have developed typologies to describe media use motives. Rubin (1993, 1994) distinguishes between instrumental and ritualized media use motives. Instrumental media use refers to active and purposive orientation, often information seeking. One example would be viewing television news and documentaries (Perse, 1992; Rubin, 1981, 1983); another would be use of the Internet to find information (Papacharissi & Rubin, 2000). Ritualized media use is not directed at any specific content done for the purpose of passing time, or providing entertainment or relaxation in general (Ferguson & Perse, 2000; Perse, 1990; Perse & Dunn, 1998). Mustonen (1997) extended Rubin's classification to include social motives, which involve virtual friends and parasocial relations (one-sided relations, as between a person and celebrity) (Rubin & McHugh, 1987; Rubin, Perse, & Powell, 1985) as well as topics for conversation and means to get social approval in real communication (Harris, 1994; Kraut, Mukopadhyay, Szczypula, Kiesler, & Scherlis, 1998).

Research on digital game playing motives reveals similar ritualized motives, including passing the time, escaping from or avoiding doing other things, cheering oneself, and initiating action (Griffiths, 1997a; Griffiths & Hunt, 1998; Phillips et al., 1995; Selnow, 1984). Cognitive or instrumentally oriented motives do not seem to guide digital game playing. Children rarely (2–4%) mention education or the opportunity to learn new skills as good things in computer games (Griffiths, 1997a; Griffiths & Hunt, 1998). Preferred typically by girls and younger children, educational games are not among the most favoured (Buchman & Funk, 1996). Digital games, likewise, may provide an electronic friendship (Selnow, 1984) and companionship, especially for boys (Colwell, Grady, & Rhaiti, 1995; Colwell & Payne, 2000). Computer game playing may also strengthen group membership and provide common activity (Griffiths, 1997a; Selnow, 1984). Gender differences in social approval play an important role in digital game choices (Cooper, Hall, & Huff, 1990; Funk & Buchman, 1996). In general, digital game playing is characterized to represent the male culture, oriented primarily to meet male abilities and needs for social inclusion, and a child who assumes gaming patterns of the opposite sex may be rejected by peers (Lucas & Sherry, 2004; Yates & Littleton, 1999).

There is some research on the effects of computer use and computer game playing on academic performance, social relations, and well-being. Most parents believe computers to be an educational resource (Turow, 1999). This receives some support from results showing a moderate positive effect of home computer use including digital games and Internet activities on academic performance (Durkin & Barber, 2002; Subrahmanyam et al., 2001). However, heavier recreational Internet use and digital playing are related to impaired academic performance, even to missing class (Durkin & Barber, 2002; Kubey, Lavin, & Barrows, 2001; Subrahmanyam et al., 2001).Thus, the effects seem to differ according to level and motivation of usage.

There is evidence that the impact of computer use on social development is dependent on motivational factors. Whereas information seeking as a primary motive is related to a social and active lifestyle (Ho & Lee, 2001; Katz & Aspden, 1997; Mesch, 2001; Papacharissi & Rubin, 2000), heavier recreational use as a primary motive is related to decline in family communication (Kraut et al., 2002, 1998), loneliness, and less prosocial attitudes (Kubey et al., 2001; Mesch, 2001; Subrahmanyam et al., 2001). Papacharissi and Rubin (2000) found that Internet use served as a functional alternative to face-to-face interaction for those who were less satisfied with the quality of the social interactions in their own lives.

Contrary to the research on Internet use, studies have not discovered positive relations between the duration of computer game playing and social isolation, loneliness and social unpopularity. Game players either do not differ from nonplayers in the quality of social relations (Griffiths, 1997b; Phillips et al., 1995; van Schie & Wiegman, 1997) or they have more intensive friendships than nonplayers (Colwell et al., 1995; Durkin & Barber, 2002).

In a family context, interactive media, such as game consoles or computers, tend to increase gender and generation gaps, with new media belonging more to male territory and the peer society of children (Pasquier, Buzzi, d'Haenens, & Sjöberg, 1998). In general, parents' knowledge of children's game-playing habits and preferences is insufficient (Ermi & Mäyrä, 2003; Funk et al., 1999). Children rarely play with parents, or talk about playing and computers with their parents (Pasquier et al., 1998). According to Durkin and Barber's (2002) results, however, computer game playing does not threaten family relations in general. Computer game players scored more favourably on both family closeness and friendship networks, as well as on activity involvement, compared to those who never played computer games.

Research suggests that intensive computer use and game playing may form a risk for children's and adolescents' well-being. Digital games have been found to be associated with an increase in somatic complaints (Tanaka, Tamai, Terashima, Takenaka, & Tanaka, 2000) and depression (Durkin & Barber, 2002) in schoolchildren, and also in the possibility of epileptic attacks (for a review see Wartella et al., 2000). In addition, other health-related problems found in adolescents, such as musculoskeletal complaints