

Review

Social video gaming and well-being

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Abstract

Despite stereotypes of video games as isolating technologies, video gaming can be a highly social activity that contributes to well-being. Advances in computing technology and greater social acceptance of video gaming have led to overall increases in gameplay in social scenarios. Our review focuses on three areas of research relevant to understanding social gaming and well-being: social play in video games (both past and present social play, and forms of tandem play), social gaming and psychological recovery (both short-term recovery and long-term resilience), and the use of emerging technologies to connect via gaming (such as game streaming and augmented/virtual reality). Throughout the article, we also highlight deficiencies in extant research and offer suggestions for how social scholarship on video games can move forward with well-being in mind. While existing research generally demonstrates the social dynamics of gaming and demonstrates the role of games for well-being, a robust and directed merging of these two complementary lines of research is currently lacking.

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Introduction

Although commonly stereotyped as “loner” technologies, video games have a rich social history [1,2]. The

first video games featured coplaying elements (as early computing technology could not yet simulate opponents) and likewise, games found widespread popularity in pubs, arcades, and other social gathering spots [3]. Advances in network technology allowed video games to be played at a distance, and gaming has evolved to allow fully immersive social experiences between players from around the world [4,5].

Our review focuses on the social context of gaming and its implications for well-being by reviewing three broad domains of research: social play in video games (including past and present social play), social gaming and psychological recovery (including short-term recovery and long-term resilience), and the use of emerging technologies for social gaming (including game streaming and augmented/virtual reality). In each section, we highlight current research and identify gaps in the empirical record, in hopes of encouraging future research. Throughout this manuscript, we consider well-being in broader non-clinical terms, such as indicators of hedonic (e.g., pleasure and contentment and “being well”) and eudaimonic well-being (e.g., self-fulfillment and “doing well”) [6–8].

Social play in video games

A core motivation for playing video games is for socializing [9,10] and at least one reason for this motivation is that games provide a sense of community among players [4]. Halbrook et al. [11] reviewed several studies showing a net gain on well-being when games are played socially, especially in the case of cooperative games, although they critique the mostly survey-based results in this research. Such effects likely explain the positive psychological benefits of gaming during the COVID-19 pandemic—Barr and Copeland-Stewart [12] found that self-reported increases in play were partly motivated by maintaining social connections with others, and Lewis et al. [13] found feelings of loneliness decreased as players visited each other’s in-game properties. At the same time, not all in-game socialization is motivated by a desire to bond with others, and it is plausible that well-being could suffer as a result. For example, Cook et al. [14] examined the motivations for engaging in game trolling, in which players intentionally disrupt the experiences of others. Tang et al. [15] focused on sexual harassment and toxicity in video games, often directed at players that identify (or are identified as) female, and Kowert [16] reviewed this so-called “dark participation”

in video games (also see [17]). The extent to which these activities harm well-being is generally underexplored, although emerging research suggests that social discrimination harms players' sense of belonging, yet the negative effects on well-being are less clear [18].

Tandem play and well-being

Social play implies that individuals are actively co-playing (i.e., each player has control over their own part of the video game). However, video games can be social even if only one person is actively in control of on-screen action. This is known as *tandem play* [19,20], and it is often motivated by a desire to make gaming more social. For example, players might give "tours" of their favorite games or involve spectators in the experience—both in-person and online spectators (via game streaming, [20]). Tandem play also provides for a diffusion of moral responsibility over in-game choices, allowing groups to "behave badly" and see the consequences of those actions. The presence of social others can also improve game performance through social facilitation effects [2] although these effects were not observed when playing for online audiences [21]. Although there are suggestions that tandem play can strengthen relationships, associations between tandem play and specific well-being outcomes have yet to be explored in detail.

Nostalgia and well-being

Finally, even memories of social gaming can aid in well-being by triggering *nostalgia*. Media is especially powerful for eliciting feelings of nostalgia [22], and video games are no exemption—they allow users to "return to the exact same virtual space that they explored in earlier times" (p. 64) [23]. Wulf et al. [24] explained that gaming nostalgia has distinctly social aspects—as noted by Elson et al. [25], "two friends playing a game together that they often played together as children might provide an entertainment experience that differed in its meaningfulness compared to other games played at other times with other friends" (p. 15). Gaming memories with close relational others (such as friends and family) indirectly influenced nostalgia as mediated by the satisfaction of relatedness needs in the past, with a downstream effect on feeling connected with others in present time [26]. The usefulness of video games to stimulate family communication has gotten recent attention, as parents are more likely to have grown up with video games and as a result are more comfortable integrating video games into their family media diet [27]. In a similar vein—albeit more implicitly tied to nostalgia—video gameplay in family contexts is effective at encouraging family closeness and communication [28,29], which are likely to influence short-term (i.e., stronger family bonds and an increased sense of belonging) and long-term well-being (i.e., providing experiences for later nostalgic affect).

Social gaming and recovery experiences

A more nuanced approach to well-being popular in media research broadly and video gaming research specifically is a focus on recovery, defined as "the process of replenishing depleted resources and rebalancing sub-optimal systems" (p. 331) [30]. Sonnentag and Fritz [31] identified four factors underlying the recovery process: *psychological detachment* and *relaxation* refer to the process of gaining psychological distance from stress and the rebalancing from negative activation or bad mood to baseline levels, whereas *mastery* and *control* refer to agency—mastery results through solving challenging situations, and control refers to the perception of autonomy. There is an established record of research on the role that video games play in recovery (e.g., mood management approaches [32,33]). In these approaches, the interactivity inherent to video games is linked to both mastery and control experiences [34]. More recent work has linked increased cognitive demands of gaming [35] to recovery as a function of psychological detachment (distraction from stress) and both mastery and control experiences (providing a self-selected challenge) [36].

Short-term recovery and well-being

There is emerging evidence that social mechanisms of video games can aid in recovery. Broadly, social gaming can satisfy an innate human need for connectedness [37] with subsequent increases in affective well-being (i.e., increased frequency of positive emotions and mood states) [38]. Playing massively multiplayer online games is positively associated with well-being in meta-analytic work by Raith et al. [39]. This work aligns with older work suggesting playing with others to satisfy relatedness needs [40] and for gamers to feel more meaningfulness in and appreciation of their gaming experiences where they feel connected to social others (both human and in-game characters) [41]. This latter finding was found across several studies in a scoping review of eudaimonic gaming effects [42] in which players attached personal meaning to the social relationships they built while playing games. Although much of this research tends to focus on entertainment outcomes presumed to influence well-being, entertainment outcomes have been found to drive well-being in prior work [43].

Notably, gaming experiences could foster recovery experiences for some players at the expense of other players. For example, in-game success aids in recovery *vis-à-vis* mood repair [44] and repairs thwarted competence needs [45]. One implication for these data—one yet to be investigated more deeply—is that playing against each other could thus mean positive well-being outcomes for the victorious player but impaired well-being outcomes for the defeated player. It is possible that the social interactions between players could

counter-balance well-being losses due to losing competitive games, but such research is absent from the empirical record.

Long-term resilience and well-being

Finally, the short-term influences of social gaming on recovery noted above can also manifest as longer-term resilience to deficient well-being. According to the recovery and resilience in entertaining media use model (R²EM) [46], media-induced recovery can be obtained through (a) homeostatic regulation and a hedonic entertainment experience, mainly resulting in psychological detachment and relaxation and (b) exposure to challenges and a eudaimonic entertainment experience, mainly resulting in mastery experiences and control. Through these routes, the use of entertainment media (such as video games) can potentially foster the long-term development of protective factors that promote resilience. Relevant to social gaming, social support can be built incrementally through playing with others and, in the long run, serve as resiliency factor buffering against a high future need for recovery.

Emerging gaming technologies and well-being

Video games have commonly been at the forefront of technological innovation. Recent advances in the social dimensions of gaming allowing for game streaming and augmented/virtual reality have especially influenced players' well-being, including hedonic enjoyment [47] and subjective well-being [48].

Game streaming and well-being

Game streaming—broadcasting one's video game play through various social platforms (e.g., Twitch, YouTube Gaming)—allows for potentially rich social connections for players and audiences alike. Lin *et al.* [49] suggested three core elements of streaming critical to their sociality, as they allow for (a) public performances of gameplay to large audiences with (b) varying levels of interaction between and (c) various levels of synchrony between streamer(s) and spectator(s). In addition, game streaming allows for otherwise unskilled people to enjoy gaming content and participate in gaming cultures and be part of the overall (social) entertainment experience [47,50], and social interactions are common in these spaces [51]. Although not directly tested, both studies suggest that *simply watching* video games can enhance well-being—relevant given the nearly nine billion hours of game streaming content viewed in the first three months of 2021 alone (nearly triple the content viewed nearly two years prior) [52]. Social dynamics are abundant in game streaming, both for hobbyist micro-streams (with few to no regular followers) [53] and in professional esports in which streamers are more akin to athletes and other performers. For example, esports competitors commonly

use parasocial interaction cues with their audience during their live streams [54] which helps viewers feel closer to and overall enjoy the streamer [55]. This felt closeness motivates viewers to donate and subscribe to the streamer [56], and some have proposed that the perceived friendships audiences form with streamers are beneficial to subjective well-being [49].

Augmented/virtual reality and well-being

Virtual reality (VR) allows game players to fully immerse in digital environments. Although early VR systems focused on immersing a single user, multiplayer modes in several VR games allow players to share and compete in the same digital space. Hart *et al.* [57] developed avatars designed to capture and share the user's facial expressions with others, which has the potential to enhance the social dynamics of VR games—although research on the potential impacts of this increased social richness and well-being have yet to be engaged (as the technologies are quite new, as of this writing). One specific area of VR gaming that has embraced these social dynamics towards physical well-being ends is exergaming. For example, Murray *et al.* [58] found that social-based VR exergaming was both more enjoyable and led to greater physical exertion than solo-based VR, enhancing well-being outcomes. In a meta-analysis, Lin *et al.* [59] found that older adults using these games saw a reduction in loneliness, increased social connection, and positive attitudes towards others. Related to this, augmented reality (AR) games such as *Pokémon Go* and *Harry Potter: Wizard Unites* encourage players to play with each other in shared physical spaces, coordinating their efforts along the way. In survey research, Bonus *et al.* [60] found that *Pokémon Go* encouraged physical activity and social bonding relevant to well-being, and Laato *et al.* [61] found that even competitive elements of the game fostered well-being, although they were also more fatiguing. AR-based video games were especially useful for coping with stress and loneliness during COVID-19, as players were able to safely gather with each other outdoors for gameplay [62].

Conclusion

Although cast as isolating and lonely technologies, video games have been and remain a popular social pastime, and this sociality has meaningful implications for well-being. That said—and beyond a basic claim that feeling closer to others while gaming can make us feel better in the short term—research that specifies more nuanced mechanisms connecting the social nature of video games with specific well-being outcomes is still lacking. The state of the art is therefore not very well-developed, but the emerging empirical record provides ample opportunities for future investigations. Moreover, much of this research is survey-based (including studies that test for causal mechanisms, such as indirect effects models). Related to this, demonstrated well-being

benefits tend to be cross-sectional and thus, we can challenge the durability of these outcomes (although research into resilience attempts to look at long-term effects). Focusing on the changing dynamics of social gaming, advances in how we understand game-induced recovery experience, and engaging the evolving social technologies of gaming will help advance a more comprehensive understanding of gaming uses and effects for social well-being.

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Conflict of interest statement

Nothing declared.

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