Entertainment Motivations and Gaming-specific Gratifications as Antecedents of Digital Game Enjoyment and Appreciation

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This paper has been accepted for publication in P*sychology of Popular Media* (published by American Psychological Association)

Citation: Possler, D., Kümpel, A. S., & Unkel, J. (2020). Entertainment motivations and gaming-specific gratifications as antecedents of digital game enjoyment and appreciation. *Psychology of Popular Media, 9*(4), 541–552. https://doi.org/10.1037/ppm0000248

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Abstract

Media psychological research has identified a broad range of gratifications that can result from playing digital games and fuel players' entertainment experiences. Most of these studies focused on pleasurable, hedonic entertainment experiences (i.e., enjoyment). However, scholarship increasingly acknowledges that digital games can also offer more profound (eudaimonic) entertainment experiences, characterized by the feeling of being moved and the experience of meaningfulness (i.e., appreciation). Knowledge about the antecedents of this form of digital game entertainment experiences is still sparse; thus, the present study investigates the role of well-established gaming gratifications for the emergence of both enjoyment *and* appreciation. Additionally, trait-like preferences for eudaimonic and hedonic entertainment (i.e., entertainment motivations) are investigated as possible antecedents of players' entertainment experiences. Empirically, the study builds on a two-wave online survey of US players of the action-role-playing game *Mass Effect: Andromeda* (n = 1,074). The findings show that obtained gaming-specific gratifications are closely related to players' enjoyment but also to their appreciation of the game. In contrast, trait-like entertainment motivations only exert a small influence on both entertainment experiences. Implications for theorizing and investigating gaming entertainment experiences are discussed.

Keywords: video games, entertainment, appreciation, enjoyment, uses and gratifications

Public Significance Statement: Entertainment research has shown that various gratifications can be obtained from playing digital games. The present study shows that they do not only play a substantial role for users' enjoyment of a game but also explain the emergence of more fundamental entertainment experiences associated with experiencing meaning and the feeling of being moved. These findings help us to understand why digital games are not only a pleasurable pastime but also provide meaningful and insightful experiences.

Entertainment Motivations and Gaming-specific Gratifications as Antecedents of Digital Game Enjoyment and Appreciation

Digital games have gained immense popularity in the last decades—even and especially among mainstream audiences (ESA, 2017). The broad diffusion of digital games in almost all segments of society is often attributed to their capacity to provide rich entertainment experiences (e.g., Klimmt, 2003; Vorderer & Bryant, 2006). Against this backdrop, entertainment scholars have studied a broad range of gratifications that can result from playing digital games, developed extensive gratification catalogues (e.g., Sherry, Lucas, Greenberg, & Lachlan, 2006; Yee, 2006), and linked the gratifications contained therein—such as competition (Vorderer, Hartmann, & Klimmt, 2003), social interaction (Weibel, Wissmath, Habegger, Steiner, & Groner, 2008), or living out fantasies (Klimmt, Hefner, & Vorderer, 2009; Tamborini & Skalski, 2006)—to players' entertainment experiences. Just like scholarship on media entertainment in other domains, these studies have mainly considered games' role in eliciting fun, pleasure, and positive affective states, thus focusing on *enjoyment* or *hedonic entertainment experiences*. Current research, however, increasingly acknowledges entertainment experiences that go "beyond mere pleasure" (Wirth, Hofer, & Schramm, 2012, p. 406), as indicated by the continued consideration of constructs like *appreciation* or *eudaimonic entertainment experiences* (Oliver & Bartsch, 2010; Oliver & Raney, 2011; Vorderer, 2011; Vorderer & Reinecke, 2015). In this sense, digital games offer a more fundamental entertainment experience that is characterized by the feeling of being moved, the experience of meaningfulness, and the motivation to cognitively elaborate on the content (Oliver & Bartsch, 2010). Such eudaimonic entertainment experiences have been associated with a variety of positive effects, particularly with individuals' emotional stability and subjective well-being (Bartsch & Oliver, 2016; Rieger, Reinecke, Frischlich, & Bente, 2014).

However, although entertainment and gaming scholars have already started to investigate what predicts feelings of appreciation and meaningfulness in the context of digital games (e.g., Kümpel & Unkel, 2017; Oliver, Bowman, Woolley, Rogers, Sherrick, & Chung, 2016), knowledge of the antecedents of eudaimonic gaming experiences is still sparse. In order to close this research gap, it seems worthwhile to consider the role that well-established gaming-specific gratifications play not only for enjoyment but also for the emergence of appreciation. The focus on gratifications seems to be particularly useful here, as they can be understood as outcomes of general psychological processes that underlie players' gaming experiences. For example, the gratification to live out fantasies and slip into different roles (e.g., an action hero; Sherry et al., 2006) can be conceptualized as a result of the psychological process of identification (Klimmt, Hefner et al., 2009). Uncovering the relationship between obtained gratifications and players' enjoyment and appreciation may help future studies to map out the psychological underpinnings of digital game entertainment experiences. In addition, there remains a paucity of evidence on interindividual differences between gamers—particularly the role of trait-like preferences for distinct types of entertainment (e.g., generally liking games that make one think; Oliver & Raney, 2011) has not been adequately addressed so far. This exploratory study aims to fill this gap by investigating gaming-specific gratifications as well as overarching entertainment motivations as antecedents of eudaimonic (i.e., appreciation) and hedonic (i.e., enjoyment) entertainment experiences. Empirically, we build on a two-wave online survey of 1,074 US-American players of the action role-playing game *Mass Effect: Andromeda* (*ME:A*; BioWare Montreal, 2017).

The (Gaming) Entertainment Experience

Although research on media entertainment has evolved as one of the most dynamic fields within communication science (Vorderer & Reinecke, 2015), the definition of what constitutes entertainment remains problematic (Klimmt & Vorderer, 2010). As shallow action movies, tear-

jerking novels, and dramatic digital games can all be considered “entertaining”, unidimensional concepts of entertainment fall short of the actual variety of entertainment experiences. Scholarship on media entertainment, nevertheless, was built on an exclusively hedonic model of media use for the longest time, equating entertainment with pleasure and amusement (see Vorderer, 2011; Vorderer, Klimmt, & Ritterfeld, 2004; Vorderer & Reinecke, 2015). More recently, however, entertainment research has undergone “a paradigmatic shift” (Vorderer & Reinecke, 2015, p. 448), resulting in a two-factor model of entertainment experiences that differentiates between the ‘classic’ (hedonic) *enjoyment* and more profound eudaimonic entertainment experiences (Lewis, Tamborini, & Weber, 2014). One important concept in the realm of eudaimonic experiences is *appreciation* (Oliver & Bartsch, 2010; Vorderer, 2011). It can be defined as “[a]n experiential state that is characterized by the perception of deeper meaning, the feeling of being moved, and the motivation to elaborate on thoughts and feelings inspired by the experience” (Oliver & Bartsch, 2010, p. 76).

Being interactive media, digital games might be especially suitable to create this state of appreciation—probably even better than their non-interactive counterparts (Elson, Breuer, Ivory, & Quandt, 2014; Oliver et al., 2016). As games offer their players the ability to actively participate in the unfolding of the story or even to alter the overall narrative, the potential for immersion, identification with the characters, and the experience of deep emotional states are undoubtedly increased (Klimmt, Hefner et al., 2009). However, the question arises as to how appreciation can be induced through gaming. One approach to explain the emergence of entertainment experiences is to focus on the various gratifications that players may obtain from engaging with digital games.

The Role of Gaming-specific Gratifications

Research on digital game gratifications has a long tradition in game studies and communication research. Since the 1980s, in an effort to explain the increasing success of digital games, scholars have started to map out the gratifications players derive from gaming (e.g., Selnow, 1984) and to connect them with entertainment experiences. Most of this research draws upon the uses and gratifications (U&G) approach (Katz, Blumler, & Gurevitch, 1974), investigating which psychological and social needs motivate people to engage in gaming and what gratifications can be obtained from it. Although the U&G approach can be criticized for overestimating players' abilities to articulate the reasons for both using games and the resulting experiences (Ruggiero, 2000), studies relying on the paradigm have led to important insights into the overarching gratifications of digital games (e.g., Sherry et al., 2006), of specific subtypes of games (e.g., online first-person shooters: Jansz & Tanis, 2007; social media games: Hou, 2011; MMORPGs: Yee, 2006), or for specific player subgroups (e.g., males and females: Lucas & Sherry, 2004; elderly: De Schutter, 2011). Building on this line of research, Scharkow and colleagues (2015) proposed a comprehensive model of gaming gratifications. The model differentiates between: (1) *individual gratifications* (fantasy, competence, and exploration), (2) *social gratifications* (social capital, teamplay, competition), and (3) *content gratifications* that are related to the mechanics and narration of a game. These gratifications do not only predict individual genre preferences (ibid.) but might also be associated with players' enjoyment and appreciation.

Gaming-specific Gratifications as Antecedents of Enjoyment. As the majority of traditional gaming and entertainment research literature is focused on hedonic entertainment experiences (Vorderer & Reinecke, 2015), it comes as no surprise that gaming specific gratifications have mostly been linked to players' enjoyment. This is particularly true for the three

individual gratifications identified by Scharkow and colleagues (2015). The first of these gratifications, fantasy, relates to the ability of slipping into different roles and doing things that are impossible or unattainable in real life. This gratification has often been studied in relation to identification—a psychological process in which players temporarily change their self-perception through adopting salient characteristics of the avatar (Klimmt, Hefner et al., 2009). Identification was found to be highly enjoyable, as it allows players to get closer to their ideal self while playing games (e.g., being more courageous, see Klimmt, Hefner, Vorderer, Roth, & Blake, 2010). Likewise, the experience of being physically present in a fantastic game world and being able to actively engage with it (presence, Wirth et al., 2007) has been linked to enjoyment (Tamborini & Skalski, 2006). Furthermore, the second individual gratification, termed competence (achieving better results and enhancing one's in-game skills), is closely associated with the enjoyable experiences of pride and self-esteem resulting from mastering challenges (Grodal, 2000; Klimmt, Blake, Hefner, Vorderer, & Roth, 2009). Finally, exploration of the game world—the last of the three individual gratifications—has been linked to curiosity and the pleasure of discovery, which, again, points to the connection with hedonic entertainment experiences (Klimmt, 2003; Klimmt, Roth, Vermeulen, Vorderer, & Roth, 2012; Quick, Atkinson, & Lin, 2012).

A number of studies have also shed light on the relationship between the *social gratifications* of playing and enjoyment. First and foremost, digital games allow players to accumulate social capital, as many players seem to look for meeting new people and making friends through (or while) playing digital games (e.g., Cole & Griffiths, 2007; Yee, 2006). This accumulation of social capital, in turn, seems to foster the overall enjoyment of a game (Hsiao & Chiou, 2012; Quick et al., 2012). Moreover, several links between the social gratification team play and hedonic entertainment experiences have been established, such as increasing group

identification (Peña et al., 2017) or the sense of being connected to others (Tamborini, Bowman, Eden, Grizzard, & Organ, 2010). The same holds true for the third of the social gratifications, ***competition***, which has repeatedly been identified as one of the most important drivers of enjoyment (see, for example, Vorderer et al., 2003; Schmierbach, Xu, Oeldorf-Hirsch, & Dardis, 2012).

Finally, the *content gratifications* derived from playing digital games may also contribute to enjoyment. Narrative elements of games (i.e., the story) have been found to foster players' involvement and immersion, thereby fueling enjoyment (Sangalang, Quintero Johnson, & Ciancio, 2013; Schneider, Lang, Shin, & Bradley, 2004). Similarly, the mechanics of a given game should be related to enjoyment. As game controls are "the sine qua non for a genuine gaming experience" (Elson et al., 2014, p. 527), they are highly relevant for (not) enjoying a game. On the most basic level, a game with inferior or even defective mechanics might be equally unenjoyable as a movie with extreme compression artifacts or sound issues.

Gaming-specific Gratifications as Antecedents of Appreciation. As outlined above, the relationship between gaming-specific gratifications and enjoyment has already been addressed quite thoroughly. However, it is plausible to assume that the discussed gratifications are also associated with appreciation. Again, looking first at *individual gratifications*, a few studies already point to a positive relationship between fantasy gratifications and appreciation. Analyzing individuals' open-ended reviews of their "most meaningful" experience with digital games, Rogers, Woolley, Sherrick, Bowman and Oliver (2017) found that games which allow players to shape and develop the character of the game can provide (more) meaningful experiences which encourage feelings of appreciation. In the same vein, Bowman, Oliver, Rogers, Sherrick, Woolley and Chung (2016) found that increased identification with one's character is positively associated with appreciation. While competence gratifications, at first glance, seem to be less related to

feelings of appreciation, recent findings indicate a positive association. Participants in the study of Rogers et al. (2017) repeatedly noted that meaningful games provided them with feelings of accomplishment, particularly when they had to work hard for it. Likewise, Kümpel and Unkel (2017) found a positive association between players' perceived cognitive challenges (i.e., challenges arising from games that are difficult to process due to being complex or opposing one's intuition) and their eudaimonic entertainment experiences. Last, exploration gratifications should foster appreciation, especially when players are consciously looking for meaningful experiences (see next chapter). As the same game can be perceived both as fun and meaningful (see Oliver et al., 2016; Rogers et al., 2017) depending on individual experiences and the context in which it is played (see also Elson et al., 2014), being receptive to seriously engaging with a game might encourage a form of exploration that fosters appreciation.

Social gratifications should be particularly relevant for appreciation when focusing on playing together or for a shared goal. While previous studies already found that a close and fulfilling relationship with in-game characters is associated with appreciation (Kümpel & Unkel 2017; Oliver et al., 2016), actual social relationships with other players might be equally or even more important. In movies, meaningfulness is often linked to themes related to interconnectedness, caring, or enduring interpersonal ties (see, for example, Janicke & Oliver, 2017; Oliver & Hartmann, 2010; Oliver, Hartmann, & Woolley, 2012). Hence, we might expect that making friends in games, playing with others in a team, or getting to know new people through gaming could all foster appreciation. In fact, several of the participants surveyed by Rogers et al. (2017) mentioned social aspects of gaming or relationships formed with other players as the main reasons of experiencing meaningfulness.

Last, *content gratifications* related to the mechanics and narration of a game could be relevant for the emergence of appreciation as well. For gratifications related to a game's

narration, we already have good reason to assume a positive relationship with eudaimonic entertainment experiences, as both Oliver et al. (2016) and Kümpel and Unkel (2017) found that positive evaluations of digital games' stories are associated with appreciating the games. The link between gratifications obtained from a game's mechanics and appreciation, on the other hand, is less obvious. However, as mentioned before, the mechanics of the game seem to be a precondition for experiencing *any* form of entertainment. Moreover, an appropriate level of difficulty (in most games, a feature of mechanics) can, after a successful completion of the task, induce feelings of accomplishment that might stimulate eudaimonic entertainment experiences. Supporting this assumption, Oliver et al. (2016) found that game-play (defined as the quality of game control mechanics) was associated with greater fulfilment of insight needs that were, in turn, predictive of greater reports of appreciation.

Intermediate Summary

Although gratifications should not be equated with entertainment per se, as individuals also choose to play digital games for reasons different than being entertained (see, for example, Jansz, 2005), they constitute important prerequisites for gaming entertainment experiences. However, while we already know quite well that gaming-specific gratifications are indicative of psychological processes related to enjoyment, research has yet to systematically investigate their relationship with appreciation. Accordingly, we propose our first research question (RQ1):

RQ1: To what extent can obtained gaming-specific gratifications explain the experience of digital game enjoyment and appreciation?

The Role of Entertainment Motivations

In addition to investigating the role of gaming-specific gratifications, we also aim to consider factors that might affect entertainment experiences indirectly through affecting the

fulfilment of gratifications. Particularly, individuals' trait-like preferences for distinct types of entertainment (e.g., generally liking games that make one think) could be important in that regard. Oliver and Raney (2011) show that individuals exhibit hedonic and eudaimonic entertainment motivations, which can be conceptualized as relatively stable and enduring. These trait-like motivations have been found to predict preferences for specific film genres (ibid.). However, in the context of digital games, selection decisions are not just taking place at the genre or game level. Rather, due to being interactive media, digital games are contingent upon decisions made by the players and equip them with a high amount of control over the experience (Klimmt, 2003). Players with high eudaimonic entertainment motivations, for example, might build close ties to game characters, empathize with them, and try to protect them from existential threats (Bowman et al., 2016). On the other hand, players with high hedonic entertainment motivations are likely to perceive their avatars as nothing more than objects, animated tokens controlled in the pursuit of enjoyment, but without any personality of their own (see Banks, 2015). Thus, for a given game, the overarching entertainment motivations of the players should influence the gratifications obtained and indirectly affect their gaming entertainment experiences. For example, players with a high eudaimonic entertainment motivation may build closer ties to the characters of a game and immerse themselves into the plot, thereby obtaining fantasy and narration gratifications and in turn experience appreciation. Likewise, players with a low eudaimonic entertainment motivation might treat the same characters as mere pawns in a pleasurable competition with the computer or other players.

This implies that the experience of appreciation might be actively sought for by players or could be a mere by-product of satisfying one's hedonic, ludic drive while playing certain games. Due to their interactive nature that allows for more 'hedonic' (e.g., focusing on high scores and other ludic elements) or 'eudaimonic' (e.g., focusing on character development and other

narrative elements) playing styles, digital games may be particularly suitable to accommodate different entertainment motivations. Individual entertainment motivations may influence which gratifications are obtained while playing a given game and, consequently, affect the emergence of enjoyment and appreciation. Based on these preliminary assumptions we propose our second research question (RQ2):

RQ2: To what extent can individual differences in entertainment motivations affect obtained gaming-specific gratifications and the experience of digital game enjoyment and appreciation?

Method

Design and Procedure

In order to answer these research questions, a two-wave online survey of (prospective) players of the action role-playing video game *Mass Effect: Andromeda* (*ME:A*; BioWare Montreal, 2017) was conducted, with two questionnaires sent out about three weeks before (t1) and three weeks after (t2) the release of the game on March 21, 2017. *ME:A* was selected as a case study because former titles of the Mass Effect series were described as both ‘funny’ and ‘meaningful’ in surveys of players (Bopp, Mekler, & Opwis, 2016; Rogers et al., 2017). Accordingly, it was expected that *ME:A* offers both hedonic and eudaimonic entertainment experiences. In the game, the player takes the role of Pathfinder Ryder (either a human female or male) who is tasked with leading the human effort to colonize the Andromeda galaxy. This involves both friendly and hostile interactions with other characters and factions, both human and alien. Decisions the player makes during the game influence the fate of and relationship between the characters. Furthermore, *ME:A* offers a cooperative multiplayer mode, in which the player can team up with other player characters against computer-controlled enemies.

Participants for the first wave (pre-playing *ME:A*) were recruited from a variety of Mass Effect-related online venues, including groups on Facebook and Reddit. The t1 questionnaire included questions on the entertainment motivations and the personal background of participants (knowledge of and former playing experience with the Mass Effect series, general use of digital games, sociodemographic characteristics). Participants were then asked to provide an e-mail address, stored separately from their answers, to be invited to the second wave (post-playing *ME:A*). This t2 questionnaire included questions about the obtained gaming gratifications and entertainment experiences (i.e., enjoyment and appreciation). The two-wave design made it possible to address the entertainment motivations independently of the actual gaming experience, thus preventing a possible 'spill-over' of players' actual impression of *ME:A*.

Measures

Entertainment motivations. Hedonic and eudaimonic entertainment motivations were each measured with six items on Likert-type scales ranging from 1 (*very low*) to 5 (*very high*). The items were taken from Oliver & Raney (2011) and adapted to fit to the gaming context (e.g. "I like games that make me more reflective"; "My favorite kinds of games are joyful and fun"). The items showed sufficient reliability and were merged to two mean indices representing hedonic (M = 4.16, SD = 0.57, α = .73) and eudaimonic (M = 3.96, SD = 0.84, α = .90) entertainment motivations.

Gratifications obtained. The gaming gratifications short scale (GGS) by Scharkow and colleagues (2015) was used to measure gaming-specific gratifications obtained by playing *ME:A*. The scale builds upon earlier gratification catalogues (Sherry et al., 2006; Yee, 2006) and classifies gaming-specific gratifications into eight dimensions belonging to three higher-order categories. Again, all gratifications were measured on Likert-type scales ranging from 1 (*very*

low) to 5 (*very high*). *Individual gratifications* included *fantasy* (one item[1], $M = 4.29$, $SD = 0.65$), *competence* (two items, $M = 3.95$, $SD = 0.90$, $\alpha = .63$), and *exploration* (one item, $M = 4.79$, $SD = 0.53$). *Social gratifications* included *social capital* (two items, $M = 1.67$, $SD = 1.00$, $\alpha = .78$), *team play* (two items, $M = 2.54$, $SD = 1.54$, $\alpha = .93$), and *competition* (two items, $M = 2.18$, $SD = 1.32$, $\alpha = .78$). Finally, content *gratifications* included *mechanics* (two items, $M = 4.19$, $SD = 0.72$, $\alpha = .58$) and *narration* (two items, $M = 4.38$, $SD = 0.79$, $\alpha = .81$).

Entertainment experiences. To measure hedonic entertainment experiences, that is, *enjoyment* ($M = 4.44$, $SD = 0.67$, $\alpha = .93$), the 8-item video game enjoyment scale by Klimmt and colleagues was used (2007). Eudaimonic entertainment experiences, that is, *appreciation* ($M = 3.33$, $SD = 1.03$, $\alpha = .90$), was measured by the 3-item appreciation scale developed by Oliver & Bartsch (2010; validated by Schneider, Weinmann, Roth, Knop, & Vorderer, 2016). As the scale was originally designed for movies, the items were adapted to fit the context of video games. Both entertainment experiences were measured on Likert-type scales from 1 (*very low*) to 5 (*very high*).

Participants

In total, 2,478 participants completed both questionnaires. However, several participants had to be excluded due to one of three reasons. First, all participants that indicated in the second questionnaire that they had not yet played *ME:A* were excluded ($n = 188$), as they could neither provide answers about their obtained gratifications nor their entertainment experiences. Second, the participants showed a large variety of cultural backgrounds. However, to avoid cross-cultural bias and equivalency problems (see van de Vijver & Tanzer, 2004), all participants were excluded

[1] Scharkow and colleagues (2015) measure fantasy with two items: “I use video games to (1) slip into different roles / (2) do things that are impossible or difficult in real life.” However, using those two items resulted in an unsatisfactory internal consistency of the fantasy gratification ($\alpha = .35$). Further inspection showed that this was due to the second item being massively skewed towards the top end of the scale, which may be explained by *ME:A* being set in outer space. Therefore, only the first item was used in the analyses.

who did not identify as US-American citizens (49.6%, n = 1,136). Finally, to decrease the probability of meaningless data due to response sets and survey completion that occurred too quickly, 80 participants, who had a relative speed index (RSI) > 1.8, were excluded (Leiner, 2013). Thus, the final sample consists of 1,074 US-American players of *ME:A*.

Participants identified mostly as male (80.4%; 18.2% female, 1.4% other/not answered), with age ranging from 14 to 61 years (M = 25.47, SD = 6.32) and a variety of different educational backgrounds (highest degree: 1.9% middle school, 32.6% high school, 20.9% two-year college, 43.0% four-year college, 1.6% other). They reported an average digital game use of 166.05 minutes (SD = 176.66) per week day and 258.54 minutes (SD = 185.67) per weekend day. The majority of participants (95.7%) indicated that they had played all previous titles in the Mass Effect series. Thus, it may be argued that the sample consisted mainly of (hard)core gamers and fans of the Mass Effect franchise. In the second questionnaire, 92.2% indicated that they had either played larger parts of *ME:A* or already finished the story campaign.

Results

To answer RQ1, we investigated the influence of obtained gratifications on self-reported levels of enjoyment and appreciation in regression analyses. As we assumed that entertainment motivations might also be associated with both entertainment experiences (see RQ2), hedonic and eudaimonic motivations were included as control variables. Results show that the obtained gratifications explain both forms of entertainment experiences quite well (see Table 1). However, enjoyment ($R^2_{adj.}$ = 0.677, p < .001) could be explained better by the predictors than appreciation ($R^2_{adj.}$ = 0.564, p < .001).

[Table 1 about here]

Looking at the influence of specific gratifications on entertainment experiences, we see that *enjoyment* shows the strongest association with gratifications related to narration ($ß$ = .49,

$p < .001$) and, to a smaller extent, with gratifications resulting from the game's mechanics (ß = .21, $p < .001$), exploration (ß = .18, $p < .001$), fantasy (ß = .12, $p < .001$), and competence (ß = .06, $p = .002$). We found a similar pattern for *appreciation*: Again, gratifications related to narration (ß = .49, $p < .001$) show the strongest association with appreciation, followed by fantasy gratifications (ß = .15, $p < .001$), gratifications resulting from the game's mechanics (ß = .10, $p < .001$), and the experience of competence (ß = .06, $p = .008$). Additionally, gratifications related to obtaining social capital (ß = .16, $p < .001$) are positively associated with appreciation, while gratifications related to team play show a negative relationship (ß = -.09, $p = .002$).

Overall, we can conclude that the obtained gaming gratifications are closely related to both forms of entertainment experiences, with gratifications related to the game's story, mechanics, and fantasy being the most important.

RQ2 dealt with the relationship between eudaimonic and hedonic entertainment motivations, obtained gratifications, and the resulting entertainment experiences. In order to answer this question, we first investigated the total effect of entertainment motivations on the entertainment experiences in simple regressions. The data show that entertainment motivations alone only have small explanatory power for enjoyment ($R^2_{adj.} = .046$, $F(2,1071) = 26.849$, $p < .001$) and, although slightly more, for appreciation ($R^2_{adj.} = .095$, $F(8,1065) = 157.079$, $p < .001$). As expected, hedonic entertainment motivations show a stronger association with enjoyment (ß = .17, $p < .001$; see Table 2) than eudaimonic entertainment motivations (ß = .14, $p < .001$). Similarly, appreciation can be predicted better by eudaimonic entertainment motivations (ß = .29, $p < .001$) than by hedonic ones (ß = .12, $p < .001$).

In a second step, we calculated a mediation analysis using ordinary least squares path analysis with Hayes' (2013) PROCESS macro for SPSS to investigate whether the total effects of

entertainment motivations on entertainment experiences are mediated by the obtained gratifications. The analyses revealed that—although players' entertainment motivations only have a small impact on gratifications obtained ($.004 < R^2 < .057$; see Figs. 1 and 2)—large shares of the total effects of entertainment motivations on entertainment experiences are mediated by the obtained gratifications (see Table 2). Only the direct effect of eudaimonic entertainment motivations on appreciation is still substantially strong ($ß = .17$, $p < .001$) when controlling for the indirect effects (partial mediation). When looking at the size of the indirect effects, none of them are particularly strong (see Table 3).

[Table 2 and 3 about here]

In sum, trait-like entertainment motivations predict the resulting entertainment experiences only to a small extent. These small effects are mostly mediated by the obtained gaming-specific gratifications: Eudaimonic and hedonic entertainment motivations increase the intensity of gratifications obtained which in turn influence enjoyment and appreciation (see Figs. 1 and 2).

[Figure 1 and 2 about here]

Discussion

The present study focused on the antecedents of players' hedonic (i.e., enjoyment) and eudaimonic (i.e., appreciation) gaming entertainment experiences in order to address two gaps in research on digital game entertainment. The first gap relates to the antecedents of appreciation. While there is ample evidence that gaming-specific gratifications are closely related to players' enjoyment, a systematic understanding of how these gratifications contribute to appreciation is still lacking. Thus, our first goal was to investigate how well-established gaming-specific gratifications contribute to both players' enjoyment *and* appreciation. Second, considering the paucity of studies on individual differences in the formation of entertainment experiences,

another goal of this study was to investigate the relationship between players' trait-like preferences for hedonic and eudaimonic forms of entertainment (i.e., entertainment motivations, Oliver & Raney, 2011) and their actual entertainment experiences. In order to pursue these goals, we conducted a two-wave online survey of 1,074 US-American players of the game *Mass Effect: Andromeda* three weeks before and after its release.

Gaming-specific Gratifications as Antecedents of Entertainment Experiences

Our study shows that gaming-specific gratifications provide a good basis for explaining both players' enjoyment and appreciation of a game. Interestingly, we even found similar effect patterns, as both enjoyment and appreciation were associated with gratifications related to the game's narration and mechanics as well as the fulfilment of competence and fantasy needs. Thus, the present study corroborates the importance of these gratifications for the emergence of entertainment experiences that has already been hinted at in past scholarly work on appreciation (Bowman et al., 2016; Kümpel & Unkel, 2017; Rogers et al., 2017; Oliver et al., 2016) and enjoyment (Klimmt, Hefner, et al., 2009; Klimmt, Blake et al., 2009; Schneider et al., 2004; Elson et al., 2014). Moreover, as we have identified that enjoyment and appreciation are both associated with obtained fantasy, competence, mechanics, and narration gratifications, we might argue that these gratifications represent the *sine qua non* for feeling entertained—at least while playing *ME:A*. Of course, this might be different for other games or genres. In fact, results by Scharkow and colleagues (2015) suggest that fantasy and narration gratifications are the best predictors to explain a preference for role playing games while they show considerably weaker associations with preferring other gaming genres. Thus, the present study should be replicated with different games from different genres.

However, the present study also revealed differences in the gratifications that determine players' enjoyment and appreciation. First, mirroring prior theorizing (Klimmt, 2003; Klimmt et

al, 2012), we found that players found enjoyment through exploring the game world. However, the exploration gratification did not exert a significant effect on appreciation. This finding disproves our assumption that serious engagement with a game should lead to an intense exploration of its world and give rise to appreciation. A potential explanation for this unexpected finding might be found in the characteristics of *ME:A*. Some game journalists (e.g., Dingman, 2017) criticized the game for offering many but often meaningless and rather shallow discoveries. Hence, exploring the game world might have given rise to the pleasure of discovery itself (and, thus, fuel enjoyment, see Klimmt, 2003), but the actual discoveries might have had no deeper meaning for players. Further research is needed to clarify the link between exploration, (the content of) in-game discoveries, and entertainment experiences.

Second, we observed a complex effect pattern of social gratifications on appreciation: While getting to know other players (social capital gratifications) facilitated appreciation, playing with others in a team (team play gratifications) reduced it. Enjoyment, on the other hand, was not associated with social gratifications at all. Thus, our findings partly mirror prior research suggesting that the social aspects of gaming have a high relevance for eudaimonic entertainment experiences (Rogers et al., 2017; Kümpel & Unkel, 2017). However, the results also stand in remarkable contrast to studies showing that social gaming is a highly enjoyable activity (e.g., Tamborini et al., 2010; Hsiao & Chiou, 2012; Weibel et al., 2008; Schmierbach et al., 2012). Again, a potential explanation for these findings might be derived from the characteristics of *ME:A*. Although the game offers a cooperative multiplayer mode, players do not seem to obtain intense social gratifications from playing *ME:A*, as indicated by the low means of the related indices (social capital: $M = 1.7$, $SD = 1.0$; team play: $M = 2.5$, $SD = 1.5$; competition: $M = 2.2$, $SD = 1.3$; the mean of all other gratification indices ranged between 4.0 and 4.8). While there is evidence that social gratifications can also be obtained from interacting with non-playable

characters (e.g., the virtual team members of the protagonist, see Banks, 2015), the GGS (Scharkow et al., 2015) applied in this study focuses exclusively on social interactions with human co-players. However, as the game is obviously lacking social gratifications, players most likely focused on other "sources of fun" (Klimmt, Blake et al, 2009, p. 10) to enjoy the game. The negative effect of team play gratifications on appreciation could be explained in a similar fashion: By playing the cooperative multiplayer mode players obtained richer team play gratifications but were also distracted from other elements of the game that foster appreciation (e.g., the narrative). Thus, the more team play gratifications users obtained, the less they were able to appreciate the game. However, this explanation raises the question of why we have identified a positive impact of social capital gratifications on appreciation. This might have to do with the methodological approach of our study: As described in the method section, we recruited our participants from Mass Effect-related communities/groups on Facebook and Reddit. It can be assumed that at least some of them have established (meaningful) relationships in these communities that shape their appreciation of the game. Although these assumptions are speculative, they suggest that future studies should (a) distinguish different sources of social gratifications (e.g., in-game interactions with players and non-playable characters as well as out-game interactions with a community) and (b) investigate the role of these gratifications for the emergence of appreciation and enjoyment in both multiplayer and single player games.

Our results also indicate some gaps in the existing gratification catalogues, as the dimensions of the deployed GGS predict enjoyment considerably better ($R^2_{adj.}$ = .677) than appreciation ($R^2_{adj.}$ = .564). Hence, gratifications that exclusively focus on eudaimonic experiences (e.g., using games to reflect or to challenge one's way of seeing the world) seem to be missing in the GGS. An exploration of appreciation-related motives/needs (and a subsequent extension of existing gratification catalogues) seems to be worthwhile. Qualitative studies on

individuals' gaming experiences should be particularly suitable for this purpose (see, for example, Rogers et al., 2017).

Nonetheless, our study suggests that the gaming-specific gratifications are generally well suited to study the origins of gaming entertainment experiences. An important next step will be to examine the psychological processes underlying the rather broad gratifications of "narration", "social capital", or "fantasy" that seem to contribute to the emergence of appreciation and enjoyment. One promising approach could be to consider processes such as identification (Klimmt, Hefner et al., 2009) or immersion in the game's story (narrative engagement, see Busselle & Bilandzic, 2009). Furthermore, it might be helpful to identify which stories or narratives tend to foster appreciation and enjoyment. Previous research suggests that stories involving difficult moral decisions or narratives that speak more directly to the human condition are perceived as more meaningful, presumably being more likely to elicit feelings of appreciation (Banks & Bowman, 2014; Rogers et al., 2017). Previous studies outside of the gaming context have shown that cognitive and affective challenges (Bartsch & Hartmann, 2017), cognitive moral conflicts (Lewis et al., 2014), or complex, mixed-affect emotions (Bartsch, Kalch, & Oliver, 2014; Oliver et al., 2012) can affect the emergence of appreciation. In contrast, enjoyment has been linked to media content that is characterized by low challenges (Bartsch & Hartmann, 2017) or the absence of moral conflicts (Lewis et al., 2014). Although these results, at first glance, might suggest that media content leading to appreciation needs to be particularly 'serious' or 'wistful', theoretical and empirical research suggest that action-oriented movies or games can also lead to appreciation (Klimmt, 2011; Oliver et al., 2016, Rogers et al., 2017). Similarly, our study shows that in addition to narrative game elements, formal aspects, like game mechanics, are also relevant for the emergence of appreciation. Overall, the present research thus shows that appreciation can arise from a variety of entertainment media characteristics and illustrates the

relevance of an open, recipient-focused investigation of eudaimonic entertainment experiences (see Klimmt, 2011).

Entertainment Motivations as Antecedents of Entertainment Experiences

Our results also shed light on how players' trait-like motivations for hedonic and eudaimonic variants of entertainment (Oliver & Raney, 2011) affect their actual entertainment experiences. As these enduring motivations were found to predict preferences for specific film genres (ibid.), we suspected them to be relevant in the context of gaming, as well. Contrary to our expectations, players' trait-like entertainment motivations—measured before they started playing *ME:A*—determined their actual entertainment experiences only to a small extent. This suggests that gratifications and entertainment experiences resulting from a given game depend more on situational factors (e.g., identifying with one's character, see Bowman et al., 2016) and specific game characteristics (e.g., Kümpel & Unkel, 2017; Oliver et al., 2016) than on players' overarching entertainment preferences. Alternatively, it can be argued that entertainment motivations—although not being particularly important for actual gaming experiences—might be relevant in the preceding stage of selecting certain games or genres. Scharkow et al. (2015) found that different gaming genres are played for different reasons (e.g., participants' preferences for adventure games could mainly be explained by exploration gratifications). This suggests that players probably have a rather clear idea of which gratifications they can expect from certain genres and, consequently, which game to choose for which aspired entertainment experience. Hence, the entertainment motivations would already be reflected in the first stage of selection and should show no influence on actual experiences. This assumption could be tested in future studies.

Although we only found small effects, the motivations predicted appreciation better ($R^2_{adj.}$ = .095) than enjoyment ($R^2_{adj.}$= .046). This might simply be a methodical artifact, as

eudaimonic motivations were found to be more stable over a period of several weeks compared to hedonic motivations (Oliver & Raney, 2011, Study 3). Consequently, compared to hedonic entertainment motivations, eudaimonic entertainment motivations measured in the first wave should correspond more strongly with players' entertainment experiences in the second wave. Alternatively, the results might also indicate that experiencing appreciation while playing digital games requires some kind of openness or receptiveness to eudaimonic experiences, while enjoyment depends only to a smaller degree on players' motivational background. An experiment by Rieger and Klimmt (2019, Study 3) provides additional support for this assumption. The authors investigated the effect of participants' trait-like entertainment motivations on their affective reactions to online memes and found that motivations were much stronger correlated with eudaimonic responses (meaningful affect) than hedonic ones (positive affect). Thus, one could argue that appreciation is more likely to depend on a person's motivation, while enjoyment is more likely to emerge during media use without a motivational predisposition. Nevertheless, the low explanatory power of the entertainment motivations for players' actual entertainment experiences in the present study indicates that appreciation should often occur without being sought. This corresponds to studies outside of the digital game context that have shown that appreciation can be elicited by characteristics of the content (e.g., a moral conflict, Lewis et al., 2014).

Limitations

As the discussion has shown, the present study provides valuable exploratory insights into the antecedents of digital game enjoyment and appreciation, relying on validated scales and a large sample of players. However, our study also has important limitations that warrant discussion. Although focusing on a specific game seemed reasonable, as we expected *ME:A* to offer both hedonic and eudaimonic entertainment experiences, this decision, of course, restricts

the generalizability of our findings. During the discussion, we have already pointed out some particularities of *ME:A* that might have influenced our results. Replicating the study with different games is highly encouraged. Additionally, like most studies relying on self-selection in the context of gaming, our sample consisted mainly of (hard)core gamers and fans of the *Mass Effect* franchise. This may have conflicting implications for our findings: On one hand, we might have overestimated the (rather small) association between entertainment motivations and enjoyment as well as appreciation since fans of the franchise have most likely developed a playing style that fits to their entertainment preferences. On the other hand, we might have underestimated this relationship, as fans presumably kept playing the game although it received rather poor reviews (e.g., “Mass Effect: Andromeda”, 2017), which suggests that it might not fit to most players’ expectations and entertainment motivations. Thus, it is an open question whether we would have identified different effects among less involved players. Additionally, our sample consisted mostly of male players (80.4%). As male and female players differ regarding the importance they attach to gaming gratifications (Lucas & Sherry, 2004), a replication with a more diverse sample in terms of gender seems worthwhile.[2] Finally, this study is naturally limited by participants’ ability and willingness to report on their motivations, gratifications, and experiences. While it would be optimistic to assume that participants are able to reflect and articulate *all* the reasons for using *ME:A* (see Ruggiero, 2000), they should be able to describe their overall gaming experience (enjoyment, appreciation, gratifications obtained) and whether they generally like games that evoke reflection or fun (trait-like motivations).

[2] However, to identify the extent of the (assumed) bias, we need data on the actual gender distribution among *ME:A* players. Studies show that the action game audience is still 80% male (Scimeca, 2013), suggesting that the distribution in our sample might actually not be biased to a large extent.

Conclusion

Scholarship on entertainment media has started to consider enjoyment and appreciation as distinct but related outcomes of playing digital games. The present study aimed to contribute to this line of research by studying the role of overarching gaming-specific gratifications and individual entertainment motivations for the emergence of both enjoyment and appreciation. While we found that trait-like motivations for specific types of entertainment only play a small role for the gratifications players obtain from engaging with a specific game, the gratifications themselves are well suited to predict how (much) people enjoy and appreciate a game. Data from our study indicates both remarkable similarities between the gratifications fostering appreciation and enjoyment but also important differences that should be addressed in more detail by future research. Overall, the present study can be seen as an important first step in uncovering the psychological underpinnings of the multifaceted entertainment experiences digital games can offer.

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Tables

Table 1

Influence of obtained gratifications on enjoyment and appreciation

	Entertainment Experience							
	Enjoyment				Appreciation			
Predictor	*b*	ß	*SE*	*p*	*b*	ß	*SE*	*p*
Fantasy	0.081	.124	0.013	<.001	0.150	.149	0.023	<.001
Competence	0.047	.063	0.015	.002	0.073	.063	0.027	.008
Exploration	0.227	.178	0.025	<.001	0.041	.021	0.045	.368
Social capital	0.004	.005	0.013	.775	0.162	.157	0.023	<.001
Team play	0.003	.007	0.011	.796	-0.061	-.092	0.020	.002
Competition	-0.006	-.012	0.013	.627	0.039	.050	0.023	.091
Mechanics	0.197	.210	0.021	<.001	0.149	.104	0.037	<.001
Narration	0.419	.489	0.019	<.001	0.641	.489	0.034	<.001
Control Variables								
EEM	0.011	.013	0.014	.466	0.208	.169	0.026	<.001
HEM	0.044	.037	0.021	.034	0.021	.011	0.037	.579
	$R^2_{adj.}$ = .677 F(10,1063) = 226.191, p < .001				$R^2_{adj.}$ = .564 F(10,1063) = 139.728, p < .001			

Note. Block-wise multiple regressions; n = 1,074. HEM = Hedonic entertainment motivation, EEM = Eudaimonic entertainment motivation.

Table 2

Total effects of entertainment motivations on enjoyment and appreciation, partitioned into indirect effects by obtained gratifications and direct effects

	Enjoyment								
	Total effect			Direct effect			Indirect effect		
Antecedent	*b*	ß	*p*	*b*	ß	*p*	*b*	ß	*95% BCI*
HEM	0.20	.165	<.001	0.04	.037	.034	0.15	0.129	.075 - .184
EEM	0.11	.140	<.001	0.01	.013	.466	0.10	0.129	.072 - .186
	Appreciation								
HEM	0.21	.115	<.001	0.02	.011	.579	0.19	.109	.060 - .158
EEM	0.35	.287	<.001	0.21	.169	<.001	0.15	.119	.072 - .164

Note. Mediated multiple regressions. HEM = Hedonic entertainment motivation, EEM = Eudaimonic entertainment motivation, BCI = Bootstrap confidence intervals for standardized coefficients (10,000 bootstrap samples).

Table 3

Indirect effects entertainment motivations on enjoyment and appreciation, mediated by obtained gratifications

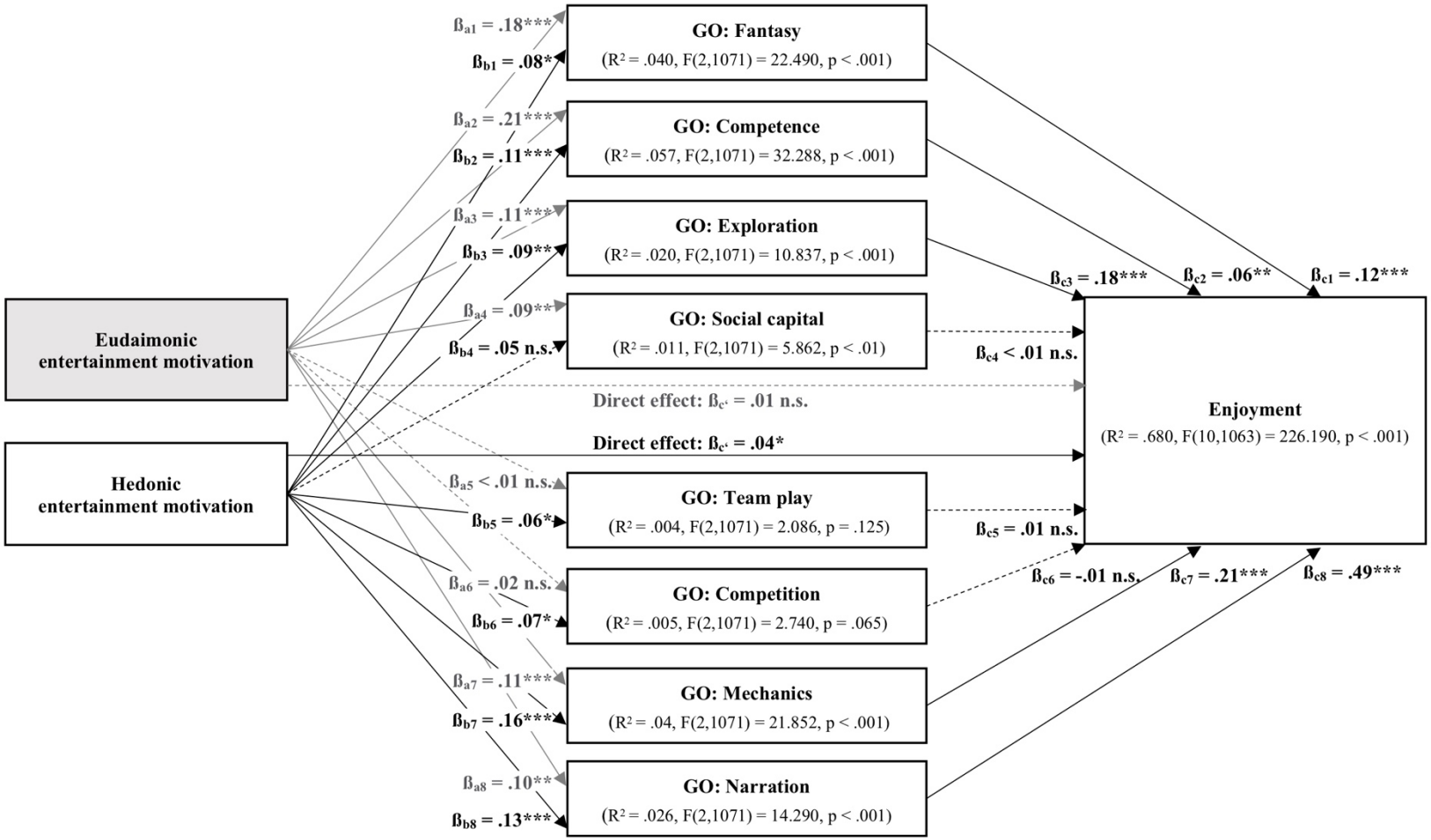
	Consequence			
	Enjoyment		Appreciation	
Mediator	*ß*	*95% BCI*	*ß*	*95% BCI*
Antecedent: Hedonic entertainment motivation				
Fantasy	.010	.003 - .020	.013	.003 - .025
Competence	.007	.002 - .016	.007	.002 - .017
Exploration	.016	.005 - .030	.002	-.002 - .008
Social capital	<.001	-.001 - .003	.008	-.001 - .017
Team play	<.001	-.002 - .005	-.006	-.015 - -.001
Competition	-.001	-.006 - .002	.004	<.001 - .012
Mechanics	.034	.020 - .051	.017	.008 - .031
Narration	.062	.029 - .098	.064	.030 - .102
Total indirect effects	.129	.075 - .184	.109	.060 - .158
Antecedent: Eudaimonic entertainment motivation				
Fantasy	.023	.013 - .037	.027	.016 - .043
Competence	.013	.004 - .026	.013	.003 - .027
Exploration	.019	.008 - .034	.002	-.002 - .009
Social capital	.001	-.003 - .004	.015	.006 - .025
Team play	<.001	-.001 - .002	-.001	-.007 - .005
Competition	<-.001	-.004 - .001	.001	-.001 - .007
Mechanics	.024	.010 - .042	.012	.005 - .024
Narration	.049	.017 - .083	.049	.016 - .081
Total indirect effects	.129	.072 - .186	.119	.072 - .164

Note. Mediated multiple regressions. BCI = Bootstrap confidence intervals for standardized coefficients (10,000 bootstrap samples).

Figures

Figure 1

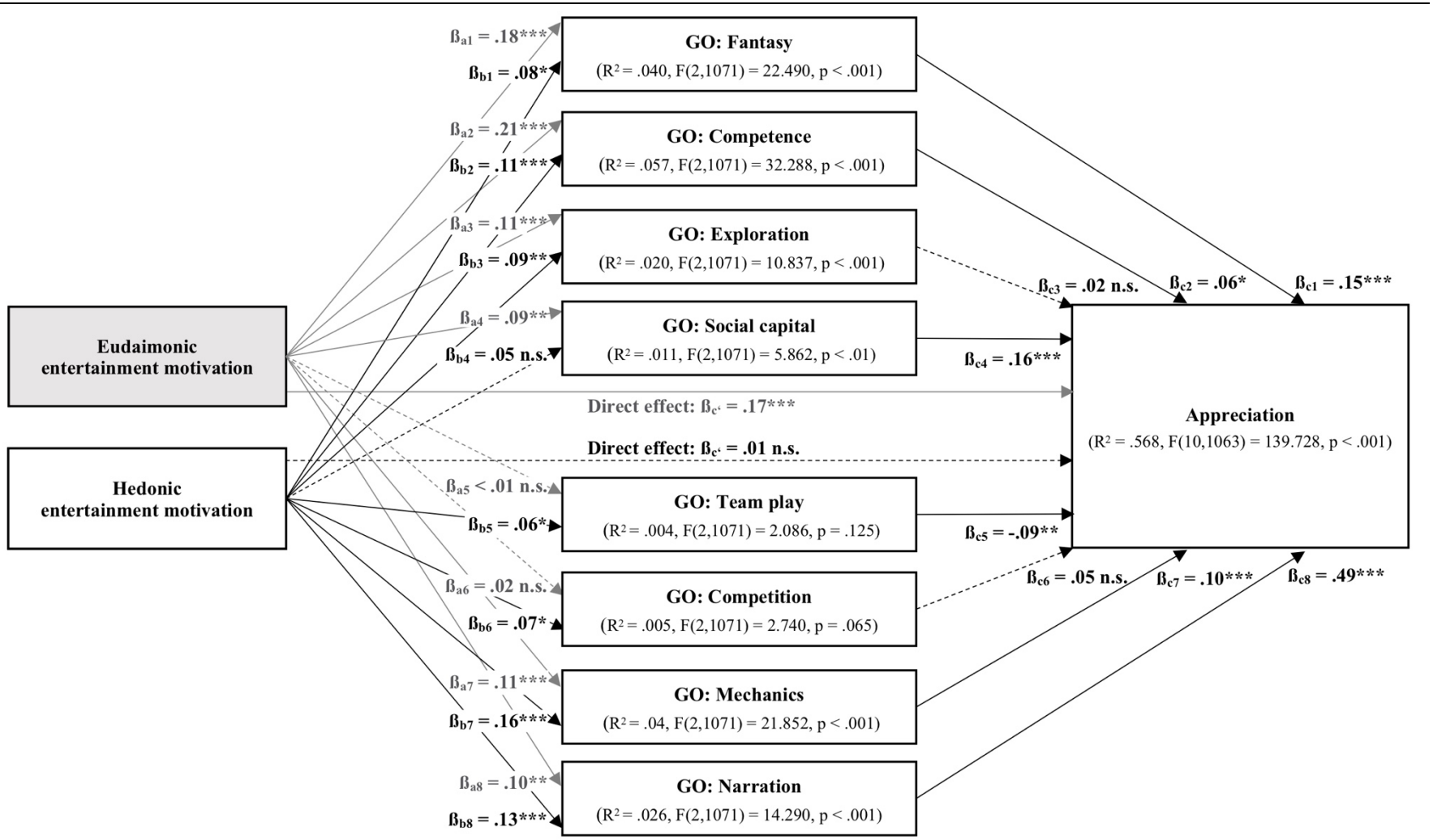
*Mediated model of entertainment motivations on **enjoyment**, mediated by obtained gratifications*



Note. Mediated multiple regressions. All regression coefficients are standardized. GO: Gratification obtained.

Figure 2

*Mediated model of entertainment motivations on **appreciation**, mediated by obtained gratifications*



Note. Mediated multiple regressions. All regression coefficients are standardized. GO: Gratification obtained.