Game Dynamics Preferences Are Connected with Experiences Derived from First-Person Shooters

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***Abstract*—Individual differences in game dynamics preferences may affect the way players react to different types of games. In the present study, 40 inexperienced players played a violent first-person shooter game. The players' preferences for violent game dynamics were scoped before playing. Moreover, the players self-reported their sense of curiosity, vitality and self-efficacy in life in general and during playing. The results show that players who do not like violent game dynamics experience a lower sense of curiosity, vitality and self-efficacy during playing rather than in real life. Instead, there is no evidence for such difference for players who express a neutral or mildly positive preference for violent dynamics, with the exception of a slightly worse sense of self-efficacy in playing versus real life. Those who disliked the dynamics also showed less positive emotion after playing than before playing. Game dynamics preferences also correlated with perceived difficulty of the game and using the gaming pad. The results point out that players who report disliking violent dynamics do not get emotional and motivational benefits from playing and consider playing difficult. For research focusing on games user research, the results indicate game dynamics preferences and their compatibility to the game contents as a relevant measure that may affect players' sense of curiosity, vitality and self-efficacy during playing.**

Keywords—game dynamics, preferences, curiosity, vitality, self-efficacy, FPS, first-person shooter, video game

I. INTRODUCTION

In this paper, we examine how individual differences in game dynamics preferences for violent game dynamics are connected with perceptions of psychological functioning exemplified by curiosity, vitality and self-efficacy. More specifically, our focus is on the differences in these experiences during life in general versus during playing.

A. Psychological Effects of Violent Videogames

Violent videogames, such as war-themed first-person shooters, have a bad reputation. Many studies have claimed that playing violent games may be connected with negative psychological consequences such as aggressive ideation and behavior towards others [1], [2], although the effects tend to be small [3]. Moreover, an often reported short-term effect of violent video game playing is heightened physiological arousal [1], [4], [5], [6], which is often interpreted as a negative stress response that may lead to desensitization to violent content [7]. However, it is likely that the players experience some kind of positive experiences from playing these games, as otherwise they would not be attractive to so many people. In fact, video games in general have been noted to have potential for increasing psychological well-being [8]. Most often, video games are seen as a temporary source of joy, with some studies indicating that players' main motivations to play are fun and entertainment [9], [10]. Perhaps because of this, gaming is often portrayed condescendingly as hedonistic bliss that may lead people to avoid their everyday struggles in exchange for short-term enjoyment. Many studies indicate that gaming might be a form of escapism and diversion [11], [12], [13], [14], indicating that it may offer short-term relief such as elevated mood.

Gaming is a multifaceted experience that players get involved in based on a plethora of motivations and reasons [15], [16], [17]. Moreover, how gaming affects players cannot be oversimplified into just negative or positive short-term effects, as immediate emotional reactions can change through self-reflection [18], [19]. Because of the complexity of the phenomenon, there are emerging new discourses about larger scale psychological effects of video games. Recently, topics such as meaningfulness and insightfulness have been brought forward [20], [21]. Moreover, current models take into account the higher psychological motivations and needs of gamers [22].

One of the most often used models in motivation research is the Self-Determination Theory [23], which may help explain reasons for playing. Namely, it is plausible that games may satisfy needs for competence, autonomy, and relatedness [24], in keeping with the Self-Determination Theory model [23]. As feelings of autonomy and competence may affect mood, vitality, confidence, self-esteem, psychological functioning and well-being in general [25], [26], it is likely that those who find that gaming supports their needs for autonomy and competence will get beneficial effects from gaming, i.e., improved mood, vitality, confidence and self-esteem.

Besides the aforementioned constructs, we suggest that playing violent video games may affect curiosity, vitality and

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self-efficacy. Next, we will discuss these concepts and how they are crucial for the experience of playing violent games.

B. *Experiences of Curiosity, Vitality and Self-Efficacy During Playing*

Curiosity has been viewed as a reflection of seeking novelty and challenge, as well as a method for personal growth [27]. Curiosity is also a core motivational mechanism for increasing intrinsic motivation [25]. Experiences of curiosity during playing are an essential factor that makes a game a game, as the player makes actions to see how the game unfolds [28]. Video games cater to at least five types of curiosity: 1. Perceptual curiosity (such as observing items and exploring areas), 2. Manipulatory curiosity (manipulating and understanding objects in the game world), 3. Curiosity about the Complex or Ambiguous (for example actions that have multiple consequences or other players who may act in various unpredictable ways), 4. Conceptual curiosity (such as information seeking, creating a mental model of a topic), and 5. Adjustive-Reactive Curiosity (such as finding out how everyday objects work in the game environment) [28]. As there are theoretical implications that curiosity could be important for the playing experience, there is a growing body of studies aiming to manipulate game features to foster curiosity [29] and explore whether these manipulations affect enjoyment [30]. Modeling artificial curiosity and competence for simulated player agents has also been explored [31], [32]. However, more research is needed about how playing actually affects human curiosity.

Vitality refers to feelings of aliveness and energy. As is evident from the line of research focusing on desensitization and physiological arousal [1], [4], [5], [6], violent video games are often seen as inducing an elevated state of energy or alertness, indicating that gaming is a stimulating emotional experience. Therefore it might be plausible that gaming could have at least a short-term effect on feelings of vitality, although research on this matter is scarce from a positive perspective. In one notable study [33], the results indicated that those players who had a so-called "harmonious passion" for playing, i.e. passion that was not problematic, expressed an increase in post-play energy. However, those who had an "obsessive passion" had reduced post-play energy. The harmonious passion vs. obsessive passion is best explained by comparing "wanting to play" with "having to play". The results of this study [33] highlight that video games have potential for increasing vitality, but only for players who are inclined to be positively influenced by games, for example because they currently have harmonious passion for playing. The role of personal preferences might also influence whether a player experiences elevated or reduced vitality post-play.

Gaming may also have an effect on self-efficacy and feelings of competence, as a key component of games is that the user has a chance to control the events that are happening through their own actions and is able to achieve goals [34], [35]. Game-related self-efficacy has been noted to be a significant predictor of game enjoyment [36], indicating that heightened self-efficacy is a key component in video games. Experiences of competence have also been linked with certain gameplay metrics, such as a slower and more thorough progression style [37]. Studies on adolescents have shown that children indicate their main motivation for playing video games to be a feeling of achievement and how it affects their sense of competence and self-confidence [38]. Pertaining to violent games in particular, some players feel effective and powerful when playing violent games [39], which may promote self-efficacy. Moreover, findings on first-person shooter games indicate that game enjoyment is highest when player performance in the game is at its best, that is, when the game's difficulty level is low [40].

While it is possible to make the argument that games contain elements that may elevate the players' curiosity, vitality and self-efficacy, there are few studies that have explored the immediate effects of playing on such large-scale self-reflective psychological concepts. In a notable exception, the effect of gaming before and after play was explored, with particular focus on changes in vitality, state self-esteem and mood [41]. In this study, vitality referred to experiences of energy and aliveness, whereas mood referred to negative or positive affect such as "worried" or "pleased". State self-esteem referred to immediate sense of esteem, such as "you feel very good about yourself". While mood before and after playing stayed quite stable, vitality suffered a great loss and there were mixed effects for state self-esteem. Interestingly, those who expressed competence and autonomy when playing had more positive outcomes after playing than those who did not, indicating that there are individual differences in the outcomes.

One factor that may correlate with what kind of experiences players gain during gaming is whether players like the game content or not. Many of the games associated with detrimental psychological effects incorporate violent dynamics that are not typical in everyday life and may cause moral outrage or shock in participants who do not like them.

C. *Individual Differences Between Players: Game Dynamics Preferences*

Ferguson et al. [42] have extensively studied violent video game players and called for more research on the effects of idiosyncrasies of the players. Namely, they claim that players of violent videogames are hardly "blank slates" and that the possible detrimental psychological effects may depend on individual differences between players, such as age, gender or motivations to play [42]. Indeed, there are individual differences among players in their personality and internal motivations for playing games [15], [16], [17], [43], [44], [45]. Moreover, there is variation in different players' in-game behavior [46], [47], [48].

What also matters is the content of the games – recently, some studies have begun to focus on individual differences in preferences for certain types of game dynamics [49], [50], [51], [52]. Game dynamics refer to gameplay activities or player-game interactions such as dancing, killing, or building. In one example [51], different game dynamics from published game descriptions and reviews were identified. Then, participants were asked how much they liked these game dynamics, such as "racing or competing in sports to win", "training and taking care of pets", "destroying and blowing things up", or "jumping from platform to platform while avoiding obstacles". Based on the responses, five game dynamics preference categories were

found: assault, manage, journey, care, and coordinate [46]. The category of "assault", for example, included violent game dynamics such as "killing and murdering". Survey respondents were then clustered, on the basis of their preferences for different game dynamics categories. This yielded seven player profiles. Relevant to the present study, one of the player groups was labeled "The Mercenary", which consisted of players who reported liking of assault and disliking of care dynamics.

When studying violent videogames, one should take into account individual differences in game dynamics preferences [49], [50], [51], [52], especially pertaining to violent dynamics, as there is a reasonable chance they might affect the results of psychological measures. Because of this, we wanted to explore the role of dynamics preferences in how players experience the gaming situation.

D. Research Questions

Based on earlier research on the topic, the following research questions were formed. RQ1: Are there differences in inexperienced players' perceived curiosity, vitality and self-efficacy during playing and in real life? RQ2: Are game dynamics preferences connected with perceived curiosity, vitality and self-efficacy during playing and in real life?

II. METHOD

The questionnaires as well as the data are available at https://doi.org/10.23729/efc503f7-a2cb-4241-bad9-24aea97e9b92 unless reported fully under this Method section.

A. Participants

Forty participants (11 men, 29 women, M_{age} = 28.10 years, SD_{age} = 7.01 years) took part in the experiment. We scoped the participants' previous playing experience by asking the following questions: 1. "Think about the past year. How many hours did you spend playing videogames on a typical week? Try to estimate your weekly playing time even if you did not play every week", and 2. "According to your estimation, how much have you played videogames during your whole gaming history?" For question 1, participants gave their answer in hours: "During a typical week, I played videogames for XX hours." For question 2, a 5-point Likert scale was utilized (1 = not at all, 5 = a lot). The participants played on average 1.30 hours per week (SD = 2.59, range = 12) and they estimated they had accumulated fairly little gaming experience during their gaming history (M = 2.45, SD = .99).

B. Materials and Procedure

The participants played a popular first-person shooter videogame, Call of Duty: Modern Warfare 2, on PlayStation 3. They first played through a tutorial during which the difficulty of the game was automatically calibrated. Then, they played one of the game's missions (levels) for at least 6 minutes. Participants were counterbalanced into playing one of the four game missions: "Wolverines", "Exodus", "Gulag", or "Whiskey Hotel".

Before playing, the participants rated how pleasant they would consider certain game dynamics to be when playing a game (5-point Likert scale, 1 = Not at all pleasant, 5 = Very pleasant). The dynamics were based on the CGD scale [51], [52] and modified based on content analysis to represent core game dynamics involved in this particular game. The scale contained the following items: 1. Killing and murdering, 2. Eliminating by sniping, 3. Stalking and surprising the enemy, 4. Waging war and conquering regions, 5. Fighting, 6. Destroying and blowing things up, and 7. Defending a city, an area or a base. A sum score of all the items was used in the analyses. Cronbach's α for the scale was .93.

The participants answered three surveys: The General Self-Efficacy Scale [53], The Subjective Vitality Scale [54], and The Curiosity and Exploration Inventory-II [55]. Importantly, there were two versions of each scale: Version 1 regarding life in general (original scales) and Version 2 in which participants were asked to imagine themselves in a gaming context (modified scales). The original three scales were presented at the beginning of the experiment before playing the game (life in general context). After playing the game, the participants answered the modified gaming context versions of the three scales.

The General Self-Efficacy Scale measures the optimistic self-beliefs a person has in difficult or novel situations [53]. It contains 10 items (e.g. "I am confident that I could deal efficiently with unexpected events."), and participants are asked to rate on a 4-point scale how well each statement applies to them: 1 = Not at all true, 2 = Hardly true, 3 = Moderately true, 4 = Exactly true. A sum score of all the items was used in the analyses.

The Curiosity and Exploration Inventory-II measures the amount of curiosity a person has to seek out novel experiences, and the enjoyment felt over unpredictable situations [55]. The scale has 10 items (e.g. "I actively seek as much information as I can in new situations") and the responses are given on a 5-point Likert scale: 1 = Very slightly or not at all, 2 = A little, 3 = Moderately, 4 = Quite a bit, 5 = Extremely. A sum score of all the items was used in the analyses.

The Subjective Vitality Scale measures the amount of energy a person has and the feelings of "being alive" [49]. We used a modified version of the scale [54], which consists of 6 items (e.g. "I feel alive and vital."). Responses are given on a 7-point Likert scale, with only the two end points given: 1 = "Not at all" and 7 = "Very true". A sum score of all the items was used in the analyses.

Immediately after playing, the participants were given Self-Assessment Manikins [57] to rate their experienced emotion. The SAM is a pictorial tool developed for reporting subjective emotional experiences (valence and arousal) by selecting an image that corresponds with the experience of the responder [57]. The scales used in this experiment contained nine options each, ranging from a very unhappy manikin to a very happy manikin for valence and a very calm manikin to a very agitated manikin for arousal. The SAM responses were coded on a

numerical scale (1-9). For valence, higher scores indicated a more positive emotion.

After playing, the participants were also asked about their familiarity with the game and the console, as well as about the difficulty of the game and using the gamepad. The responses were given on a 5-point Likert scale (1 = Not at all familiar/difficult, 5 = Very familiar/difficult).

C. Data Analysis

The data was analyzed using IBM SPSS Statistics (Version 26). Separate repeated measures ANCOVAs were carried out for each dependent measure (Curiosity, Vitality, Self-efficacy, Emotional Valence and Arousal). Condition (life vs. playing) was a within participants factor and the sum score of the Dynamics Preferences was entered as a covariate.

Follow-up comparisons were made by splitting the participants into two groups based on the median score (17) of the sum of game dynamics preferences. These two groups consisted of the dislike group (N = 21, M = 13.43, SD = 3.44) and the neutral/positive group (N = 19, M = 24.37, SD = 4.80). Paired samples t-tests for the conditions (life vs. playing) of the three measures were then computed separately for each group.

III. Results

Descriptive statistics for curiosity, vitality, self-efficacy, emotional valence, and emotional arousal in the life and playing conditions (before and after play for valence and arousal) are presented in Table 1. Fig. 1 illustrates the difference in means in curiosity, vitality and self-efficacy in the life vs. playing conditions (life score subtracted from playing score) and for emotional valence and arousal before and after playing (before score subtracted from after score) for participants who either disliked or were neutral/mildly positive towards the game's core dynamics.

There was a main effect of Condition (Life vs. Playing) on Curiosity ($F(1,34) = 14.86$, $p < .001$, $\eta_p^2 = .30$), indicating that curiosity was lower during playing. Moreover, there was an interaction between Condition (Life vs. Playing) and Dynamics Preference ($F(1,34) = 7.53$, $p < .001$, $\eta_p^2 = .18$) on Curiosity, indicating that the difference in curiosity during playing vs. life was affected by whether participants liked the game contents. For those who disliked the content, curiosity was lower when playing ($t(17) = 3.81$, $p < .001$), but there was no evidence of a difference between the conditions for those who were neutral or positive towards the content ($t(17) = 1.23$, $p = .24$).

There was a main effect of Condition (Life vs. Playing) on Vitality ($F(1,34) = 13.51$, $p < .001$, $\eta_p^2 = .28$), indicating that vitality was lower in the playing condition. Moreover, there was an interaction between Condition (Life vs. Playing) and Dynamics Preference ($F(1,34) = 7.99$, $p = .008$, $\eta_p^2 = .19$) on Vitality, indicating that the difference in vitality was affected by whether participants liked the game contents. For those who disliked the content, vitality was lower in the playing context ($t(17) = 4.64$, $p < .001$), but there was no evidence of a difference between the conditions for those who were neutral or positive towards the content ($t(17) = -.31$, $p = .76$)

There was a main effect of Condition (Life vs. Playing) on Self-efficacy ($F(1,32) = 22.90$, $p < .001$, $\eta_p^2 = .42$), indicating that self-efficacy was lower in the playing condition. Moreover, there was an interaction between Condition (Life vs. Playing) and Dynamics Preference ($F(1,32) = 6.42$, $p = .02$, $\eta_p^2 = .17$) on Self-efficacy, indicating that the difference in self-efficacy was affected by whether participants liked the game contents. For those who disliked the content, self-efficacy was lower when

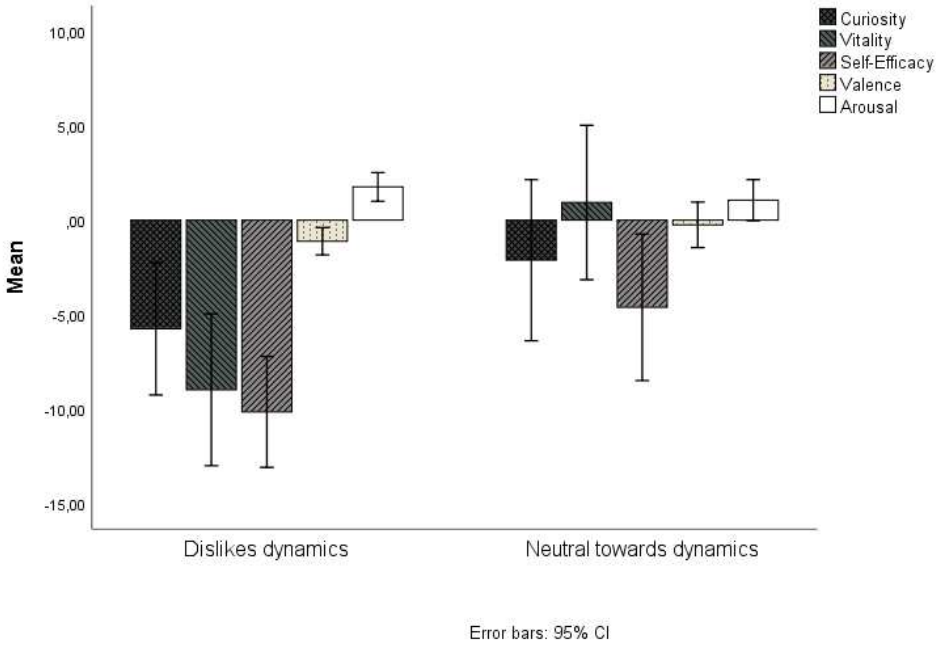

Fig. 1. Difference in means for curiosity, vitality and self-efficacy between the playing and the life condition for two groups: participants who disliked the game's dynamics and participants who were either neutral or mildly positive towards them. The valence and arousal bars represent the difference before vs. after playing.

playing ($t(17) = 7.71$, $p < .001$). Those who were neutral or positive towards the content also expressed a lower state of self-efficacy in the playing condition ($t(15) = 2.53$, $p = .02$), but to a lesser amount.

There was a main effect of Condition (Before vs. After Playing) on Valence ($F(1,37) = 10.49$, $p = .003$, $\eta_p^2 = .22$), indicating that players experienced less positive emotion after playing. Moreover, there was an interaction between Condition (Before vs. After Playing) and Dynamics Preference ($F(1,37) = 5.88$, $p = .02$, $\eta_p^2 = .14$) on Valence, indicating that the difference in valence before and after playing was affected by whether participants liked the game contents. For those who disliked the content, there was less positive emotion when playing ($t(19) = 3.15$, $p = .005$), but there was no evidence of a difference between the conditions for those who were neutral or positive towards the content ($t(18) = .87$, $p = .40$).

As for arousal, there was a main effect of Condition (Before vs. After Playing) on Arousal ($F(1,37) = 11.29$, $p = .002$, $\eta_p^2 = .23$), indicating that arousal was higher after playing. There was no interaction between Condition (Before vs. After Playing) and Dynamics Preference ($F(1,37) = 2.45$, $p = .13$, $\eta_p^2 = .06$) on Arousal.

Most participants expressed not being familiar with the game used in this study (M = 1.6, median = 1, SD 1.02), and not being very familiar with the gaming console either (M = 2.53, median = 2, SD = 1.22). Most participants considered it somewhat difficult to play the game (M = 3.82, median = 4, SD = 1.04) and either somewhat difficult or normal to use the gamepad (M = 3.50, median = 3, SD = 1.23).

There was a negative correlation between dynamics preference and perceived difficulty of the game ($r_s(38) = -.44$, $p = .006$), indicating that the less the participants liked the content, the more difficult they considered the game to be. There was also a negative correlation between dynamics preference and perceived difficulty of using the gamepad ($r_s(38) = -.43$, $p = .008$), similarly indicating that the less a person liked the game contents, the more difficult they considered using the gamepad. These two difficulty measures also correlated between each other ($r_s(38) = .57$, $p < .001$).

TABLE I. Descriptive Statistics

	Life		*Playing*	
	M	***SD***	***M***	***SD***
Dislike group				
Curiosity	31.89	5.12	25.56	6.74
Vitality	28.61	4.82	20.06	5.53
Self-efficacy	31.17	4.60	21.06	6.21
Valence	7.15	0.88	6.00	1.45
Arousal	3.60	1.39	5.30	1.46
Neutral/positive group				
Curiosity	32.28	5.50	30.06	7.93
Vitality	25.50	5.76	26.06	6.07
Self-efficacy	31.50	3.39	26.88	6.04
Valence	6.84	1.30	6.42	1.68
Arousal	4.32	1.49	5.53	1.74

IV. Discussion

In RQ1 we asked: Are there differences in inexperienced players' perceived curiosity, vitality and self-efficacy during playing and in real life? The results indicate that yes, there are differences in these measures in the two conditions (life vs. playing). Namely, all of these measures were lower in the playing condition, indicating that curiosity, vitality and self-efficacy were perceived to be higher in real life rather than when playing.

In RQ2 we asked: Are game dynamics preferences connected with perceived curiosity, vitality and self-efficacy during playing and in real life? The results indicated that game dynamics preferences indeed were connected with how much experienced vitality, curiosity and self-efficacy differed between the conditions of life vs. playing. In short, those who expressed a strong dislike for the game's core dynamics expressed a much greater disparity between the conditions, indicating that their curiosity, vitality and self-efficacy were much higher in real life rather than when playing. Instead, those who were neutral or slightly positive towards the game's dynamics expressed no significant change in curiosity and vitality between life and when playing. The neutral/mildly positive group did indicate that their self-efficacy was lower when playing, but the difference was less striking than for those who disliked the content.

The observed individual differences are not explained by correlations between game dynamics preferences and perceived curiosity, vitality or self-efficacy during life in general (all r's < .16). Rather, it seems that people who have different preferences in game dynamics also experience gaming in different ways.

At first glance, the results seem to be at odds with other studies indicating gaming as a psychologically rewarding activity [8], [24] and a potential self-regulation method for controlling stress and mood [10], [58]. However, our study differed from the aforementioned studies in the sense that we did not focus on the experiences of seasoned video game players, but instead focused on players with little previous experience. Moreover, the trend detected in our data seems to indicate that the more a player likes the content, the more they might gain psychological benefits from them. Unfortunately, we were unable to recruit novice players with a high preference for violent dynamics to explore whether they might indeed experience psychological benefits when playing. This was because we wanted to recruit participants who were as naïve to violent videogames as possible, to rule out the effects of possible desensitization and familiarity with the stimulus. Yet, as performing violent actions is hardly a familiar everyday occurrence for most people, and certainly not socially desirable, it was immensely difficult to find participants who liked violent dynamics and were inexperienced players. Future studies should aim to recruit also those participants who have a high preference for violent dynamics.

Our results are partly in line with other findings [41] in which gaming induced a significant drop in vitality, indicating that vitality may be sapped by playing. In our data, the difference in vitality between real life and when playing was

evident for those who disliked the game contents, but not for those who were neutral or positive towards them. Interestingly, Ryan et al. [41] reported more positive outcomes for those who indicated competence and autonomy when playing. It may be possible that only players who are motivated enough to experience competence and autonomy, such as players who like the content, may acquire benefits in vitality.

Another reason that might affect our results also has to do with the fact that our participants were fairly inexperienced players. Namely, most of the participants considered the game itself somewhat difficult to play, and were not very confident with using the gamepad either. As game-related self-efficacy and difficulty of the game have been noted to be linked to game enjoyment [36], [40], it may have affected our results. Interestingly, perceived difficulty for both the game in general as well as for using the gaming pad correlated with game dynamics preferences. Namely, those who expressed not liking the game's core dynamics also tended to experience it as more difficult. Future studies should include performance metrics or other ways to scope whether those who express not liking the dynamics actually do worse when playing. It could also be that negative perceptions of the game's dynamics make the game seem difficult, as players may not approach the game from a positive state of curiosity, vitality and self-efficacy, which may influence performance. However, while the detected correlation between dynamics preferences and perceived difficulty is an interesting observation, the purely correlational approach here is not able to explain the phenomenon fully, indicating that more research on this topic is needed.

Expectedly, those participants who disliked the contents felt less positive emotion immediately post-play than before playing, lending more support to the hypothesis that game dynamics preferences are connected with possible detrimental or beneficial effects of violent video games. There was no association between experienced arousal and dynamics preference (cf. [59]): all players reported higher arousal after playing. One factor that may affect arousal ratings is that violent games may induce arousal that can be either appetitive or aversive [60], perhaps best simplified by being either "pleasantly thrilling" or "repulsively horrifying". When the arousal ratings are explored in combination with the valence ratings, it seems as though this may be the case in our data. In other words, while the arousal level ratings between the groups may be similar, the arousal is related to a more negative change in emotional valence for those who disliked the contents, whereas the neutral group did not experience a significant change in their valence before and after playing.

The focus of this paper was not on why the participants liked or disliked violent dynamics, but further research on individual differences between players (as suggested in [42]) should explore this in more detail. A particularly interesting topic is whether participants with preferences for violent game dynamics also enjoy violence in real life or not, and whether they employ moral disengagement when playing games (as suggested in [61]). Currently, there is some evidence that more empathetic players tend to experience more guilt when engaging in unjustified violence in videogames [62].

The results highlight that game dynamics preferences are not just abstract constructs, but are connected with perceived curiosity, vitality and self-efficacy during playing. The results also point out that game dynamics preferences should be taken into account during participant selection in studies focusing on violent video games (e.g., [1], [2], [4], [5], [6], [7]), especially when writing guidelines regarding violent media. Overall, while violent video games' potential negative effects should be taken seriously, it is also important to recognize that playing can be a positive and rewarding activity for those who are geared toward liking it. Recognizing the meaningful aspects of gaming is important both for the general discourse related to violent video games as well as for practical implications.

For game development purposes, the results help to understand why some players like a game and others do not, highlighting the role of knowing the main audience of the game. During playtesting, it may be prudent to first scope the test groups' attitudes or preferences for certain game dynamics or content involved. This is especially important for serious games aimed at rehabilitation, as personal preferences will likely affect how much participants adhere to treatment programs utilizing games.

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