

“I’m the leader and I’m going to save the world”: Characterizing Empowering and Disempowering Game Experiences

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Empowering people through technology is a core concern of HCI, yet little is known about how players experience empowerment or disempowerment through videogames. We surveyed 250 participants about their dis-/empowering videogame experiences, investigating why they felt dis-/empowered, and how these experiences related to core player experience constructs including emotion and basic needs satisfaction. While empowering experiences were often positive, and disempowering experiences often negative, we found meaningful exceptions to this, and a surprising complexity in player accounts. We capture this diversity in seven themes. These range from “heroic victories” which follow long periods of failure, to positive experiences of disempowerment, which were appreciated for their narrative meaning. By articulating these complex experiences, and relating them to quantitative measures we provide a foundation for understanding of the role of dis-/empowerment in player experience, and highlight avenues for future work. Data and analyses are available at <https://osf.io/zhtu8/>

CCS Concepts: • **Human-centered computing** → **Empirical studies in HCI; HCI theory, concepts and models**; • **General and reference** → **Surveys and overviews**.

Additional Key Words and Phrases: Player Experience, Empowerment, Disempowerment, Thematic Analysis, GSAQ, PXI, Attribution Theory, Self-Determination Theory

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1 INTRODUCTION

Empowerment is considered a desirable goal for HCI, with researchers and tech companies employing the term to signify their intent to improve people’s lives through technology [72, p.1]. Given the positive connotations of empowerment, and its apparently “simple inherent meaning” [91, p.2], it is unsurprising that empowerment has been adopted by many different strands of (HCI) research: Empowerment has been used, for example, as a synonym for having superpowers [43], to explore power differentials reinforced by technology [e.g., 19] and to motivate AI agents [40]. In HCI games research, empowerment has been used in relation to both playing [e.g., 27, 43], and making games

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[e.g., 6, 81]; it has been used as a lens to study participatory culture [24], and gender equality in game communities [58]; and level of empowerment has been argued to predict player experience (PX) [31].

This plurality of uses and understandings speaks to the promise of empowerment: both as a worthwhile goal of technology and as a fruitful research avenue. However, it also illustrates the challenges involved in defining the term. For some time, researchers have argued that both "empowerment", and its conceptual opposite "disempowerment" are used inconsistently [e.g., 19, 21, 72]. Some have argued that the terms seem to overlap significantly with other theoretical constructs, and some forms of empowerment discussed in HCI games research [e.g., psychological empowerment; 96] may share much conceptual overlap with core player experience constructs [e.g. the PXI; 1], as well as theoretical frameworks used in HCI games research, such as self-determination theory [84] and attribution theory [23].

At the same time, HCI games research often seems to treat empowerment as a synonym for broadly positive experience, or else as a vague gesture towards improvements in players' lives. Taken together, this contributes to a lack of clarity in our engagement with the construct of empowerment – which in turn impedes researchers' ability to discuss these phenomena, share findings and develop a coherent knowledge base [83]. Exacerbating this, it appears that in HCI games research "empowerment" is usually attributed "from the outside" by authors – rarely by the players themselves. Researchers will observe a positive player experience or successful intervention, and then describe this as a matter of having empowered the players [e.g., 6, 31]. It remains unclear whether players considered *themselves* empowered and what their experience of empowerment entailed. This is an important issue, as some accounts of empowerment emphasize contextual factors such as person-environment fit [96] which would point to significant variation between people and cases [95].

In this work, we seek to address these questions around conceptualizations of empowerment by collecting and analyzing players' own accounts of empowering and disempowering player experiences. Specifically, we conducted an online study ($n = 250$) in which participants were asked to describe an empowering or disempowering videogame experience, and to rate their experienced in terms of need satisfaction and frustration, constructs of the Player Experience Inventory [PXI, 1], and attribution [23].

Our contribution is three-fold: First, we present empirical evidence of the different kinds of experiences players themselves understand as dis-/empowering. In particular, our findings showcase how an experience may come to be dis-/empowering, going far beyond conditions which affect players perceived or real abilities and achievements. We reflect on what these experiences mean for players, designers and researchers.

Second, we differentiate dis-/empowerment from related PX concepts. This helps clarify the concepts of dis-/empowerment as player experience, and strengthen lateral connections with past research on failure, frustration and emotional challenge.

Third, we further understandings of how and when videogame experiences come to be enjoyed and appreciated, irrespective of adversity and surface level emotional valence. We discuss a number of directions for HCI games research suggested by these understandings.

2 RELATED WORK

The concept of empowerment has found wide adoption in HCI research and games discourse alike. In their review of empowerment in HCI, Schneider et al. suggest that for both researchers and practitioners empowering people "*is an unconditionally positive mission no one would argue against*" [72, p.1], while game designer Warren Spector recently described empowerment as the "ultimate success criterion" [78]. However, the understanding and use of the term can differ widely.

Empowerment can mean giving differently-abled players the ability to play and compete with one-another [27, 29]. In other work it can mean to simply exaggerate players' movements in a mixed reality game [43] giving the in-game appearance of "super-powers". Elsewhere, researchers have sought to empower children by providing coding-free development tools, to consequently foster long term interest in the activity [6].

This latter goal of *persistent* (player) empowerment [see 72] is often emphasized by *serious games* [see 50] research. A use of "empowerment" which is analogous to its use in sociology [see 63, 77, 91, 95]. Serious games do not seek to empower players only within the game, but rather seek to empower people in regards to certain societal and personal issues [see 86]. For example, serious game developers seek to change the perception of mental health problems[e.g., 32], empower players to develop emotional regulation skills [88] or sensitize them towards risk taking behavior [30].

Another quite different understanding of empowerment can be seen in a line of work spanning AI and player experience [31, 40, 41]. In contrast with the life-situated work in serious games, this line of work treats empowerment as a "context-free" [p.1 41] *universal function*. Here empowerment is the quantification of "*an agent's potential perceivable influence*"[31, p.3]. While this account is developed for AI models, the authors nonetheless argued that the drive to increase this influence is a unifying theme of all beings. In line with this assumption of universality, recent work has transposed this context-free account back into humans: Guckelsberger et al. [31] linked player experience to their awareness of the amount of potential actions they can perform — a measure which seems closely related to what has elsewhere been called "agency" [e.g. 36, 80].

Notably, these examples all emphasize empowerment as a sought after *outcome*. Little work addresses players' *experience* of empowerment, and player experience of empowerment is rarely assessed in HCI games studies. This is despite the fact that empowerment during the play experience is considered a highly useful lens for game design [78], and seems likely to serve as a fruitful avenue for PX research. Some papers capture user experience measures such as self-esteem [e.g., 27], or basic need satisfaction [e.g., 43], and some interpret qualitative accounts of player experience (such as the perceived ability to "squish others") as markers of empowerment [e.g., 43]. However, we have found no work which asks players directly about whether they actually feel dis-/empowered, nor about the qualities of this feeling of dis-/empowerment.

In many conceptualizations, empowerment seems likely to make for good player experience. Zimmerman's "Psychological Empowerment" [96] conceptualizes empowerment as an individual, context-dependent phenomenon, grounded in intrapersonal, interactional and behavioral components. I.e., to be empowered a person has to believe that they can change, understand, and control their current situation [95]. This is closely related to concepts and theories already in use by HCI games research such as SDT [68] [for an overview see 84], attribution theory [23], and compound PX measures such as the PXI [1], which all put a premium on the player feeling like they are in control, can act freely, and have impact. In fact, Zimmerman argues that psychological empowerment seems to be closely related to — among others — self-efficacy, self-esteem and competence [95, p.590]. This points to a promising direction forward for clarifying understandings of empowerment experience, and one which to date has not been explored in HCI games research. At the same time, however, this account does not capture one complex aspect of empowerment in positive gaming experiences: that in the right circumstances, positive experiences can be supported by *disempowerment*.

The majority of videogames involve some aspect of player failure. While players generally want to win, they also seem to like games which make them lose. Juul called this the *Paradox of Failure* [35], pointing out that at least the credible threat of failure is needed to enjoy a game. This notion

has since been supported, with other works pointing out that the struggle to succeed can lead to more highly appraised experiences [25, 59].

In extension, disempowerment in games can also be a subversive act, against the medium's usual reverence of agency and control [24]. For example, Benford et al. [7] deliberately disempowered players by having them surrender control to a machine or even a total stranger as a way to induce *discomfort*; attempting "not to cause long term suffering or pain, but rather to underpin positive design values related to entertainment, enlightenment and sociality" [7, p.2011].

Of course such experiences of disempowerment can have a negative impact on players: Gowler and Iacovides [28] describe gaming experiences which players strongly disliked; noting that "players become uncomfortable because they just don't know what is going to happen next, or if they will be able to cope" [28, p. 333]. Likewise, disempowerment can be actively used to force players into predatory micro-transactions [38]. An important factor in this seems to be the disempowered player's ability to consent to the experience. For example, players of discomforting TRPGs [52], who had consented to such experiences, and were prepared for them, welcomed similar if not more extreme themes, and subsequent feelings of disempowerment.

In summary, prior literature points to quite a degree of conceptual uncertainty: both around understandings of empowerment, and around its relationship to other constructs, and to players' experiences. It is hard to answer when and how *players themselves* experience dis-/empowerment in videogames. Experiences which on the surface seem to be disempowering — such as failure or loss — also seem to have the potential to be highly enjoyable gaming experiences. Likewise, if struggle and failure are seen as key parts of a good gaming experience [35], then perfect empowerment of the player seems unlikely to be enjoyed.

3 METHODS

The aim of this work is to characterize and understand better the experience of empowerment and disempowerment in games. To this end, we examined two research questions:

- (RQ1) How do players understand and describe empowering and disempowering experiences?
- (RQ2) Do empowering and disempowering experiences differ on common PX measures, and if so, how?

There is a lack of systematic prior work on *experiences* of empowerment in games research, which would support hypothesis formation. As such we take an exploratory approach to our research questions. We randomly assign participants to one of two conditions, asking them to describe either a videogame experience in which they felt empowered or disempowered, respectively. We deliberately refrained from providing any definitions of dis-/empowerment to not prematurely constrain the types of experiences we would get. To answer RQ1, we used open-ended questions, and analyzed responses with thematic analysis. To answer RQ2, we used self-reported quantitative measures for which we report the descriptive results. The exact measures are described below. The de-identified raw data, analysis scripts and all research artifacts can be found at <https://osf.io/zhtu8/>.

3.1 Participants

We collected 264 full responses. Of these, 35 were recruited via snowball sampling and 229 via [Prolific.co](https://prolific.com). The latter were pre-screened using the Prolific pre-screen options to have an approval rating > 90, be fluent in English, count videogames as their hobbies and report playing videogames for at least 3 hours per week on average. Participants on Prolific were paid £9/h in accordance with Prolific's recommendation as of August 2022.

Of the 264 full responses, we excluded 7 participants who failed one of the three attention checks. We removed two participant whose answers were not recorded (all N/A), one participant who

was not 18, one double entry, one participant who answered in Spanish and two participants who submitted nonsensical answers. After exclusions we considered $n = 250$ participants in the analysis. Among these, the participants' median age was 26 ($min = 19$; $max = 64$), 191 indicated they were a man, 56 indicated they were a woman, 2 indicated they were a non binary person and one person did not report their gender. Participants were randomly assigned to one of two conditions, where they were either asked to describe an experience in which they felt empowered ($n = 110$) or disempowered ($n = 140$).

3.2 Procedure

We invited participants to take part in a study about dis-/empowering gaming experiences. After giving informed consent and confirming they were over 18, participants were asked their age, gender and gaming habits. They were then randomly assigned to one of the two conditions. Participants were asked to bring to mind a videogame experience in which they felt either disempowered or empowered depending on condition. On the next page, we asked the participants to describe this experience in at least 50 words, then to explain why they felt dis- or empowered during the experience, and lastly to describe the emotions they felt during the experience. Participants then filled out several qualitative PX questionnaires (see [subsection 3.3](#)) and optionally gave comments on their quantitative answers. Finally, we gave participants the option to give an overall comment about the study, before they were thanked and debriefed.

3.3 Player Experience Measures

Since we are interested in understanding how dis-/empowering experiences relate to common PX concepts (RQ2), we employ several quantitative measures. All the following scales were presented on a seven point Likert scale (-3 strongly disagree - 0 neither disagree or agree - 3 strongly agree). However, scales were internally recorded as 1 through 7 to facilitate interpretation. Hence a score of 1 indicates strong disagreement, 4 indicates neither agreement, nor disagreement, and 7 indicates strong agreement.

Player Experience Inventory. The Player Experience Inventory (PXI) was only recently published [1], but has since seen wide adoption [e.g., 26, 64, 76]. It utilizes Means-End theory to propose that positive PX is dependent on *functional* and *psychosocial consequences*. The former is thereby primarily derived from the attributes of the game, while the latter incorporates how players values align with the game. Each consequence contains five dimensions: The functional consequences contain *ease of control*, *progress feedback*, *audiovisual appeal*, *goals and rules*, and *challenge*; The psychosocial consequences contain *mastery*, *curiosity*, *immersion*, *autonomy*, and *meaning*.

Game-Specific Attribution Questionnaire. The Game-Specific Attribution Questionnaire (GSAQ; [23]) measures how players attribute in-game success. It contains four dimensions: (1) Internality/externality - Is the success due to a characteristic of the player, or the environment; (2) stability - could the player repeat the success; (3) controllability - Is the player in control over what caused the success; and (4) globality - are the reasons for success applicable in different situations. Understanding players' attributions can be key to understanding players experience of feeling dis- or empowered, as this feeling can hinge on the player believing the success was their own ability or e.g. due to the game helping them [23] ([see also 27]).

Need Satisfaction and Frustration. We employ a quantitative, self-report measure for basic psychological need satisfaction and frustration. Several standardized questionnaires are in use in HCI games research to assess need satisfaction. One often used questionnaire is the Player Experience Need Satisfaction questionnaire [PENS, 69]. While PENS is well-established in HCI games research

[84], it is proprietary and concerns have been raised about its validity [33, 34]. Similarly the Ubisoft Perceived Experience Questionnaire [UPEQ, 3] has come into question regarding its factor structure [37].

Needs *frustration* — which may be of importance in disempowerment — is rarely measured in HCI games research, despite need satisfaction and frustration being shown to be distinct dimensions [46, 74, 82]. Due to this lack of a validated questionnaire measuring need satisfaction and frustration in gaming experiences we opted to use a compound questionnaire which features distinct items for need satisfaction and frustration, and which has been used successfully in a previous project. The full questionnaire and prior performance metrics can be found in the [OSF repository](#) and an overview can be found in [Table 1](#). Note that we reused the PXI scales Autonomy and Mastery as autonomy satisfaction and competence satisfaction respectively in the SDT questionnaire. We decided to employ the scales twice to ensure participants answered these questions in the context of the other items maintaining the psychometrics of the measures.

Appreciation and Enjoyment. To understand whether and to what extent participants regarded dis-/empowering videogame experiences as positive we measured appreciation and enjoyment. We used the scale derived from Oliver et al. [54], which has been used in prior work about mixed-affect videogame experiences [e.g., 12, 13, 57]. We chose to measure both enjoyment and appreciation, as past research has shown appreciation to constitute a distinct facet of the player's game experience; especially so when the experience is not "fun" in the traditional sense [12, 55].

3.4 Emotions

We asked participants to report the emotions they felt during the experience they described. The free answers were manually corrected for spelling before being classified using an R implementation [89] of the Geneva Affect Label Coder (GALC [71]). The GALC is a collection of word stems and synonyms of 38 emotion groups. For example, "admir*", "ador*", "fascina*" etc. are grouped together as "Admiration/Awe", while stems like "dissapoint*", "disgruntl*", "frustrat*" etc. are grouped together as "Disappointment". Emotion words that were not included in the GALC - such as "excitement" - were marked and retained without further grouping.

3.5 Open Questions and Thematic Analysis

There is a host of questionnaires to quantify and operationalize empowerment (mostly in medical fields [e.g., 2, 44, 48, 51, 61, 66, 75, 79, 87]). However, the measurement of empowerment is highly context dependent [p. 596 95]. As there is no extant work on dis-/empowering experience in games, we aimed to understand how players themselves experienced dis-/empowerment to provide a basis for future work. We therefore opted to use open questions to collect information on the dis-/empowering experiences of players, and analyze these with thematic analysis.

We used two questions: (1) "Please describe the videogame experience which made you feel dis-/empowered. Give as much detail as possible, so we understand what about this experience was dis-/empowering or made you feel dis-/empowered."; and (2) "In your opinion, why did this experience make you feel dis-/empowered? Please give as much detail as you need in order to explain this clearly.". These questions were adapted to address disempowerment or empowerment depending on the condition participants were assigned to.

To analyze participants' written accounts, we employed reflexive thematic analysis (TA), following best practices described by Braun and Clarke [16–18]. The analysis was performed on a reduced dataset only including the open questions, group membership, age, gender, emotions and any comments the participants made.

For the analysis, the first author read all participant responses to familiarize themselves with the data and generated an initial set of codes. During the second step, authors one, two, and four coded the first ten participants, and discussed the generated codes to decide the granularity of the coding process. Author one then employed a complete coding approach [17, p. 210], i.e., they systematically worked through each participant's answer, coding every part that was relevant to the research question. As we did not want to make any a priori assumptions about the qualities and properties of disempowering and empowering experiences, responses in both conditions were coded together and could share the same codes.

In a second coding round, codes were adjusted and clustered based on similarities. Based on these code clusters, the first author then grouped the codes and generated preliminary themes. These themes were then again discussed and adjusted among authors one, two, and four. The first author then completed a third complete coding round before deciding on the final themes. Participants could be assigned to more than one theme. The final themes are reported in the results section below. Participants' experience reports and intermediate files documenting the analysis process can be found in the [OSF repository](#).

4 RESULTS

Quantitative analyses were conducted in RStudio [67], using R 4.2.1 [62] and the packages tidyverse [93], Cairo [85], introdataviz [53], patchwork [56], ltm [65], readxl [94] and GALCR [89]. As this study had an exploratory aim, we only describe the data and refrain from reporting inferential statistics.

Most experiences reported were recent, taking place less than two months ago ($n = 84$), followed by experiences which took place 2-11 months ago ($n = 62$), 1-2 years ago ($n = 46$), 2-10 years ago ($n = 45$) and over 10 years ago ($n = 13$). Most participants reported experiences in multiplayer games, with *League Of Legends* ($n = 32$) mentioned most frequently, followed by the *FIFA* series ($n = 12$), the *Dark Souls* Series ($n = 9$), *GTA* (series and online: $n = 9$), and *Counter Strike: Global Offensive* ($n = 8$).

4.1 PX Ratings

Overall, empowering experiences scored higher on appreciation, enjoyment, need satisfaction, as well as all the GSAQ and PXI constructs. Participants in the disempowered condition reported higher levels of need frustration. Moreover, with the exception of relatedness satisfaction, all scale ratings in the disempowerment condition exhibited greater standard deviations, indicating a wider range of responses. Responses in the empowerment condition were comparably more uniform (see [Table 1](#)). We interpret the quantitative findings both with regards to the mean score M and standard deviation SD , to assess to what extent PX ratings were distinct or common to dis-/empowering experiences, respectively.

Empowering game experiences scored consistently high on enjoyment ($M(SD) = 6.56(0.58)$; see [Table 1](#)), although disempowering experiences were characterized by moderate enjoyment ($M(SD) = 4.33(1.95)$). Participants in the empowered condition also appreciated the experience more ($M(SD) = 4.92(1.45)$).

With regards to psychological needs, participants in the empowered condition reported overall high autonomy and competence satisfaction, as well as low corresponding frustration. Participants in the disempowered condition in turn reported considerably lower satisfaction and higher – but not overly high frustration. This indicates that overall there was more of an absence of need satisfaction than active frustration. Regarding relatedness, participants in the empowered condition likewise reported low frustration, but also reported rather moderate relatedness satisfaction. Participants in

Variable	Source	Cronbach's α	Overall M(SD)	Empowering M(SD)	Disempowering M(SD)
n			250	110	140
Appreciation	[54]	0.81	4.25(1.74)	4.92(1.46)	3.74(1.76)
Enjoyment	[54]	0.95	5.29(1.89)	6.57(0.58)	4.32(1.96)
Basic Psychological Needs					
Autonomy Satisfaction	[20]*	0.88	4.32(1.86)	5.61(1.18)	3.35(1.68)
Autonomy Frustration	[1]	0.74	3.79(1.6)	2.97(1.39)	4.42(1.47)
Competence Satisfaction	[1]	0.91	4.77(1.89)	6.11(0.85)	3.75(1.83)
Competence Frustration	[20]*	0.83	3.61(1.85)	2.35(1.3)	4.56(1.63)
Relatedness Satisfaction	[3]*	0.89	4.16(1.85)	4.66(1.79)	3.78(1.81)
Relatedness Frustration	[74]*	0.84	3.18(1.52)	2.22(1.11)	3.91(1.37)
PXI					
Autonomy	[1]	0.93	4.64(1.81)	5.72(1.18)	3.82(1.78)
Audiovisual Appeal	[1]	0.86	5.84(1.26)	6.31(0.94)	5.48(1.36)
Challenge	[1]	0.79	4.46(1.52)	5.1(1.09)	3.98(1.62)
Clarity of Goals	[1]	0.8	5.93(1.17)	6.29(0.68)	5.66(1.37)
Curiosity	[1]	0.9	5.17(1.64)	5.63(1.38)	4.81(1.73)
Ease of Control	[1]	0.71	5.37(1.23)	5.84(0.89)	5.01(1.33)
Immersion	[1]	0.66	5.38(1.22)	5.81(0.92)	5.05(1.32)
Meaning	[1]	0.89	5.11(1.59)	5.93(0.98)	4.48(1.68)
Mastery	[1]	0.92	4.81(1.86)	6.07(0.85)	3.86(1.86)
Progress Feedback	[1]	0.76	5.15(1.33)	5.58(1.1)	4.82(1.39)
GSAQ					
Internality	[23]	0.76	4.81(1.32)	5.43(0.94)	4.35(1.36)
Stability	[23]	0.71	4.46(1.33)	4.92(1.01)	4.13(1.43)
Globality	[23]	0.65	3.6(1.33)	4.01(1.28)	3.29(1.28)
Controllability	[23]	0.79	5.59(1.26)	5.99(0.87)	5.27(1.4)

Table 1. Descriptive results for the different PX scales overall and per group. Scales are taken from the sources provided. * indicates an adjustment of the scale. Refer to the [OSF repository](#) for details.

the disempowered condition in turn scored almost as high on relatedness satisfaction ($M(SD) = 3.78(1.81)$) as on frustration ($M(SD) = 3.92(1.37)$).

With regards to the PXI, functional consequences (i.e., ease of control, progress feedback, audiovisual appeal, clarity of goals) were rated rather positively in both conditions, with considerable overlap in-between. One exception is the challenge scale which participants in the disempowered condition rated rather low ($M(SD) = 3.89(1.62)$), indicating a potential mismatch between their skill and the obstacles in the game. More pronounced differences between conditions can be observed in the psychosocial consequences, particularly for autonomy and mastery, followed by meaning and curiosity. As expected, participants in the empowering condition reported considerably higher mastery and autonomy scores.

Lastly, the GSAQ also showed a considerable overlap between conditions. Participants in the disempowered condition report overall slightly less controllability, globality, and stability (see [Table 1](#)), with internality ($M(SD) = 4.35(1.36)$) showing the biggest difference to the participants in the empowered group ($M(SD) = 5.42(0.94)$). On all four scales, participants in the disempowered condition reported more widely distributed scores, featuring comparably more mixed attribution than the empowered condition.

4.2 Emotions during empowering and disempowering experiences

Overall (n=245)		Empowerment (n=106)		Disempowerment (n=139)	
Emotion	Count (%)	Emotion	Count (%)	Emotion	Count (%)
Anger	88 (35.92)	Happiness	65 (61.32)	Anger	80 (57.55)
Sadness	77 (31.42)	Excitement*	44 (41.51)	Sadness	69 (49.64)
Disappointment	68 (27.76)	Pride	27 (25.47)	Disappointment	65 (46.76)
Happiness	67 (27.35)	Joy	25 (23.58)	Irritation	18 (12.95)
Excitement*	48 (19.59)	Contentment	18 (16.98)	Boredom	16 (11.51)
Pride	27 (11.02)	Relief	14 (13.21)	Anxiety	12 (8.36)
Joy	25 (10.2)	Surprise	12 (11.32)	Helplessness*	12 (8.36)
Anxiety	22 (8.98)	Anxiety	10 (9.43)	Desperation	12 (8.36)
Irritation	19 (7.76)	Empowerment*	9 (8.49)	Confusion*	10 (7.19)
Contentment	18 (7.35)	Powerfulness*	9 (8.49)	Hope	10 (7.19)

Table 2. Frequencies of the top ten most commonly mentioned emotions overall and per condition. Emotion words were coded using the Geneva Affect Label Coder for R (GALCR; [89]), * refers to emotion words not originally included in the GALC [71]. The full list of emotion words is available in the supplementary material.

Participants reported a wide range of emotions, with considerable variation between conditions. Overall, participants in the disempowerment condition reported a somewhat narrower range of emotions with $n = 86$ unique entries, compared to the $n = 95$ unique entries in the empowerment condition. In the empowerment condition, participants reported mostly positive emotions such as happiness ($n = 65$) and excitement ($n = 44$). Feelings of pride ($n = 27$) and relief ($n = 14$) were also common. Some participants in the empowerment condition did report negative emotions, though this was quite rare: The most commonly mentioned negative emotions were anxiety ($n = 10$), sadness ($n = 8$), anger ($n = 8$), and tension/stress ($n = 8$).

In the disempowerment condition, participants primarily reported negative emotions – mostly anger ($n = 80$), followed by sadness ($n = 69$) and disappointment ($n = 65$). Unsurprisingly, positive emotions were less common ($n = 16$). The most frequently mentioned positive emotions were hope ($n = 10$) and excitement ($n = 4$). This indicates a much heavier skew in emotional valence (here towards negative valence) compared to the empowerment condition, where mixed emotional experiences were more common.

4.3 Types of Empowering and Disempowering Experiences

In the following we first present the seven themes we generated during the thematic analysis: (1) The Joys of Control; (2) Heroic Victory; (3) Being the Worst; (4) Out of Their hands; (5) Sexist Harassment; (6) Seeing Themselves in the Game; and (7) Understanding the Message. We then compare them in terms of PX ratings (see also Table 3 and Appendix A). Note that themes were not mutually exclusive, and participant accounts could be assigned to multiple themes. Participant quotes are reported unchanged, in their original spelling, accompanied by participant ID (as listed in the OSF repository), age, gender and game title.

4.3.1 The Joys of Control. This theme centers participants' enjoyment of having control over the game world, both at the level of individual actions and choices, but also with regards to other players. Participants emphasized their own abilities and skill, and what this allowed them to do and achieve. For example, how a game requires "knowledge, strategy, and quick thinking," and how "[a]fter winning a hard match I really do feel like I can do anything" (506; F; 20; League Of

Variable M(SD)	The Joys Of Control	Heroic Victory	Being The Worst	Out Of Their Hands	Sexist Harassment	Seeing Themselves	Understanding The Message	Overall
n	37	62	36	94	8	21	20	250
From Prolific (Percent)	35 (94.59%)	55 (88.71%)	30 (83.33%)	87 (92.55%)	5 (62.5%)	16 (76.19%)	16 (80%)	219 (87.6%)
Empowered (Percent)	37 (100%)	61 (98.39%)	0 (0%)	1 (1.06%)	0 (0%)	13 (61.9%)	7 (35%)	110 (44%)
Appreciation	4.63 (1.4)	4.67 (1.54)	3 (1.71)	3.59 (1.61)	2.71 (1.33)	4.98 (1.77)	6.22 (0.85)	4.25 (1.75)
Enjoyment	6.61 (0.49)	6.52 (0.64)	3.58 (1.85)	4.23 (1.99)	3.62 (2.04)	5.95 (1.33)	6.48 (0.7)	5.31 (1.88)
BPN								
Autonomy Satisfaction	5.99 (0.98)	5.46 (1.2)	2.7 (1.34)	3.28 (1.68)	3.33 (1.86)	4.63 (1.6)	4.65 (1.96)	4.34 (1.87)
Autonomy Frustration	2.58 (1.44)	3.04 (1.39)	4.76 (1.27)	4.5 (1.41)	3.83 (1.94)	3.37 (1.66)	3.77 (1.8)	3.77 (1.61)
Competence Satisfaction	6.31 (0.81)	6.05 (0.95)	2.32 (1.62)	4 (1.83)	3.83 (1.75)	4.95 (1.69)	4.93 (1.4)	4.79 (1.9)
Competence Frustration	1.89 (0.87)	2.51 (1.44)	5.79 (1.3)	4.41 (1.65)	3.88 (1.5)	3.49 (1.7)	3.33 (1.56)	3.58 (1.85)
Relatedness Satisfaction	4.95 (1.67)	4.09 (1.73)	3.18 (1.57)	3.71 (1.86)	2.54 (1.1)	5.13 (1.69)	5.7 (1.31)	4.16 (1.84)
Relatedness Frustration	2.12 (1.11)	2.12 (1.09)	3.89 (1.49)	3.79 (1.36)	4.63 (1.55)	3.24 (1.46)	3.8 (1.42)	3.18 (1.52)
PXI								
Autonomy	6.12 (0.94)	5.55 (1.25)	3.13 (1.64)	3.67 (1.75)	4.46 (1.46)	4.94 (1.64)	5.03 (1.65)	4.67 (1.81)
Audiovisual Appeal	6.3 (1.07)	6.24 (0.9)	5.14 (1.43)	5.37 (1.41)	5.12 (1.26)	6.25 (0.93)	6.72 (0.44)	5.85 (1.25)
Challenge	5.25 (1.02)	4.82 (1.17)	2.97 (1.54)	3.96 (1.66)	4.33 (0.98)	5.06 (1.29)	5.2 (0.95)	4.47 (1.51)
Clarity of Goals	6.45 (0.52)	6.17 (0.9)	5.13 (1.76)	5.77 (1.14)	6.58 (0.58)	6.08 (1.08)	5.93 (1.05)	5.93 (1.17)
Curiosity	5.5 (1.58)	5.48 (1.27)	3.88 (1.94)	4.68 (1.73)	4.29 (1.44)	5.67 (1.44)	6.6 (0.58)	5.18 (1.63)
Ease of Control	6.02 (0.85)	5.72 (1)	4.48 (1.43)	5.06 (1.32)	5.5 (1.1)	5.9 (0.65)	5.55 (0.87)	5.38 (1.22)
Immersion	5.73 (0.83)	5.81 (0.97)	4.72 (1.66)	5.06 (1.2)	4.42 (1.55)	5.52 (1.44)	5.95 (0.94)	5.39 (1.22)
Meaning	5.76 (1.12)	5.89 (0.97)	3.53 (1.69)	4.43 (1.64)	4.42 (1.19)	5.78 (1.29)	6.33 (0.83)	5.12 (1.58)
Mastery	6.26 (0.72)	6.02 (1.02)	2.47 (1.65)	4 (1.86)	4.25 (1.81)	5.03 (1.55)	5.1 (1.34)	4.83 (1.86)
Progress Feedback	5.67 (1.17)	5.53 (1.16)	4.73 (1.52)	4.93 (1.35)	5.17 (1.14)	5.57 (0.96)	4.65 (1.18)	5.16 (1.33)
GSAQ								
Internality	5.49 (0.84)	5.58 (1.02)	4.65 (1.24)	4.1 (1.38)	4.44 (1.44)	4.54 (1.03)	5.2 (1.08)	4.83 (1.33)
Stability	4.92 (1.05)	4.91 (0.95)	3.7 (1.28)	4.2 (1.44)	4.38 (1.7)	4.95 (1.48)	4.58 (1.05)	4.47 (1.32)
Globality	3.73 (1.43)	4.05 (1.27)	3.03 (1.31)	3.32 (1.29)	3.42 (0.97)	4.38 (1.25)	3.6 (1.37)	3.61 (1.32)
Controlability	6.14 (0.7)	6.09 (0.94)	5.47 (1.3)	5.11 (1.51)	5.75 (0.79)	5.33 (0.87)	5.82 (1.04)	5.6 (1.26)

Table 3. PX ratings per theme and overall. Note that numbers do not add up to N = 250, as 28 participants were assigned two themes. Additional visualizations are available in the [Appendix](#).

Legends). Despite the emphasis on control, not all cases focused on the participants' own efficacy and skill. In some cases, the sense of power and control was augmented by the game, for example, the sensory feedback that accompanied player action: *"My character's [...] attacks have really nice, smooth animations with water particles flowing here and there. I enjoy running around, using attacks that make my character move faster, and attack enemies."* (ID 433; M; 19; *Black Desert Online*).

A unifying aspect of this theme is that participants felt confident that they could deal with any threat, describing a *state* of certainty and seeming invulnerability: *"no matter what my friends tried they could not win. Even when the had amazing teams and I had poor ones. I was unbeatable"* (ID 460; M; 40; *FIFA 20*). This state of empowerment — feeling powerful, in control, having resources or feeling in charge — enabled participants to act with impunity: *"It made me feel empowered because i was better off then the other player so i was able to kill him if i had liked"* (ID 492; M; 37; *DayZ*). Participants enjoyed *"the amount of choice I had in the story as well as how I developed my character"* (ID 823; M; 34; *Dragon Age Series*) or being able to *"buy whichever truck I wanted and choose the type of cargo I want to carry"* (ID 443; M; 32; *Euro Truck Simulator 2*). Other participants emphasized how thanks to their abilities, they felt empowered through social capital, for example, when being approached for advice by other players — *"It was the time when I started playing the game much later than my friends but I still catch them up and [...] after some time they started to ask me for a opinion about how to play"* (ID 423; M; 31; *Summoners War*) — or being a preferred teammate — *"i am the best of my friends and that gives me a power that everyone wants to duo with me"* (ID 515; F; 28; *League of Legends*). Consequently, participants reported feeling respected, wanted, and needed: *"I'd love to have all this great power and respect in my life. It would be something out of the ordinary and I would feel greatly empowered. I'm the leader and I'm going to save the world."* (ID 497; M; 36; *Tales of Arise*).

4.3.2 Heroic Victory. This theme captures experiences of success preceded by considerable struggle. Situations which tested participants' skill and determination, but where they eventually came out on top in the end, win the tournament, and save the day. These experiences are characterized by short, intense bursts of stress and anxiety, leading up to a moment of success that brought sudden relief, and celebration of their achievement by and with others.

"We were playing a competitive match [...] against one of the top teams in the scene. We were a good team, but in comparison, we never expected to win. However, the match was really nail biting, and I was performing well and carrying the team. In the last and deciding round, I made some strategic calls during the round and won a final 1v1 standoff against our opponents, securing the win for our team. Even our opponents and people who were spectating the match congratulated me on my performance afterwards." (ID 465; M; 22; Mount & Blade II: Bannerlord)

These experiences could take the form of an archetypal last stand, where the player was the underdog, outnumbered and seemingly outclassed. Yet, because of their heroic actions, they managed to turn the experience around. A common example for this would be a "clutch" or "ace": *"I managed to kill all 5 members of the opposite team by myself, when all of my other team members were dead, so the responsibility (and pressure) fell on me."* (ID629; M; 37; Rainbow Six Siege).

Feeling in control was characteristic of *The Joys of Control*, certain and stable. In the Heroic Victory theme, in contrast, success and control are hard-fought and at first highly uncertain. This could be a victory against all odds as described above, or a long and arduous path towards success — i.e., running into a boss over and over again until finally succeeding. This latter kind of experience was characterized by a long state of frustration with little progress until the player finally succeeded, making the struggle ultimately worthwhile:

"I died tens of times, without getting even close to defeat. I almost broke the controller by hitting it on the wall. I dropped the game (that I liked) about a week only to return and kill the [Capra Demon ...] The game proceeded to become my favourite of all time." (ID 813; M; 39; Dark Souls)

Often in these experiences, what made the frustration bearable was the player's awareness that, despite failure, they continued to make progress. They remained motivated by this, *"cause its shows that my effort its paying off. those moments its what keep me gaming and playing even when i have bad runs. are those moments that make me realize that i am getting the sense of the game"* (ID 449; M; 28; The Cycle Frontier). Once victory was achieved, however, players felt particularly gratified. Participants repeatedly emphasized self-reliance and feelings of pride: *I usually consult tutorials so being able to do it all alone was an interesting project and really empowering* (ID 540; M; 25; Minecraft). This sometimes was accompanied by a sense of poetic justice, such as when another player *"[...] kept ramming people of the street/cutting people off. In the second to last corner I faked going from the inside and he tried to cut me off, but I went left and he crashed. I finished 1st and he finished 4th. I was able to use my skill and beat a dirty racer, and for that, I felt empowered"* (ID 432; M; 22; Forza Horizon 5).

However, despite this emphasis on self-reliance, heroic victories were not entirely individualistic experiences. In fact, almost all these accounts include mention of shared celebration, whether being celebrated by others — *"everyone in my team was congratulating with me for my wonderful performance, writing "you rock" [...]"* (ID 456; F; 29; Smite) — or sharing the victory with friends, creating an important event for the group: *"Whole match was going pretty good for us but we wasnt sure if we can win [...] we literally destroyed enemy team and we won. We felt like gods that moment. I wont forget about that night ever."* (ID 510; M; 20; League of Legends).

Lastly, in some instances participants reported that their achievements not only felt good in the moment, but that they led to positive real-life consequences. For example, the sense of improvement and achievement *"helped with my mental health and my confidence in real life too."* (ID 462; F; 26; Dark Souls 3).

4.3.3 Being the Worst. When not succeeding in the game, many participants saw themselves at fault. In particular, this theme focuses on players' perceived lack of proficiency to succeed and consequently finding themselves outclassed by or embarrassed in front of their peers: *"I tried to play a famous e-sports shooter with my brother. [... It] was hard to master at my novice level. I always bottom fragged, i.e. i was always the bottom one in the scoreboard"* (ID 484; M; 32; Counter Strike: Global Offensive).

Participant descriptions frequently referred to feelings of inferiority, inadequacy, and lack of efficacy. Their actions had no tangible effect on the world, leaving them feeling that *"[i]f i were to leave in the last 20 minutes of game there would be no change in the outcome."* (ID 487; M; 20; League of Legends). One participant described feeling *"completely useless and powerless, not being able to do anything meaningful and I practically just end up watching everyone else play the game around me"* (ID 840; M; 21; League Of Legends).

The feeling that one's actions had no tangible impact was especially disheartening in multi-player gaming. One participant reported wanting *"to participate and be a relevant member of the team. If i can't shoot the enemies, i can't help the team win games"*(ID 484; M; 32; CS:GO). Another reported:

"It was me being the reason why we were loosing, [it] felt horrible to make those mistakes and then being blamed for them by my team, especially because this time it was my fault. I felt that I had no impact on the game or maybe even was helping the enemy team more than our team [...]" (ID 519; M; 20; League Of Legends)

Participants in this theme saw themselves at fault for their bad performance, where some directly blamed their own inattentiveness — *"The character I played was objectively powerful, but a simple mistake still managed to ruin everything I worked for.* (ID 507; M; 24; The Elder Scrolls V: Skyrim) — or skill — *"[I]t was clear that my skill level was below what it takes to complete certain parts of the game and made me feel discouraged to play at all."* (ID 810; F; 27; Ori and the Will of the Wisps). Notably, although participants reported failing at a task, or not contributing value, they retained the feeling that they could overcome and — in principle — succeed: *"The boss was unbeatable. I know it wasn't impossible as the game is pretty popular, so I knew it was my fault. Did I miss something? [...] Am I just bad at this game? Why can I not get past this boss?"* (ID 61; M; 19; Borderlands 2).

As participants felt to blame, some reported a loss of confidence: *"I'm decent at most videogames. And seen so many people completing this game, but I wasn't able to."* (ID 436; M; 28; Hollow Knight). As a consequence, participants started *"to doubt myself as I regarded myself as a very good player."* (ID 768; M; 50; Gran Turismo) or considered themselves *"not "worthy" to play with those teammates"* (ID 414; M; 40; Overwatch 2). Confronted with the fact that *"[e]very time I would try to do an action I would be punished or otherwise not able to get through."* (ID 36; M; 27; Dark Souls 3), several participants reported quitting the game: *"[it] got me feeling like a loser [...] I decided to pause a bit on it and focus on other interesting video games. Then I started playing other videogames."* (ID 403; M; 23; God of War).

4.3.4 Out of Their Hands. This theme relates to participants describing experiences in which they did their best, but still failed for reasons that were 'out of their hands', i.e., participants felt disheartened, treated unfairly, and had no chance to turn the situation in their favor. *"[It] was simply unfair and I had no control over the situation."* (ID 805; M; 21; Escape From Tarkov). At the core of

this theme was a feeling of not being in control of the situation. In this sense, these experiences pose a counterpoint to the *Joys of Control* theme.

One participant, for example, reported feeling hopeless in situations in which *"no matter how much I would try to replay the match, the game was already set that for that game I have to lose"* (ID 692; M; 26; FIFA 16). Likewise, participants disliked having to rely on others, as *"You cannot control what other players do"* (ID 818; M; 30, Lost Ark).

Oftentimes, these experiences left participants feeling let down. As one participant noted, *"i felt really disempowered because all of my choices, which this game is literally made of, didn't really matter"* (ID791; F; 32; Life is Strange). In other cases, participants felt disappointed as the game did not provide the experience they had hoped for or felt they had been promised. After looking forward to a game's release, one participant found that *"the game was full of bugs and it didntwork properly. I felt cheated. So much so i returned it. All that excitement for nothing"* (ID 808; M; 24; Cyberpunk 2077). Another participant reported feeling let down by a game that turned out to be more difficult than expected, leading them to conclude that *"[...] this was designed very badly in my opinion. I was interested in the story but I wanted to enjoy the game, not suffering"* (ID 764; M; 31; Mortal Shell).

Another important distinction between themes is that the *Joys of Control* were about players attributing the success internally, whereas "Out of Their Hands" experiences usually centered external causes. In some cases, frustration stemmed from participants believing that they had played well, and should have won, if only — for example — other players had pulled their weight: *"[...] you give your maximum, you try as hard as possible, you look through different guides to get better, but that might only be you"* (ID 535; M; 19; League of Legends). One participant felt disempowered when other players ignored their advice, feeling they would have won if only they had received the respect and compliance they expected:

"I may not be the best player but I feel like im a really good one and can direct other players into doing good strategies to win over multiplayer competitive games, but If they dont want to listen, thats not up to me." (ID 440; M; 23; Apex Legends)

Participants also felt that the situation was 'Out of their hands', when they were confronted with abusive language or sabotaging behavior (griefing), but felt they had no recourse against the harassment:

"The enemies being toxic exacerbated the negative experience as it felt like they were rubbing in our faces that we were worse even though we didn't even do anything to incite such toxicity. It felt as if someone was damaging my ego but I couldn't do anything to them because they were anonymous." (ID 480; M; 32; Valorant)

The perpetrators of such behavior were not only opponents, but often teammates. One participant described how *"people in game were saying I was bad, almost insult someone they don't know just because they felt superior [...]"* (ID 583; F; 28;). Especially when a game disincentivized players from leaving early, participants felt forced to endure the abuse: *"I couldn't enjoy the game, yet I had to stay and play the game to avoid punishment"* (ID 841; M; 23; League Of Legends). Crucially, participants believed the developers to be at fault, lamenting, for example, that teammates *"[...] do whatever they want without any consequences cuz the game devs don't give an actual shit about the players"* (ID 526; M; 25; League of Legends).

Some participants also blamed developers for sacrificing gameplay in favor of monetization. As one participant wrote, *"everything was setup against me and to abuse my enjoyment of the game for the monetary gain of the company and that alone. everything was just so blatantly exploitative [...]"* (ID 839; M; 25; YuGiOh Duel Links). Other participants noted that *"the game currently feels like it wasn't made for us to have fun anymore just feels like it is just to make money"*(ID 815; M; 22;

FIFA 22). Other participant noted that bugs and glitches rendered the game unplayable unless the developers fix them: *"I can't take any actions fixing what is wrong with it or getting someone from the programmers of the game to do something about it"* (ID 819; F; 27; FIFA 22).

4.3.5 Sexist Harassment. This theme captures the experiences of participants who suffered grieving, insults and harassment, because they had been identified as women.

"I have a feminine username and play female characters and roles a lot and sometimes there's people who notice and call me names because of it. So there was this guy who kept laughing at me in chat every time I made mistakes, calling me all sorts of derogatory names and telling me things like 'go back to the kitchen'. I muted him but it still hurt a lot and made me feel like I can never be a part of this community unless I pretend I'm not a woman." (ID 481; F; 25; League of Legend)

While other themes also featured instances of grieving and harassment, accounts in this theme were about participants becoming aware that they were targeted based on their gender. Several participants described that the harassment started as soon as they had been identified as women: *"Someone in the voicechat noticed that I'm a woman and started berating and attacking me pre and during the game"* (ID 49; F; 27; Overwatch). Moreover, one participant emphasized that she was harassed specifically *"[b]ecause I was female doing well and the other team felt the need to gang up on me because of that and not let me play properly"* (ID 775; F; 29; Call of Duty).

As a result of the targeted attacks, several participants noted that they largely withdrew from online spaces or had to hide their gender identity. One participant wrote: *"I rarely turn on my mic because of that, and after each experience with horrible, sexist people leaves me feeling disempowered and disgusted. [...] I do not deserve to be treated this way only because I do not have a penis"* (ID 43; F; 25; Valorant). Another wrote *"I can never be a part of this community unless I pretend I'm not a woman"* (ID 481; F; 25; League Of Legends).

4.3.6 Seeing Themselves in the Game. This theme relates to experiences in which participants could relate their personal experiences to the game narrative, or saw something in the game as representative of aspects of their identity. As noted in the previous theme (*Sexist Harassment*), women repeatedly reported that they did not feel welcome in gaming spaces — facing harassment and exclusion. Against this backdrop, some women described feeling empowered by gaming environments that were more welcoming to them. One reported:

"Having been harassed, cajoled, disrespected and discounted because of my gender, to have a game where I could not only enjoy the story, the game play and the world building, but also not feel like, once again, I was immersed in a man's hobby was incredibly empowering." (ID 81; F; 35; Dragon Age: Origins)

Some participants said they specifically enjoyed in-game opportunities to break gender stereotypes which they felt subjected to in everyday life, for example *"women tend to be portrayed in the real world as frail, thin and dumb human beings. They play the role of damsel in distress. [...] This game] makes me feel powerful, strong and capable every time I solve a puzzle and reach a new level that was super hard"* (ID 797; F; 31; Tomb Raider).

While noting that representation in videogames has improved, participants still considered the variety of women characters limited, and appreciated instances of positive representation:

"[W]hile nowadays there is a fair share of female protagonists and people have come to make complex and strong female characters and so on, it's so rare to see women in video games that actually look as strong as they seem to be. Seeing strong muscular women in media always sends a rush of power through me, and that's what I understand by 'empowerment'." (ID 860; F; 27; The Last Of Us: Part 2)

However, for some participants recognizing aspects of themselves in the game was not a positive experience. One participant described feeling disempowered when they recognized themselves in an in-game character, only to be forced by the game to refer to the character as "weird" or a "pervert":

"I didn't want to pick either of those options. I don't think he's weird or a pervert, he's just a bit different. I'm autistic and so it felt like I was being insulted by the developers, like if they met me would they think I was a weird pervert?" (ID 41; NB; 38; Persona 5)

Other participants found it disempowering to perceive aspects of themselves in the game which they associated with personal difficulties and fears. One participant reported that they regularly felt disempowered by games that offered rigid and limited character customization options, as this left them looking at a body which *"reminds me of my dysphoria and that I'm stuck in a body that's not mine. I hate it."* (ID 96; M; 30; Any game with a limited character creator). Yet other participants reported discomfort over being confronted with their aging process, which prompted fears that *"I wouldn't be able to keep up the pace I was used & maybe start not enjoying games so much"* (ID 466; M; 41; Ninja Gaiden). Similarly, one participant considered their game experience as:

"an allegory for real life, ie I couldn't expect to compete with younger people in terms of stamina, reactions and also in the job market. It also made me feel that I didn't belong any more in the world of online gaming, because I wasn't good enough anymore." (ID 477; M; 54; Call Of Duty: Black Ops 3)

4.3.7 Understanding the Message. This theme focuses on experiences where participants interpreted and related what they perceived as the intended message of the game. At its most basic, "understanding the message" could involve a moment of epiphany, where players came to appreciate the craft or elegance involved in a game's design. When describing a puzzle in *Baba is You*, for example, one participant mentioned: *"[it] was really clever and yet simple at the same time so finding that solution was very rewarding, because of 'ohhhhh now I understand, that's cool' moment."* (ID 850; 39; M; *Baba is You*).

Several accounts focused on narrative or character elements, where players described a sense of closeness and shared experience with the player-character, or personally related to existential questions raised in the game. One participant wrote:

"[I] really liked to start as a robot, trying to play as if I were a robot and what I would do, until a point I felt the need to take more emotional decisions in the game, and noticed myself unconsciously starting to make more human decisions pretty much until the end where I noticed I was kinda wanting the robot to succeed and live a normal human life" (ID 395; M; 26; *Detroit: Become Human*)

Even emotionally difficult choices could lead to a feeling of empowerment, as players experienced the opportunity to act as the character and support them in their journey:

"During an emotionally driven part of the story, there was the choice of either [...] sparing the innocent guards and scientists, or going forward with violence which based on the rest of the story would have been justified in the eyes of the protagonist. Having the ability to make this emotionally driven decision made me feel empowered." (ID 488; M; 23; *The Last of Us*)

Not all such moments of understanding were reported in the empowerment condition, however. Some instances were reported in the disempowerment conditions, where players came to appreciate the experience if they understood the underlying reasons for why the game made them feel disempowered. For instance, when the player-character encountered plot-dictated hardships and the player realized that *"Fighting back is useless, and eventually you'll be captured [...I]t feels*

disempowering because it contributes to the theme of being captured, cutting you off from the game temporarily" (ID 767; M; 21; Far Cry 5). This appreciation for disempowerment could also follow from game mechanics and skillful elements, if they were perceived to support the themes of the game. In such cases even repeated failure could be appreciated, insofar as it *"helped me understand the message that the game was trying to tell me, and improved the experience when I finally defeated the thing"* (ID 451; M; 25; Elden Ring).

Likewise, participants appreciated restrictions on their freedom and ability to act, if they understood the underlying directorial intentions and felt they were consistent with the themes of the game:

"The game [...] limits your ability to traverse easily and quickly. In most games, this would be considered a shortcoming. However, the game justifies this by making it the game's main point, mechanically and thematically. [...] I played it at the beginning of the covid pandemic lockdowns. It hit home, as the game is about connecting isolated people in a world that just ended." (ID 155; M; 36; Death Stranding)

In some of these experiences, players felt that the game forced them into bad decisions. In this respect they can be directly and meaningfully contrasted with experiences grouped under *Out of Their Hands*. Both themes involve a lack of (good) choices. However, in *Out of Their Hands*, this was almost always perceived negatively. In *Understanding the Message*, by contrast, participants were able to understand and appreciate the hard choices or bad situations as potent aspects of the game: *"I felt disempowered and many more feelings certainly because the game was so well made [...] enough to make me feel what they wanted to make me feel"* (ID 494; M; 33; Disco Elysium).

4.4 PX patterns among themes

Differences on PX measures between themes offer further information on the different aspects of dis-/empowerment experienced by participants. A numerical overview is provided in [Table 3](#) and visualizations are provided in [Appendix A](#). Note that these findings are purely descriptive, and do not allow for causal inferences.

As noted above, empowering experiences tended to be need-satisfying overall, while disempowering experiences were less so. Within the thematic groupings, this pattern held for *Joys of Control* and *Heroic Victory* (both > 98% empowering), *Being the Worst*, and *Out of Their Hands* (both > 98% disempowering), with *Being the Worst* showing the highest need frustration of any thematic group ([Table 3](#)). Notably, while the *Understanding the Message* theme also occurred among disempowering experiences, these experiences were associated with the highest relatedness-satisfaction: perhaps indicating a felt connection to the in-game characters, empathy towards non-player characters or appreciation of the developers and writers. However, in interpreting results it should be noted that the Relatedness scale asked about other "characters", not other *people*, which might have resulted in the questions being more meaningful for the type of single-player experiences found in the *Understanding The Message* theme (see section 5.3).

Turning to the PXI, scores for all groups were above the middle of the scale, indicating that the experience was meaningful, supported mastery, etc.. A notable exception to this was the challenge scale, with the *Being the Worst* theme exhibiting particularly low scores ($M(SD) = 2.47(1.65)$), indicating that these participants experienced a notable mismatch between their skill and the challenge the game posed. This was consistent with players' descriptive accounts of their poor performance. Lastly, there was generally medium to high agreement across all four dimensions of the Game Specific Attribution Questionnaire, with globality (whether the cause of the experience applies across multiple situations or circumstances) scoring the lowest (Empowered: $M(SD) = 4(1.27)$; Disempowered: $M(SD) = 3.3(1.28)$). The exception to this was the *Seeing Themselves in the Game*

theme, which scored notably higher on globality ($M(SD) = 4.38(1.25)$), suggesting that these kind of experiences involve extrapolation from the gaming experience to a wider context.

5 DISCUSSION

While empowerment has been considered an important issue in HCI and HCI games research, previous work on empowerment in these fields has not addressed the experience of dis-/empowerment, and data on players' own experiences of these phenomena are lacking. Our goal in this study was to provide an foundation for understanding dis-/empowerment in terms of actual player experiences.

Previous accounts of empowerment, both in industry and HCI research, give the impression that empowerment in games is uncomplicatedly positive. Schneider et. al's suggestion that empowering users is almost always treated as an "unconditionally positive mission" [72], and Warren Spector recent description of empowerment as "the ultimate success criterion" [78]. This might leave us with the impression that disempowerment, in turn, must be unconditionally negative. Our results, however, reveal a more varied picture. Overall, empowering experiences were experienced more positively than disempowering experiences. In some themes this pattern was particularly strong, such as in the straightforwardly empowering *Joys of Control* theme, where PX measures showed high enjoyment and needs satisfaction. The two most consistently disempowering themes – (*Sexist Harassment*, and *Being the Worst*) – were characterized by low PX scores, and high needs frustration. However, this is only part of the picture. Consistently empowering themes like *Joys of Control* did not score highest for appreciation. Both *Understanding the Message* and *Seeing Themselves in the Game* contained large proportions of disempowering experiences, but were associated with positive PX. Average scores for relatedness satisfaction, meaning, appreciation and enjoyment in these groups were among the highest theme-averages, higher than averages for empowering experiences overall. Context mattered considerably in how dis-/empowerment was perceived, and how it contributed to player experience.

We also found that dis-/empowering experiences were surprisingly diverse. Previous work has suggested that empowerment has a "simple inherent meaning" [91, p. 2], yet we found that empowerment could mean quite different things in different contexts. While previous work has focused on empowerment in terms of players' in-game abilities, or efficacy, we found that players' own accounts of both empowering and disempowering experiences often focused other issues: factors such as identification, understanding, and social inclusion or exclusion.

Our results suggest that the goal of empowering the player must be more carefully unpacked. Straightforward empowerment in terms of maximizing player efficacy should not always be considered the highest goal. Nor should empowerment be narrowly associated with in-game abilities, nor even with power and achievement more generally. In the following, we articulate which factors were important in differentiating experiences of dis-/empowerment in our results. We then discuss the open questions raised by these results, and how they relate to prior work in psychology and PX research, supporting future work on the player experience of dis-/empowerment.

5.1 Beyond efficacy: ownership, social factors, and understanding

Many accounts of empowerment in HCI games research concern in-game efficacy [e.g., 31, 43]: success, influence and control. Other work focused on supporting perceived efficacy by balancing competition between players [27, 29]. Our results did not contradict the idea that in-game efficacy could be an important aspect of empowerment experience, but they also showcased that it is not forcibly the definitive factor which influenced experiences of empowerment: Player accounts often placed more emphasis on contextual factors. Our results suggest that experiences and outcomes of dis-/empowerment were distinguished by players' sense of ownership of the outcome (or the perceived source of efficacy), social and inter-personal factors around the play-experience,

and players' understanding of the game and its meaning. Participants' PX ratings lend further credence to the importance of contextual factors over efficacy: First, scores for controllability on the Game Specific Attribution Questionnaire were very high across groups (Table 1), even for the disempowering *Out of Their Hands* theme, which focused on the lack of control. Second, results on the PXI (which focuses on the grounding of high-level player experiences in low-level player actions in game) were not strongly differentiated between empowering and disempowering experiences. This suggests that dis-/empowerment experience may be more related to *higher-level experiences* [1], than *low-level player actions*.

Some of our themes did show a strong association between efficacy and dis-/empowerment — *The Joys of Control* theme was defined by positive experiences of control, and the disempowering *Being the Worst* theme focused on perceived failure and lack of ability. However, even in these cases we found that it was not only the *degree* of efficacy which was important in characterizing experiences of dis-/empowerment, but also the perceived *source* of efficacy. Meanwhile, *Being the Worst* and *Out of Their Hands* both contained high percentages of disempowering experiences, and both themes centered on lack of efficacy. However, they were also differentiated by other factors. *Being the Worst* focused on perception of *internal* efficacy, with players ascribing the failure or lack of control to themselves, while *Out of Their Hands* players ascribed problems and failures to external factors beyond their control. This difference seems to have impacted on needs satisfaction also, with the two groups having quite different scores for competence satisfaction and frustration. These results are notable, as previous work has tended to focus on the efficacy of designers to empower the user [27, 29] — an external source of efficacy, and not on players' own involvement in empowerment. Future work might further explore the impact of internal and external sources of efficacy in dis-/empowerment experience.

5.2 What conditions foster and shape experiences of dis-/empowerment

Our findings indicate that increases or decreases in players' in-game efficacy may not always, by themselves, be a reliable guide to whether an experience will be perceived as empowering or disempowering. Further, whether an experience is empowering, or disempowering, may not always by itself be a reliable guide to whether it will be experienced positively, or negatively. This complex landscape of experiences raises several questions for PX research: when and how designers should seek to empower players? Should designers sometimes seek to disempower players — when is this acceptable, and how can it be achieved in a positive way? Since our work represents the first groundwork on players' dis-/empowerment experiences we can only offer provisional answers to these questions. However, our results point to avenues for future investigation, and to resources in prior research which might ground and guide this investigation.

We found that empowerment experiences centered on the sense of achievement, ability and were associated with enjoyment, though only moderate appreciation. This indicates that, at least for certain kinds of play experiences, the goal of empowering players, and the approach of increasing perception of in-game efficacy, remain valid. Our results suggest that such experiences can be amplified by opportunities for players to celebrate each other.

However, such approaches for supporting experiences of empowerment seem likely to feel a little "one-note". In our results, less direct routes to empowerment outcomes were described and enjoyed by a large number of players, as evidenced by instances of comparably high scores for enjoyment and appreciation where success and a sense of achievement followed a period of struggle, or even frustration and doubt (*Heroic victories*). This theme most closely resembles Juul's paradox of failure [35] and Frommel et al's notion of temporary failure [25]. Appreciation of struggle — sometimes without much focus on a final success — was also found in the largely positive, but both dis- and empowering experiences in *Understanding the Message*. This raises the question: how are such

experiences of struggle and frustration differentiated from the largely negative and disempowering experiences described in *Being the Worst* and *Out of Their Hands*. Various factors may be at play here, including whether players feel they are themselves responsible for outcomes and to what extent their sense of disempowerment aligns with their understanding of the game's themes and narrative. However, details of how these factors interact, and how they can be effectively fostered remains an open question for future work.

Our study also addressed experiences of disempowerment — both negative and positive. First, it seems obvious that designers will wish to minimize straightforward forms of negative disempowerment that are due to permanent in-game failure [25], or abuse by others. Such issues and their potential solutions are well documented in previous research [4, 9, 15, 39, 42].

Moreover, our results complement Frommel et al's [25] findings on failure experiences, which were characterized by lower enjoyment, competence, and more likely to be attributed to external and uncontrollable causes. These experiences share some semblance with our *Out of Their Hands* theme, which likewise was characterized by player feelings of helplessness due to external circumstances such as other players. The *Being the Worst* theme, in contrast, centered on failures where participants not only felt a lack of competence, but where they considered themselves responsible for the negative outcome.

That said, our results also indicate that there may be value in supporting positive experiences of disempowerment. In player descriptions, such experiences were associated with a sense of meaning, connection to characters, and reflection on the game and their wider life. PX scores for such experiences showed high levels of appreciation, enjoyment, immersion and needs satisfaction — in particular relatedness-satisfaction was considerably higher than averages for most other themes. Our findings around positive disempowerment further resonate with previous research on positive experiences of negative emotion [12, 13, 49], where reflectiveness, and the relation to personal memories can positively influence the appreciation of negative emotional experiences in games [12, 14]. This aligns with our own finding that it was insight and understanding that often seemed to distinguish positive experiences of disempowerment from negative. Beyond this agreement, however, our results highlights open questions for research on positive response to adverse or negative game-experiences. For example, what is the relevant content of such insight and understanding: Should it concern particular aspects of the game? The context around play? Issues in the player's wider life, and their relation to the game? All of these showed up in our player descriptions, but it is unclear which were most influential, and under what circumstances. Previous work also leaves open other questions: what conditions foster such understanding, or make space for players to arrive at it by themselves [see also 22]?

One line of research responding to such questions is suggested by recent work by Ballou and Deterding [5]. They argue that the enjoyment of need-frustrating experiences depended on players' expectations: frustration which exceeds levels anticipated by the players will result in needs frustration and negative experience. This resonates with our observation that players appreciated struggle which was congruent with their perceived design intention. A potentially important subtlety here is that Ballou et al. emphasize *expectation*. This suggests that users should arrive at this understanding *ahead* of the experience. Understanding may function differently if it arises in reflection, after the fact. Future work might investigate how experiential outcomes are influenced both by player expectations going into disempowering videogame experiences, and by understandings arrived at after the fact.

Elsewhere Bopp et al. have suggested that there might be skill in facing emotional challenge [13], which concerns the capacity to reflect and create meaning, and that this might support positive responses to adverse gaming experiences. This perspective must be applied carefully to issues of disempowerment: it is clear that some experiences described by our participants — for

example those of harassment — were serious and likely systemic. Focusing on emotional “skill” in such cases would be trivializing and beside the point. But in less serious and personal cases, future research may investigate whether aspects of “emotional skill” may explain differences in player responses to negative experiences in games. This may influence whether experiences are perceived as disempowering, and in turn whether this disempowerment is experienced positively or negatively. Experimental work might operationalize emotional skill in terms of psychological constructs such as affective clarity [10, 45], and goal self-concordance [73]. Such work might inform future research on therapeutic games and research on risk factors for negative well-being outcomes in videogame play [47, 60].

5.3 Limitations and Future Work

This study sought to explore empowering and disempowering experiences in videogames, making use of thematic analysis alongside descriptive statistics. Thematic analysis offers a structured approach to inductive analysis that does not require prior hypotheses. It can contribute to understanding in many ways, one of which is to provide structure for exploratory work addressing new questions. However, insofar as it involves a process of active interpretation by the researchers it does not support causal claims. As such the relation of our themes to quantitative PX measures must be read with caution. Since both systematic investigation and conceptualization of dis-/empowerment experiences is lacking at present, hypothesis testing would not have been appropriate, and descriptive ground work is called for [70]. Rather than providing evidence for strong claims, the findings described here serve as a preliminary map for coordinating future work, a source of potential hypotheses, and (following prior work on similarly complex experiential concepts) a frame for clarifying commonalities and divergences between different accounts of dis-/empowerment [8]

Secondly, most reported experiences concerned multiplayer games — a contrast with similar prior work [e.g., 11, 92]. Separating by our data sources (Reddit and Prolific) indicated that participants who took part out of interest were more likely to describe single player games. No other noteworthy differences were found between the groups (see data in our [OSF repository](#)). Future studies might consider the impact of data sources, since type of game and player may influence the kind of experiences represented. Interested parties might utilize our shared data for further analyses.

Third, caution is also required when interpreting the scales for relatedness satisfaction and frustration. Questions for these referred to “characters” (e.g. “I felt close to a character.”). Given the prevalence of multiplayer games, and reports which did not reference in-game characters, these questions were less relevant to the experiences of some participants. Future studies should be careful in selecting relatedness scales based on expected experiences.

Fourth, our work addresses single episodes of play, and not dis-/empowerment over longer time scales. It is an open question whether dis-/empowerment experience might express itself differently over longer periods. For example long experiences of being over-powered, or lacking credible threat might become boring and even disempowering [see 35]. Equally, constant success may alienate players from peers who regularly lose, leading to a different kind of disempowerment. These are open questions for future research. Answering them could provide valuable insight into factors that support longer term engagement.

Finally the only form of targeted identity-based harassment reported in our dataset was gender-based, against women (see *Sexist Harassment*). This is not evidence that sexism is the only form of identity-based harassment in videogame spaces. One participant in our dataset did mention racial slurs but their description indicated that this was not related to their own identity (ID 480). Other forms of identity-based harassment were not reported. One explanation for this might follow from the larger number of multi-player games in our dataset. Voice-chat communication in these games

may result in gender being more easily identifiable than other identity factors. Future work might address how identity group membership impacts on experiences of dis-/empowerment.

6 CONCLUSION

Although empowerment is considered a desirable design goal in HCI and games research, little is known about what constitutes dis-/empowering player experiences. Our analysis of 250 player accounts revealed that experiences of empowerment take in states of high power, transient experiences of celebration after long stretches of struggle, and even moments of understanding of narrative or design intent. We found that disempowerment in gaming is a familiar experience for players, as often related to the actions of other players as to in-game events. Interestingly, disempowerment of the player was not always associated with negative experiences: in the right circumstances it could result in experiences that were as much enjoyed, and even more appreciated, than some empowering experiences. We found that both kinds of experience could be related meaningfully to prior work on emotional challenge and frustration, while also pointing to gaps in such work, and new ways forward. As such, our work offers HCI games research a player-centered starting point to develop dis-/empowerment as a dimension of the player experience: providing a more nuanced view of the concept and how it relates to past works.

DATA AVAILABILITY STATEMENT

De-identified raw data and all analysis scripts available (CC BY 4.0) at <https://osf.io/zhtu8/>. In case of re-use, please cite as [90].

AUTHOR CONTRIBUTIONS

JBV: Conceptualization, data curation, formal analysis, investigation, methodology, resources, software, visualization, writing – original draft, writing - review & editing.

DB: Formal analysis, validation, writing – original draft, writing – review & editing.

DM: writing – original draft

EDM: Conceptualization, formal analysis, methodology, resources, validation, writing – original draft, writing – review & editing

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A FIGURES

A.1 PX measures per Theme

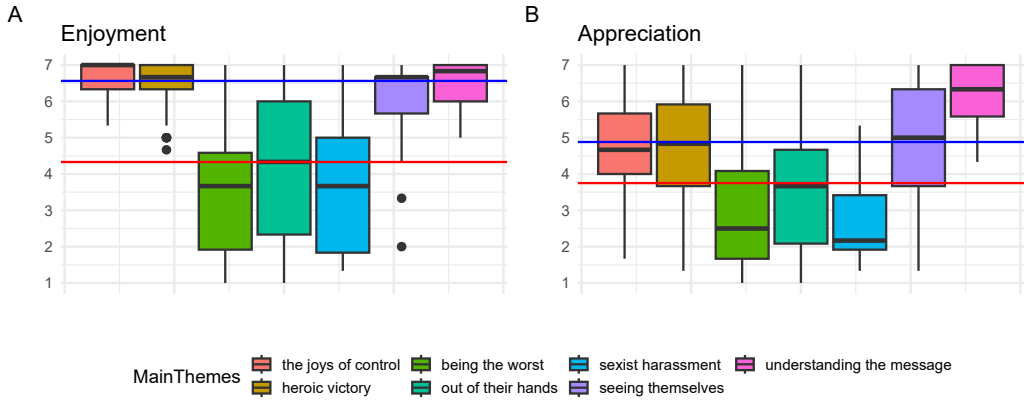


Fig. 1. Boxplot for Enjoyment (A) and Appreciation (B) separated by theme (color). The red and blue lines represent the mean of the empowered and disempowered group respectively. Particularly notable is the high appreciation of "Understanding the Message", which mostly consists of disempowered experiences.

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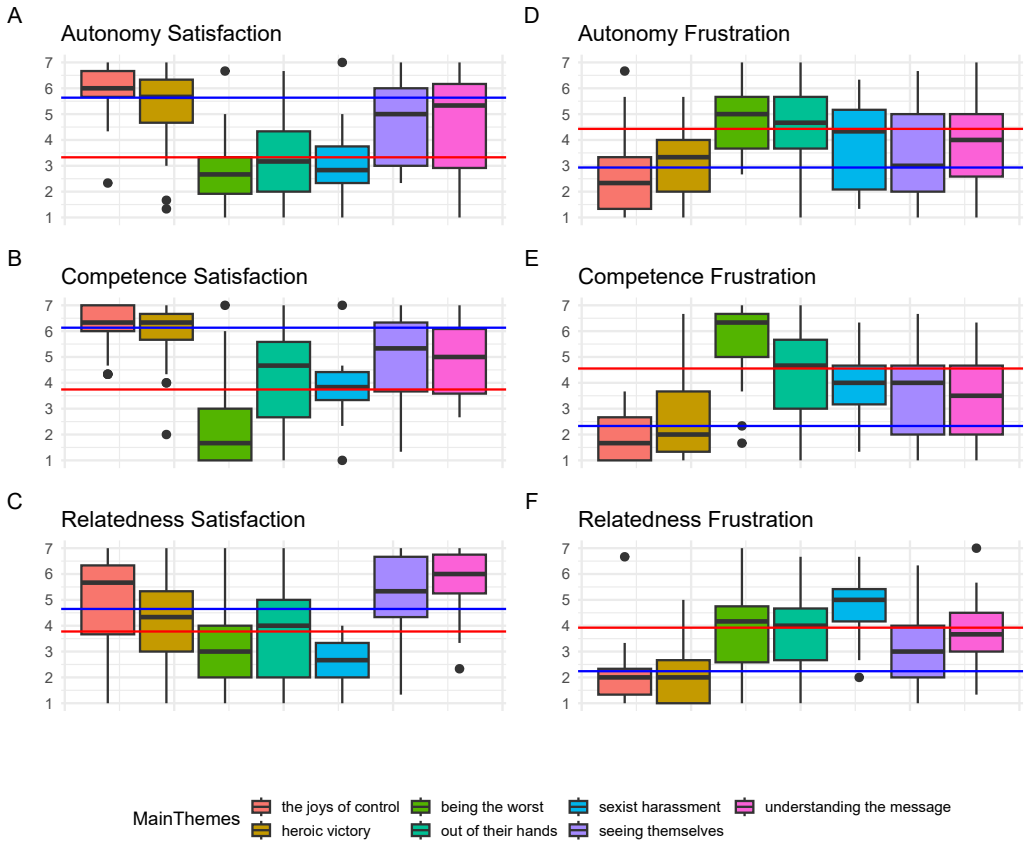


Fig. 2. Boxplots for need satisfaction (A,B,C) and frustration (D,E,F), separated by themes. The red and blue lines represent the mean of the empowered and disempowered group respectively. Satisfaction follows a somewhat clear trend with empowering experiences scoring high, and disempowering experiences scoring low. However, there is relatively little need frustration. Only competence seemed to be particularly frustrated in the "Being the Worst" theme and relatedness was somewhat frustrated in the "Sexist Harassment" group.

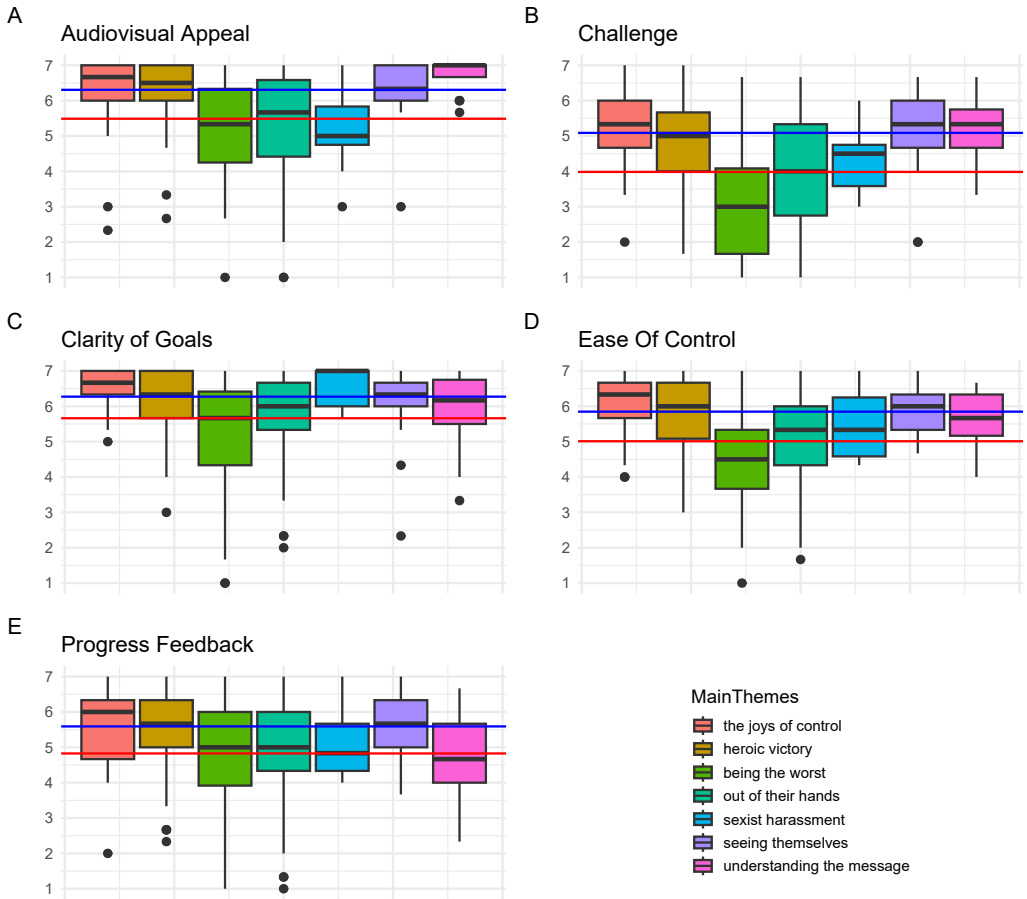


Fig. 3. Boxplots for the functional consequences of the PXI, separated by themes. The red and blue lines represent the mean of the empowered and disempowered group respectively. It is notable, that all themes score very high on these dimensions. The primary outlier is the challenge scale on which particularly the "Out Of Their Hands" theme scored lower than the others.

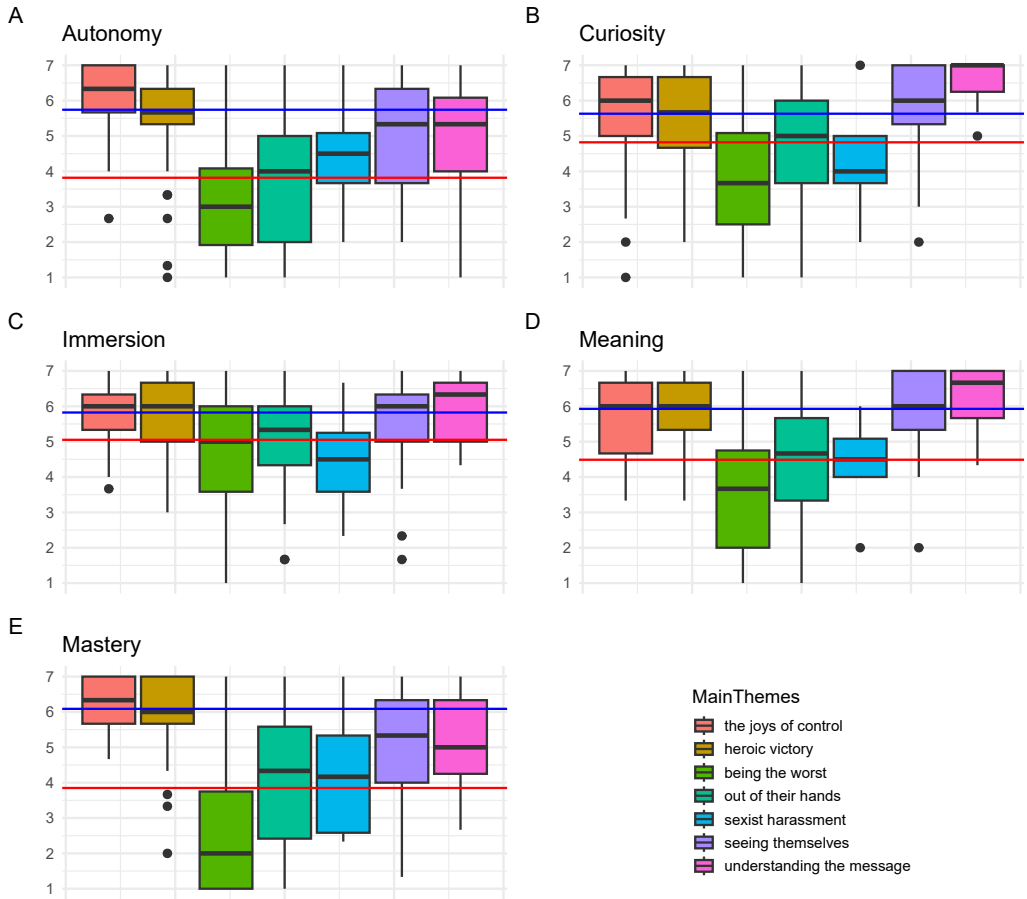


Fig. 4. Boxplots for the psychosocial consequences of the PXI, separated by themes. The red and blue lines represent the mean of the empowered and disempowered group respectively. Compared to the functional consequences the differences between themes are more pronounced, with particularly curiosity and meaning scoring rather high in the mixed themes ("Seeing Themselves in the Game" and "Understanding the Message").

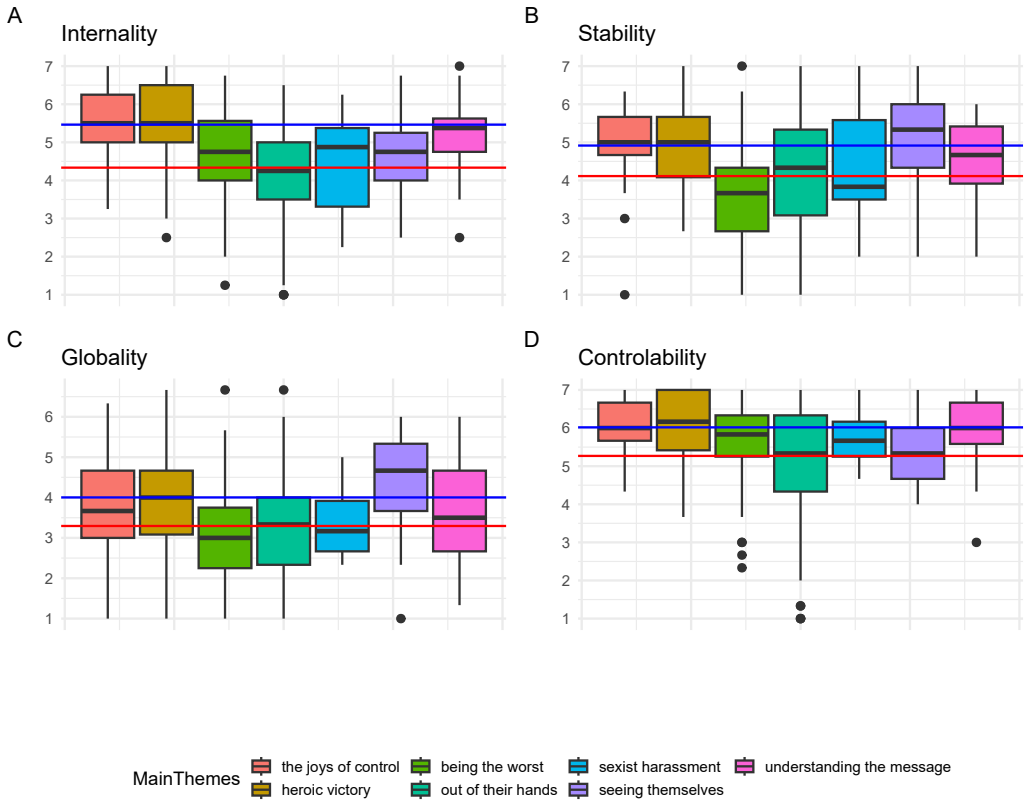


Fig. 5. Boxplots for the GSAQ, separated by themes. The red and blue lines represent the mean of the empowered and disempowered group respectively. It is noteworthy, that controllability was rated quite high, even for the "Out of Their Hands" theme. Moreover, Globality was the lowest scored dimension overall, with only "Exemplar" rating considerably higher than the other themes.