The False Dichotomy between Positive and Negative Affect in Game Play

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Introduction

Most of the time games make us happy, but sometimes they are frustrating or make us feel sad. They allow us to experience pleasure, success and joy, but they can also yield feelings of frustration, failure, or sorrow as a result of darker themes. In games, we can experience the full range of emotions – both positive and negative.

The common perception of a successful game is that it should be fun to play [9]. For example, conventional wisdom suggests that increasing flow [14], immersion [4], or engagement [13] in a game should result in increased pleasure. However, this strong focus on the positive side of player experience, (e.g. fun, enjoyment or positive affect [11]) neglects the darker side of play that can also result in engaging and transformative experiences. For example, in the game "Binding of Isaac" (*McMillen & Himsl, 2011*), the player plays a naked and crying child that escapes into the dungeon-like basement, after its mother receives a message from a higher power to sacrifice the child. This successful game showed elements and cut scenes that displayed the despair of the humiliated child, evoking darker emotions in the player.

The positively-biased perspective on desirable emotions in games misses out on opportunities that the interplay between positive and negative emotions offers.

The role and utility of negative affect
While a positive experience is often the goal when we play games, the way to achieve this goal might be more complex than reflected by current research. There are multiple ways in which negative affect can enhance play experiences.

First, the almost masochistic experience of failure and frustration within play can lead to intense positive feelings when overcome [9]. For example, "Super Meat Boy" (*Team Meat, 2010*) is a game famous for the frustration it causes in players and yet the game is well received both critically and by players. Similarly, the Dark Souls series has become known for its crushing difficulty curve and has become synonymous with "hardcore" gameplay.

Second, negative emotional experiences, such as feeling uncomfortable, guilty, or sad can also provide additional emotional range that is valued by players [3]. The game "The Last of Us" (*Naughty Dog, 2013*), for example, starts out with the accidental death of the protagonist's daughter, which sets the tone for upcoming events and provides an emotional thicket that the player has to find their way through.

Third, a number of games have emerged in recent years that encourage players to think about difficult or challenging issues that are unlikely to engender positive emotions [8]. For example, in the game "Papo & Yo" (*Minority Media Inc., 2012*), a child explores a Brazilian favela and meets a friendly monster that has an addiction for poisonous frogs; after eating a frog, the monster becomes fierce and violent, damaging everything around it including the child. The game is an analogy for alcohol-induced violence. Another example

is "Nurse's Dilemma", a persuasive game designed for the 2014 chi+med game competition to encourage reflection on human error and related topics within the context of healthcare. Described as an empathy-based game, the player takes on the role of a nurse faced with a series of difficult decisions to make within a somewhat uncomfortable gameplay experience.

The importance of understanding the interplay of positive and negative affect in games
This workshop focuses on the range of valence in games and invites experts from across fields to contribute to our understanding of the interplay between positive and negative affect within play. This is an important, timely, and relevant topic to address because it not only integrates and values previous efforts to understand player experience, but also offers a new lens with which to view experience and behaviour during gameplay.

During the workshop, we will ask questions such as:

1. Under what conditions do we enjoy negative affect?
2. How does the interplay of negative and positive affect influence engagement?
3. What affects the covariation of positive and negative affect?
4. And how is this different from our expectations and our current knowledge?
5. What gaps in our understanding of player experience result from our focus on positive affect?

Addressing these questions will help us to: (1) grow as a field by engaging in a conversation about the current state of the role of affect in player experience and the next steps needed to further this understanding; (2) inform the design of game decisions to integrate the

interplay of positive and negative experiences during gameplay; (3) improve our understanding of "serious games", as experiencing and overcoming negative events in a game can help us to cope with our own dark feelings and allow for personal growth.

Background
UNDERSTANDING EXPERIENCE
Games User Research (GUR) has conducted significant research to operationalize concepts relevant for player experience (PX), e.g. flow [14], immersion [4], or engagement [13]. The majority of this research is focused on pleasurable outcomes; Mekler et al. [11], for example, identified a variety of different approaches to describe enjoyment in games and their relation to PX, showing how passionate the field is about identifying fun. However we suggest that to fully understand PX, we need to understand both the source of pleasurable moments in games, but also how negative moments are part of the overall experience.

SERIOUS EXPERIENCE IN GAMES
Marsh & Costello [10] argue that a focus on fun could lead designers to take a shallow approach to gameplay, thus making it harder to offer player experiences that are both deep and powerful. Building on previous work, such as Benford et al. [2], and Montola [12], they introduce the term "serious experience" to cover experiences that are (1) uncomfortable, negative and/or unpleasant, and/or (2) entertaining without being exclusively fun (e.g., by being thought-provoking or alternating between positive and negative experience). The authors suggest that designers should aim for an appropriate rhythm between fun and seriousness, but that extreme experiences that cause player discomfort can be used to raise awareness and

prompt reflection. Further, they stress that in order to fulfill their persuasive purposes, the "experience with persuasive technology and games needs to resonate or linger with the user/player after an encounter".

AFFECT IN GAMES
There are also a variety of influences on player's affective experience during videogame play. For example, play against other humans (as opposed to AI-controlled opponents) has been shown to result in greater positive affect and less tension [7]. Violence has also been shown to influence affect with non-violent games producing more positive affect [5], but there is also evidence that this link is mediated by the experience of flow [6]. The links between videogame characteristics and affect have also been confirmed in studies using physiological measures [1]. However, while relationships between games and emotional experiences have been found, key questions remain to be explored and answered.

WORKSHOP ORIGIN
The understanding of the false dichotomy between positive and negative affect in games was brought up during the CHI 2015 workshop "Crossing Domains: Diverse Perspective on Players" organized by White et al. [15] and resulted in a vivid discussion. The controversy of this discussion inspired us to dedicate a full workshop to this topic and create an environment where experts could discuss and refine perspectives on the interplay of positive and negative affect.

Novelty and Relevance
NOVELTY
Previous research has mostly investigated the effects of game play on positive affect, but has neglected

negative affect. Understanding the role of negative affect is a novel lens to understand player experience and the interplay of positive and negative affect provides value for foundational constructs of player experience, e.g., flow, immersion, and engagement.

This workshop provides value to researchers because it provides a new lens through which play experience can be perceived. The game examples in this submission suggest that industry is moving forward in the use of negative affect in play, yet research has not characterized the role of negative affect and academics do not yet understand the interplay between positive and negative affect in games, limiting our ability to model affective responses and build a theoretical grounding to inform innovation in affective game play.

This workshop is relevant for industry, because ideas and techniques are discussed that go beyond the current perception of state-of-the-art game design and explore a new side that has potential to – when well understood – be relevant for creating new mechanics.

Workshop Goals
Our goals are to: 1) Investigate positive affect, negative affect, and the interplay between positive and negative affect as a means to create powerful gaming experiences; 2) Identify gaps in our existing knowledge regarding the full range of emotional experiences in games and their impact on the player and play experience; 3) Determine directions for research to advance knowledge in this space; and, 4) Create a community of people interested in developing games that involve powerful and meaningful player experiences. The organizers will provide the structure, questions, scaffolding of discussions, and workshop materials; whereas the participants will provide ideas through positions papers and discussion.

Workshop Plan
Before the workshop
As a prerequisite for participation, a short biography and a 2 to 4-page position paper are expected. The papers will be reviewed for relevance and quality by the organizers. We solicit position papers on the following:
- Emotional experiences in games, including uncomfortable ones.
- Gaps in our understanding of the affective experience in games.
- When and why negative experiences are sought by players.
- The pleasure of failure in games.
- The use of negative affect in serious games.
- Others topics and issues relevant to the affective/emotional experience in games.

During the workshop
The workshop will be run as a single day event. The day is then split into four 1.5-hour units. In the first unit, participants will briefly present their work as a foundation for future discussion. The second unit will be used for group brainstorming on topics to address. The third unit will be for small group activities. In the fourth unit, the larger group will come back together to discuss the interplay of positive and negative affect with the goal to line out future collaborations.

Coffee or lunch breaks will be held between units and there will be a workshop dinner to strengthen new

connections and develop a community with an interest in affect in games.

After the workshop
All accepted submissions will be part of the workshop proceedings, which will be accessible through the workshop website. The outcome of the workshop will be summarized, documented and made available for the community. We will also discuss plans for a special issue of a journal and future workshop opportunities.

Outcomes
For participants
Participants will discuss current trends in affective research and connect with their peers. The workshop offers the opportunity to share knowledge and define a direction for upcoming research that will be beneficial for the community throughout.

For the community
The community will benefit from a novel, currently underexplored research direction that opens up the space to investigate the interplay of negative and positive affect.

Biographies
Max Birk
Max Birk is a PhD Student at the University of Saskatchewan, Canada. His research evolves around the psychological concept of the Self, focusing on implications for player experience research and game design, e.g. motivation and engagement. Prior to arriving in Canada, Max was a research assistant working in stress research with Dr. Dirk Hellhammer at the University of Trier, Germany, where he looked into the physiological and endocrinological effects of video

games. Working in the area of psychophysiology, experimental psychology, games user research, and human-computer-interaction, Max has experience in a variety of fields, all connected by his interest in games. He has consulted for several indie game companies and served on the CHI PLAY 2015 and CHI 2014 WIP PCs.

Ioanna Iacovides
Ioanna (Jo) Iacovides is a Research Associate at the UCL Interaction Centre, University College London (UK). In addition to exploring how people learn from their experiences with digital games, her research has focused on utilizing games within contexts such as education, citizen science and public engagement. Jo is currently working on the EPSRC funded CHI+MED (Computer Human Interaction for Medical Devices) project, where she organized a game competition for students who were challenged to design games about human error in healthcare. She has been involved in organizing games sessions at national UK festivals and conferences, and is serving as local arrangements chair for CHI PLAY 2015 as well as on the PC.

Daniel Johnson
Daniel is the head of the Games Research and Interaction Design Lab (within the CHI discipline), the leader of the Gaming Research Group at the Young and Well Cooperative Research Centre and an Associate Professor in Games and Interactive Entertainment at Queensland University of Technology (Australia). His work is on player motivations, the experience of play and connections between videogames and wellbeing. Daniel has also worked in the games industry for companies such as NextGenVideos and The Binary Mill. He is the papers chair for the CHI PLAY conference and a member of the games subcommittee for SIGCHI.

Regan Mandryk

Regan is an Associate Professor of Computer Science at the University of Saskatchewan. She pioneered the area of physiological evaluation for computer games in her Ph.D. research on affective computing at Simon Fraser University with support from Electronic Arts. She continues to investigate novel ways of understanding players and player experience in partnership with multiple industrial collaborators, but also develops and evaluates persuasive games, exergames, games for special populations including children with neurodevelopmental disorders, games that foster interpersonal relationships, and ubiquitous games that merge the real world with the game world. She has been the invited keynote speaker at two international game conferences, led the Games theme in the Canadian GRAND NCE, was the papers chair for the inaugural CHI PLAY conference, and is leading the new games subcommittee for SIGCHI.

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