The need to achieve: Players' perceptions and uses of extrinsic meta-game reward systems for video game consoles

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ABSTRACT

Microsoft's Xbox and Sony's PlayStation overlay achievement and trophy systems onto their video games. Though these meta-game reward systems are growing in popularity, little research has examined whether players notice, use, or seek out these systems. In this study, game players participated in focus groups to discuss the advantages and disadvantages of meta-game reward systems. Participants described the value of meta-game reward systems in promoting different ways to play games, giving positive feedback about game play, and boosting self-esteem and online and offline social status. Participants discussed completionists, or gamers that want to earn all of the badges associated with the meta-game. Though self-determination theory and its subtheory cognitive evaluation theory suggest that extrinsic rewards might harm players' intrinsic motivation, our findings suggest players may see these systems as intrinsically motivating in this context. The implications of rewards systems for motivation, video game habits, and internet gaming disorder are discussed.

1. Introduction

Video games are reaching staggering levels of popularity as they continue to proliferate across a variety of media formats including consoles, personal computers, and cell phones. This surge in the availability of video games has been matched by a surge in the popularity of video games. Recent forecasts predict that the global market for video games will grow from $67 billion in 2012 to $82 billion in 2017 (Gaudiosi, 2012). Given the market stakes, gaming companies have sought methods to keep their consumers engaged and loyal. Microsoft's Xbox achievement system and Sony's PlayStation trophy system represent new ways the industry is trying to capture and maintain the interest of gamers.

Providing feedback is an important component of interactive systems (Sundar, 2007). Meta-game rewards are systems layered on top of the traditional gaming experience. These systems are most often associated with the badges that serve as visual indicators of the completion of a task, but transcend individual badges as they can give aggregate scores across multiple games.

Essentially, these systems are an overarching game through which players earn points and rewards by playing other individual games.

Games provide lists of badges one can earn extraneous to completing the game, such as a badge for defeating 100 enemies or sneaking through the game without harming anyone. As players complete these tasks, a notification appears on screen with the title of the badge and associated trophy (PlayStation) or achievement points (Xbox). These trophies and points are uploaded to individuals' system profiles, allowing their friends and anyone encountered online to see all of the games they have played and the various accomplishments they have earned during game play. Profiles also tabulate overall scores of one's total achievements; the Xbox uses a "gamer score" that totals up every in-game achievement's value, and PlayStation uses a level system that increases as one accrues more trophies. (We will use the term *badges* throughout the paper to refer to both trophies earned on the Playstation trophy system and achievements earned on the Xbox achievement system.) These overlaid meta-game reward systems are relatively new, and it is not clear how gamers are affected by these systems. Self-determination theory (Deci & Ryan, 2000) and its two associated subtheories of organismic integration theory (Deci & Ryan, 2000) and cognitive evaluation theory (Deci & Ryan, 1980) provide us with an appropriate framework to understand

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how badges may affect individuals, particularly their motivation to play the game.

2. Theoretical background

2.1. Motivation

Individuals might play a game for two reasons: because they feel pushed by some outside force, such as rewards or threats, to do so (i.e., *extrinsic motivation*), or because they wish to do so for their own reasons (i.e., *intrinsic motivation*). Typically, intrinsically motivated individuals stick with a task longer and enjoy it more (Deci & Ryan, 1980). Considerable research suggests that giving someone a reward for a task not only increases extrinsic motivation, it decreases intrinsic motivation (Deci, Koestner, & Ryan, 1999; Lepper, Greene, & Nisbett, 1973). In other words, individuals start playing to receive more rewards rather than due to an internal desire to keep playing. This extrinsic motivation might be effective to influence behavior in the short term, but when the reward is removed, the impetus for action is removed, there is no internal motivation to continue with the task (Lepper et al., 1973). Typically, individuals play a video game because they are intrinsically motivated to do so; there is no external force directing one to play (Ryan, Rigby, & Przybylski, 2006). Thus, it is possible that the badge systems created for the Xbox, PlayStation, and other gaming platforms may hinder intrinsic motivation to play games. Self-determination theory and its subtheories of organismic integration theory and cognitive evaluation theory provide a useful framework for understanding how a variety of factors can impact intrinsic and extrinsic motivation.

2.2. Self-determination theory

Self-determination theory (SDT) posits that there are three core psychological needs: *competence*, the feeling that one has mastery and can influence outcomes; *autonomy*, the feeling that one's are guided from within, rather than by outside forces; and *relatedness*, the feeling of being connected to others (Ryan & Deci, 2000). Research has found that need satisfaction results in an increase in intrinsic motivation (Ryan & Deci, 2000).

2.3. Organismic integration theory

Researchers investigating the SDT framework created organismic integration theory (OIT; Ryan & Deci, 2000) to delineate the differences in intrinsic and extrinsic motivation. In OIT, Ryan and Deci (2000) expanded on traditional conceptualizations of intrinsic and extrinsic motivation by extending these concepts from a dichotomy to a continuum. OIT posits multiple types of extrinsic motivation that differ according to the degree regulations associated with the behavior are internalized and integrated (Ryan & Deci, 2000). *Internalization* refers to the extent individuals perceive their participation in the behavior as the result of internal or external forces. *Integration* is a transformative process in which regulations are changed by the individual into factors that are important to the self.

Deci and Ryan (2000) OIT posits the following four types of extrinsic motivation: external regulation, introjected regulation, identified regulation, and integrated regulation. *Externally regulated* behaviors are perceived as externally motivated and are completed to satisfy needs for rewards or external demands. *Introjected regulation* occurs when an individual perceives the locus of causality as somewhat due to external forces and performs the behavior in question for issues related to their ego. Most notably, individuals performing behaviors under introjected regulation may

perform these behaviors to receive boosts to their ego (Deci & Ryan, 2000). *Regulation through identification* involves a locus of control that is perceived to be somewhat internal and the behavior in question is seen as important to the individual. Although introjected regulation involves ego-involvement, Deci and Ryan (2000) assert that regulation through identification is different as the individual now perceives their participation in the behavior as stemming from internal forces. Finally, *integrated regulation* occurs when the individual completely attributes their behavior to internal forces and has aligned the behavior with other core values. Integrated regulation is still considered a form of extrinsic motivation as individuals are not engaging in the behavior solely for the satisfaction of the basic psychological needs associated with SDT. The different types of extrinsic motivation may help us to understand the factors that are driving individuals to engage with meta-game reward systems.

2.4. Cognitive evaluation theory

Cognitive evaluation theory (CET) focuses on experiences of competence and autonomy during an activity (Ryan & Deci, 2000). CET argues that the extent to which rewards affect a user's intrinsic motivation depends on whether the reward is perceived as controlling or informational (Deci & Ryan, 1980; Ryan, Mims, & Koestner, 1983). Feedback or rewards that are considered controlling undermine intrinsic motivation as the recipients believe they are being coached to perform particular behaviors (Ryan & Deci, 2000). Informational feedback, however, can enhance intrinsic motivation provided it is relevant to the task and individuals perceive their participation in the behavior as driven by the self (Ryan & Deci, 2000). It is unknown whether badge systems for video games are perceived as informational or controlling, as this may influence players' intrinsic motivation.

2.5. Signaling theory

In addition to understanding the role of video game badge systems on player motivation, there is little research on how information from a badge is used to make judgments about another player in video games or in other online communities that provide users with badges. Badge systems are inherently social and are often displayed through leaderboards or online profiles that allow for viewing and commenting on one another's achievements. Badges serve as cues that offer information about a player. These cues can vary in meaning, depending on how they are interpreted (Harackiewicz, 1979). For example, a badge can denote how skilled a player is at a particular game, how much time that player has played a game, or how far through the story a player has progressed.

Signaling theory attempts to understand how communicators send and interpret information, particularly through transmitted cues (Donath, 2007). Cues provided intentionally by a party are referred to as *signals*. Donath (2007) proposed three types of signals: assessment, strategic, and conventional. A gamer's interpretation of another gamer's skill may be contingent on the classification of badges according to signaling theory.

Assessment signals are considered the best indicators of the characteristics in question as they are inherently reliable. For example, Usain Bolt's world record of 9.58 s for the 100 m would be classified as an assessment signal for running ability as the signal is impossible to fake by the actor. The second category of signals are strategic signals. A strategic signal indicates ownership of a resource through flagrant wasting of the resource. These signals are not inherently reliable as individuals are capable of producing deceptive signals. Consider the person that buys an imitation