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The Social Facilitation of Performance, Engagement and Affect in a Complex Videogame: Opponent Identity

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ABSTRACT

The objective of this study is to analyze the social facilitation of performance, intrinsic engagement, state hostility, and targeted affects in a computer-based driving game where social actors are competitors. This is a quasi-experimental study with 97 Gulf Arab women. Social facilitation of absolute performance does not take place while it does for relative performance. There is no difference in state hostility based on social facilitation, but there is in targeted affect. Intrinsic engagement and extrinsic motivation are both facilitated by human opponents. There is a negative relationship between intrinsic engagement and state hostility across conditions. There is evidence that the experience of playing a game character and playing a person is substantially different. The two most powerful predictors of performance and affect are intrinsic engagement and videogame interest when playing a person. Weekly hours of console play are added to those two when playing a game character.

KEYWORDS

Co-Located Opponents, Driving Game, Extrinsic Motivation, Game Characters, Game Interest, Gulf-Arab Women, Intrinsic Engagement, Relative Performance, State Hostility, Targeted Affect, Weekly Play

INTRODUCTION

Playing video games is a very social leisure activity (Cairns, Cox, Day, Martin & Perryman, 2013). The presence of other people, co-located or network-connected, may be the heart of the video game play experience (Bowman, Weber, Tamborini & Sherry, 2013). Yet, video games can also be a part of a very solitary pursuit where the player is alone and opponents are game characters, the product of programming within the game. The experience and outcome of play can be very different when playing alone and playing with others (e.g. Williams & Clippinger, 2002; Schmierbach, 2010; Shafer, 2012).

It has been theorized that the presence of other people can facilitate improved performance in a wide array of activities (Triplett, 1898; Zajonc, 1965) and that this social facilitation of performance also occurs in video game play (Bowman et al., 2013). The presence of an audience has been found to improve performance when the game being played does not offer a great deal of challenge (Bowman

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et al., 2013). Co-located human opponents are not the same as having a live audience, but the physical presence of a human opponent has been shown to facilitate differences in the game play experience and post-play affect (Williams & Clippinger, 2002; Schafer, 2013). This physical presence of a human as an opponent could also impact performance. This is the argument Triplett (1898) made when exploring the performance differences of elite cyclists when racing with others in the peloton and when racing alone against the clock. It has not been studied in relation to videogame play.

This study will look at the social facilitation of intrinsic engagement, extrinsic motivation, performance and post-play affect. It is the first study to consider the social facilitation of engagement, motivation and affect alongside performance. It is the first study to examine performance as both an absolute and relative concept. It is also the first study to consider targeted affect alongside the state hostility scale (SHS). The play experience, motivation and performance, along with individual game interest and weekly playing time, will then be examined for their role in particular affective outcomes. The affective impact of video games has been largely studied on the basis of single variables, and while giving some attention to experience, the role of performance in the process has been largely overlooked.

This is a quasi-experimental study of 97 Gulf Arab women from a public university in the United Arab Emirates. These respondents played a driving simulation game located within a simulacrum of Los Angeles in two different randomly-ordered sessions. In one session, they played against game characters and in another session they played against co-located human opponents from their peer group, fellow participants in the study. The study respondents represent the wide array of game play interest and experience that can be found in players of video games globally, from the extremely serious to the casual.

BACKGROUND

Social Facilitation

Social Facilitation Theory (SFT) comes out of Triplett's (1898) work which was the first experimental study of social psychology (Zajonc, 1965). Triplett (1898) concluded that the physical presence of another person in a competition would increase the amount of energy available to perform in a competition. Zajonc (1965) reported that social facilitation research looks at behavior in front of an audience of non-participants or in the presence of another person or persons engaged in the same activity. Bowman et al. (2013) looked at performance in front of an audience. Either one can have an impact on performance in an activity. VanTuinen and McNeel (1975) looked at competitive pairs and incentivized individuals and found facilitation effects, but did not find effects with non-competitive pairs and playing alone in non-competitive situations. The study of Social Facilitation has had mixed results on the basis of task, social context, respondents and theoretical perspective (Strauss, 2002).

The first applications of SFT to video game play (Brown, Hall & Holtzer, 1997; Kimble & Rezabek, 1992) demonstrated that the presence of an audience decreased performance in what is considered a complex task. Based on a flight simulator, Worchel, Shebilske, Jordan and Prislin (1997) concluded that increases in performance were a function of challenge and not the presence of an audience. Zajonc (1965) argued that competition and challenge could push performance in the same way as an audience and this could confound findings. Bowman, et al. (2013) argued that either challenge or audience will push a player to their limit so that when the game is more complex it will consume all of the potential of drive and ability and reduce the effect of an audience. When a game is simple there is enough cognitive capacity for improvement and the audience can have an effect on an individual's performance. When a game is complex there is not enough cognitive capacity for an audience to have an effect on performance. Bowman et al. (2013) concluded that the presence of audience members during play in low-challenge, simple, video games increased performance.

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