Gaming Goal Orientations: An Empirical Motivation Framework

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Abstract: Goal orientations are motivational constructs from educational research that explain how different learners seek competence. A survey study was conducted to examine the applicability of a 3x2 educational goal orientation framework to a gaming context. Using Confirmatory Factor Analysis (CFA), a 3x2 gaming goal orientation framework was established to explain player motivations across six dimensions. It is believed that the 3x2 gaming goal orientation framework will be a useful tool in continued research on player motivations.

Introduction

Goal orientations are motivational constructs that were developed over the past several decades in the field of educational research (Elliot, 2005; Payne, Youngcourt, & Beaubien, 2007). They are used to describe how different learners approach goal-oriented activities, such as classroom performance. Historically, *learning goals* (Dweck, 1986) or *mastery goals* (Ames & Archer, 1988) were described as manifesting when one aims to improve competence or achieve mastery in a task. In contrast, *performance goals* (Ames & Archer, 1988; Dweck, 1986) occur when one seeks to obtain positive (or avoid negative) judgments of competence. Extensive educational research has taken place centering around how classroom environments can be socially structured to improve student motivation (Ames, 1992; Bouffard, Boisevert, Vezeau, & LaRouche, 1995; Elliot & Dweck, 1986; Elliot & Harackiewicz, 1994; Midgley et al., 1998; Wolters, Yu, & Pintrich, 1996).

Following, Elliot and McGregor (2001) offered an expanded take on goal orientations. They conceptualized not only the preexisting learning-performance goal dichotomy, but also one of *approach* and *avoidance*. Approach is the motivation to perform well, whereas avoidance is an aversion to performing poorly. Hence, a 2x2 framework (learning vs. performance, approach vs. avoidance) was born. Substantial evidence supporting this framework was provided in a series of three studies (Elliot & McGregor, 2001). Later, a survey of more than 400 undergraduates investigated the applicability of the 2x2 goal orientation framework to gaming (Heeter, Lee, Medler, & Magerko, 2011). Participants completed both the educational questionnaire (Elliot & McGregor, 2001) and an adapted gaming version (Heeter et al., 2011). Statistically significant correlations (r = .20-.93 with all p < .001) were demonstrated between the contexts. This established preliminary evidence that goal orientations may apply to gaming.

Subsequently, Elliot, Murayama, & Pekrun (2011) further expanded the goal orientations concept by forming a 3x2 framework. Mastery goals continued to represent the personal pursuit of competence and were referred to as *self* goals. Meanwhile, performance goals were divided into interpersonal (relative to others) and absolute (relative to task requirements), thereby receiving the names of *other* and *task* goals. The approach-avoidance dichotomy remained from the earlier framework. Thus, the 3x2 goal orientation framework was established with six dimensions: Task-Approach, Task-Avoidance, Self-Approach, Self-Avoidance, Other-Approach, and Other-Avoidance. Substantial evidence supporting this framework was provided in a series of two studies and an accompanying questionnaire was published for measuring the six dimensions of the 3x2 framework (Elliot et al., 2011).

The 3x2 goal orientation framework has not been studied in a gaming context. Based on promising preliminary results (Heeter et al., 2011) this study aimed to investigate the potential for a 3x2 gaming goal orientation framework.

Method

An online survey was conducted to measure the gaming goal orientations of 301 participants from a large southwestern university in the United States. The median age of participants was 21. By gender, 70% were male and 29% were female (1% did not disclose this information). Fields of study included engineering, sciences, arts, humanities, and psychology. Respondents completed an 18-statement questionnaire that assessed their gaming goal orientations (see Table 1). The statements were adapted directly from their educational counterparts (Elliot et al., 2011) and rated on a 5-point scale from *Not true* to *Extremely true.*

Results

Elliot et al. (2011) established a 3x2 educational goal orientation structure via CFA. Accordingly, the 18 gaming goal orientation statements were structured identically to their educational counterparts. This structure exceeded

acceptable fit criteria (Hair, Black, Babin, & Anderson, 2010; Hu & Bentler, 1999), with $X^2_{(138)}$ = 188.350, RMSEA = .035, SRMR = .034, and CFI = .982. Table 1 contains statement descriptions, loadings, and standard errors for the 3x2 gaming goal orientation framework.

Statement	Dimension	Load	*SE*	Std. Load
To beat the game	Task-Approach	1.000	--	.498
To win on a challenging difficulty level	Task-Approach	1.408	.195	.705
To overcome many challenges	Task-Approach	1.196	.177	.649
Avoid being defeated by the game	Task-Avoidance	1.000	--	.662
Avoid losing on a challenging difficulty level	Task-Avoidance	1.027	.114	.661
Avoid failing challenges	Task-Avoidance	.983	.112	.643
To play better than I have in the past	Self-Approach	1.000	--	.808
To play well relative to how I have in the past	Self-Approach	.995	.070	.786
To play better than I typically do	Self-Approach	.924	.063	.802
Avoid playing worse than I normally do	Self-Avoidance	1.000	--	.819
Avoid playing poorly compared to my typical performance	Self-Avoidance	.878	.058	.788
Avoid playing worse than I have in the past	Self-Avoidance	.932	.057	.841
To outperform other players	Other-Approach	1.000	--	.815
To play well compared to other players	Other-Approach	.959	.061	.823
To do better than other players	Other-Approach	1.039	.060	.859
Avoid underperforming relative to other players	Other-Avoidance	1.000	--	.793
Avoid playing poorly compared to other players	Other-Avoidance	1.018	.069	.793
Avoid doing worse than other players	Other-Avoidance	1.088	.068	.841

***Table* 1: 3x2 gaming goal orientation framework statement statistics (all *p* < .001).**

Discussion

The results demonstrated that the 3x2 educational goal orientation framework adapted well to a gaming context. Consequently, the six factors in the 3x2 gaming goal orientations framework describe different motivations that players may have for gaming. The foci of the six dimensions of the 3x2 gaming goal orientation framework can be described as follows. Task-Approach is the motivation to attain absolute competence. Task-Avoidance is the motivation to avoid demonstrating absolute incompetence. Self-Approach is the motivation to attain relative competence compared to one's own past performance. Self-Avoidance is the motivation to avoid demonstrating relative incompetence compared to one's own past performance. Other-Approach is the motivation to attain relative competence compared to the performance of others. Other-Avoidance is the motivation to avoid demonstrating relative incompetence compared to the performance of others.

Conclusion

The motivational concept of goal orientations, having been shown to apply to the gaming context, holds valuable insights for continued research. The 3x2 gaming goal orientations framework can be used to gain a better understanding of individual differences in gameplay motivation. Future gaming studies may be wise to consider how gaming goal orientations can provide deeper insights into the investigated phenomena.

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540