Goals, Need Satisfaction, and Motivation of High Intensity Exercise Participants

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Background

- High intensity exercise programs, such as CrossFit™, P90X™, and Insanity®, seem to be growing in popularity (Bergeron et al., 2011). These exercise programs are characterized by high volume workouts utilizing varied multi-joint movements, including both bodyweight and weightlifting exercises, performed at near maximal intensities.

- Gaining a better understanding of the motivational processes underlying the question of why individuals elect to participate in a general exercise program that is more intense may yield insight into best practices for both exercise prescription and exercise program implementation.

- Self-determination theory (SDT; Deci & Ryan, 1985), and specifically its sub-theory, goal contents theory (GCT), are motivational theories that address goal contents and how they impact motivation and behavior. The three basic psychological needs are autonomy (control and volition), competence (efficacy and capability), and relatedness (having meaningful relationships with others).
  - Sebire, Standage, and Vansteenkiste (2009) found that intrinsic exercise-related goals were positively associated with several cognitive and affective exercise related outcomes.
  - Greater satisfaction of these needs has been found to predict more autonomous forms of behavioral regulation in the exercise domain (Edmunds, Ntoumanis, & Duda, 2006).
  - Research supports that more autonomous forms of motivation are linked to more adaptive exercise behavior (Hagger & Chatzisarantis, 2007).

- The purpose of this research project was to examine the relationships among exercise goal contents, basic psychological need satisfaction, and exercise behavioral regulations in a sample of high-intensity fitness program participants, specifically examining the mediating role of need satisfaction between goal contents and behavioral regulation. Additionally, we explored the impact of these constructs on exercise frequency in the sample.
- It is hypothesized that:
  1. More intrinsic goal contents will predict greater basic psychological need satisfaction in all three domains (competence, autonomy, and relatedness).
  2. Greater basic psychological need satisfaction will predict higher levels of intrinsic and identified regulation and lower levels of extrinsic regulation
  3. Higher levels of intrinsic and identified regulation will predict higher frequency of exercise participation, and higher levels of extrinsic regulation will predict lower frequency of participation.

Participants

- 322 CrossFit (CF) participants recruited from CF gyms and online.
  - Age ranged from 18-71 (M = 33.97, SD = 9.73)
  - Female=35.8%, Male=65.2%
  - White=89.8%, Hispanic=2.8%, Asian=2.2%, Other=5.4%
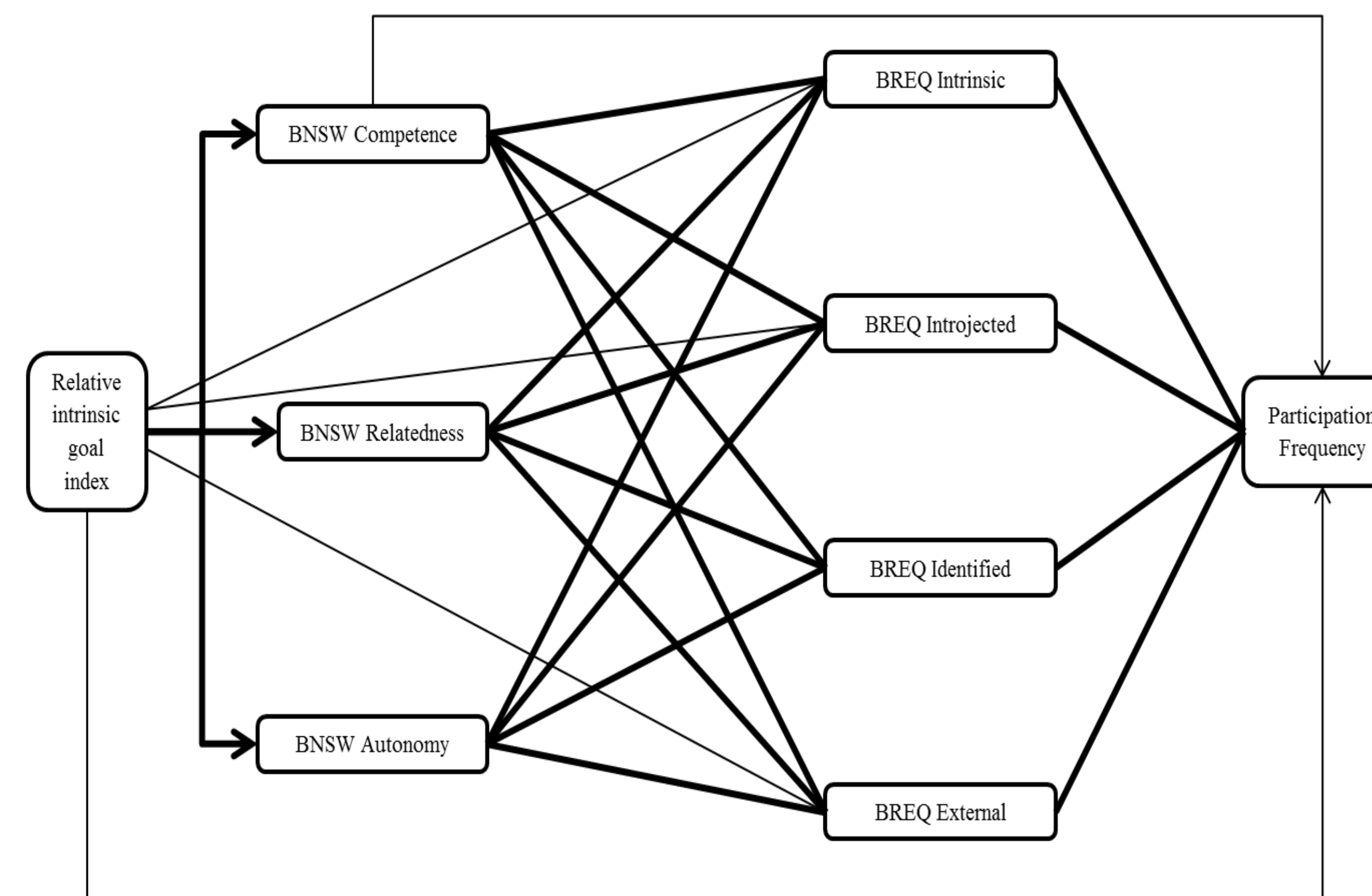 - 66.1% reported being a member of a CF gym

Model and Results

Figure 1. Initially hypothesized relationships among study variables

Table 1. *Standardized path weights from modified path model*

Outcomes	Predictors								R^2
	RIGI	BNSW-autonomy	BNSW-competence	BNSW-relatedness	BREQ-external	BREQ-introjected	BREQ-identified	BREQ-intrinsic	
BNSW-autonomy	.27[c]								.07
BNSW-competence	.32[c]								.10
BNSW-relatedness	.34[c]								.12
BREQ-external	-.17[b]	-.10[a]	-.44[c]	.16[b]					.25
BREQ-introjected	-.24[c]	-.02	-.06	.10					.06
BREQ-identified		.05	.44[c]	.05					.25
BREQ-intrinsic	.17[b]	.17[c]	.36[c]	.06					.36
Participation frequency	.22[b]		.23[c]		-.15[a]	.17[b]	.05	.18[b]	.36

Note. Standardized coefficients from the path-analysis.
Theoretically viable paths added as a part of the modified model are in blue.

[a] $p < .05$, [b] $p < .01$, [c] $p < .001$

Measures

- Goal Content for Exercise Questionnaire (GCEQ; Sebire et al., 2008)
  - Relative intrinsic goal index (RIGI): positive numbers indicate intrinsic than extrinsic goals

- Behavioral Regulation in Exercise Questionnaire (BREQ; Mullan et al., 1997)
  - Subscales for intrinsic, identified, introjected, and extrinsic regulation

- Basic Need Satisfaction at Work Scale (BNSW) – modified for exercise
  - Subscales for competence, autonomy, and relatedness: positive numbers indicate greater need satisfaction

Method

- Recruitment materials directed participants to a website that hosted the surveys.
- After reading and indicating that they understood an informed consent form, participants completed a demographic questionnaire, and a survey of exercise behaviors that included items that assessed duration of CF participation, membership in a CF facility, and where they perform the majority of their CF workouts.
- They then completed the GCEQ, BNSW, and BREQ. At the end of the surveys, participants were given the opportunity to enter a drawing for a free T-shirt.

Discussion and Implications

- Having more intrinsic goals leads to greater basic psychological need satisfaction.
  - Exercise goals related to health, mastering skills, and social affiliation are more adaptive than goals related to appearance or social recognition.
  - Exercise leaders should emphasize intrinsic outcomes and facilitate participants' achievement in these areas.

- All three basic psychological needs negatively predicted external regulation, competence positively predicted identified regulation, and both autonomy and competence positively predicted intrinsic regulation.
  - Competence in CF may be fostered by a sense of accomplishment following challenging workouts, record/score keeping, and personalized instruction.
  - Autonomy in CF may be fostered by a sense of volition in choosing a more challenging exercise program and programming-related decision making.
  - Relatedness in CF may be fostered by utilization of group workout formats and athlete distinctiveness.
  - Exercise leaders can utilize these strategies in other workout formats to enhance the basic psychological need satisfaction of participants.

- External regulation was a significant, negative predictor of exercise frequency, and both identified and intrinsic regulation were significant, positive predictors.