

THE BALANCED MODEL OF EXERCISE INTRODUCTION: PERSUADING YOUNG ADULTS TO PRACTICE A SPORT THROUGH A BALANCED PURSUIT OF MEANINGFUL GOALS

SILVIO BORRERO, PH.D., UNIVERSIDAD ICESI, CALI, COLOMBIA
sborrero@icesi.edu.co

THIS WORK WAS PRESENTED AT THE LATIN AMERICAN RESEARCH CONSORTIUM AND DEANS
WORKSHOP (LARC), NEW ORLEANS, LA, UNITED STATES
MARCH, 2010

Abstract

Physical activity is often perceived as a sacrifice that is necessary to obtain health benefits on the long run (Baumeister & Vohs, 2007), and the typical approach to promote exercise habits involves framing extrinsically-rewarded goals in negative or threatening contexts. Consequently, to exercise, many people require strong doses of self-regulation that tax on their inner resources of willpower (Keller & Lehmann, 2008). Not surprisingly, the response tends to be modest and often results in less than optimal exercise initiation and even lower rates of adherence to an exercise routine. Based on extant literature about self-determination (Deci & Ryan, 2000, 2002, 2008a, 2008b), I argue that long-lasting exercise habits among young adults can be induced more effectively by portraying exercise as a non-sacrificial leisure alternative that is not only beneficial but also intrinsically rewarding. I tested this assertion by

attempting to persuade undergraduate students to engage in a sport practice, using tailored marketing communications.

Self-Determination Versus Self-Regulation

To explain human motivation, earlier needs theories paid more attention to physiological needs than to psychological needs. In contrast, Self-Determination Theory (SDT) emphasizes the role of three basic psychological needs: autonomy, competence, and relatedness (Ryan & Deci, 2002). A need for competence leads people to seek challenges that are optimal for their capacities; a need for relatedness refers to feelings of belongingness both with others and with one's community; and a need for autonomy refers to being perceived as the origin of one's own behavior. Models of goal self-concordance nested within the SDT framework suggest that adequately matching a person's most relevant psychological needs with the type of goals to be attained is not only intrinsically motivating but also yields high returns in subjective well-being (SWB) (Sheldon, Deci, & Ryan, 2002; Sheldon & Elliot, 1999; Sheldon & Houser-Marko, 2001). That is, attaining concordant goals is more satisfying than attaining non-concordant goals, so longitudinal attainment of self-concordant goals is likely to result in high SWB. Moreover, pursuit of non-concordant goals requires strong doses of self-regulation, which exhausts personal psychological and physical resources, leading to ego depletion (Baumeister & Vohs, 2007). Once a person's inner reserve of willpower is depleted, her capacity to self-regulate will be ineffective to sustain behaviors towards which she is not naturally inclined. As a result, failure to adhere to diets, exercise, or any other type of healthy habit is more the norm than the exception.

Tailoring the Motivation to Practice a Sport

Effectively promoting exercise among sedentary consumers requires understanding what makes those consumers move. A more creative approach than the traditional extrinsically-rewarded (or punished) methods involves intrinsically motivating consumers to exercise by satisfying their basic psychological needs (Deci & Ryan, 2008b). I am focusing specifically on competence and relatedness, two basic needs for which the sports domain offers diverse opportunities to develop skills. For instance, physical activities may involve individual challenges to prime competence or social relationships

to prime relatedness, and whether a consumer is more intrinsically motivated by one or the other will essentially depend on her personal orientation. People who pursue exercise goals that are coherent with their innermost needs will invest more effort, persist if difficulties are met, and increase their chances of success (Smith, Ntoumanis, & Duda, 2007). Hence, tailoring messages in terms of developing competence or relatedness skills, and targeting them at competence- or relatedness-driven segments, should be more effective in inducing desired behaviors than generic or mismatched messages (Keller & Lehmann, 2008).

An Integrated Model of Exercise Induction

By self-concordance, an adequate match between the most deprived need and the type of goal will result in higher motivation and more likeliness of goal attainment and subsequent need satisfaction, which, in turn, translates into higher SWB. That is, a specialized pursuit of meaningful goals should result in high rates of initiation in a particular behavior (e.g., a sport practice). This I call initiation by specialization. I contend, however, that a specialized pursuit of need-matching goals, even if it involves higher-order psychological needs, will achieve suboptimal returns in happiness and reach a threshold that can only be shifted upwards through a balanced satisfaction of the needs of competence, relatedness, and autonomy. By SDT, ongoing satisfaction of all psychological needs will promote an autonomous motivational orientation, which will, in turn, enhance the pursuit of intrinsic goals. Identifying the goals that contribute to such balance in a particular domain should result trigger an upward spiral and result in both higher rates of adherence and increased SWB. This I call maintenance through balance.

Therefore, by need theory and SDT, I suggest that the degree to which someone feels that an exercise goal is fulfilling her most basic psychological needs of competence or relatedness determines the strength of the motivation to initiate and persist in such goal's pursuit. That is, messages targeted towards developing achievement skills in sports should be more effective in persuading competence-driven individuals to exercise, and messages targeted towards developing social skills should be more effective in persuading relatedness-driven individuals. I also expect that consumers who are persuaded to practice a sport and by doing so satisfy their most basic psychological needs—and thus develop an autonomous motivation—will eventually shift towards a balance

between competence and relatedness, if the adequate cues are provided on a repeated basis. That is, ongoing attainment of both competence- and relatedness-satisfying goals should result in higher adherence to an exercise routine than only attaining a specific type of goal.

Testing the Balanced Model of Persuasion

I tested the specialized initiation part of the model by means of an experimental design involving undergraduate students. An initial on-line survey provided data on the students' motivational preferences for competence or recognition, and their current exercise status. Participants were asked to log the number of steps they walked each day, measured with a pedometer that I provided and that they had to wear during their normal activities. Logged steps were supplemented with an alternative step equivalent measure estimated from their reported physical activities. In short, we gathered information to characterize each subject in terms of her exercise baseline and motivational orientation, and then recorded the total steps each participant walked. Based on the exercise baseline, each participant was given a daily goal (in steps), computed so that it did not represent an excessively low or high standard in each individual case.

Participants were randomly assigned to one of three conditions. In addition to her individual exercise goal, each participant was also informed how she was doing compared to the rest of the students in her condition (i.e., top, middle, or bottom). The wording of the specific feedback message varied

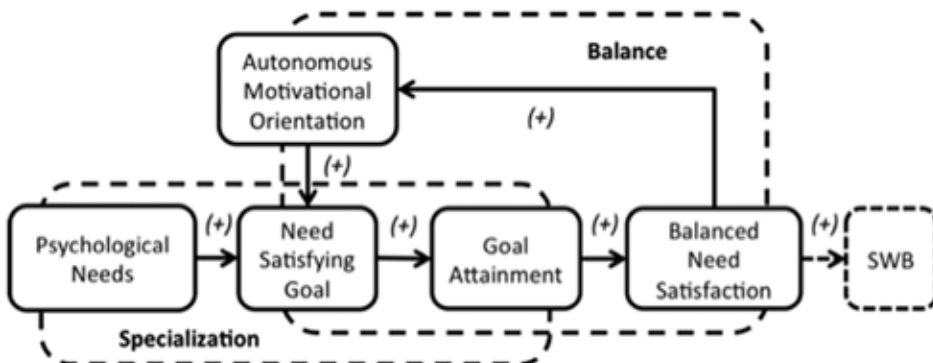


Figure 1. The Balanced Model of Exercise Induction: Initiation of a sport practice by specialized goal matching and development of an exercise routine through a balanced pursuit of goals.

for each condition to prime either extrinsic motivation, giving them public recognition of their accomplishment; intrinsic competence, telling them how they did compared to the group; or a combination of both. The baseline computed for each participant was subsequently used as a benchmark against which walking performance was compared. To provide multiple measures of performance, we used web-based conversion charts to translate self-reported exercise (i.e., type, time spent, and intensity) to an approximate equivalence, in steps. Thus, we obtained a composite step measure that accounted for the equivalent steps that each participant completed while not using the pedometer. Corresponding data, both from pedometer and from chart estimates, were collected for three consecutive days.

Given that the same number of steps could reflect different levels of effort for individuals with varying grades of fitness, an additional measure of performance was computed by multiplying each participants' step (or step equivalent) count by her body mass index (BMI). Results were also analyzed using relative measures of performance, rather than absolute measures, by subtracting benchmark steps and steps equivalent from the total steps walked, and by dividing total steps or step equivalent by the corresponding benchmark.

Preliminary Results

A total of 116 students responded the initial survey on individual differences and current exercise status. Of these, 91 respondents provided subsequent daily data that allowed us to compute an exercise goal and provide specific motivational manipulation. During the next three days, I obtained 64, 65, and 43 responses with daily exercise data, respectively.

Curiously enough, the extrinsic recognition manipulation was more effective, both for benchmark and for follow-up performance, despite participant pools being relatively similar otherwise. Average steps were lowest under the intrinsic manipulation condition, although conclusions should be cautious given the reduced number of respondents. Alternative measures of performance, such as percentage of performance relative to benchmark and performance multiplied by BMI, both using steps and steps equivalent, yielded similar results as total steps.

Regressing total steps on competence and recognition, and on the interaction between them, resulted in a significant model. Only the intercept

and the competence terms, however, were significant, indicating that a competence orientation is a consistent predictor of performance and that a recognition orientation has no effect on participants' performance, either directly or interacting with competence. Replicating the regression with steps equivalent as the dependent variable (DV) did not produce significantly different results, neither did testing for an interaction between manipulation (extrinsic or intrinsic) and personal motivational orientation.

On retrospective, I realized that the type of feedback provided, telling each participant's performance relative to the rest of the group, could be messing my results. To test this, I conducted a regression analysis to assess the effect of telling someone that she was better (or worse, or about the same) than her peers on her subsequent performance. This model did not vary significantly from the basic regression equation that included only competence and recognition. Telling someone her rank did have an effect on a participant's ultimate performance, albeit a very small one. Regressing steps equivalent on the same IVs did not produce any significant results, nor did repeating the analyses with the data set partitioned by manipulation condition. I also ran a comprehensive model that included a dummy manipulation variable. Again, only the intercept, competence, and rank had significant terms in the resulting regression equation; the manipulation condition, recognition, and the cross interactions between the IVs were not significant.

Concluding Remarks

Even if the results did not provide solid support for the complete balanced model of exercise induction, this first study was useful to refine my measures and methods for subsequent studies. The study also provided valuable insights regarding the constructs of interest. Generally speaking, a competence orientation consistently predicts performance, whereas a recognition orientation does not seem to make a difference, with results holding both for average steps and for incremental steps. Most important for future studies, I have to revise my definition for such a central construct as competence, given that the way I gave feedback was likely manipulating a sense of competitiveness, rather than personal competence. Finally, feedback on ranking seems to override type of manipulation, and could be contaminating the results.

Either by specialization or through balance, persuading sedentary students to exercise will be most challenging when those students feel that their psychological needs are satisfied. That is, consumers who feel they have already fulfilled their most significant needs through non-physical activities will likely inhibit cues that lead to the activation of alternative goals (e.g., sports). Self-determination processes offer clues to motivate such happy, sedentary individuals: if they can be intrinsically motivated to exercise, they will be not only more willing to engage in physical activities than if they conceive the sport as related only to extrinsic rewards or unpleasant forms of self-control, but they will also be more likely to persist in their exercise habits.

References

- Baumeister, R. F., & Vohs, K. D. (2007). Self-regulation, ego depletion, and motivation. *Social and Personality Psychology Compass*, 1(1), 115-128.
- Deci, E. L., & Ryan, R. M. (2000). The 'What' and 'Why' of Goal Pursuits: Human Needs and the Self-Determination of Behavior. *Psychological Inquiry*, 11(4), 227.
- Deci, E. L., & Ryan, R. M. (2002). *Handbook of self-determination research*. Rochester, NY US: University of Rochester Press.
- Deci, E. L., & Ryan, R. M. (2008a). Facilitating Optimal Motivation and Psychological Well-Being Across Life's Domains. *Canadian Psychology*, 49(1), 14-23.
- Deci, E. L., & Ryan, R. M. (2008b). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian Psychology/ Psychologie canadienne*, 49(3), 182-185.
- Keller, P. A., & Lehmann, D. R. (2008). Designing Effective Health Communications: A Meta-Analysis. *Journal of Public Policy & Marketing*, 27(2), 117-130.
- Ryan, R. M., & Deci, E. L. (2002). Overview of self-determination theory: An organismic-dialectical perspective. In *Handbook of self-determination research*. (pp. 3-33). Rochester, NY US: University of Rochester Press.
-

- Sheldon, K. M., Deci, E. L., & Ryan, R. M. (2002). The self-concordance model of healthy goal striving: When personal goals correctly represent the person. In *Handbook of self-determination research*. (pp. 65-86). Rochester, NY US: University of Rochester Press.
- Sheldon, K. M., & Elliot, A. J. (1999). Goal striving, need satisfaction, and longitudinal well-being: The self-concordance model. *Journal of Personality and Social Psychology*, 76(3), 482-497.
- Sheldon, K. M., & Houser-Marko, L. (2001). Self-concordance, goal attainment, and the pursuit of happiness: Can there be an upward spiral? *Journal of Personality and Social Psychology*, 80(1), 152-165.
- Smith, A., Ntoumanis, N., & Duda, J. (2007). Goal striving, goal attainment, and well-being: Adapting and testing the self-concordance model in sport. *Journal of Sport & Exercise Psychology*, 29(6), 763-782.
-