Chapter #3

THE RELATIONSHIP BETWEEN AUTONOMOUS VERSUS EXTERNAL MOTIVATION AND REGULATORY FOCUS

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ABSTRACT
The objective of the study is to investigate the relationship between different forms of motivation mindsets. The integrative model of motivated behavior (Meyer, Becker, & Vandenberghe, 2004) indicates relations between the forms of motivation identified in the self-determination theory (Deci & Ryan, 1985) and the regulatory focus theory (Higgins, 1997, 1998). A concept of goal regulation proposes relations between autonomous versus external motivation and promotion versus prevention focus. The research involved 288 university students. Participants rated their motivation for three personal goals on scales assessing self-concordance (Sheldon & Elliot, 1999). The regulatory focus was assessed by the Regulatory Focus Questionnaire (RFQ, Higgins et al., 2001), which was translated into Slovak and validated. It was found that autonomous motivation was significantly positively related to promotion focus. Furthermore, autonomous motivation predicted promotion focus. Between external motivation and prevention focus a significant relationship was not confirmed. However, external motivation significantly negatively correlated with promotion focus.

Keywords: autonomous motivation, external motivation, promotion focus, prevention focus.

1. INTRODUCTION

Behavior is a complex of factors, which explain its character. One of the important ones is motivation. When it comes to setting a goal, we take certain steps to achieve the desired state. Depending on the type of motivation, goal-striving may take on significantly different forms. For example, Higgins et al. (2001) compare two situations of a student who is studying for an exam. In the first one, a student reads not only the study material but also some additional texts. In the second situation, a student reads the study material and keeps reading over and over. We may notice in the first situation that the student is interested in learning additional optional information, in order to make progress and expand his/her knowledge. The student who studies just what is required and makes sure to learn it well probably feels the urge to carry out his/her duties and not fail. Here we illustrated the influence of specific motivation types on the process of goal attainment. Our study's aim is to investigate the relationship between different forms of motivation mindsets. The integrative model of motivated behavior (Meyer, Becker, & Vandenberghe, 2004) presents relations between the forms of motivation identified in the self-determination theory (Deci & Ryan, 1985) and the regulatory focus theory (Higgins, 1997, 1998). What are the relations between motivations defined in these theories? Is there a significant relationship between motivations? Is conceptual integration relevant?

1.1. Autonomous and external motivation

According to the self-determination theory, the extent to which a goal reflects one's own interests and values differentiates the type of motivation. In other words, motivation varies within the autonomy range. More autonomy involves more interest, enjoyment, and congruence while engaging in goal achieving. Autonomous motivation arises in the process of integration of the activity with one's own self. This process may be facilitated by providing a meaningful rationale, acknowledging the individual's perspective and conveying choice rather than control. When the acceptance or internal identification with the activity does not occur, an inner conflict is experienced. External motivation, which follows pressure and demand, is in contrast to autonomous motivation. Autonomous motivation is associated with greater effort, commitment, perseverance, better performance, and other positive consequences. Feelings of anxiety, guilt, or embarrassment indicate external motivation (Deci, Eghrari, Patrick, & Leone, 1994; Deci & Ryan, 2008; Ryan & Deci, 2000; Sheldon & Elliot, 1998; Sheldon & Filak, 2008).

Sheldon and Elliot (1999) use the term self-concordance to define the extent to which one feels autonomy in goal striving. The prevalence of autonomous motivation is captured by the self-concordance index when the result is a positive value. It can be calculated by subtracting external reasons (sum of extrinsic and introjected motivation) from autonomous reasons (sum intrinsic and identified motivation) (Koestner, Lekes, Powers, & Chicoine, 2002). Touré-Tillery and Fishbach (2014) characterize autonomous motivation as process-focused. Positive emotions, satisfaction, greater persistence, and also more time spent solving the task indicate autonomy. External motivation is an outcome-focused motivation, which centers on the desired final state associated with an external reward or benefit. The indicator may be a faster movement toward the goal. Milyavskaya, Inzlicht, Hope, and Koestner (2015) use the terms *want-to* and *have-to* motivation instead of terms autonomous and external motivation.

According to Sheldon and Filak (2008), the essential notion of the self-determination theory is that there are three basic and universal psychological needs. Fulfillment of the needs leads to life prosperity. One is the need for autonomy, which fulfills the experience of compliance with one's behavior. It means that we do not feel pressure or control from outside. The second is the need for competence, which refers to the need to be capable, effective, efficient, and achieve mastery. The third is the need for relatedness, which is being satisfied by meaningful relationships with other people, and thus avoiding a feeling of alienation or exclusion from society. The need for autonomy or autonomous motivation is negatively affected by reward, threat, competition, deadlines, or supervision. We call this the "undermining" effect. Autonomous motivation is characteristic of the flow experience (see Csikszentmihalyi, 1997).

1.2. Promotion and prevention focus

According to the regulatory focus theory, goal-directed behavior is regulated by two distinct motivational systems, namely promotion and prevention focus. Promotion focus is associated with achieving gains ("+1"), and failure represents non-gains ("0"). Primary concerns are nurturance and growth. This includes, for example, the achievement of ideals, hopes, and aspirations. Exceeding the status and advancing to better states is a strategic mean used to approach the desired end-state. Conversely, prevention focus is associated with achieving non-losses ("0") and failure represents losses ("−1"). Primary concerns are safety and security. This includes, for example, the achievement of oughts, duties, and obligations. The preferred strategy is to maintain or restore the status quo and prevent falling to worse states (Higgins & Cornwell, 2016).

Förster, Higgins, and Idson (1998) illustrated the differences between the promotion focus and the prevention focus on caretaker-child interactions. In interactions that involve promotion focus, a child experiences pleasure. Hugging and kissing, and encouraging rewarding activities are all pleasant for the child. When a caretaker, for example, stops a story because the child is not paying attention, the child experiences a negative outcome. Promotion focus is concerned with advancement and accomplishment, hopes, and aspirations (ideals). In interactions that involve prevention focus, a child experiences pleasure when alerted to potential dangers. Pleasure is the absence of negative outcomes such as yelling or punishing. Prevention focus is concerned with protection and safety, duties, and responsibilities (oughts).

We may engage in goal activity differently, depending on the promotion or prevention focus of our motivation. Förster, Grant, Idson, and Higgins (2001) found that promotion focus, in the presence of success feedback, increased motivational strength as one moved closer to the goal. When there was failure feedback, the motivational strength near a goal increased with a prevention focus. Success and failure represent positive and negative outcome focused on maintaining (or inducing) a state of eagerness for promotion focus and a state of vigilance for prevention focus. Förster, Higgins, and Bianco (2003) in their studies showed that regulatory focus influenced speed and accuracy for participants in different tasks. As participants move closer to completing a task, those participants with promotion focus have greater speed but accuracy decreases. For participants with a prevention focus, speed decreases and accuracy increases. These results support the notion that motivation may influence quantity/quality differences in performance.

2. OBJECTIVES

As we can see, there are parallels between concepts of motivation. In the integrative model, Meyer et al. (2004) introduced a concept of goal regulation, which connects self-determination theory with regulatory focus. Motivation, according to the self-determination theory, focuses on the perceived causes of the behavior, that is, why we strive to achieve a goal. To refer to why he/she is pursuing a goal the term perceived locus of causality is used, which reflects the relative strength of internal and external inducements. The regulatory focus theory addresses the purpose of one's behavior, that is, what we are trying to do while striving to achieve a goal. The term perceived purpose refers to the general purpose in the process of goal attainment. The concept of goal regulation reflects both the reasons for and the purpose of goal-directed activity.

Meyer et al. (2004) propose that the relative salience of internal forces for behavior increases autonomous motivation, and the relative salience of external inducements increases external motivation. Relative salience means that these forces can operate simultaneously and are relatively independent. Goal-directed behavior driven internally should be perceived as the ideal to be achieved. Therefore, a promotion focus should be stronger. Externally driven behavior should be experienced as working towards the oughts that characterize a prevention focus.

We aim to examine the relations between autonomous versus external motivation and promotion versus prevention focus. Is there a significant relationship between autonomous motivation and promotion focus? Is there a significant relationship between external motivation and prevention focus? Based on the theoretical background and assumptions by Meyer et al. (2004), we have formulated two hypotheses:

H₁: Autonomous motivation statistically significantly predicts promotion focus.
H₂: External motivation statistically significantly predicts prevention focus.

3. METHOD

3.1. Participants and procedure

The sample consisted of 288 undergraduate students (157 women, 131 men), aged 17-29 ($M = 20.80$, $SD = 1.65$). Students were non-randomly selected from the population. First, the respondents described three personal goals. Then they completed 4-item scales assessing self-concordance to each goal (Sheldon & Elliot, 1999). Finally, they completed an 11-item Regulatory Focus Questionnaire (RFQ, Higgins et al., 2001).

3.2. Measures

In the beginning, the following instructions were given: *"Goals represent some desired future state that we intend to accomplish. Please, try to briefly describe three goals you are striving to achieve. Write a few sentences for each goal."*

3.2.1. Self-concordance scales (Sheldon & Elliot, 1998)

Participants were asked to rate the reasons for pursuing their goal. The 4 types of reasons for goal pursuing corresponded to a continuum of self-determination ranging from highly external to highly autonomous. Ratings ranged on a scale from 1 (*not at all for this reason*) to 7 (*completely because of this reason*). The items represented external ("striving because somebody else wants you to or because you'll get something from somebody if you do"), introjected ("striving because you would feel ashamed, guilty, or anxious if you didn't strive for this"), identified ("striving because you really believe it's an important goal to have – you endorse it freely and wholeheartedly"), and intrinsic reason ("striving purely because of the fun and enjoyment that striving provides you"). According to Koestner et al. (2002), the self-concordance index is calculated by subtracting the sum of the external and introjected ratings from the sum of the intrinsic and identified ratings.

3.2.2. Regulatory focus questionnaire (RFQ, Higgins et al., 2001)

Participants were asked to answer questions about specific life events in their lives. The items assessed individuals' subjective histories of success or failure. The 11 items loaded on 2 scales. Ratings ranged on a scale from 1 to 5 (for instance, 1- *never or seldom*, 3- *sometimes*, 5- *very often*). High scores indicate that the individual has been successful in using approach eagerness means or avoidance vigilance means to attain goals. The Promotion scale consists of 6 items (for instance, "Compared to most people, are you typically unable to get what you want out of life?", "Do you often do well at different things that you try?"). The Prevention scale consists of 5 items (for instance, "How often did you obey rules and regulations that were established by your parents?", "Not being careful enough has gotten me into trouble at times."). Internal consistency of the scales was acceptable (Cronbach's alpha was .65 for the Promotion scale and .76 for the Prevention scale). The regulatory focus predominance can be calculated via the index by subtracting the prevention ratings from the promotion ratings – the resulting positive value indicates the prevalence of the promotion focus and the negative value the prevalence of the prevention focus (Camacho, Higgins, & Luger, 2003; Cesario & Higgins, 2008; Molden & Higgins, 2004).

We translated RFQ from English to Slovak and validated it. Each of the two translators provided a translation, and then we compared the translations to each other. We also did back-translation into English to check for accuracy. By confirmatory factor analysis (CFA), we confirmed the predicted factor structure shown in Figure 1, as shown by

Higgins et al. (2001). CFA was calculated in the SPSS Amos 21. The result of the chi-square significance test was statistically significant, $\chi^2_{(43)} = 62.74$, $p = .03$. To avoid rejecting a good model, we checked the index values. The model showed an acceptable fit with the data (*GFI = .96, CFI = .96, RMSEA = .04, SRMR = .05*).

Figure 1.
RFQ's factor structure. The standardized regression coefficients β are shown. The numbers in the rectangles indicate the individual item of RFQ, and the „rev" abbreviation indicates reversed item.
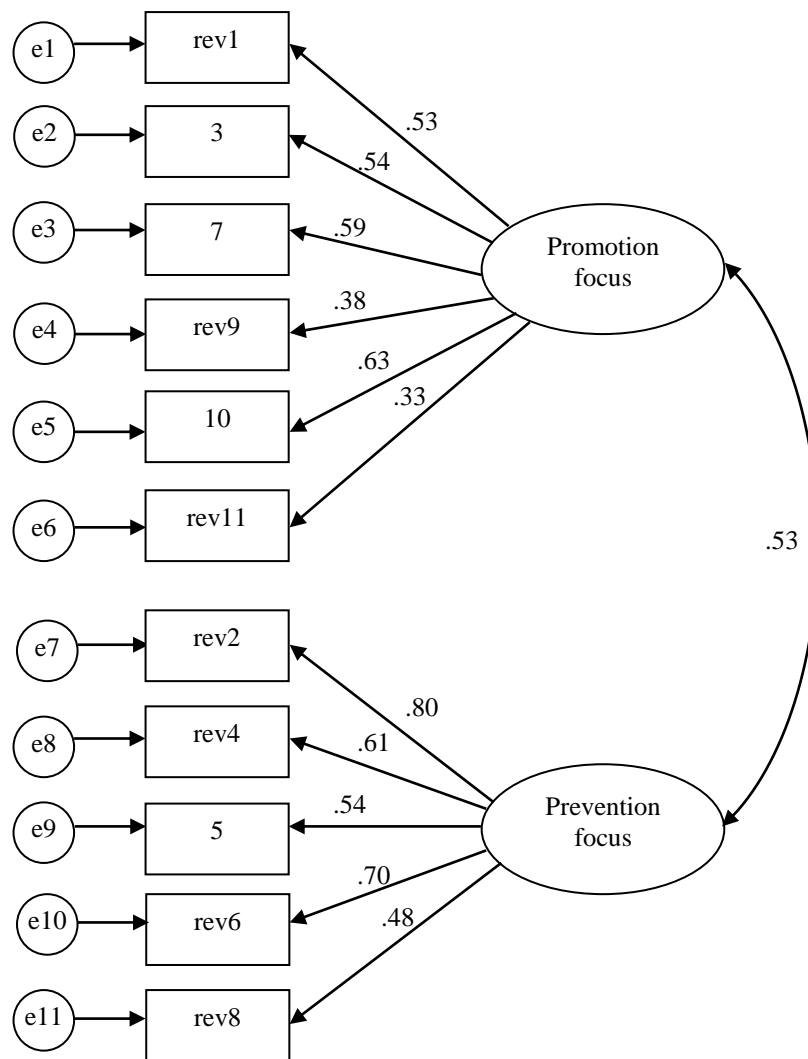
Higgins et al. (2001) reported that both factors show a statistically significant correlation, $r_{xy} = .21$, $p < .001$, and both scales have good internal consistency, $\alpha = .73$ for promotion focus and $\alpha = .80$ for prevention focus. We found in our data a similar

correlation, r_{xy} = .17, by calculating the Pearson correlation coefficient. The internal consistency of the Slovak version of RFQ was satisfactory, α = .65 for promotion focus and α = .76 for prevention focus.

4. RESULTS

Data were analyzed using the statistical software SPSS 21.0. We calculated the mean score for self-concordance scales across the three goals. Then, we calculated autonomous motivation by summing mean scores of intrinsic and identified reasons, and external motivation by summing mean scores of external and introjected reasons. The relationship among the variables was explored using correlational and regression analyses. Results of the correlational analysis are shown in Table 1.

Table 1.
Means, standard deviations and Pearson correlation coefficients among variables.

Motivation	n	M	SD	1.	2.	3.	4.
1. autonomous	285	8.52	1.58	–	-.33**	.25**	.04
2. external	285	4.99	1.70		–	-.22**	-.01
3. promotion	288	21.27	3.54			–	.17**
4. prevention	288	15.86	3.98				–

n = sample size, M = mean, SD = standard deviation, ** p < .01

Preliminary analysis shows that autonomous motivation was statistically significantly negatively correlated with external motivation, r_{xy} = -.33, p <.01. The promotion focus was statistically significantly positively correlated with prevention focus, r_{xy} = .17, p <.01. The calculation of the self-concordance index shows that autonomous motivation dominated, M = 3,52, SD = 2,68, and according to the RFQ index calculation, it dominated the promotion focus, M = 5,41, SD = 4,86.

The main results show that autonomous motivation was significantly positively correlated with promotion focus, r_{xy} = .25, p <.01. External motivation did not correlate with prevention focus, r_{xy} = -.01, p > .05, but we found a significant negative relationship with promotion focus, r_{xy} = -.22, p <.01. Therefore, we excluded from further analysis the examination of the relationship between external motivation and prevention focus.

To examine whether autonomous motivation predicts promotion focus, we ran a linear regression analysis. The relationship between the predictor and the dependent variable was linear. The points in the graph, showing the normal distribution of residues, were placed on the diagonal line without significant deviations. After checking the Mahalanobis distance at the critical chi-square value set at $\chi^2_{(1)}$ = 10.83, we identified eight cases that exceeded this critical value (max. $\chi^2_{(1)}$ = 16.91). Casewise diagnostics told us that two cases were more than three standard deviations away from the mean and may well be outliers (these were -3.09 and -3.20). We provided further diagnostics by using Cook's distance measure (D). The maximum observed D was = .09 (SD = .01). The points were not a noticeable influence as long as D was less than 1. Nevertheless, based on the evaluation of the distribution of standardized residuals on the scatter plot, we deleted eight identified cases. By deleting these extreme cases exceeding the critical chi-square value of the Mahalanobis distance, we improved the model's ability to estimate the values of the dependent value. With this step, we evaluate our linear regression calculations as

sufficiently valid. Therefore, the subsequent statistical analysis included $n = 277$ cases for autonomous motivation and $n = 280$ cases for promotion focus.

The correlation coefficient between autonomous motivation and the predicted value of the promotion focus was $r_{xy} = .29$ ($p < .0005$). The coefficient (index) of determination had the value $r_{xy}^2 = .08$, which means that through autonomous motivation we can explain 8.2 % of the variability of the promotion focus. Our regression model was statistically significant, $F_{(1)} = 24.57$, $p < .0005$). The standardized regression coefficient had a value of $\beta = .29$ ($b = .85$, $SE = .17$, $t = 4.96$, $p < .0005$, 95 % CI [.51, 1.19]). Based on the score in autonomous motivation, it is possible to estimate the score in the scale of promotion focus.

5. DISCUSSION

Meyer et al. (2004) created a concept of goal regulation, which presupposes a connection of autonomous motivation with a promotion focus and a connection of external motivation with a prevention focus. This assumption is based on parallels that exist in these motivation theories. Internally motivated behavior should be perceived as achieving the ideals (stronger promotion focus), and externally motivated behavior should be perceived as achieving the oughts (stronger prevention focus).

As one may expect, a statistically significant negative relationship was found between autonomous and external motivation, but such a result is not always confirmed as reported by Koestner, Otis, Powers, Pelletier, and Gagnon (2008). Between the promotion and prevention focus we found a statistically significant positive relationship as did Higgins et al. (2001) or Pollack, Forster, Johnson, Coy, and Molden (2015). Comparing the results – a negative relationship between autonomous and external motivation versus a positive relationship between the promotion and prevention focus – we came to the supposition that the relations between types of motivation are more complex.

We confirmed the assumption formulated in hypothesis H_1 that autonomous motivation statistically significantly predicts the promotion focus. Despite the apparent theoretical context, we failed to support all of the assumptions formulated by Meyer et al. (2004). Hypothesis H_2, that the external motivation will statistically significantly predict prevention focus, was not confirmed. Vaughn (2017) in her research showed that promotion-focused experiences are higher in support for autonomy, competence and relatedness than prevention-focused experiences. Feeling highly competent and autonomy supported could enhance promotion focus eagerness. On the other hand, less need-supportive experiences could enhance prevention-focused vigilance. Altogether, regulatory focus can affect subjective need support, and support for needs can influence subjective regulatory focus.

We found that external motivation was statistically significantly negatively correlated with promotion focus. According to the Vaughn's (2017) research, we could say that low autonomy, which defines external motivation, enhances prevention focus. In which case the promotion focus is negatively affected. We are considering the idea that an individual with external motivation primarily lacks promotion focus – we found a negative correlation between external motivation and promotion focus instead. However, we still think that prevention focus may be significantly positively correlated with external motivation in a special personal or situational setting. Lalot, Quiamzade, and Zerhouni (2019) revealed a fit between extrinsic motives and prevention focus. They found that if individuals are externally motivated to care about their health, then an intervention framed in terms of prevention will be more effective in improving people's nutrition. They suggest that intrinsic motives drive behavior regardless of external cues. We consider this a useful

observation when comparing autonomous and external motivation. Apart from external cues, we suppose that the relationship between external motivation and prevention focus could also be mediated or moderated by the presence of another important variable such is as anxiety (Strauman et al., 2015).

6. FUTURE RESEARCH DIRECTIONS

Future researchers should re-examine the relations between types of motivation, for example, there seems to be no consensus on whether a relation between autonomous and external motivation is negative or positive (Koestner et al., 2008). We also suggest to explore the theory concerning mediation or moderation analysis in order to examine in more detail the relationship between external motivation and prevention focus. We are considering that an experimental design would be more accurate for the verification of our hypotheses. Whereas the RFQ items assess individuals' subjective histories of success or failure, it is necessary to consider this RFQ's specification in different settings and optionally use an alternative to measure regulation focus. We studied a specific population (undergraduate students) and we would expect our results to replicate on different population as well.

7. CONCLUSION

The present study aimed to measure the relationship between autonomous versus external motivation and promotion versus prevention focus as proposed by the concept of goal regulation (Meyer et al., 2004). We hypothesized that there is a significant relationship between autonomous motivation and promotion focus; and external motivation and prevention focus. In conclusion, our results showed that autonomous motivation was significantly positively related to promotion focus. Furthermore, autonomous motivation predicted promotion focus. Between external motivation and prevention focus a significant relationship was not confirmed. However, external motivation significantly negatively correlated with promotion focus. In practice, knowledge about the link between motives identified in the self-determination theory and the regulatory focus theory can be used especially for planning more effective intervention programs.

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