

# Mindset for Change, Motivational Persistence and Self-Efficacy in Personal Goal Achievement

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**Abstract:** Starting from the mindset for stages of change featured in previous research, the first aim of our study was to construct a scale that we preliminarily validated, which intended to provide individual classification into stages, according to the progress towards personal goal achievement. Our second aim was to investigate whether other relevant variables—self-efficacy and motivational persistence—were included in the goal achievement process, on a sample of 202 Romanian subjects, aged between 16 and 53, of which 74,3% were women and 25,7% were men. The obtained results suggest that mindset for change predicts personal goal achievement, and motivational persistence influences it. On the other hand, mindset for change is positively correlated with motivational persistence but insignificantly associated with self-efficacy. Further studies are necessary to be conducted on a group of subjects who have similar personal goals and to examine their self-efficacy in greater depth, subsequently providing tailored approaches, according to their readiness to change.

**Keywords:** mindset for change, motivational persistence, self-efficacy, personal goal achievement.

## 1. Introduction

Frequently, individuals set various goals and look for different ways to enhance their achievement. One of the reasons for the process of ineffective goal achievement is that they often fail to develop specific action plans for how they will reach their goals. Thus, one of the explanations is that people omit to specify in detail how they will initiate the process and how they will manifest their persistence in the face of distractions and obstacles (Gollwitzer, 1999). Therefore, among other aspects, the way individuals set their minds so as to formulate action plans for reaching their purposes is of great importance.

In the goal achievement process, anticipating in detail the following action plans or stages has many benefits, as it offers mental representations, providing intuitive, prompting and attritional advantages. According to Koestner, Lekes, Powers and Chicoine (2002), action inception thus becomes decisive and does not necessarily need aware intent, because the explicit management of one's behavior has been passed to the situation itself.

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In previous empirical studies, there have been different mindsets for change or action model stages which define the main phases to undergo so as to achieve a personal goal (Gollwitzer, 1990, Meier & Albrecht, 2003, Prochaska, Wright and Velicer, 2008, Whitmore, 2012). However, from our perspective, they lack in offering the possibility of a concise identification of the progress regarding the change envisioned by a person, providing a classification of the main stages, as one of the assumptions of a stage model is that people can be divided into those who are and those who are not currently acting towards the goal (Horwath, 1999). Therefore, constructing and validating a more detailed scale, which include detailed levels of change, could trigger a more appropriate identification of one's progress and could also allow the possibility of a clearer self-evaluation regarding the change one may desire to make.

The concept of mindset was considered to be one's own perception regarding the personal abilities and features required for making a change (Dweck, 2010), as well as the cognitive orientation that facilitates performance in a task, in each stage of action (Heckhausen, 2008). Stage theories specify an ordered set of phases into which people can be distributed and identify the issues that can induce transitions from one category to the next (Weinstein, Rothman & Sutton, 1998, apud Horwath, 1999). In previous research, there are several mindset stage models, which point out the fact that change is a progressive and gradual process. Within this process, various authors consider that there are a series of steps that need to be taken for the change to be lasting, or effective (Gollwitzer, 1990, Meier & Albrecht, 2003, Prochaska et al., 2008, Whitmore, 2012). According to Gollwitzer's Rubicon model of action, there is primarily a predecisional, deliberative stage in which an individual contemplates whether to act on their wishes and a postdecisional, implemental phase in which aspects of how to achieve the goal come to the forefront of consciousness (Heckhausen, 2008). Gollwitzer (1999) suggests that each of these phases involves a distinctive mindset, as in predecision, individuals counterbalance the potential positive and negative consequences of achieving the intended goal as well as the likelihood of reaching it, while in the postdecisional phase, individuals begin to think about details concerning the time, place and way to act in the direction of achieving the goal.

Unlike Gollwitzer (1990) who identifies four main stages, focusing on the different principles that govern psychological functioning within each one of them, Prochaska and colleagues (2008) define each particular stage, presenting the specific characteristics and techniques. Gollwitzer (1990) considers that the first stage is predecision, in which decision on the choice of what is to be changed is taken; preaction is the next stage, which occurs when there is an incipient approach to behaviors towards change. The stage of action is the one in which several behaviors oriented towards final success are being manifested, whereas the postaction stage involves assessing the final result, in order to

decide whether to adopt other goal-oriented behaviors or evaluate the degree of satisfaction achieved as a result. Prochaska and colleagues (2008) maintain the stage of action, but consider that in order to achieve a goal, some other stages are required in advance: pre-contemplation, contemplation, as well as preparation. Subsequent to the action stage, they mention the maintenance and completion stages, noting that the maintenance stage is the one which many individuals reach and preserve for their entire lives. Therefore, the stages defined by Gollwitzer (1990) as predecision and preaction are similar, in terms of progress, to the pre-contemplation, contemplation and preparation stages, according to Prochaska and colleagues (2008).

Meier and Albrecht's first stage (2003) of goal-oriented decision is similar to Whitmore's (2012). However, Whitmore (2012) focuses on the intermediate stages of implementing the plan, insisting on the importance of examining the current reality for an accurate and honest knowledge of the starting point as well as on exploring the existing options, by considering the advantages and disadvantages of each one of them. Meier and Albrecht (2003) consider that, within the implementation stage, some psychological aspects regarding the action's self-monitoring, locus of control, feedback and individual motivation are important and necessary in order to reach the third stage, which is activity evaluation.

Unlike what the first two authors previously presented, who focus on the preparation stages, the latter ones consider that a goal-oriented decision is the first required stage in order to begin the change. The stage which is explicitly found in all the mentioned theories is action. The stages following action emphasize the need to assess the achieved results, being preceded, or not, by the maintenance stage.

The Rubicon model of the action stages (Gollwitzer, 1990) is one in which the author focuses on the motivational and volitional processes which govern each of the previously mentioned stages.

The trans-theoretical model, by Prochaska and colleagues (2008), offers a definition of each stage, allowing the ones involved in the change to be able to accurately identify their current stage, though not in a very detailed manner, so as to point out their personal progress.

Meier and Albrecht (2003) offer a rather general staging of the mindset for change, whereas Whitmore (2012) approaches it from the coaching point of view.

The stages previously proposed by the mentioned authors (Gollwitzer, 1990, Meier & Albrecht, 2003, Prochaska et al., 2008, Whitmore, 2012) have provided a general framing of the mindset for change. From our perspective, what needs to be explored in empirical studies is a more detailed staging of mindset for change, as well as the possibility for those interested in reaching a goal to track their progress more accurately.

As for the personal goals to be achieved, research literature offers several theories. Therefore, Nichols' goal achievement theory (Moskowitz & Grant, 2009), differentiates between task-oriented goals, considering that success can be achieved through effort, and ego-oriented goals, aiming at overtaking others or at achieving better results. From the same perspective, Dweck (2010) distinguishes between learning-oriented goals and performance-oriented goals, respectively, whereas Ames (1992) classifies the goals as mastery and performance goals (Moskowitz & Grant, 2009). Locke and Latham (2006) emphasize the importance of goal specificity, considering it directly proportional to the possibility of its achievement. According to the mentioned authors, there are different effects on behavior, depending on the goal specificity. An instrumental goal is modifying, as it changes from vague to specific. A clearer and more specific goal may lead to the desired result to a greater extent than a vague one. Therefore, the resulting behavior will have higher persistence, mobilized effort and desired level of action. In a study conducted by Latham and Brown (2002, apud Locke & Latham, 2006), the importance of goal specificity is emphasized by the fact that the participants who had set a series of specific goals obtained better results, compared to those who had only set distal criteria goals (short-or long-term). The authors concluded that, in their study, goal achievement was improved by action planning as well as progress monitoring and evaluation throughout said progress. Thus, specifically planned goals lead to better results, compared to those where there is a subjects' only set distal criteria.

Motivation concerns the excerpption, activation and direction of behavior (McClelland, 1988, apud Koestner, Lekes, Powers & Chicoine, 2002). Although setting personal goals involves motivating oneself, simply listing one's goals is not sufficient to ensure that the goals will be accomplished. Previous studies have identified motivational persistence as being involved in the goal achieving process. It was conceived by Constantin (2009, apud Hojbotă & Constantin, 2009), as referring to a certain behaviorial predisposition being conditioned by a set of competencies that provides bigger or smaller chances to maintain the direction towards the goal. According to the author, motivational persistence consists of a set of predispositions, conditions and tendencies that can facilitate goal achievement; the tendency is that of persisting in goal-oriented actions to invest personal means in order to reach the desired goal and not to disregard it (apud Constantin, Holman & Hojbotă, 2012). LaPorte and Nath (1976, apud Locke & Latham, 2006) suggest that the specificity of the goals to be achieved influences the persistence of the one involved; they assume that when the subjects have control over the situation, they will dedicate more personal resources to the proposed goals. To a greater extent, complex personal goals involve the desire to discover, to conceive new strategies that are relevant to the task and to persist within the process of its completion. What we aimed at was

to test the reverse relationship regarding the effect of motivational persistence on personal goal achievement, as well as the correlation between motivational persistence and mindset for change.

Self-efficacy is a construct utilized in various continuum change theories (e.g. social learning theory, theory of planned behaviour, health belief model). Self-efficacy is one's perception of oneself, as being capable of effectively performing a large variety of tasks and achieving performance in a variety of situations (Bandura, 1997). According to Bandura's social-cognitive theory, after having formed an intention, a high self-efficacy person might initiate and maintain behavior change with less difficulty than a person low in self-efficacy. As for stage models, in the trans-theoretical model, for instance, self-efficacy is conceptualized not only as the confidence in the ability to change a type of risk behavior but also as the temptation to continue the risk behavior.

Usher and Pajares (2009) argue that the subjects with high self-efficacy have the tendency to set higher personal goals, by comparison with the ones low in self-efficacy. The ones in the first category are also more involved in reaching their assigned goals, by searching for and using better strategies for success and by answering negative feedback in a positive manner, as opposed to the ones with lower self-efficacy (Seijts, Latham, Tasa & Latham 2004).

Based on these observations, as we have previously stated, we intended to construct a more detailed mindset for change stage model which will outline the trail when wanting change. For a broader perspective concerning the process of goal achievement, we chose to also investigate whether mindset for change predicted personal goal achievement and whether motivational persistence influenced it. Therefore, we constructed and validated a mindset for change scale, containing several detailed stages, by linking the stages of mindset previously described (Gollwitzer, 1990, Meier & Albrecht, 2003, Prochaska et al., 2008, Whitmore, 2012) to a qualitative analysis. Using this scale, we also investigated the correlation between this variable and self-efficacy and motivational persistence, respectively.

## **2. Method**

### **2.1. Participants**

The qualitative analysis was conducted with the help of 40 participants, MA students at the Faculty of Psychology.

After its construction, the Mindset for Change Scale was applied to 202 subjects from the general population, aged between 16 and 53. 3% of them had secondary education, 17.8% high school education, 52% graduate education and 27.2% postgraduate education. 74.3% were female and 25.7% were male subjects.

## 2.2. Measures

In order to identify the contents of a scale of evaluation of mindset, we conducted a qualitative study, in which we asked the 40 participants to define the main stages they underwent (from a cognitive and behavioral perspective), starting from the awareness of the need for change and up to its completion. Our analysis was guided by the intention to determine the predictive stages of the goal achievement process. We were mainly interested in establishing whether the stages proposed by the 40 experts, introduced to the idea of the goal achievement process, could be applicable to the general population. As resulted from the analysis we made, goal setters optimize their progress when they approach their goals in terms of an efficient planning of the achievement process.

The participants' responses resulted in 367 assertions, which we systematized using the thematic-categorical analysis. We confronted our results with the model stages presented above. We obtained five assertion categories which, based on their contents, were identified as belonging to the stages of Awareness, Decision, Action, Maintenance and Becoming. After eliminating the redundant assertions or identical contents, the remaining assertions were organized into a 25-item questionnaire. We called it *the Mindset for Change Scale*. We further applied the preliminary validation on this scale, the results being presented below.

*Self-efficacy.* The Self-efficacy Scale (Jerusalem & Schwarzer, 1995) is a psychometric scale of some various day-to-day challenges/difficulties built in order to evaluate self-belief in an optimistic manner. In contrast with other scales that were built to evaluate optimism, this also refers to the belief that personal actions are responsible for successful results. We used the scale in this research, because it focuses on the accountability for the progress of one's own actions. An example of such an item is as follows: 'I can solve most of the problems, if I invest the required effort.' The answers ranged on 2-point scales (1 = true, 2 = false).

*Motivational persistence.* The Motivational Persistence Scale (Constantin et al., 2012) assesses motivational persistence, defined as the behavioral predisposition of the subjects to persist (once the decision of motivational involvement has been made). It is conditioned by a set of specific skills: effort, confidence, perseverance, goal, organization, focus, reaction to obstacles and ambition. The scale contains 18 items and is based on 3 factors: Pursuing Long-Term Goals, Focusing on Daily Tasks and Recalling Unachieved Goals. The answers ranged from 1 (*to a very small extent*) to 5 (*to a very great extent*).

Descriptive statistics of the three research variables are presented in table 1.

Table 1. Descriptive Statistics for Motivational Persistence, Self-efficacy and Mindset for Change (N= 202)

	Motivational persistence	Self-efficacy	Mindset for change
N	202	202	202
Mean	63.1287	8.4010	54.9406
Median	63.0000	9.0000	55.0000
Mode	66.00	10.00	58.00
Std. Deviation	8.20225	1.95028	11.21151
Variance	67.277	3.804	125.698
Skewness	.266	-1.467	-.089
Std. Error of Skewness	.171	.171	.171
Kurtosis	.269	1.814	-.458
Std. Error of Kurtosis	.341	.341	.341

### 2.3. Procedure

The Mindset for Change Scale was constructed and partially validated in this research. In its initial form, this scale contained 25 items organized into 5 stages or factors: Awareness, Decision, Action, Maintenance and Becoming, respectively. An example of such an item is as follows: ‘I planned some stages that I have to go through in order to achieve this change.’ The answers were given on 4-point scales (1 = *false* to 4 = *true*). The participants completed the items of the mindset for change, self-efficacy and motivational persistence scales at the beginning of January, as referring to a personal goal they desired to achieve. Thus, they could refer to one of the several options that we offered (to quit smoking, to diet, to quit a ‘toxic’ relationship, to get physically active, to cease overspending or some other change that they had to specify).

After 5 months, they were contacted via e-mail and asked to evaluate the degree of success of the personal goal on a scale from 1 to 3. In other words, the measurement of the dependent variable was based on self-report. We ranked the 3 degrees of success on a scale ranging from 1 (*unsuccessful goal*) to 3 (*successful goal*).

### 3. Results

For the validation of the Mindset for Change Scale, the 25 initial items were examined. All analyses were conducted with SPSS 20. We used the principal components analysis and the Varimax solution, as it proved to be more comprehensible and theoretically reasonable, in terms of factor structure and the obtained values (Hancock & Mueller, 2010).

Several well-recognized criteria were used. The diagonals of the anti-image correlation matrix were all over .5, except items 1 and 4 (values below .5). After eliminating the two items, we observed that many items had correlations of at least .3, thus, the factor structure seemed reasonable (Labăr, 2008). The Kaiser-Meyer-Olkin measure of sampling adequacy was .79, above the commonly recommended value of .6, and Barlett's test of sphericity was significant ( $\chi^2(253) = 1364,915, p = 0$ ). However, the solutions for factor retainance (Kaiser's and Cattell's criteria) did not converge. Therefore, we chose to explore a fixed number of factors, as indicated by previous research (Hancock & Mueller, 2010).

Solutions for three, four and five factors were each examined using Varimax Rotation for the factor loading matrix. The four-factor solution, which explained 47.435% of the variance, was preferred because of: (a) its previous theoretical support; (b) the 'leveling off' of eigen factors on the scree plot after four factors. The communalities were all above .2, further confirming that each item shared some common variance with other items.

Given these overall indicators, factor analysis was deemed to be suitable with all 23 items and 4 factors. Initial Eigen Values indicated that the first four factors explained 5.58%, 2.23%, 1.72% and 1.37% of the variance, respectively.

We established the factor structure according to their loading. Item 20 had a factor loading of .787, on Factor 1 and a cross-loading of .305 in Factor 4. Item 22 had a primary factor loading of .467 on Factor 1 and a cross-loading of .399 on Factor 2. Item 17 had a primary factor loading of .516 on Factor 1 and a cross-loading of .346 on Factor 2. Item 24 had a primary factor loading of .403 on Factor 2. Item 7 had a primary loading of .552 on Factor 3 and a cross-loading of .304 on Factor 4 for the Varimax solution. The results are displayed in Table 2.



Table 2. Factor loadings for Exploratory Factor Analysis with Varimax Rotation of Mindset for Change scale (N=202)

<i>Items</i>	<i>Factor 1</i>	<i>Factor 2</i>	<i>Factor 3</i>	<i>Factor 4</i>
20. This change has already been made and I can say I have totally succeeded.	<b>.787</b>			.305
19. I can say I have already made this change and I no longer make an effort to maintain it.	<b>.773</b>			
21. I have continued to maintain the new behavior lately, with no difficulties.	<b>.739</b>			
18. I think I have overcome the critical stage and I am now strengthening the change.	<b>.688</b>			
17. I am now involved in profound change, and I do not encounter any major difficulties.	<b>.516</b>	.346		
23. I think there is not too much risk in getting back to the harmful behaviour.	<b>.485</b>			
22. I am aware that I no longer feel attracted to the behaviour before the change.	<b>.467</b>	.399		
15. Day by day, I make an effort so as to achieve the change.			<b>.758</b>	
14. I am already deeply involved in the first stages of the change.			<b>.722</b>	
16. I am involved in the profound change stages, and I do not encounter major difficulties.			<b>.705</b>	
11. I have identified the			<b>.508</b>	

resources and people that could help me in achieving the change.

5. I think it is time I made the change, but I have not done anything concretely.		<b>-.453</b>	
24. I am fully determined not to get back to the harmful behaviour I used to have.	.314	<b>.403</b>	-.367
25. I am aware that the change I want to achieve is an important part of my life and identity.	.324	<b>.402</b>	-.360
6. I have analyzed the alternatives and found many arguments to make this change.			<b>-.728</b>
3. This change is important for me, because I am aware of its drawbacks.		<b>.651</b>	
7. I am convinced that this is a necessary and very important change for me and my future.		<b>.552</b>	-.304
9. I am convinced that I will succeed in making this important change in my life.		<b>.510</b>	
2. I have thought about this change, but it is not useful or necessary for me.		<b>.483</b>	
8. I have planned a few steps to follow in order to achieve the change.			<b>.623</b>
10. I had moments when I abandoned, not initiating the change I had decided on.			<b>-.558</b>
12. I imagined/deeply analyzed, many times, the way I would achieve the change.	.423		<b>.516</b>

13. I have already gone through a few preparatory/exploration stages of this change.	.438	<b>.481</b>
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*Note:* Primary factor loadings are shown in bold.

For the final stage, a principal components factor analysis of the remaining 23 items was conducted with four factors explaining 47.435% of the variance. A Varimax solution provided the best defined factor structure. All items in this analysis had primary loadings over .4. According to the way the items were structured in the four factors, we defined them as starting from the initial option. Thus, Factor 3 grouped items related to Decision, Factor 1 was related to Becoming, Factor 4 grouped the items related to Planning, and Factor 2 grouped the items related to Action.

Internal consistency for each of the factors was examined using Cronbach's alpha. The alphas were moderate: .627 for Decision (5 items), .767 for Becoming (7 items). The alpha for Planning was an unacceptable one, .498, so we eliminated item 10. The new alpha was .606 (3 items). The alpha for Action was .635. We eliminated item 5, which led to an increase up to .761. No substantial increases in alpha for any of the scales could have been achieved by eliminating more items.

Composite scores were created for each of the four factors, based on the mean of the items which had their primary loadings on each factor. Skewness values and the examination of the histograms suggested that the distributions looked normal for Decision, Planning and Action, except Becoming, which had to be normally distributed.

Four of the twenty-five items were eliminated, however the four-factor structure was retained. A normal distribution was evident for the composite score data in the current study, thus the data were well suited for parametric statistical analyses (see Appendix for the Romanian scale version).

After the preliminary validation of the mindset for change scale, our second objective was to analyze the way in which this variable suggested the personal goal achievement prediction and how the other variables—self-efficacy and motivational persistence—were being associated to it.

### ***Study Hypotheses***

*Hypothesis 1.* There is a predictive model of personal goal achievement explained by the mindset for change.

*Hypothesis 2.* It is predicted that motivational persistence has an effect on personal goal achievement.

*Hypothesis 3.* There is an association between mindset for change and self-efficacy.

*Hypothesis 4.* There is a positive correlation between mindset and motivational persistence.

For the first hypothesis, an ordinal regression was conducted to predict personal goal achievement using mindset for change as a predictor. Several assumptions were verified, so as to make sure that our data was suitable for the ordinal regression. The proportional odds condition was not satisfied ( $p = 0.03$ ), thus, we had to change the *logit* coefficients into *probit* coefficients. The final results suggested that, statistically, mindset for change significantly predicted personal goal-achievement, Pseudo R-Square (Nagelkerke) = 19.6,  $p < 0.01$ . Mindset for Change was statistically significant to the prediction,  $p < 0.05$ , also confirmed by Pearson ( $p = 0.182$ ) and Deviance values ( $p = 0.269$ ). Therefore, mindset for change significantly predicted 19.6% of the variance of personal goal achievement.

A Mann-Whitney U test was conducted to evaluate the second hypothesis. The results of the test were significant and confirmed it,  $z = -2.330$ ,  $p < 0.05$ . The participants with a low motivational persistence had an average rank of 95.93, while those with a high motivational persistence had an average rank of 115.34 on personal goal achievement.

The third hypothesis verified whether there was an association between mindset for change and self-efficacy. A Kendall's tau-b was conducted to test this hypothesis. The results of the test showed a statistically insignificant association between mindset for change and self-efficacy,  $p = 0.09 > 0.05$ .

Lastly, we assumed that there was a positive correlation between mindset for change and motivational persistence. A Pearson correlation was conducted to assess this relationship. The results confirmed the hypothesis, for the two motivational persistence factors, Focusing on Daily Tasks  $r(202) = 0.179$ ,  $p = 0.005$  (one-tailed) and Pursuing Long-Term Goals, respectively,  $r(202) = 0.149$ ,  $p = 0.01$  (one-tailed).

Therefore, increases in mindset for change were correlated with increases in motivational persistence (Pursuing Long-Term Goals and Focusing on Daily Tasks).

#### **4. Discussion**

The Mindset for Change Scale includes multiple stages of change and, what we aimed at was to allow the precise identification one may be in, as well as the possibility to track the progress to reaching a goal.

As resulted from the data presented above, the Mindset for Change Scale meets the psychometric criteria required in order to be used in the assessment of the cognitive, decisional and behavioral stages, whenever one may plan a change so as to achieve a goal.

By proposing a detailed staging of the Mindset for Change Scale, we aimed to offer those undergoing the trigger scale the possibility of having a clearer self-evaluation regarding the change that they plan, and also to identify the progress achieved more accurately, by precisely establishing their current position towards the change.

The initial structure of the factors included Awareness, Decision, Action, Maintenance and Becoming, respectively; the final structure resulted in Decision, Planning, Action and Becoming. We note that the initial factor called Action was composed of items focusing on the action itself, as well as its planning, but, after applying the exploratory factor analysis, the items suggested two separate factors—Action and Planning, respectively.

In the final structure of the scale, only 21 items were left with a loading of over .40, cumulated into 4 factors. The solution we provided assumes that the factors do not correlate with each other, as individuals vary greatly, according to their ways of acting when assuming a change. In our qualitative analysis, we found out that some of the experts do not need to go through various stages so as to make a change. One of them simply act, without having gone through previous stages of planning. According to the obtained results, we assume that the scale could be used in other researches.

However, Weinstein (1998) (apud Shepherd, 2002) suggests that there is a number of criteria to be met so as to obtain a practical stage model. Firstly, the author emphasizes the accurateness of it in order to classify the participants in the proper stage. Secondly, the order in which the participants should move in its stages should be the same. Moreover, the aspects that the participants at the same stage may face should be comparable, so as to allow a general approach, for them. As for moving from one stage to another, the advantage of a stage model should be that interventions be targeted specifically, according to the stage. Our aim was to offer its respondents the possibility to identify, through its questions, the specific stage they fall under and to estimate the possibility of achieving their goals. Subsequently, the interventions should have greater efficacy, as the stage identification would be a clear one. However, the mindset for change stages emphasizes its cognitive and self-perceived status, thus implying a certain degree of subjectivity.

Our results suggest that personal goal achievement is being predicted by mindset for change. This hypothesis confirmation is similar to the conclusion of the studies of Gollwitzer (1999), according to whom the completion of the mindset stages leads to goal achievement in a greater extent. Chartrand and Bargh (1996) achieved congruent results, suggesting that the subjects induced into an implementation state had greater chances of approaching a project in terms of planning, action and, consequently, of completion.

In the same manner, Locke and Latham (2006) found that reaching a goal was positively influenced by action planning, progress monitoring and

assessment. Their participants managed to reach the desired goal to a greater extent, after clearly setting the goal and undergoing these stages, compared to the ones who aimed for a vague goal or for one based on distal criteria.

By completing several stages in the Mindset for Change Scale, we assume that the belief in achieving favorable results increases even further. In the same manner, Armor and Taylor (2003) specified the association between mindset and task performance, showing a mediation of this effect by the cognitive orientation of the implemented mindset and the optimistic expectations of the results, respectively.

The results of the second hypothesis, according to which motivational persistence influences personal goal achievement, converge with Heckhausen's assumptions (2008), who mentioned that, in the category of reasons for achieving success, a series of additional processes is involved: risk taking, motive assessment and effort adjustment. Motivational persistence consists of a set of predispositions that may facilitate goal pursuit. In a similar manner, as related to the persistent behavior, Dweck (2006) concluded that the participants having a higher level of persistence submit greater effort in carrying out the task, as they are interested in searching and pursuing their goals, compared to those having a low level of motivational persistence, who are motivated solely by achieving favorable results.

Surprisingly, the results of the third hypothesis suggest that there is no significant link between mindset for change and self-efficacy. This contradicts previous studies that include a self-efficacy construct as a means of self-controlling and predicting transitions among stages (Horwath, 1999). A possible explanation is that the subjects had not been questioned sufficiently regarding the possible source of their self-efficacy. We note that self-efficacy could be derived from vicarious experiences, emotional and psychological states or social and verbal feedback (Bandura, 1997). Moreover, other empirical studies have mentioned that previous success represents one of the decisive aspects for increasing self-efficacy. The participants of this current study were not questioned about the frequency with which they would plan personal changes or success. These may be the potential reasons why the results did not show the existence of a significant correlation between mindset for change and self-efficacy.

On the other hand, the absence of a significant association between self-efficacy and mindset for change suggests that our scale is not "contaminated" by perceptions of self-efficacy. In other words, self-assessing the current stage of change is not influenced by positive perceptions about oneself or about the ability to cope with various situations. This is a valuable psychometric issue, recommending our scale in the objective evaluation of mindset for change.

Our results also suggest that there is a positive link between mindset for change and motivational persistence. We evaluated two of the factors of

motivational persistence—Pursuing Long-Term Goals and Focusing on Daily Task—which both proved to positively correlate with mindset for change. Meier and Albrecht (2003) obtained similar results, regarding the functional theory of persistence, where they found that the stages of change may lead to success. In their research, the stages were goal-related decision, implementation and assessment. In several other studies, motivation was proven to demonstrate that it improves engagement and achievement behaviors. Motivation consists of energization, regulation and direction of behavior and is proven to influence activity choice, effort, persistence and performance (Chen, 2001). Therefore, our results sustain these other conclusions and suggest that mindset for change seems to increase and decrease directly proportional with motivational persistence.

The main starting assumption of this research was that people have abilities that they are not aware of, and, as a result, they cannot access or develop such. In this case, they are similar to untrained muscles that become dysfunctional in time. In this context, we started from the idea that, for a change to be made, there must be several detailed and systematized identified stages which to outline the trail of the achievement. Some other studies have used the mindset stage models previously presented for different risk behaviors, such as dieting, smoking or alcohol abuse. We aimed at construing a mindset stage model, in order to provide the detailed trail for a variety of goals. Our preliminary analysis suggested that the mindset for change scale contains Decision, Planning, Action and Becoming stages. However, readiness for change cannot be quantified using these stages solely. In the goal achievement process, previous studies suggest that other aspects are also important. For example, that those involved are learning-oriented, since a major change implies difficult moments, which can be overcome only under tough circumstances. Those who only take into account their image as perceived by others, will experience difficulty in accepting these moments, as noticing gradual personal progress is actually effort requiring (Dweck, 2006). Another limitation of this staging is that it only offers information on what stage one is in, without examining what might generate a lack of goal change. In other words, more profound aspects are involved in the lack of progression, which are not taken into consideration in our study.

According to other studies, goal achievement also requires the involvement of other personality traits. Self-efficacy is an essential component in this relationship, but the results here have shown an insignificant statistical relationship between the two variables. In this regard, one of the study limits was that self-efficacy had not been studied in greater depth, in the context of questioning the subjects regarding the frequency with which they planned to reach their goals. Although, by opting for a convenience sample, with ages that varied greatly, we aimed at obtaining a scale to be used for various goals, listed

above, this also generated changes of different value and magnitude, ranging from improving their lifestyle or diet to radically changing the working environment or their attitude towards children or family. In these conditions, self-efficacy could have different valences, in relation to the familiarization with the desired goal, the progress in achieving the goal or the previous success related to other personal goals. In further research, we propose that a more rigorous selection of the subjects, concerning the previously listed criteria, be required.

Another study limit could also be the amplexness of the scales included in the final questionnaire, the filling out of which could have induced boredom and fatigue. Another difficulty was to control the superficial tendency of filling them out, as well as subjective self-perception. The dependent variable was based on a self-report regarding personal goal achievement, after a period of five months (a period we assumed necessary for achieving the goals). For instance, self-reported smoking might be seen as a rather accurate measure (Bernaards, Twisk, van Mchelen, Snel, & Kemper, 2004), but as for the self-reported diet, under-reporting of actual behavior is a known problem in overweight people (Howat, Mohan, Champagne, Monlezun & Wozniak, 1994). However, studies based on self-reported behaviors, are usually prone to trigger socially desired and subjective responses (Joinson, 1999).

Moreover, some participants required a reminder of the set goal, because, as we have previously mentioned, its value and importance was not the same for all of them.

As for future research directions, we plan to study the relationship between mindset for change and self-efficacy in greater depth and to approach goals of the same value, in order to eliminate large discrepancies between them. We think that greater attention should be given to dealing with future goals in approaching changes, such as preventing osteoporosis, obesity, smoking or diabetes, on a homogenous sample of subjects, which fit our eligibility criteria. Moreover, according to Prochaska and Norcross (2009) previous longitudinal studies have shown that change is not linear but may have several relapses, reaching or not the achievement. That argument calls for a new, improved Mindset for Change Scale, which also includes the relapse stage. However, more important than the achievement itself seems to be the progress from one stage to the next one, as the essence of a stage model is that people can be divided into those who are and those who are not currently ready or performing the goal behavior. It is certainly preferable to acknowledge small positive steps taken towards a goal and to encourage further efforts in new areas. Moreover, as in all stage-model approaches, this one also calls for evaluated tailored interventions which facilitate the goal-achieving process, thus allowing the result of an improved version of oneself.



## Appendix

Vă rugăm să vă gândiți la o schimbare importantă, care v-a solicitat/vă solicită un efort deosebit, una din categoria celor de mai jos:

- a vă lăsa de fumat;
  - a ține o dietă pentru greutate
  - a rupe o relație „toxică”;
  - a practica în mod constant un sport;
  - a renunța la un viciu costisitor financiar;
  - altă schimbare semnificativă (dați un nume!)
- 

Gândindu-vă la această schimbare, vă rugăm să evaluați în ce măsură sunt adevărate afirmațiile de mai jos, utilizând una dintre următoarele variante de răspuns:

- Fals*       *Aproape fals*       *Aproape adevărat*       *Adevărat*

1. M-am gândit la o astfel de schimbare, dar nu este prea utilă sau necesară pentru mine.
2. Această schimbare este importantă pentru mine, întrucât am sesizat dezavantajele nerealizării ei.
3. Am analizat alternativele și am găsit multe argumente pentru realizarea acestei schimbări.
4. M-am convins că este o schimbare necesară și foarte importantă pentru mine și viitorul meu.
5. Am planificat câteva etape pe care va trebui să le parcurg pentru a reuși această schimbare.
6. Sunt convins că voi reuși să fac această schimbare importantă din viața mea.
7. Am identificat resursele și oamenii care m-ar putea ajuta în realizarea acestei schimbări.
8. Am analizat în detaliu/imaginat, de mai multe ori, modul în care voi realiza această schimbare.
9. Am parcurs câteva etape pregătitoare/ de tatonare a acestei schimbări.
10. Sunt deja pe deplin implicat în primele etape de realizare a acestei schimbări.
11. Zi de zi, depun efort pentru a mă menține pe linia schimbării.
12. Am parcurs etapele de început și sunt în continuare implicat activ în realizarea acestei schimbări.
13. Sunt implicat în etapele de schimbare profundă și nu întâmpin dificultăți majore.

14. Cred că am depășit perioada critică și sunt acum în etapa de consolidare a schimbării.
15. Pot spune că am realizat această schimbare și nu mai depun un efort în menținerea ei.
16. Această schimbare este deja realizată și pot spune că am reușit pe deplin.
17. Am continuat să manifest noul comportament de ceva timp, fără mari dificultăți.
18. Am conștientizat că nu mă mai simt atras de comportamentul de dinaintea schimbării.
19. Cred că nu există riscuri prea mari să mă întorc la vechiul comportament.
20. Sunt pe deplin hotărât să nu mă mai întorc niciodată la comportamentul indezirabil din trecut.
21. Realizez că schimbarea adoptată este o parte importantă din identitatea și viața mea.

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