

Self-Control as a Personal Resource: Determining Its Relationships to Success, Perseverance, and Well-Being

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Self-control is understood as the ability of the individual to manage his behavior and emotions, thoughtfully react to events that happen around him, and to prevent himself from acting out of undesirable impulses and emotions. This article presents two studies that sought to validate a Russian-language version of the Brief Self-Control Scale that was developed by June P. Tangney, Roy F. Baumeister, and Angie Luzio Boone. The studies tested samples of employees (n = 591) and students (n = 328), respectively, using the scale consisting of 13 items. We demonstrate the one-dimensional structure of the scale using confirmatory factor analysis. The scale has high reliability (Cronbach alpha of 0.84 and 0.79), and it demonstrates predictable current and potential future relationships with self-reported and objective indicators of academic and professional success. Self-control is associated with indicators of successful functioning and well-being. The obtained connections retain statistical reliability when controlling for social desirability. The results show that self-control is an important personal-motivational resource that contributes to success in life and improving psychological well-being.

Self-control as a personal-motivational resource

The ability of the individual to control his behavior and mental states is an important personal-motivational resource that a mature person can call upon. In many cultures, the ability to control the self is valued particularly highly, and it is taught to children starting at the earliest of ages. Self-control is understood as the ability of the individual to manage his behavior and emotions, thoughtfully react to events that happen around him, to resist maladaptive impulsive behavior, and to prevent himself from acting out of undesirable impulses and emotions. According to the widely accepted definition provided by F. Rothbaum et al. [19], self-control is the ability to change and adapt oneself and one's personality by establishing a more optimal fit between the self and the world.

An entire series of studies have demonstrated the favorable consequences of self-control for the individual. The main areas in which the construct of self-control is manifested are control over achievements, control over one's thoughts, control over emotions,

and control over impulsive behavior [21]. The main areas in which the positive influence of self-control is manifested are the achievement of success in life, control over impulsive behavior, psychological adjustment, interpersonal relations, and health.

The most famous study demonstrating the importance of self-control to the achievement of success in life is the classic experiment with 4-year-old children that was conducted by Walter Mischel in the 1960s [17]. The experimenter asked the children to choose their favorite sweet (marshmallow, cookie, or cake) and to make a decision: eat it immediately or wait 15 minutes and get a second serving of the same treat. In subsequent longitudinal measurements, it was found that children who were willing to wait longer, show the ability to postpone gratification, and exercise self-control, subsequently did better at school (had higher SAT scores) and demonstrated higher academic achievement.

The study by Wolfe and Johnson [21] presents self-control as the only one of 32 personal variables that makes a significant contribution to student academic achievement. The connection between self-control and academic achievement can clearly be attributed to the fact that people with high self-control tend to be more successful at completing assignments on time, demarcating their leisure time from work, and not allowing leisure activities to interfere with their work. They make more effective use of their time in school. They choose more suitable courses and are able to resist distractions that interfere with their work.

Another important area is control over impulsive behavior. Studies show that low self-control is a significant risk factor for developing binge eating disorders and alcoholism, and it is also a predictor of drug addiction [13]. In addition, it has been shown that people with good self-control are better able to manage their finances and to refrain from unnecessary expenditures [15].

The third area in which the positive influence of self-control can be seen is psychological adjustment. The root cause of many psychological problems and disorders can be attributed to problems of self-discipline. The connection between psychological symptoms and self-control is bidirectional. These connections have been intensively studied. The possible negative

consequences of too much self-control, which can accompany such disorders as anorexia and obsessive-compulsive disorders, have also been analyzed. It has been shown that there is a connection between aggressive and antisocial behavior in children with weak self-control [13].

In Mischel's study, children with higher self-control were less susceptible to stress, had a more optimal body mass index, and were less likely to become drug users [13]. Self-control has become a reliable and strong predictor of the risk of developing an addiction to smoking, drugs, and alcohol in both adolescence and old age while controlling for the variables of IQ and the socioeconomic status of the family.

It has been shown that a low level of self-control in childhood is a predictor of health problems in adulthood [13].

The fifth area in which self-control exerts a positive influence is interpersonal relations. A series of studies have shown that self-control helps create more harmonious relationships, which, apparently, is related to the tendency to refrain from rapid-fire phrases and offensive language that are spoken in the heat of the moment. The ability to hold one's tongue comes more naturally to people with self-control. A number of authors have also shown that children with good self-control have more opportunities to become popular with their peers. The ability to delay gratification in childhood is a reliable predictor of the quality of interpersonal relationships that are formed during early adulthood [17] and the likelihood of raising a child together with a partner instead of becoming a single parent [13].

Self-Control Scale

In light of the fact that self-control has such important consequences for the adjustment, successful functioning, and psychological well-being of the individual, it is extremely important to be able to develop methodologies to measure it. In 2004, Tangney, Baumeister, and Boone proposed a survey of self-control that positioned it as a trait that includes the ability to control one's behavior, emotions, desires and to act thoughtfully while

refraining from impulsive behavior [20]. The survey has been widely distributed, and it is currently the main self-reporting tool that is used to measure self-control in studies that are conducted around the world.

The English-language version of the survey shows good indicators of internal consistency (Cronbach α for the full scale consisting of 36 items is 0.89, and for the brief version consisting of 13 items it is 0.83–0.85) and of retest reliability (0.89 for the full version and 0.87 for the brief version of the survey). In two studies that were conducted by the survey authors using student samples, it was shown that high scores on the self-control scale correlated with a number of indicators reflecting successful social functioning and well-being. Thus, the level of self-control was positively related to student achievement (the correlation with the average score in the two studies was 0.39; $p < 0.001$ and 0.19; $p < 0.01$). A high level of self-control was associated with better fitness indicators (fewer cases of psychopathology, somatic symptom disorder, depression, anger, anxiety, psychosis, and obsessive-compulsive behavior as well as higher self-esteem) and more developed control over impulsive behavior (lower indicators of over-eating and binge eating, lower susceptibility to bulimia, anorexia, and alcohol abuse: $r = 0.31$; $p < 0.001$). Of the “Big Five” variables, self-control (when controlling for social desirability) was positively correlated with conscientiousness and emotional stability. It was also shown that when committing a mistake, individuals with high self-control tend to feel guilty and responsible for what happened (rather than blaming others or minimizing the significance of what happened) and are less prone to experiencing shame, which is correlated with the so-called well-adjusted style of emotional and moral response.

In the context of interpersonal relations, a high level of self-control has been correlated with a more positive assessment of the atmosphere in one’s own family, a lower level of family conflict, a reliable attachment style, more developed interpersonal communication skills, and a more optimal emotional response (fewer outbursts of anger and aggression).

These results, however, were not reproduced in the second study, and the effect was not always observable after controlling for social desirability.

The test for the non-linearity of self-control did not reveal any negative consequences of “overcontrol.” The positive effects of self-control also continued to exist after controlling for the indicators of social desirability. The obtained results provide evidence of the linear effects of self-control, which show that the greater the ability of the individual to demonstrate self-control, the greater his degree of success and psychological well-being. On the contrary, low self-control is an important risk factor for a wide range of personal and interpersonal problems.

We conducted a series of studies to validate the Russian-language brief version of the Self-Control Scale.

Study 1

Procedure

Sample

Employees from a manufacturing enterprise living in six regions of the Russian Federation ($N = 591$) participated in the study. The study sample consisted of 66.7 percent men and 33.3 percent women between the ages of 18 and 68 (with an average age of 40.3; $SD = 11.8$).

Instruments

To diagnose self-control as a motivational and personal resource, we prepared a Russian translation of the brief version of the Self-Control Scale introduced by Tangney, Baumeister, and Boone. Initially, an extended version of the survey was created, which included several varying translations for each item. Then the items were back translated into English by two Russian-speaking psychologists who are fluent in English. As a result of this process, the items were adjusted, and the first version of the Russian-language Self-Control Scale was created. Following the initial validation that we carried out between 2009 and 2010 in

cooperation with V.Yu. Shevyakhova, we proposed a version of the survey that, like the English version, included 13 items (four regular and nine reverse-scored ones). Respondents were asked to indicate their level of agreement with each of them on a 5-point scale.

We used a battery of methods to assess the construct validity of the Self-Control Scale. To assess the relationship between the indicators of self-control and resilient response to life problems, we used the Brief Resilience Test ($\alpha = 0.92$) proposed by E.N. Osin and E.I. Rasskazova [10]. To assess the indicators for self-control and internal/external motives to work, we used the Scale of Motivation to Work [Shkala trudovoy motivatsii] developed by E.N. Osin, T.Yu. Ivanova, and T.O. Gordeeva [7]. To assess the indicators of constructive individual thinking, we used the following instruments: the Test of Dispositional Optimism [Test dispozitsionnogo optimizma] developed by T.O. Gordeeva, O.A. Sychev, and E.N. Osin ($\alpha = 0.85$) [3], the Scale of General Self-Efficacy [Shkala obshchey samoeffektivnosti] of R. Shvartser, M. Erusalem, and V. Romek ($\alpha = 0.92$) [12], and the Index of Self-Efficacy at Work [Pokazatel' samoeffektivnosti na rabote], which is measured using four items ($\alpha = 0.92$).

We used the Scales of Positive and Negative Affect [Shkaly pozitivnogo i negativnogo affekta] ($\alpha = 0.87$ and 0.92 , respectively) developed by E.N. Osin [8] and the Scale of Life Satisfaction [Shkala udovletvorennosti zhizn'yu] developed by E. Diner [9] to assess the relationship between self-control and psychological well-being.

To determine social desirability, we used two scales from the BFQ-2 survey as adapted by E.N. Osin et al. [6]: the Scale of Selfish Lying ($\alpha = 0.81$), which measures self-deception and self-embellishment, and the Scale of Moralistic Lying ($\alpha = 0.74$), which measures impression management.

The data collected in Studies 1 and 2 were statistically processed using the SPSS 20 and Mplus 7.3 software. We used methods for comparing the samples, a correlation analysis, and a confirmatory factor analysis.

Results

Factor structure and reliability of the methodology

The degree of fit between the empirical structure of the scale and the theoretical model was checked by a confirmatory factor analysis performed in the Mplus 7.3 system using the robust Satorra-Bentler (MLM) scaled chi-square statistic. Latent variable (factor) metrics were obtained through their variances, which were set to 1. We used accepted criteria to assess the fit of the models ($CFI \geq 0.95$, $RMSEA \leq 0.05$, see [14]).

We first verified the single-factor theoretical Model 1 and the two-factor Model 2, which included two correlating factors that correspond to the regular and reverse-scored items. Model 3 had a bifactor structure (see, for example, [18]), and it included a self-control factor as well as two factors that account for the systematic bias connected to the regular and reverse-scored directions of the items and that do not correlate with each other and the general factor.

The indicators of model-to-data fit are presented in Table 1. The unsatisfactory level of fit between Model 1 and the data is due to the presence of regular and reverse-scored items. However, the low values of the indicators of Model 2 allow us to assume the presence of a single factor. Model 3 demonstrated the best fit with the data. The factors in this model take into account both the

Table 1

Indicators of the Level of Fit of the Confirmatory Models, Study 1

Model	<i>df</i>	χ^2, p	CFI	RMSEA (90% CI)
Model 1 (single factor)	65	450.43; $p < 0.001$	0.775	0.100 (0.092; 0.109)
Model 2 (two factors)	64	234.68; $p < 0.001$	0.901	0.067 (0.058; 0.076)
Model 3 (three factors)	52	128.50; $p < 0.001$	0.956	0.050 (0.039; 0.061)

Note: *df* is the number of degrees of freedom; CFI is the comparative fit index; RMSEA is the root mean square error of approximation with a 90% confidence interval.

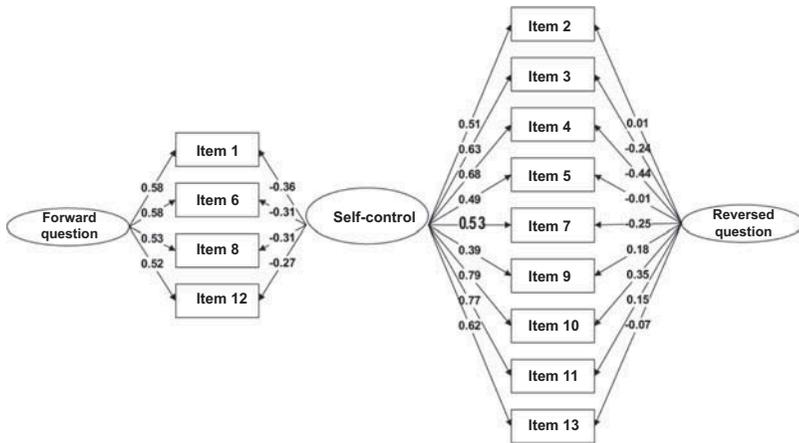


Figure 1. **Factor Model of the Self-Control Scale ($n = 591$)**

single factor and the systematic bias associated with the direction of the items.

All of the items in Model 3 (Figure 1) demonstrate statistically reliable factor loadings for the general factor of self-control. The internal consistency indicator (Cronbach alpha) for the scale was 0.84. The distribution of total scores was close to the normal form (the confidence intervals for the values of asymmetry and kurtosis were [0.31; 0.51] and [-0.46; 0.06], respectively).

Using the Spearman correlation coefficient, we revealed weak connections between self-control and the level of education ($\rho = 0.10, p < 0.05$) and job title ($\rho = 0.11, p < 0.01$), which indicates that people who are capable of greater levels of self-control have higher levels of education and more senior job titles. Revealed gender differences were extremely weak (the effect size of Cohen's d was 0.12) and statistically insignificant. No relation between self-control and age were discovered. The descriptive statistics for the scale used on the employee sample are given below in Table 5, and they can be used as standards when applying the scale in an organizational context.

Construct validity of the methodology

Data on the relationship between self-control and the motivations that prompt employees to perform at work indicate that self-control is positively correlated with the most favorable types of motivation, including internal, integrated, and identified motivation to excel at the activity being performed, and negatively correlated with the problematic types of motivation, including introjected and external motivation as well as lack of motivation as manifested in the belief that the performed activity lacks meaning (Table 2).

We also analyzed the relationships between the Self-Control Scale and the indicators of the Resilience Test, the Dispositional Optimism Test, the Scale of General Self-Efficacy, the Scales of Positive and Negative Affect, the Scale of Life Satisfaction, and the Scales of Selfish and Moralistic Lying in order to study the construct's validity. The results of the correlation analysis are presented in Table 3.

Statistically significant indicators of the coefficients of correlation between self-control and the indicated methodologies speak in favor of the scale's construct validity. Since the correlations of the constructs with the positive content can be

Table 2

Pearson's Correlation Coefficients for the Self-Control Scale with the Scales of Motivation to Work ($n = 591$)

Scale	Self-Control	Self-Control, adjusted for social desirability bias
Internal	0.33***	0.20***
Integrated	0.31***	0.17***
Identified	0.29***	0.15***
Introjected	0.01	-0.11**
External	-0.30***	-0.27***
Lack of motivation	-0.31***	-0.32***

** $p < 0.01$. *** $p < 0.001$.

Table 3

Pearson's Correlation Coefficients for the Self-Control Scale with the Indicators of Resilience, Self-Efficacy, Psychological Well-Being, and Lying ($n = 591$)

Scale	Self-Control	Self-Control, adjusted for social desirability bias
Resilience	0.64***	0.55***
General self-efficacy	0.41***	0.25***
Self-efficacy at work	0.41***	0.26***
Dispositional optimism	0.42***	0.35***
Satisfaction with life	0.21***	0.15***
Positive affect	0.33***	0.22***
Negative affect	-0.34***	-0.24***
Selfish lying	0.49***	—
Moralistic lying	0.38***	—

*** $p < 0.001$.

overstated because of the effects of social desirability, we controlled for the latter by calculating the partial correlations presented in the last column of Table 3. Partial correlations were used to assess the relationship between self-control and other variables given a fixed level of social desirability, thereby offsetting the general variance caused by it.

The results presented in Table 3 show that individuals with high self-control are distinguished by high indicators of resilience. This means that they have a particular system of ideas about themselves, the world, and their relations with it, which provides them with a resilient way to cope with sources of stress and difficult life situations as well as to perceive these stressors as being less significant.

A comparison of data from the Self-Control Scale with indicators of constructive thinking that characterize the cognitive components of motivation as manifested during the performance of various productive activities shows that people with high levels of self-control are

distinguished by a higher overall and professional level of self-efficacy, i.e., the belief that they are able to cope with difficult life and career tasks. They also have more dispositional optimism, that is, they have positive expectations about the future, which they come to expect to have more good events in store for them than bad ones.

Organizational employee self-control also proved to be associated with indicators of psychological well-being, including in particular with higher life satisfaction as well as more pronounced positive and less pronounced negative emotions. It can be argued that self-control is a predictor and source of psychological well-being, since the ability to regulate one's impulsive desires prevents us from engaging in harmful and life-threatening behavior and allows us to resist harmful temptations as well as to lead calmer and healthier lifestyles.

In all likelihood, self-control acts as a kind of buffer and adaptive mechanism that helps individuals to actively cope with difficult life situations and demonstrate persistence, perseverance, and resilience. This particular study did not allow us to test these hypotheses. However, we proposed and tested them in the second study, which was conducted using student samples.

Study 2

Procedure

Sample

Two groups of students with majors in the natural sciences participated in the study: 166 chemistry majors and 162 biology majors. The combined sample ($N = 328$) consisted of 43.6 percent men and 56.4 percent women between the ages of 16 and 20 (with an average age of 18.4; $SD = 3.03$).

Students completed a battery of surveys by filling out forms during class. The study involving chemistry students was longitudinal in nature. It was conducted among first-year students at the beginning of the spring semester. A second set of data points was collected a year later. Second-year biology students completed the survey as part of a cross-sectional study during the fall semester.

Instruments

To assess the construct validity, a similar but somewhat extended battery of techniques was used. To assess the relationships between the indicators of Self-Control Scale and the self-organization of chemistry students, the chemistry students in the first sample filled out the Self-Organizational Ability Survey (Oprosnik samoorganizatsii deyatel'nosti, OSD) proposed by E. Yu. Mandrikova [5] and the Life Orientation Test (Test smyslozhiznennykh orientatsiy, SZhO) introduced by D.A. Leontiev [4]. We used the “Style Used to Explain Successes and Failures” (STOUN) proposed by T.O. Gordeeva, E.N. Osin, and V.Yu. Shevyakhova [2] to assess the cognitive-motivational variables reflecting the features of how individuals constructively think through success and failure situations.

The General Health Questionnaire (GHQ, as translated and adapted by E.N. Osin) was used [16] to assess the relationship between self-control and the indicators of physical health.

The Short Grit Scale proposed by A. Duckworth (as adapted by T.O. Gordeeva, and which is currently being prepared for publication) was used to determine the connection between self-control and the level of perseverance. The COPE inventory of coping strategies developed by C.S. Carver, M.F. Scheier, and J. K. Weintraub [11] was used to assess the characteristic types of personality response to difficult and stressful life situations. We evaluated academic self-efficacy as the student's belief in future success (by using indicators of chances at successfully passing the next examination session and receiving a diploma).

When surveying the sample of second-year biology students, we studied the relationships between the Self-Control Scale and the indicators of perseverance and self-organization using A. Duckworth's Short Grit Scale as well as by asking a question designed to elicit the respondent's subjective assessment of their self-organizational abilities. We used the “Big Five” scales included on the BFQ-2 survey [6], where each of the five traits was operationalized in the form of two semantically interrelated subscales, to analyze the connection between self-control and

personal factors. In addition, we used the BFQ-2 survey to assess social desirability (two scales).

We assessed indicators of objective academic performance, subjective assessment of academic performance, and self-assessment of intellect to reveal connections between self-control and success indicators.

Results

Factor structure and reliability of the methodology

In Study 2, we used the same sequence of structural validation steps as in Study 1. The parameters of the obtained models are presented in Table 4. The single-factor model showed a better fit to the baseline data than the one used in Study 1, whereas the two-factor model fit the data more poorly, and the bifactor model did not correspond at all. We discovered a powerful modification index affecting the covariance of the errors in Items 2 and 6 in the single-factor model. Adding this modification index solved the problems related to fit with the bifactor model. Another pronounced modification index addressed the covariance of the errors in Items 1 and 2.

The summary bifactor model with two modifications (Model 4) demonstrated excellent fit with the data. The loadings of all items on the general self-control factor were statistically

Table 4

Indicators of the Level of Fit of the Confirmatory Models, Study 2

Model	<i>df</i>	χ^2, p	CFI	RMSEA (90% CI)
Model 1 (single factor)	65	151.38; $p < 0.001$	0.858	0.064 (0.051; 0.077)
Model 2 (two factors)	64	140.78; $p < 0.001$	0.874	0.061 (0.047; 0.074)
Model 3 (three factors)	—	—	—	—
Model 4 (three factors)	50	80.85; $p < 0.01$	0.949	0.044 (0.025; 0.061)

Note: *df* is the number of degrees of freedom; CFI is the comparative fit index; RMSEA is the root mean square error of approximation with a 90% confidence interval.

significant and rather high (in the range of 0.28–0.66). We attributed the appearance of modification indexes to the effect of set: in the battery of surveys that respondents had to complete the Self-Control Scale was preceded by several questionnaires that were presented as a single set of questions consisting of only forward items. Item 2 was the first reverse-scored item in the set, and it was responsible for contributing an additional systematic bias.

The reliability indicator (Cronbach alpha) for the Self-Control Scale was 0.79. The distribution of scores for the scale was close to the normal form (the confidence intervals for the values of asymmetry and kurtosis were [-0.51; -0.24] and [0.80; 1.32], respectively).

Descriptive statistics for the Self-Control Scale (for both studies) are presented in Table 5. The average indicators for the student sample were much lower than for the employee sample ($d = 1.1$; $p < 0.001$). These large departures between the two samples can be attributed to social desirability bias. This assertion is confirmed by strong differences observed for the average indicators of selfish lying ($d = 1.30$; $p < 0.001$) and moralistic lying ($d = 1.14$; $p < 0.001$). While these differences tend to be generally in line with those revealed for the Self-Control Scale, the measured amounts of the effect turn out to be higher. Thus, when interpreting the test scores, researchers and practitioners who use the subject

Table 5

Descriptive Statistics for the Self-Control Scale

	Entire sample			Women			Men		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Employees (Study 1)	591	44.97	7.77	197	45.60	7.34	394	44.65	7.97
Students (Study 2)	328	36.52	8.10	185	36.36	8.24	143	36.73	7.93

methodology must take account of the baseline conditions under which the methodology is applied. Gender differences again turned out to be extremely weak ($d = 0.05$) and statistically insignificant.

Construct validity of the methodology

The results of the correlation analysis of the connections between the Self-Control Scale and the indicators of the other methodologies are presented in Table 6.

The data obtained from the subscales of the Self-Organizational Ability Survey, the Life Orientation Test, Resilience Surveys as well as the Short Grit Scale demonstrate that self-control is positively correlated with the indicators of perseverance, goal-setting, planning, and self-organization. The obtained connections retain statistical reliability when controlling for social desirability. The second sample of students reproduced the direct connection between self-control and both subscales for the Duckworth Short Grit Scale.

Individuals with a high level of self-control tend to engage in more constructive thinking when analyzing various life situations, which manifests itself in general and academic self-efficacy. They also have a propensity to offer optimistic explanations of positive and negative life events, and they are given to internal reflection when explaining successes and failures. This means that they perceive positive situations as controlled, stable (constant), and widely applicable (universal), while negative situations are perceived as narrow, temporary, and controllable. A year later, students with a high level of self-control demonstrated higher levels of academic self-efficacy. The students with high self-control also reported fewer incidents of illness and a higher subjective assessment of their health on the GHQ survey. This may be attributed to their ability to better cope with behaviors that could produce harmful impacts on their health.

For the sample of first-year students, the indicator of self-control was positively correlated with their average score during the following examination session ($r = 0.17$; $p < 0.05$).

Table 6

Correlations between Self-Control, Well-Being, and Successful Functioning (Sample 1 Students)

Scale	Reliability (Cronbach's alpha)	Relationship of Self-Control	
		Current (<i>n</i> = 156)	One year later (<i>n</i> = 104)
Satisfaction with life	0.71; 0.81	0.37***	0.31**
General Health Questionnaire: Reported symptoms (GHO)	0.89	–0.19*	
STOUN: Optimist, attributes of success	0.84	0.19**	
STOUN: Optimist, attributes of failure	0.80	0.35**	
STOUN: Optimist, attributive style	0.79	0.39***	
Dispositional optimism	0.85; 0.84	0.10	0.15
Meaning of life (SZhO)	0.90	0.50***	
SZhO: Life process	0.78	0.40**	
SZhO: Life goals	0.83	0.49**	
SZhO: Life outcomes	0.76	0.30**	
SZhO: Locus of control	0.56	0.33**	
Resilience (total)	0.92	0.47***	
Resilience: Engagement	0.84	0.40**	
Resilience: Control	0.84	0.46**	
Resilience: Risk taking	0.72	0.41**	
OSD: Perseverance	0.78	0.61***	
OSD: Goal setting	0.83	0.46***	
OSD: Sticking to plans	0.91	0.43***	
OSD: Fixation on structuring	0.60	0.27**	
OSD: External means of self-organization	0.67	0.17*	
Scale of perseverance	0.70		0.55***
Scale of consistency of interests	0.74		0.48***

(Continued)

Table 6

(Continued)

Scale	Reliability (Cronbach's alpha)	Relationship of Self-Control	
		Current (<i>n</i> = 156)	One year later (<i>n</i> = 104)
Total Grit Scale (Duckworth)	0.77		0.60***
Academic self-efficacy	–		0.28**
COPE: Positive reinterpretation and growth	0.77		0.14
COPE: Mental disengagement	0.40		0.02
COPE: Focus on and venting of emotions	0.88		–0.08
COPE: Use of instrumental social support	0.82		0.09
COPE: Active coping	0.77		0.35***
COPE: Denial	0.68		–0.22**
COPE: Religious coping	0.92		0.04
COPE: Humor	0.89		0.02
COPE: Behavioral disengagement	0.73		–0.41***
COPE: Restraint	0.57		0.07
COPE: Use of emotional social support	0.66		0.05
COPE: Substance use	0.91		–0.12
COPE: Acceptance	0.74		0.08
COPE: Suppression of competing activities	0.79		0.28**
COPE: Planning	0.76		0.35**

p* < 0.05. *p* < 0.01. ****p* < 0.001.

The lack of statistically reliable connections between self-control and academic performance over the following three years can be attributed to the effect of missing data: chemistry students who were expelled for academic underachievement during the first

three years of enrollment at university ($n = 27$) demonstrated lower self-control indicators during the first year compared with academically successful students ($d = 0.43$, $t = 2.03$, $p < 0.044$). The predictive validity of the Self-Control Scale for the average examination scores during the two subsequent examination sessions ($r = 0.25$ and $r = 0.19$, $p < 0.05$) was demonstrated in another cohort of chemistry students (who participated in Empirical Study 2; see [1]). We revealed positive connections between self-control and average academic achievement for all previous examination sessions and with students' self-evaluation of their own academic achievement relative to classmates in a sample of biology students (Table 7).

Of the “Big Five” traits, self-control was associated with the components of conscientiousness. This means that individuals with high self-control are more likely to exhibit such personality traits as reliability, orderliness, scrupulousness, meticulousness, exactitude, and perfectionism when it comes to their work, as well as persistence in carrying out a planned activity and achieving the intended result. In addition, according to the data reported by the authors of the original version of the methodology, the scale of self-control is related to the indicators of emotional stability. In other words, people with high self-control are better able to control their own emotions and anxiety, and they have better control over their mood as well as such other emotional states as irritation, discontent, and anger. In other words, they know how to “keep a grip on themselves.” Finally, in full accordance with the data reported by the authors of the original version of the methodology, the Self-Control Scale turned out to be unrelated to the scales of openness to experience, friendliness, and extraversion/vigor.

The connections with the indicators of social desirability (the subscales of selfish and moralistic lying) turned out to be statistically reliable but weaker than for the sample of employees in Study 1.

A year later, the individuals with high self-control were more likely to express more constructive strategies for coping with failure, which follows from the relationships between the self-control and the COPE inventory indicators. Thus, the individual with higher

Table 7

Correlations Between Self-Control, Well-Being, and Successful Functioning (Sample 2 Students)

Scale	n	Reliability (Cronbach's alpha)	Relationship of Self-Control	
			Paired	Adjusted for social desirability bias
Objective performance	154	–	0.28***	0.32***
Subjective assessment: Performance	155	–	0.35***	0.30***
Subjective assessment: Intellect		–	0.19*	0.12
Subjective assessment: Self-organization		–	0.52***	0.46***
Grit: Consistency of interests	70	0.75	0.41***	0.44***
Grit: Perseverance		0.80	0.60***	0.53***
Grit: General indicator		0.80	0.63***	0.59***
STOUN: Optimism in situations of success	90	0.83	0.23*	0.15
STOUN: Optimism in situations of failure		0.62	0.38***	0.37**
STOUN: General indicator of optimistic attributive style		0.75	0.40***	0.35**
Satisfaction with life	159	0.83	0.21**	0.10
BFQ-2 Extraversion: Growth	145	0.87	0.11	0.01
BFQ-2 Extraversion: Dominance		0.68	0.19*	0.15
BFQ-2 Amiability: Empathy		0.81	0.00	-0.04
BFQ-2 Amiability: Politeness		0.84	0.08	-0.02
BFQ-2 Conscientiousness: Scrupulousness		0.68	0.32***	0.33***
BFQ-2 Conscientiousness: Grit		0.82	0.57***	0.52***
BFQ-2 Stability: Control over emotions		0.59	0.35***	0.25**
BFQ-2 Stability: Control over impulses		0.76	0.29***	0.24**
BFQ-2 Openness: Openness to different cultures		0.78	0.10	0.05

(Continued)

Table 7

(Continued)

Scale	<i>n</i>	Reliability (Cronbach's alpha)	Relationship of Self-Control	
			Paired	Adjusted for social desirability bias
BFQ–2 Openness: Openness to experience		0.85	–0.04	–0.11
BFQ–2 Lying: Selfish desirability		0.75	0.35***	—
BFQ–2 Lying: Moralistic desirability		0.54	0.24**	—

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

levels of self-control will react to difficult life situations by resorting to active coping strategies, planning additional steps aimed at resolving the problem, abandoning activities that interfere with the solution to the problem, and being less inclined to deny the existence of a problem and to exhibit avoidance behavior.

Discussion

The Russian-language brief version of the Self-Control Scale has a theoretically predictable structure, and it demonstrates fairly high reliability. The validity of the methodology is demonstrated by the relationships between the self-control indicator and the current self-reporting indicators of success in career and academic roles. We have demonstrated the validity of the scale for predicting the objective indicators of academic success in students using three independent samples.

We have confirmed the construct validity of the methodology by demonstrating the relationships between self-control and indicators of successful functioning, which have been confirmed through several samples of test subjects. Individuals with a high level of self-control are more goal-oriented, organized, and persistent at achieving their goals. They also resort to more

constructive coping strategies, and they make more frequent use of such strategies as active coping, planning, and suppression of competing activities. They are less likely to make recourse to unproductive strategies, such as withdrawal and denial.

People with a high level of self-control demonstrate a higher level of emotional stability and psychological well-being, which was assessed through the indicators of life satisfaction, positive and negative affect, and a sense that life is meaningful. Of course, our results show correlation and not necessarily causation. Therefore, they do not constitute proof that self-control contributes to psychological well-being and produces the other positive effects that we have discovered. However, based on theoretical considerations about the nature of the construct of self-control, we believe that causation is very plausible.

Our results also attest to the fact that people with a high level of self-control are more likely to practice constructive thinking when analyzing various life situations, which manifests itself in a propensity to provide optimistic explanations of positive and negative life events, internally reflect when offering explanations of successes and failures, and demonstrate general, academic, and professional self-efficacy. The relationship between indicators of self-control and constructive thinking may be bidirectional. It is possible that a pronounced level of self-control helps people to have faith in the future and assess current events as being more manageable and controllable, but it is also possible that developed constructive thinking strategies help the individual resist impulsive behavior and control his behavior and achievements.

The data obtained from different samples of individuals surveyed in the course of the Russian-language adaptation of the self-control evaluation methodology are well correlated with each other. The obtained results of the validation of the methodology agree well with the data reported in the studies of June Tangney et al., and they show that the Russian-language version of the self-control scale can be recommended both for research purposes and for solving practical problems posed by the complex psychodiagnosis of the personality and motivation.

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Note

1. Cohen's d is an indicator that provides the effect size used to indicate the standardized difference between two means. It is widely considered that a d value of between 0.2 and 0.3 indicates a weak effect, whereas about 0.5 indicates a moderate effect, and a value greater than 0.8 indicates a strong effect.

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Appendix

Form for the Brief Self-Control Scale

Instructions: Using the scale provided, please indicate how much each of the following statements reflects how you typically are.

1	2	3	4	5
Not at all	Rarely	Somewhat	More than occasionally	Very much
				1 2 3 4 5
				1 2 3 4 5
				1 2 3 4 5
				1 2 3 4 5
				1 2 3 4 5
				1 2 3 4 5
				1 2 3 4 5
				1 2 3 4 5
				1 2 3 4 5
				1 2 3 4 5
				1 2 3 4 5
				1 2 3 4 5
				1 2 3 4 5
				1 2 3 4 5
				1 2 3 4 5
				1 2 3 4 5

Regular items: 1, 6, 8, 12. Reverse-scored items: 2, 3, 4, 5, 7, 9, 10, 11, 13. The answers to the reverse-scored items are converted to the 5 4 3 2 1 scale before calculating the total score. Norms for sampling employees ($n = 591$): $M = 44.97$, $SD = 7.77$. Norms for sampling students ($n = 328$): $M = 36.52$, $SD = 8.10$.