
EMPIRICAL STUDIES
ЭМПИРИЧЕСКИЕ ИССЛЕДОВАНИЯ

Constructive Functions of Dreams: From a Theoretical Model to an Empirical Validation Part 2

Evgeny N. Osin

University of Paris Nanterre, Nanterre, France
ORCID: <https://orcid.org/0000-0003-3330-5647>, evgeny.n.osin@gmail.com

Polina A. Egorova

National Research University “Higher School of Economics”, Moscow, Russia
ORCID: <https://orcid.org/0000-0002-5043-8065>, e-mail: umrick@gmail.com

Natalia B. Kedrova

Moscow State University of Psychology & Education, Moscow, Russia
ORCID: <https://orcid.org/0009-0008-3004-326X>, e-mail: kedrova@mail.ru

The second part of the article presents an empirical investigation of the hypotheses concerning the positive functions of dreaming set forth in the first part of the article. Study 1 describes the development and validation of the Constructive dreaming Inventory (CDI). The bifactor four-factor ESEM model showed good agreement with empirical data: the questionnaire includes the Overall Constructive Dreaming Index and four specific scales (Dream Presence, Dream Value, Dream Absorption, and Belief in one’s Dream). CDI showed good evidence of structural and convergent validity and sufficiently high scale reliability ($\alpha > 0.76$) for research purposes. In study 2, we tested hypotheses about the correlation of the constructive dreaming (CD) intensity with a range of indicators of positive functioning. We discovered that CD has moderate connections with mental health and well-being, personal autonomy and self-determination, balanced time perspective, eudaimonic motives, and a more positive prognosis of one’s ability to reach one’s personal goals. The hypothesis about the positive associations of CD with the predominance of intrinsic aspirations over extrinsic ones was not proven. Nevertheless, the results suggested that dreams and dreaming play an important role in emotional and motivational regulation of mental activity.

Keywords: dream, dreaming, constructive dreaming, functions of dreams, self-regulation, self-determination, psychological well-being, personality growth.

Funding. The reported study was prepared within the framework of the HSE University Basic Research Program.

For citation: Osin E.N., Egorova P.A., Kedrova N.B. Constructive Functions of Dreams: From a Theoretical Model to an Empirical Validation Part 2. *Kul'turno-istoricheskaya psikhologiya = Cultural-Historical Psychology*, 2024. Vol. 20, no. 1, pp. 97–107. DOI: <https://doi.org/10.17759/chp.2024200113>

Конструктивные функции мечты: от теоретической модели к эмпирической валидации. Часть 2

Е.Н. Осин

Лаборатория LINP2, Университет Парижа Нантерр (University of Paris Nanterre), г. Париж, Франция
ORCID: <https://orcid.org/0000-0003-3330-5647>, evgeny.n.osin@gmail.com

П.А. Егорова

Национальный исследовательский университет «Высшая школа экономики» (ФГАОУ ВО НИУ ВШЭ),
г. Москва, Российская Федерация
ORCID: <https://orcid.org/0000-0002-5043-8065>, e-mail: umrick@gmail.com

Н.Б. Кедрова

Московский государственный психолого-педагогический университет (ФГБОУ ВО МГППУ),
г. Москва, Российская Федерация
ORCID: <https://orcid.org/0009-0008-3004-326X>, e-mail: kedrova@mail.ru

Вторая часть статьи посвящена эмпирической проверке предположений о позитивном характере мечтания, обоснованных в первой части статьи. Исследование 1 описывает процедуру создания и апробации методики «Опросник конструктивного мечтания». Бифакторная четырехфакторная модель ESEM показала хорошее соответствие эмпирическим данным: опросник оценивает общий показатель конструктивного мечтания и четыре частные шкалы (Наличие мечты, Польза мечты, Поглощенность мечтой и Вера в мечту). Методика показала приемлемые психометрические показатели: хорошую структурную и конструктивную валидность и достаточно высокие показатели надежности шкал ($\alpha > 0,76$) для исследовательских целей. В исследовании 2 проверялись гипотезы о связи выраженности конструктивного мечтания (КМ) с показателями саморегуляции, самодетерминации и уровнем психологического благополучия личности. Были показаны умеренные связи КМ с личностной автономией, переживанием осмысленности жизни, сбалансированной временной перспективой, выраженностью эвдемонических мотивов, более позитивным прогнозом относительно возможности достичь собственные цели уровнем психологического благополучия личности. Гипотеза о положительной связи КМ и преобладания внутренних стремлений личности над внешними не подтвердилась. Полученные результаты позволили сделать вывод о важной роли мечты в эмоциональной и мотивационной регуляции психической деятельности.

Ключевые слова: мечта, процесс мечтания, конструктивное мечтание, функции мечты, саморегуляция, самодетерминация, психологическое благополучие, развитие личности.

Финансирование. Исследование выполнено в рамках Программы фундаментальных исследований НИУ ВШЭ.

Для цитаты: Осин Е.Н., Егорова П.А., Кедрова Н.Б. Конструктивные функции мечты: от теоретической модели к эмпирической валидации. Часть 2. // Культурно-историческая психология. 2024. Том 20. № 1. С. 97–107. DOI: <https://doi.org/10.17759/chp.2024200113>

Introduction

Until recently, the phenomena of daydream and daydreaming have hardly been in the focus of empirical science. On the one hand, the difficulty of studying these phenomena is connected with their transience and subjective insignificance (reveries). On the other hand, the reason is their very personal content (“dream of all life”), which is often hidden from other people. In the last 30 years there has been a surge of research on daydream and daydreaming. The study of positive constructive daydreaming has shown a number of positive functions of daydream and daydreaming in the regulation of mental

activity [22]. However, most empirical work has been conducted on English-speaking samples, whereas there are very few studies of daydream belonging to the Russian-language environment.

The second part of this article is devoted to empirical testing of hypotheses about the adaptive nature of daydream and constructive daydreaming, which we put forward on the basis of the theoretical model presented in the first part of the paper [7]. We draw your attention to the fact that daydream and constructive daydreaming are directed into the future, they are positively and emotionally colored and have value for the individual [1; 7]. Based on the cultural-activity approach to understand-

ing daydream and the results of daydreaming research conducted within the framework of cognitive psychology and motivational psychology, we assume that the constructive nature of daydreaming and the presence of daydream are associated with indicators of effective self-regulation and self-determination: dispositional autonomy of the personality, a more positive outlook on the achievability of one's own goals, and a balanced time perspective. We also assume that the constructive nature of daydreaming is related to the indicators of motivational sphere development (eudaimonic motivation and predominance of internal goals over external ones) and acts as one of the manifestations of personal maturity.

To test the research hypotheses about daydream and constructive daydreaming, we set the task of creating and testing a Russian-language inventory for studying daydream and constructive daydreaming. It is essential to take the cultural context into account, as the understanding and representation of daydream and daydreaming shows significant cultural and linguistic differences (see the first part of the article).

The study of positive properties of daydream and constructive daydreaming consisted of two series. The first series of the study is devoted to the development and validation of the Constructive Daydreaming Inventory (CDI), and the second is focused on the study of positive properties of constructive daydreaming. Statistical processing of data was carried out in the Jamovi 1.6.23.0 and MPlus 8.8 programs.

Research 1

The purpose of the first series of the study was to develop and validate the Constructive Daydreaming Inventory (CDI).

Methods

Two samples were used in the study. The first sample was used for the primary analysis of the factor structure of the Inventory and included 304 people, of whom 84% were women aged 17 to 79 years ($M = 34.0$; $SD = 9.81$). The second sample, that was used for cross-validation of the obtained structure, included 359 individuals, of whom 86.5% were women aged 18 to 68 ($M = 36.4$; $SD = 10.7$). Respondents were users of social media and psychology websites and participated in the online survey on an anonymous and voluntary basis.

The instruments that were used in Study 1 are as follows.

1. Constructive Daydreaming Inventory (CDI). The first version of the methodology included 43 original statements developed on the basis of theoretical analysis of the concepts of 'daydreaming' and 'constructive daydreaming'. The content of the Inventory items comprised 4 groups (daydream presence, daydream absorp-

tion, daydream value and daydream belief) and were assessed on a 5-point Likert scale.

2. Imaginal Process Inventory, Short Form (SIPI [11]) (first sample only, $N = 285$). The SIPI was chosen to test the construct validity of the CDI methodology. The short version of the Inventory included 45 statements assessing 3 daydreaming styles: positive constructive daydreaming (it is characterized by a positive attitude toward daydreams, their positive emotional coloring, future orientation, and problem-solving orientation), guilty-dysphoric daydreaming (it is associated with feelings of guilt, anxiety, fear of failure, or aggression), and poor attentional control (tendency to boredom, wandering thoughts, and difficulty concentrating). We translated the inventory into the Russian language (the stimulus material is available at <https://osf.io/rck-wv>), the translation was checked and clarified in a group discussion with the assistance of bilingual experts.

3. Emotional coloring of daydream ("When I dream, I feel..."). Respondents were asked to evaluate the expression of 8 emotions (joy, fear, inspiration, elation, sadness, confidence, shame, disappointment) on a 5-point Likert scale.

Results and Discussion

Structure and reliability of CDI scales

The structure of CDI was studied in 3 stages. At the first stage (sample 1, $N = 304$), Ward's hierarchical cluster analysis (metric is Pearson correlation coefficient, inverse statements are inverted) and exploratory factor analysis (EFA) were used. Four relatively homogeneous groups of statements were obtained that fit well with the theoretical model: Daydream Presence, Daydream Value, Daydream Absorption, and Daydream Belief. Following EFA and reliability analysis, 11 items with low factor loadings were removed and a final set of 32 statements was obtained (stimulus material is available at: <https://osf.io/jwqfp>). Both second and third stages of Inventory development were devoted to testing the four-factor structure of the CDI on the second ($N = 359$) and composite ($N = 663$) samples. Exploratory structural equation modeling (ESEM) was used, and the Inventory items were treated as ordinal (WLSMV statistics [16; 20]).

The performance of the four-factor model on both samples indicated an acceptable, but not excellent, fit to the original data (Table 1). Given that constructive daydreaming is a single phenomenon, we also tested a bifactor ESEM model with four private factors and one common factor. The model showed good and excellent fits to the empirical data on the second and pooled samples, respectively, and comparable parameter estimates (Table 2). All methodology items had statistically significant loadings on the Overall Constructive Daydreaming Index (OCDI). Almost all items had statistically reliable theoretically expected loadings on private factors that exceeded cross-loadings, with a few exceptions. Item 3's loadings on the factor of Daydream Value were weak,

but given the content of the statement and the results of reliability analyses, we retained this item as part of the original scale. Two items, 9 and 23, had cross-loadings comparable to those of the main scales. However, based on the same considerations, we retained these items as part of the original scales.

Cronbach's alpha coefficient was used to assess the internal consistency of the CDI scales. Reliability indices for both samples were comparable and indicated acceptable and high reliability of the Inventory scales (0.72 and above). The reliability of the scales for sample 2 is presented in Table 3.

Table 1

Indicators of Structural Models of CDI and SIPI Methodologies

Inventory	Sample	Model	χ^2 (df)	CFI	RMSEA[90% CI]	SRMR
CDI	Sample 2 (N=359)	4-factor model	749.72 (374)	0.934	0.053 [0.047; 0.058]	0.042
		Bifactor model	600.61 (346)	0.955	0.045 [0.039; 0.051]	0.035
	Pooled Sample (N=663)	4-factor model	1252.92 (374)	0.919	0.060 [0.056; 0.063]	0.039
		Bifactor model	913.64 (346)	0.948	0.050 [0.046; 0.054]	0.032
SIPI	Sample 1 (N=285)	3-factor model	2248.01 (858)	0.781	0.075 [0.072; 0.079]	0.073
		3-factor model + cov.	1278.33 (801)	0.923	0.046 [0.041 0.051]	0.054

Legend: df – number of degrees of freedom χ^2 ; CFI – comparative Bentler agreement index; RMSEA – root of mean square error of approximation with 90% confidence interval; SRMR – standardized root mean residual.

Table 2

Factor Loadings of the ESEM Bifactor Model of the CDI on the Pooled Sample (N = 663)

Item, No.	OCDI	Daydream Value	Daydream Absorption	Daydream Belief	Daydream Presence
01	0.44	0.38	-0.03	0.43	0.03
02	0.62	0.43	-0.29	0.03	-0.05
03	0.56	0.06	-0.09	-0.26	0.11
04	0.45	0.52	0.05	0.33	0.07
05	0.30	0.45	0.20	0.02	0.24
06	0.57	0.36	-0.35	-0.15	-0.09
07	0.19	0.61	0.20	0.27	0.15
08	0.34	0.47	0.03	0.25	0.04
09	0.47	0.37	-0.40	-0.1	-0.16
10	0.38	0.24	-0.07	-0.21	0.17
11	0.27	-0.00	0.35	-0.14	-0.02
12	0.22	-0.11	0.47	-0.16	0.23
13	0.40	-0.12	0.47	-0.12	-0.25
14	0.21	-0.26	0.63	-0.17	0.15
15	0.46	0.01	0.46	-0.12	0.06
16	0.25	-0.07	0.49	0.04	0.33
17	0.41	-0.11	0.66	-0.11	-0.15
18	0.54	0.06	0.32	-0.03	0.16
19	0.28	-0.08	0.66	-0.13	-0.05
20	0.38	0.01	-0.34	0.51	-0.16
21	0.40	0.06	-0.04	0.36	0.08
22	0.39	0.43	0.09	0.47	0.02
23	0.31	-0.07	-0.47	0.40	-0.16
24	0.48	0.03	-0.13	0.58	-0.01
25	0.43	0.08	-0.35	0.41	-0.09
26	0.56	-0.02	-0.15	0.57	0.00
27	0.53	0.06	0.15	-0.03	0.36
28	0.42	0.13	0.12	0.03	0.36
29	0.66	0.12	-0.09	-0.22	0.38
30	0.66	0.01	0.05	-0.14	0.51
31	0.57	0.26	-0.08	0.27	0.28
32	0.46	0.04	0.42	-0.11	0.51

Legend: factor loadings corresponding to the theoretical model are in bold type.

Structure and reliability of the SIPI scales

To test the structural validity of the SIPI, a 3-factor ESEM model was used, with the addition of covariance between statements belonging to the same facet, according to the theoretical model [12]. The model showed a good fit to the data; all factor loadings of items (data available at: <https://osf.io/a2jm6>) were statistically significant and exceeded modulo 0.3, and exceeded cross-loadings except for two items (30 and 35). In order to preserve the equivalence of the English version, and given the limited sample size and the results of the reliability analysis, according to which these statements did not reduce the reliability of the overall measures, it was decided to keep these items as part of the original scales. The Cronbach's alpha coefficient for each of the 3 scales of the inventory was 0.84, indicating high internal consistency.

Convergent and discriminant validity of the CDI

To assess the convergent and discriminant validity of the CDI methodology, a correlation analysis of the relationships between the SIPI and CDI scales was conducted (Table 3). The SIPI Positive Constructive Daydreaming scale was positively correlated both with the OCDI and all other scales of the CDI. At the same time, the correlations of the OCDI scales with guilty-dysphoric daydreaming and poor attentional control were inverse or weak, and were not significant for the SIPI, in line with theoretical expectations.

Additionally, a correlation analysis of the relationships of methodology scales with the frequency of negative and positive emotions during daydreaming was conducted (8 statements formed 2 theoretically expected factors). The expression of positive emotions was positively correlated with all CDI scales and the SIPI positive constructive daydreaming scale, while the expression of negative emotions showed the opposite pattern of relationships.

To further examine the total variance of the CDI scales and the SIPI positive constructive daydreaming scale, multiple linear regression analyses were conducted with the 4 CDI scales as predictors of the SIPI positive constructive daydreaming (dependent variable). All 4 CDI scales were significant ($p < 0.05$) positive predictors of positive constructive daydreaming and explained 61% of the variance (beta coefficients were 0.36 for having a daydream, 0.32 for believing in a daydream, 0.25 for valueing from daydream, and 0.11 for daydream absorption). Thus, all 4 CDI scales can be considered components of a single construct, which meaningfully corresponds to positive constructive daydreaming in the SIPI model.

Thus, as a result of study 1, a new diagnostic tool, the Constructive Daydreaming Inventory, was developed to assess the expression of the General Indicator of Constructive Daydreaming and its four characteristics: Daydream Presence, Daydream Absence, Daydream Absorption, Daydream Value, and Daydream Belief. The methodology demonstrates good structural validity and sufficiently high scale reliability for research purposes. Construct validity is supported by theoretically predictable relationships with SIPI scores and positive and negative emotionality during daydreaming. However, further confirmation of construct validity using additional methodologies is needed. The SIPI Inventory translated into Russian can also be used in Russian-language psychological research and counseling practice.

Research 2

The main purpose of the second research was to examine the relationships of constructive daydreaming with indicators of various aspects of positive personality functioning.

Table 3

Correlations of CDI, SIPI and Daydream Emotionality Methodology Scales

Scales CDI, SIPI	OCDI	Day-dream Value	Day-dream Belief	Day-dream Presence	Daydream Absorption	PCD	GDD	PAC	PE	NE
OCDI	($\alpha=0.87$)									
DV	0.81***	($\alpha=0.78$)								
DB	0.62***	0.50***	($\alpha=0.81$)							
DP	0.80***	0.61***	0.31***	($\alpha=0.77$)						
D Absorb.	0.60***	0.17**	-0.00	0.40***	($\alpha=0.83$)					
PCD	0.76***	0.66***	0.57***	0.66***	0.30***	($\alpha=0.84$)				
GDD	-0.03	-0.18**	-0.17**	-0.02	0.25***	-0.12*	($\alpha=0.84$)			
PAC	-0.06	-0.13*	-0.39***	-0.00	0.28***	-0.26***	0.43***	($\alpha=0.84$)		
PE	0.44***	0.34***	0.42***	0.34***	0.16**	0.49***	-0.05	-0.18**	($\alpha=0.82$)	
NE	-0.13*	-0.18**	-0.28***	-0.08	0.12*	-0.20***	0.34***	0.22***	-0.31***	($\alpha=0.71$)

Legend: OCDI – Overall Constructive Daydreaming Index; DV – Daydream Value; DB – Daydream Belief; DP – Daydream Presence; D Absorb. – Daydream Absorption; PCD – Positive Constructive Daydreaming; GDD – Guilty-Dysphoric Daydreaming; PAC – Poor Attentional Control; PE – Positive Emotionality; NE – Negative Emotionality; “*” – $p < .05$; “**” – $p < .01$; “***” – $p < .001$.

Methods

The study involved 359 participants, anonymous volunteers recruited through social networks and websites of psychological topics (86% women, age of subjects is from 18 to 72 years, average age is 37 years).

In order to reduce respondent burden, the instruments were divided into blocks: after completing the CDI Inventory and psychological well-being scales, one of the two additional blocks was randomly selected. The sample size, taking into account missing data, is given for each methodology in Table 5.

Constructive Daydreaming Inventory (E.N. Osin, N.B. Kedrova, P.A. Egorova) (N = 359). The inventory also included additional items of the daydreaming frequency and temporal daydreaming relevance.

The Mental Health Continuum, Short Form (MHC), C. Keyes, validated in Russian by E.N. Osin and D.A. Leontiev [8].

Self-Determination Scale (SDS) by K. Sheldon [21], modified by E.N. Osin [18].

Aspiration Index, T. Kasser [13], adapted by T.O. Gordeeva and E.N. Osin.

Hedonic and Eudaimonic Motives for Activities-Revised (HEMA-R), revised by V. Huta [13], adapted by Osin et al [19].

Positive Time Use Inventory (PTUI) by E.N. Osin and I. Bonivel [17].

Zimbardo Time Perspective Inventory (ZTPI), F. Zimbardo, adapted by A. Syrtsova et al [9]. Based on the indicators of 5 methodology scales, the deviation from balanced time perspective (DBTP) indicator was calculated [24]. Balanced Time Perspective (BTP) describes the ability to flexibly and effectively switch between psychological past, present, and future in response to external demands and is an important adaptation mechanism affecting the level of psychological well-being [see details: 24; 25]. As a basis for calculating the DBTP indicator we used percentile scores calculated according to A. Syrtsova’s research [6], the final formula is presented below:

$$DBTP = \sqrt{((PP - 4.48)^2 + (PN - 1.79)^2 + (PH - 3.99)^2 + (PF - 1.83)^2 + (FU - 4.00)^2)}$$

Results and Discussion

To investigate the positive properties of constructive daydreaming, Pearson correlation coefficients were calculated for the scales of the 7 inventories (see Table 5).

Daydreaming frequency (Table 4) was theoretically predictably positively related to all scales of the Inventory, including the OCDI. OCDI was significantly related to daydreaming about the present and the future, as well as to the prevalence of daydreaming about the future compared to daydreaming about the past. This means that constructive daydreaming is more characterized by the future directionality of daydream, which is consistent with both previous studies [15; 22] and a theoretical model for the study of daydream and constructive daydreaming [7]. The direction of daydreaming into the past had a negative relationship with the scale of daydream absorption, which differs from the data of J. Smallwood, according to which it is daydreams about the past that are accompanied by “getting stuck” in daydreams [23].

As shown in Table 5, the Daydream Presence, Daydream Value, Daydream Belief, and OCDI scales were positively related to the perceived choice and authentic self-expression scales. The daydream absorption scale was negatively related to the authenticity scale. This means that constructive daydreaming, which is characterized by the daydream presence, belief in daydream value and possibility of its realization, is associated with the feeling of having choices in life and experiencing the correspondence of life choices to the values of the individual. At the same time, excessive daydream absorption and withdrawal into daydream are characteristic of people with a low experience of authenticity.

The importance of intrinsic aspirations is positively correlated with OCDI and with the scales of Daydream Presence, Daydream Value, and Daydream Belief, and weakly with the Daydream Absorption scale. The probability of achieving intrinsic aspirations is positively related to all scales of the Inventory except the Daydream Absorption scale. The OCDI, Daydream Value and Daydream Belief scales were also found to be positively related to both the importance and probability of achieving all intrinsic aspirations. The Daydream Absorption scale showed positive correlations only with the prob-

Table 4

Correlations of the Scales of Constructive Daydreaming, Daydreaming Frequency, and Temporal Daydreaming Relevance

CDI/ Daydreaming Frequency and Temporal Daydreaming Relevance	Daydreaming Frequency	Daydreams of the Past	Daydreams of the Present	Daydreams of the Future	Daydreams of the Future/Past
OCDI	0.53***	0.05	0.21***	0.30***	0.20*
Daydream Value	0.29***	0.13*	0.19***	0.28***	0.25***
Daydream Absorption	0.42***	-0.23***	0.08	0.05	-0.13*
Daydream Belief	0.15**	0.25***	0.15**	0.28***	0.32***
Daydream Presence	0.65***	0.06	0.19***	0.29***	0.20***

Legend. OCDI – Overall Constructive Daydreaming Index; “*”, p < .05; “**”, p < .01; “***”, p < .001. The parameters “Daydreaming Frequency”, “Daydreams of the Past/Present/Future” are presented by 1 question.

Table 5

Correlations of CDI, Mental Health Continuum, Self-Determination Scale by K. Sheldon, Aspirations Index, HEMA-R, Time Perspective Inventory by F. Zi, Positive Time Use Inventory

Inventory	Scale	Overall Constructive Daydreaming Index	Daydream Value	Daydream Absorption	Daydream Belief	Daydream Presence
Mental Health Continuum: overall score (N = 306)		0.32***	0.31***	-0.05	0.50***	0.24***
Self-Determination Scale by K. Sheldon (N = 307)	Perceived Choice	0.27***	0.29***	-0.10	0.41***	0.25***
	Authentic Self-Expression	0.20***	0.27***	-0.23***	0.47***	0.18**
Aspiration Index (N = 296)	Intrinsic Aspiration Importance	0.32***	0.29***	0.13*	0.27***	0.25***
	Health	0.13*	0.11*	0.04	0.14*	0.09
	Personal Growth	0.26***	0.29***	0.04	0.26***	0.19**
	Love and Affection	0.18**	0.16**	0.06	0.18**	0.10
	Service to Society	0.27***	0.19**	0.16**	0.18**	0.23***
	Probability of Achieving Intrinsic Aspirations	0.33***	0.32***	-0.11	0.50***	0.30***
	Wealth	0.16**	0.15*	-0.08	0.32***	0.10
	Personal Growth	0.28***	0.31***	0.17**	0.49***	0.25***
	Love and Affection	0.26***	0.26***	-0.11	0.43***	0.23***
	Community	0.26***	0.20**	0.02	0.30***	0.24***
	Extrinsic Aspiration Importance	0.15**	0.02	0.18**	0.03	0.17**
	Wealth	0.05	0.00	0.06	0.01	0.06
	External Attractiveness	0.17**	0.06	0.19**	0.06	0.15**
	Fame	0.15**	-0.00	0.20***	0.02	0.19***
	Probability of Achieving Extrinsic Aspirations	0.29***	0.21***	0.03	0.37**	0.24***
	Wealth	0.25***	0.21***	-0.04	0.38***	0.19**
	External Attractiveness	0.20**	0.15*	0.03	0.23***	0.19**
	Fame	0.27***	0.17**	0.07	0.31***	0.24***
	Relative Intrinsic to Extrinsic Value Orientations Index (RIEVO Index)	0.05	0.15*	-0.10	0.13*	-0.01
	HEMA-R (N = 132)	Hedonistic Motives	0.24**	0.26**	0.11	0.13
Eudaimonic Motives		0.33***	0.30***	0.01	0.40***	0.30***
Time Perspective Inventory by F. Zimbardo (N = 112)	Hedonistic Present	0.33***	0.19	0.26**	0.21*	0.21*
	Positive Past	0.14	0.05	0.13	0.08	0.13
	Fatalistic Present	-0.25**	-0.29**	0.22*	-0.43***	-0.26**
	Negative Past	-0.23*	-0.28**	0.28**	-0.53***	-0.20*
	Future Orientation	-0.17	-0.07	-0.23*	-0.02	-0.12
	DBTP (Deviation from Balanced Time Perspective)	-0.34***	-0.31***	0.12	-0.50***	-0.30**
Positive Time Use Inventory: overall (N = 253)		0.25***	0.29***	-0.22***	0.50***	0.27***

Legend: "*" – p < .05; "**" – p < .01; "***" – p < .001.

ability of achieving personal growth aspirations and the importance of serving the community.

The importance of extrinsic aspirations has positive correlations with the total factor of constructive daydreaming, scales of Daydream Absorption and Daydream Presence. At the same time, in contrast to the importance of intrinsic aspirations, correlations with the scales of Daydream Value and Daydream Belief are not significant. Rate of the probability of achieving extrinsic aspirations was positively related to the

Overall Constructive Daydreaming Index, Daydream Presence, Daydream Value, and Daydream Belief. Wealth aspiration was not related to either the total factor or the individual CDI scales. The importance of aspirations for fame and external attractiveness were positively related to the Daydream Absorption and Daydream Presence scales. Assessing the probability of achieving specific extrinsic aspirations was positively related to the OCDI and all CDI scales except the Daydream Absorption scale.

The Relative Intrinsic to Extrinsic Value Orientations Index (RIEVO) was calculated as the difference between the average importance of three intrinsic aspirations (except health) and three extrinsic aspirations. The index was found to be unrelated to OCDI, but positive relationships were obtained for the Daydream Value and Daydream Belief scales. The results do not support the hypothesized relationship between the expression of constructive daydreaming and the predominance of internal goals over external goals. However, these results suggest that daydream and daydreaming have different functions in the structure of extrinsic and intrinsic motivation. The importance of extrinsic aspirations that is associated with the daydream presence and daydream absorption does not necessarily imply a perception of daydream value, the possibility of its realization, and the positive impact of daydream on an individual's life. While the importance of intrinsic aspirations is related to the belief in daydream value and driving force of daydream and implies the realization of aspirations and values important to the individual.

Hedonistic motives, aimed at obtaining pleasure and comfort, are positively correlated with the Daydream Value scale and weakly with the Daydream Presence scale. The expression of eudaimonic motives is positively correlated with the Daydream Value, Daydream Presence and Daydream Belief scales. Thus, eudaimonic motivation is related to the incentive nature of daydreaming. OCDI was found to be related to both types of motivation. The obtained data support the assumption of a close relationship between the nature of daydreaming and the value-motivational sphere of personality [14; 15; 22]. Both hedonic and eudaimonic motivations are accompanied by daydreaming, but the goals and the result of daydreaming in these cases may be different: daydreaming generated by hedonic motivation may fulfill the function of emotional regulation, whereas daydreaming associated with eudaimonic motivation may also motivate to action.

The scales of Time Perspective Inventory by F. Zimbardo predictably correlate with the CDI. The obtained data suggest that people inclined to fatalism and fixed on the negative past are characterized, on the one hand, by the absence of daydream about the future, belief in the feasibility and usefulness of daydreaming and, on the other hand, by withdrawal into fantasies. This is probably accompanied also by a poorly developed perspective of the future, since inner psychic activity is directed toward the present and the past. At the same time, the hedonistic present is associated more with daydream absorption and probably with daydreaming aimed at emotional regulation and pleasure in the short term. The index of deviation from a balanced time perspective was negatively related to OCDI and to the Daydream Presence, Daydream Value, and Daydream Belief scales. This supports the hypothesis that constructive daydreaming is related

to a balanced time perspective which is the ability to address events and experiences relating to the psychological past, present, and future in a flexible and effective manner. However, moderate connections suggest that constructive daydreaming is not reducible to balanced time perspective or future perspective. In theoretical terms, unlike a time perspective expressing the psychological future of the individual, a constructive daydream is not necessarily realistic; it is rather an option of the best possible future.

The total score of positive time use showed a positive relationship with OCDI and with the Daydream Presence, Daydream Value, and Daydream Belief scales and negative with the Daydream Absorption scale. The results support the hypothesis of the relationship between constructive daydreaming and satisfaction with time use.

The overall level of psychological well-being was positively correlated with both the OCDI and the Daydream Presence, Daydream Value, and Daydream Belief scales. The effect size was strongest for the correlation with the Daydream Belief scale. The data confirm the hypothesis about the relationship between constructive daydreaming and psychological well-being of personality.

General discussion and conclusions

The purpose of the present work was to study the adaptive properties of daydream and constructive daydreaming and their role in the regulation of mental activity and behavior, taking into account the cultural context and linguistic environment. We assumed that singling out constructive daydreaming as a special type of daydreaming about the future would allow a more differentiated approach to the study of daydream and daydreaming, as well as help to resolve a number of theoretical and empirical contradictions accumulated in the study of this topic [7]

In Research 1, the Constructive Daydreaming Inventory with good psychometric indicators was created and tested on a Russian sample. The inventory assesses the expression of the general indicator and four characteristics of constructive daydreaming and can be used for research purposes. The content of the CDI methodology scales is close to the content of the positive constructive daydreaming scale in the SIPI methodology [11; 22]. At the same time, when creating the Russian-language tool, we included in the Inventory the statements reflecting the peculiarities of understanding daydream and daydreaming in the Russian-language environment, such as the idea of daydream value and belief in its positive influence on a person's fate [10]. The data on the daydreaming frequency confirmed the high prevalence of daydreaming, being consistent with the data which we had obtained in English-speaking samples [1; 14; 22, etc.].

The results of the second empirical study confirmed the main part of our hypotheses which is as follows: daydream and constructive daydreaming are adaptive; they fulfill a number of positive functions in the regulation of mental activity.

1. Constructive daydreaming is associated with greater autonomy, belief in one's abilities, experience of meaningfulness of life and authenticity of choices. The results are consistent with the hypothesis that daydream and constructive daydreaming support the experience of subjectivity and authorship of one's life, and the development of the ability to daydream helps to create one's own, unique life path project.

2. The hypothesis about the relationship between constructive daydreaming and the prevalence of internal goals over external goals has not been confirmed, but the findings show that the propensity for constructive daydreaming is related to the importance of internal goals and aspirations, the realization of which contributes to psychological well-being.

3. Individuals inclined to constructive daydreaming are characterized by high expression of eudaimonic motives, i.e. motives related to personal growth and development, overcoming and search for meaning. These results seem very important to us, as they refute the idea of daydream and daydreaming only as mechanisms of stress reduction and emotional release. Based on the findings, we can assume that daydreaming and constructive daydreaming, on the contrary, increase tension, as they create new, complex tasks with high subjective significance.

4. Constructive daydreaming is associated with a balanced time perspective, as well as effective and meaningful use of time. It is consistent with the proposition that daydream and daydreaming imagery integrate the most important aspects of past experiences, present events, and desired futures, enabling one to avoid fixation on a

single time period and to engage all temporal domains of experience more effectively and flexibly.

5. Finally, constructive daydreaming is associated with a higher level of psychological well-being, which confirms the hypothesis about the adaptive nature of constructive daydreaming, one of the main functions of which is to create and develop the perspective of the desired future.

In the context of the cultural-historical approach, constructive daydreaming can be associated with the concept of experience, which eliminates the discrepancy between consciousness and existence [2] and is directed mainly into the future. Such daydreaming is most characteristic of adolescence, the social situation of development of which involves building a perspective of the future and mastering the inner world [1]. However, daydreaming can also play an important role in other ages, supporting the solution of age-related tasks [7]. Investigating the ontogenesis of daydreaming is an important topic for future research. Also, a more detailed analysis of daydream as a cultural phenomenon in the context of Russian literature and culture looks like an interesting task.

The findings confirm the main provisions of the developed theoretical model of daydream and constructive daydreaming as an adaptive phenomenon important for the regulation of mental activity. The conducted empirical study, along with the results that we described in two other works [4; 5], allows us to make the assumption that the presence of daydream and constructive daydreaming can be criteria of personal maturity. We plan to test this hypothesis, as well as to study the direction of causal relationships between constructive daydreaming and other indicators of positive personality functioning, and to further validate the CDI and SIPI Inventories in future studies.

References

1. Vygotskii L.S. Pedologiya podrostka. Sbornie sochinenii V 6-ti t. T. 4. Detskaya psikhologiya. [Collected works in 6 volumes. Vol. 4. Child psychology]. El'konin D.B. (ed.). Moscow: Pedagogika, 1984. pp. 5–241.
2. Gootkina N.I. Kontseptsiya L.I. Bozhovich o stroenii i formirovanii lichnosti (kul'turno-istoricheskiĭ podkhod) [L.I. Bozhovich's Concept of Personality Structure and Formation (Cultural-Historical Approach)]. *Kul'turno-istoricheskaya psikhologiya = Cultural-historical psychology*, 2018. Vol. 14, no. 2, pp. 116–128. (In Russ.). DOI:10.17759/chp.2018140213
3. Egorova P.A. Adaptivnye funktsii mechty i protsessov mechtaniya [Adaptive functions of daydream and daydreaming]. *Voprosy psikhologii [Issues of Psychology]*, 2022. Vol. 68, no. 3, pp. 126–135. (In Russ.).
4. Egorova P.A., Osin E.N., Kedrova N.B. Mechta i zhiznennyi vybor: eksperimental'noe issledovanie [Daydream and life choices: an experimental study]. *Psikhologicheskie issledovaniya [Psychological Research]*, 2021. Vol. 1, no. 75, p. 2. Available at: <http://psystudy.ru/index.php/num/2021v14n75/1857-egorova75.html> (Accessed 08.08.2023). (In Russ.).

Литература

1. *Выготский Л.С.* Педагогика подростка / Собрание сочинений: 6 т. Т. 4. Детская психология / Под ред. Д.Б. Эльконина. М.: Педагогика, 1984. С. 5–241.
2. *Гуткина Н.И.* Концепция Л.И. Божович о строении и формировании личности (культурно-исторический подход) // *Культурно-историческая психология*. 2018. Том 14. № 2. С. 116–128. DOI:10.17759/chp.2018140213
3. *Егорова П.А.* Адаптивные функции мечты и процессов мечтания // *Вопросы психологии*. 2022. Том 68. № 3. С. 126–135.
4. *Егорова П.А., Осин Е.Н., Кедрова Н.Б.* Мечта и жизненный выбор: экспериментальное исследование [Электронный ресурс] // *Психологические исследования*. 2021. Том 1. № 75. С. 2. URL: <http://psystudy.ru/index.php/num/2021v14n75/1857-egorova75.html> (дата обращения: 08.08.2023).
5. *Егорова П.А., Осин Е.Н., Кедрова Н.Б., Рогова И.А.* О чем мечтают подростки. Связь характеристик подростковой мечты с уровнем тревоги и депрессии // *Вопросы психологии*. 2018. № 3. С. 22–33.

5. Egorova P.A., Osin E.N., Kedrova N.B., Rogova I.A. O chem mechtayut podrostki. Svyaz' kharakteristik podrostkovoi mechty s urovнем trevogi i depressii [Adolescent dream. The characteristics of the adolescent dream and the level of anxiety and depression]. *Voprosy psikhologii [Issues of Psychology]*, 2018, no. 3, pp. 22–33. (In Russ.).
6. Mitina O.V., Syrtsova A. Oprosnik po vremenno perspektive F. Zimbardo (ZTPI): rezul'taty psikhometricheskogo analiza russkoyazychnoĭ versii [F. Zimbardo Time perspective inventory (ZTPI): results of psychometric analysis of the russian version]. *Vestnik MGU. Seriya 14. Psikhologiya [MSU messenger. Series 14. Psychology]*, 2008, no. 4, pp. 67–89. (In Russ.).
7. Osin E.N., Egorova P.A., Kedrova N.B. Konstruktivnye funktsii mechty: ot teoreticheskoi modeli k empiricheskoi validizatsii. Chast' 1 [Constructive functions of daydreaming: from a theoretical model to an empirical validation. Part 1]. *Kul'turno-istoricheskaya psikhologiya = Cultural-Historical Psychology*, 2023. Vol. 19, no. 4, pp. 56–66. DOI:10.17759/chp.2023190406 (In Russ.).
8. Osin E.N., Leont'ev D.A. Kratkie russkoyazychnye shkaly diagnostiki sub'ektivnogo blagopoluchiya: psikhometricheskie kharakteristiki i sravnitel'nyĭ analiz [Brief Russian scales for diagnosing subjective well-being: psychometric characteristics and comparative analysis]. *Monitoring obshchestvennogo mneniya: Ekonomicheskie i sotsial'nye peremeny [Public Opinion Monitoring: Economic and Social Changes]*, 2020, no 1, pp. 117–142. (In Russ.).
9. Syrtsova A., Sokolova E.T., Mitina O.V. Adaptatsiya oprosnika vremennoi perspektivy lichnosti F. Zimbardo [Adaptation of F. Zimbardo personal time perspective inventory]. *Psikhologicheskii zhurnal [Psychological journal]*, 2008. Vol. 29, no. 3, pp. 101–109. (In Russ.).
10. Tikhonova N.E. Mechty rossiyan "ob obshchestve" i "o sebe": mozno li govorit' ob osobom rossiiskom tsivilizatsionnom proekte? [Dreams of Russians "about society" and "about themselves": is it possible to speak of a special Russian civilizational project?]. *Obshchestvennye nauki i sovremenost' [Social Sciences and Modernity]*, 2015, no. 1, pp. 52–63. Available at: <https://ecsocman.hse.ru/text/50686006.html> (Accessed 29.12.2023). (In Russ.).
11. Huba G., Singer J.L., Aneshensel C., Antrobus J. Short Imaginal Processes Inventory. London, ON: Research Psychologists' Press, 1982.
12. Huba G.J., Aneshensel C.S., Singer J.L. Development of scales for three second- order factors of inner experience. *Multivariate Behavioral Research*, 1981. Vol. 16, no. 2, pp. 181–206. DOI:10.1207/s15327906mbr1602_4
13. Kasser T., Ryan R. M. Further examining the American dream: Differential correlates of intrinsic and extrinsic goals. *Personality and Social Psychology Bulletin*, 1996. Vol. 22, no. 3, pp. 280–287. DOI:10.1177/0146167296223006
14. Klinger E. Daydreaming: Using Waking Fantasy and Imagery for Selfknowledge and Creativity. Los Angeles: Jeremy P. Tarcher, INC. 1990. 252 p.
15. McMillan R.L., Kaufman S.B., Singer J.L. Ode to positive constructive daydreaming. *Frontiers in Psychology*, 2013. Vol. 4. DOI:10.3389/fpsyg.2013.00626
16. Muthén L.K., Muthén, B.O. Mplus User's Guide. 7th Edition. Los Angeles, CA: Muthén & Muthén, 2012. 856 p.
17. Osin E., Boniwell I. Positive time use: A missing link between time perspective, time management, and well-being. *Frontiers in Psychology* (under review).
18. Osin E.N. I. Boniwell I. Self-determination and Well-being. Poster presented at the 2010 Self-Determination Theory Conference. Ghent, Belgium, 2010.
6. Митина О.В., Сырцова А. Опросник по временной перспективе Ф. Зимбардо (ZTPI): результаты психометрического анализа русскоязычной версии // Вестник Московского университета. Серия 14. Психология. 2008. № 4. С. 67–89.
7. Осин Е.Н., Егорова П.А., Кедрова Н.Б. Конструктивные функции мечты: от теоретической модели к эмпирической валидации. Часть 1 // Культурно-историческая психология. 2023. Том 19. № 4. С. 56–66. DOI:10.17759/chp.2023190406
8. Осин Е.Н., Леонтьев Д.А. Краткие русскоязычные шкалы диагностики субъективного благополучия: психометрические характеристики и сравнительный анализ // Мониторинг общественного мнения: Экономические и социальные перемены. 2020. № 1. С. 117–142.
9. Сырцова А., Соколова Е.Т., Митина О.В. Адаптация опросника временной перспективы личности Ф. Зимбардо // Психологический журнал. 2008. Том 29. № 3. С.101–109.
10. Тихонова Н.Е. Мечты россиян «об обществе» и «о себе»: можно ли говорить об особом российском цивилизационном проекте? [Электронный ресурс] // Общественные науки и современность. 2015. № 1. С. 52–63. URL: <https://ecsocman.hse.ru/text/50686006.html> (дата обращения: 29.12.2023).
11. Huba G., Singer J.L., Aneshensel C., Antrobus J. Short Imaginal Processes Inventory. London, ON: Research Psychologists' Press, 1982.
12. Huba G.J., Aneshensel C.S., Singer J.L. Development of scales for three second- order factors of inner experience // Multivariate Behavioral Research. 1981. Vol. 16. № 2. P. 181–206. DOI:10.1207/s15327906mbr1602_4
13. Kasser T., Ryan R.M. Further examining the American dream: Differential correlates of intrinsic and extrinsic goals // Personality and Social Psychology Bulletin. 1996. Vol. 22. № 3. P. 280–287. DOI:10.1177/0146167296223006
14. Klinger E. Daydreaming: Using Waking Fantasy and Imagery for Selfknowledge and Creativity. Los Angeles: Jeremy P. Tarcher, INC, 1990. 252 p.
15. McMillan R.L., Kaufman S.B., Singer J.L. Ode to positive constructive daydreaming // Frontiers in Psychology. 2013. Vol. 4. DOI:10.3389/fpsyg.2013.00626
16. Muthén L.K., Muthén, B.O. Mplus User's Guide. 7th Edition. Los Angeles, CA: Muthén & Muthén, 2012. 856 p.
17. Osin E., Boniwell I. Positive time use: A missing link between time perspective, time management, and well-being // Frontiers in Psychology (under review).
18. Osin E.N. I. Boniwell I. Self-determination and Well-being // Poster presented at the 2010 Self-Determination Theory Conference. Ghent, Belgium, 2010.
19. Osin E.N., Voevodina E.Y., Kostenko V.Y. A growing concern for meaning: Exploring the links between ego development and eudaimonia // Frontiers in Psychology. 2023. Vol. 14. P. 958721. DOI:10.3389/fpsyg.2023.958721
20. Sellbom M., Tellegen A. Factor analysis in psychological assessment research: Common pitfalls and recommendations // Psychological assessment. 2019. Vol. 31. № 12. P. 1428–1441. DOI:10.1037/pas0000623
21. Sheldon K.M., Deci E. Self Determination Scale (SDS) [Database record]. APA PsycTests, 1993.
22. Singer J.L. The Inner World of Daydreaming. N.Y.: Harper and Row, 1975. 273 p.
23. Smallwood J., Nind L., O'Connor R.C. When's your head at? An exploration of the factors associated with the temporal focus of the wandering mind // Consciousness and

19. Osin E.N., Voevodina E.Y., Kostenko V.Y. A growing concern for meaning: Exploring the links between ego development and eudaimonia. *Frontiers in Psychology*, 2023. Vol. 14, p. 958721. DOI:10.3389/fpsyg.2023.958721
20. Sellbom M., Tellegen A. Factor analysis in psychological assessment research: Common pitfalls and recommendations. *Psychological assessment*, 2019. Vol. 31, no. 12, pp. 1428–1441. DOI:10.1037/pas0000623
21. Sheldon K. M., Deci E. Self Determination Scale (SDS) [Database record]. APA PsycTests, 1993.
22. Singer J.L. *The Inner World of Daydreaming*. N.Y.: Harper and Row, 1975. 273 p.
23. Smallwood J., Nind L., O'Connor R.C. When's your head at? An exploration of the factors associated with the temporal focus of the wandering mind. *Consciousness and Cognition*, 2009. Vol. 18, no. 1, pp. 118–125. DOI:10.1016/j.concog.2008.11.004
24. Stolarski M., Wiberg B., Osin E. Assessing Temporal Harmony: The Issue of a Balanced Time Perspective / In M. Stolarski, N. Fieulaine, W. van Beek (Eds.) *Time Perspective Theory; Review, Research and Application* (pp. 57–71). Springer, Cham, 2015.
25. Stolarski M., Zajenkowski M., Jankowski K.S., Szymaniak K. Deviation from the balanced time perspective: A systematic review of empirical relationships with psychological variables // *Personality and Individual Differences*, 2020. Vol. 156, p. 109772. DOI:10.1016/j.paid.2019.109772
- Cognition. 2009. Vol. 18. № 1. P. 118–125. DOI:10.1016/j.concog.2008.11.004
24. Stolarski M., Wiberg B., Osin E. Assessing Temporal Harmony: The Issue of a Balanced Time Perspective // *Time Perspective Theory; Review, Research and Application* / M. Stolarski, N. Fieulaine, W. van Beek (Eds.). Springer, Cham, 2015. P. 57–71.
25. Stolarski M., Zajenkowski M., Jankowski K.S., Szymaniak K. Deviation from the balanced time perspective: A systematic review of empirical relationships with psychological variables // *Personality and Individual Differences*. 2020. Vol. 156. P. 109772. DOI:10.1016/j.paid.2019.109772

Information about the authors

Evgeny N. Osin, PhD in Psychology, Associate Professor, Department of Psychology, Interdisciplinary Laboratory of Neurosciences, Physiology, and Psychology (LINP2) University of Paris Nanterre, Nanterre, France, ORCID: <https://orcid.org/0000-0003-3330-5647>, evgeny.n.osin@gmail.com

Polina A. Egorova, PhD in Psychology, National Research University “Higher School of Economics”, Department of Psychology, International Laboratory of Positive Psychology of Personality and Motivation, Moscow, Russia, ORCID: <https://orcid.org/0000-0002-5043-8065>, e-mail: umrick@gmail.com

Natalia B. Kedrova, Associate Professor, Chair of Child and Family Psychotherapy, Moscow State University of Psychology & Education, Moscow, Russia, ORCID: <https://orcid.org/0009-0008-3004-326X>, e-mail: kedrova@mail.ru

Информация об авторах

Осин Евгений Николаевич, кандидат психологических наук, доцент департамента психологии междисциплинарной лаборатории нейронаук, физиологии и психологии (LINP2), Университет Парижа Нантерр, г. Нантерр, Франция, ORCID: <https://orcid.org/0000-0003-3330-5647>, evgeny.n.osin@gmail.com

Егорова Полина Алексеевна, кандидат психологических наук, стажер-исследователь департамента психологии международной лаборатории позитивной психологии личности и мотивации, Научно-исследовательский университет «Высшая школа экономики» (ФГАОУ ВО НИУ ВШЭ), г. Москва, Российская Федерация, ORCID: <https://orcid.org/0000-0002-5043-8065>, e-mail: umrick@gmail.com

Кедрова Наталия Бонифатьевна, доцент кафедры детской и семейной психотерапии, Московский государственный психолого-педагогический университет (ФГБОУ ВО МГППУ), г. Москва, Российская Федерация, ORCID: <https://orcid.org/0009-0008-3004-326X>, e-mail: kedrova@mail.ru

Получена 06.10.2023

Принята в печать 20.03.2024

Received 06.10.2023

Accepted 20.03.2024