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Irrational beliefs as a cognitive predictor of procrastination: a theoretical and empirical study

Abstract

This article contains the theoretical foundations of procrastination in terms of irrational personality beliefs, as well as the results of empirical research, including methods for investigating irrational beliefs as cognitive predictors of procrastination. The purpose of this study was to study the causes of procrastination in the Kazakhstani sample using methods specially selected and adapted to the Kazakh language, taking into account cultural characteristics. This study has revealed the structural relationships between the cognitive, behavioral, and emotional components of procrastination and the extent to which a combination of these components explains procrastination. Most previous studies that have examined the causal factors associated with procrastination have focused on limited dimensions or variables of procrastination. Thus, it is expected that the present study will expand on previous studies by examining a more complete set of cognitive, behavioral, and emotional components, where a special role is given to irrational personality beliefs as a cognitive predictor of procrastination. The study analyzed modern conceptual approaches to understanding procrastination and irrational beliefs, uncovered the content of underlying cognitive phenomena, and identified procrastination in people with different levels of irrational beliefs.

Keywords: procrastination; irrational beliefs; cognitive predictors; behavioral components; emotional components.

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Прокрастинацияның когнитивті предикторы ретінде иррационалды сенімдер: теориялық-эмпирикалық зерттеу

Аңдатпа

Аталмыш мақалада жеке тұлғаның иррационалды сенімдері бөлігіндегі прокрастинацияның теориялық негіздері, сондай-ақ прокрастинацияның когнитивті предикторы ретінде иррационалды сенімдерді зерттеу әдістерін қамтитын эмпирикалық зерттеу деректерінің нәтижелері қамтылған. Бұл зерттеудің мақсаты мәдени ерекшеліктерін ескере отырып, қазақ тіліне арнайы іріктелген және бейімделген әдістемелерді пайдалану арқылы қазақстандық іріктемедегі прокрастинация себептерін зерделеу болды. Бұл зерттеу прокрастинацияның когнитивті, жүріс-тұрыс және эмоциялық компоненттері арасындағы құрылымдық байланыстарды және осы компоненттердің комбинациясы кейінге қалдыруды қаншалықты түсіндіретінін анықтады. Прокрастинацияға байланысты себеп-салдарлық факторларды зерттеген алдыңғы зерттеулердің көпшілігі шектеулі өлшемдерге немесе прокрастинация айнымалыларына бағытталған. Осылайша, бұл зерттеу когнитивті, жүріс-тұрыс және эмоциялық компоненттердің толық жиынтығын зерттей отырып, алдыңғы зерттеулерді кеңейтеді деп күтілуде, мұнда прокрастинацияның когнитивті предикторы ретінде жеке тұлғаның иррационалды сенімдеріне ерекше рөл беріледі. Зерттеу барысында прокрастинация мен иррационалды сенімдерді түсінудің заманауи тұжырымдамалық тәсілдеріне талдау жасалды, оның негізінде жатқан когнитивті құбылыстардың мазмұнын

ашып, әр түрлі деңгейдегі иррационалды сенімдері бар тұлғаларда прокрастинацияның деңгейі анықталды.

Түйін сөздер: прокрастинация; иррационалды сенімдер; когнитивті предикторлар; жүріс-тұрыс компоненттері; эмоциялық компоненттер.

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Иррациональные убеждения как когнитивный предиктор прокрастинации: теоретико-эмпирическое исследование

Аннотация

Данная статья содержит теоретические основы прокрастинации в части иррациональных убеждений личности, а также результаты данных эмпирического исследования, включающие методы исследования иррациональных убеждений как когнитивных предикторов прокрастинации. Целью данного исследования было изучение причин прокрастинации в казахстанской выборке с использованием методик, специально подобранных и адаптированных на казахский язык, с учетом культуральных особенностей. Данное исследование выявило структурные взаимосвязи между когнитивными, поведенческими и эмоциональными компонентами прокрастинации и в какой степени сочетание этих компонентов объясняет прокрастинацию. Большинство предыдущих исследований, в которых изучались причинно-следственные факторы, связанные с прокрастинацией, были сосредоточены на ограниченных измерениях или переменных прокрастинации. Таким образом, ожидается, что настоящее исследование расширит предыдущие исследования, изучив более полный набор когнитивных, поведенческих и эмоциональных компонентов, где особая роль уделяется иррациональным убеждениям личности как когнитивному предиктору прокрастинации. В ходе исследования был проведен анализ современных концептуальных подходов к пониманию прокрастинации и иррациональных убеждений, раскрытие содержания лежащих в ее основе когнитивных явлений и определение прокрастинации у людей с разным уровнем иррациональных убеждений.

Ключевые слова: прокрастинация; иррациональные убеждения; когнитивные предикторы; поведенческие компоненты; эмоциональные компоненты.

Introduction. According to the latest scientific data, we observe that the prevalence of procrastination among the population is increasing very sharp. The harmful effects of procrastination can extend to one third of a person's daily activities and have a powerful negative impact on personal, family and professional spheres in our modern society [1, p. 34-45]. According to the cognitive approach, the phenomenon of procrastination is based on irrational beliefs, low self-esteem, and the inability to make independent decisions. That is the roots of procrastination and must be sought in the irrational thinking of the procrastinator. An example of an irrational belief might be the phrase, 'I always do my job well.' Such excessive demands on their work lead to delaying work for fear of making a mistake [2, p. 10].

Procrastination may cause stress, guilt, decreased productivity, as well as dissatisfaction with others due to non-fulfillment of obligations. A combination of these feelings and overspending. First, they focus on secondary tasks and dealing with increasing anxiety, then on working at an emergency pace and can provoke further procrastination [3, p. 31-35]. Chronic procrastination can be caused by a hidden psychological or physiological ailment. Some people can only work productively when a tight time frame is set, and their productivity peaks in the last hours and minutes before the deadline.

The key signs of procrastination are the lack of productivity and meaning in the actions performed, combined with the constant postponement of really important and useful things. To a

certain extent, there is nothing wrong with this, since no one can work like a machine. Short rest breaks and a change of activities have a positive effect on overall productivity. Therefore, another sign of procrastination is negative consequences, such as violation of deadlines, failure of planned projects, general dissatisfaction with their professional activities, and possible personal and psychological problems in this regard [4, p. 4]. Procrastinators often have perfectionist attitudes that extend to all spheres of life. Such attitudes can demonstrate to us the irrational beliefs of a procrastinator, often expressed in fear of success or failure. In turn, such fears provoke neurotic reactions to various situations that arise in life. Such people can be emotionally overwhelmed and anxious. They are asthenic, have low self-esteem, are very shy in public, and have a high level of self-criticism. The majority of people from this group see the reasons for their success in some external and unstable factors [5, p. 20].

Although the cognitive approach is relatively new, it is very popular in explaining human behavior and its psychological characteristics, including procrastination. In this area, three main phenomena underlying the phenomenon of procrastination have been proposed – irrational beliefs, low self-esteem, and the inability to make decisions on their own. Despite the fact that each of these three aspects is an independent phenomenon with its own causes, nevertheless, they are all interconnected with each other and affect each other. In 1977, Ellis and Knaus called procrastination an emotional disorder rooted in irrational thinking [6, p. 7]. One of the irrational beliefs of procrastinators is the phrase "I always do my job well" and the subsequent evaluation of this activity. This belief can lead to negative consequences when people are unable to do some work optimally and on time. This irrational attitude often leads to the fact that people quite often delay the performance of any important activity for them, for fear of making a mistake in their work. Such beliefs are considered irrational, because overly high demands on their work already suggest that mistakes may occur there [7, p. 3]. Procrastinators only benefit from this delay and procrastination in their work, since the mistakes they make later can be explained by lack of time or simply laziness. Such explanations are very convenient for a procrastinator with the irrational belief "I always do my job well," since the very fact that he does not know something and may make a mistake is excluded [8, p. 23]. In most foreign works, a cognitive approach is used to study procrastination, including studies of irrational attitudes (A. Ellis, W.J. Knaus), low self-esteem (J.B. Burka, L.M. Yuen) and inability to make decisions (I.L. Janis, L. Mann). Among other foreign studies of the cognitive component of procrastination, one can find works linking this phenomenon with insecurity and fear of failure (M. Balkis, E. Duru), defectiveness and lack of self-control (S. Aftab, J. Klibert, N. Holtzman, K. Qadeer), negative thoughts about oneself (G.L. Flett), self-criticism (T.A. Powers, R. Koestner, D.C. Zuroff), self-blame (F.M. Sirois), self-deception and judgmental thoughts (B. McCown, I.K. Blake, R. Keise), the need for cognition and emotional intelligence (E. Geertman, A. Valk), ineffective time management and self-doubt [9, pp. 28-56].

The article examines the phenomenon of negative beliefs as stable cognitive formations that have a significant impact on the emotional state, behavior, and adaptive capabilities of an individual. The main approaches to understanding them are analyzed [10, pp. 34-45].

Literature review. Despite a significant number of studies on the cognitive factors of procrastination, most of them have been carried out independently of each other, which leads to a fragmented understanding of this phenomenon. The cognitive characteristics of procrastination are studied mainly abroad, which causes certain difficulties in adapting and transferring the results to a sample of Kazakhstan. Therefore, conducting a study on the irrational beliefs of procrastination in a sample of Kazakhstan will expand the understanding of this phenomenon in relation to the cultural and historical region. It is suggested that procrastination caused by fear of failure results from over-identification with the result of one's work. P. Linville suggests that a person whose interests and pursuits are in different fields is less prone to procrastination than a person whose self-identification is based on success factors in only one area. A professional tennis player will be more upset by a missed ball than an amateur who has other interests in life that can act as a buffer. A person who is easily

stressed due to failures in one area considers work to be a measure of his personality, and perceives failure in a particular project as evidence of his own inferiority [11, pp. 18-36].

Another factor contributing to the development of procrastination in this approach is the unattractiveness of the task. Some characteristics of the task, such as monotony, boredom, and excessive complexity, lead to the fact that a person prefers to postpone its completion [12, pp. 45-57]. There is also an alternative hypothesis stating that the reason for procrastination is the fear of success. A person is afraid to achieve success in one area or another, as this success will entail excessive demands from others and a high level of aspirations that a person will not always be able to meet [13, pp. 29-43]. Fear of inconsistency with one's initial success can cause low self-esteem, stress, and, as a result, procrastination [14, pp. 35-39]. Thus, the scientific problem of the study lies in the fact that, on the one hand, procrastination is increasing in modern society, on the other hand, the construct of the cognitive nature of procrastination in terms of irrational beliefs has not yet been clearly worked out, no universal classification of the cognitive components of this phenomenon has been found, and the set of methodological tools for their diagnosis is quite limited [15, p. 22]. These limitations require a comprehensive consideration of cognitive markers of procrastination in terms of irrational beliefs that make it possible to predict the likelihood of this phenomenon [16, pp. 44-65].

The purpose of the study is to theoretically substantiate and empirically study procrastination in terms of irrational beliefs.

Research objectives are to analyze modern conceptual approaches to understanding procrastination in terms of irrational beliefs, to reveal the content of the cognitive phenomena underlying it; to establish the features of the cognitive sphere in terms of irrational beliefs with different levels of procrastination; determine the structure of the cognitive sphere with different levels of procrastination.

Materials and methods. Theoretical analysis of literary sources, comparison and synthesis of methodological and empirical developments. In most foreign works, a cognitive approach is used to study procrastination, including the study of this phenomenon by uncertainty and fear of failure [17, pp. 24-25], with a lack of self-control [18, pp. 44-45] linking research, negative thoughts about oneself [19, pp. 74-75], self-criticism (T. A. Powers, R. Koestner, D. C. Zuroff), self-blame (F. M. Sirois), thoughts of self-deception and condemnation (B. McCown, I. K. Blake, R. Keise), with the need for cognition and emotional intelligence [20, pp. 34-45] (E. Geertman, A. (C. Atalayin, M. Balkis, H. Tezel, G. Kayrak).

However, the integration of data on an individual's irrational beliefs and their effect on procrastination has not yet been thoroughly studied. Existing approaches often consider procrastination due to insufficient self-discipline or external factors, while ignoring the role of internal beliefs and ways to correct them. Empirical research was conducted with the help of psychodiagnostic methodologists: K. Lei GPS general procrastination scale (1 general scale, 20 statements); N. Garnefski (Nadia Garnefski), V. Kraaij (V. Kraaij) CeRq cognitive regulation of emotions questionnaire; P. Steele's IPS irrational Procrastination Scale (IPS - Irrational Procrastination Scale); P. Steele's PPS - pure procrastination scale; ERQ - emotion regulation questionnaire; SGABS - abbreviated scale of irrational beliefs.

The data was processed using mathematical statistics methods such as descriptive statistics (M, SD), Pearson correlation analysis, multiple linear regression analysis, and significance analysis of differences at a significance level of $p < 0.05$. Stages of research. In accordance with the purpose and objectives, the research work was carried out in several stages. At the first stage (2024-2025), a theoretical analysis of domestic and foreign studies was conducted on procrastination, its cognitive nature in terms of irrational beliefs, and the specifics of procrastination. Based on the theoretical analysis, a hypothesis was put forward, the purpose and objectives of empirical research were determined. At the second stage (2025-2026), the main empirical study was carried out to study the components of procrastination in terms of irrational beliefs, including the organization of the study,

sample formation and psychodiagnostics of the subjects. At the third stage (2026), the results obtained during the study were processed and interpreted, and generalizing conclusions were formulated.

The reliability of the research results and conclusions is ensured by the theoretical and methodological elaboration of the problem and the validity of the research provisions; the use of a set of proven and reliable methods adequate to the subject, purpose, objectives and hypothesis of the study; sufficient sample size and representativeness; the use of appropriate mathematical methods for the correct processing and analysis of data; the significance and consistency of empirical data at various stages of the study; comparison of the obtained research results with the already available data from domestic and foreign works.

Results and discussions. The study involved 218 respondents aged 18 to 56 years. The sample was mixed and included representatives of various social and professional groups. The analysis of internal consistency has shown that the methods used are sufficiently reliable. The values of the α Kronbach coefficient varied in the range: GPS: $\alpha \approx 0.80 - 0.85$; IPS: $\alpha \approx 0.85 - 0.90$; PPS: $\alpha \approx 0.80 - 0.88$; SGABS: $\alpha \approx 0.78 - 0.85$. The obtained values indicate a high internal consistency of the scales.

Descriptive analysis showed that the average values of the studied variables are within the average levels of severity. The average value of irrational beliefs was $M = 2.58$ ($SD = 0.58$), the level of general procrastination on the GPS scale was $M = 2.49$ ($SD = 0.46$), on the IPS scale - $M = 2.69$ ($SD = 0.68$), on the PPS scale - $M = 2.08$ ($SD = 0.75$). The average age of the participants was $M = 22.26$ years ($SD = 7.25$) as specified in Table 1:

Table 1. - Descriptive statistics of the research

Variables	M	SD
SGABS (irrational beliefs)	2.58	0.58
GPS (general procrastination)	2.49	0.46
IPS (irrational procrastination)	2.69	0.68
PPS (pure procrastination)	2.08	0.75
Age	22.26	7.25

The results of the correlation analysis revealed statistically significant positive associations between irrational beliefs and indicators of procrastination: SGABS and GPS: $r = 0.39$, $p < 0.01$; SGABS and IPS: $r = 0.34$, $p < 0.01$; SGABS and PPS: $r = 0.39$, $p < 0.01$. This indicates that an increase in the level of irrational beliefs is accompanied by an increase in the severity of procrastination behavior. In addition, a negative relationship was found between age and irrational beliefs: Age and SGABS: $r = -0.18$, $p < 0.01$. The association of age with procrastination is less pronounced and does not reach statistical significance for most indicators ($p > 0.05$), which indicates a limited role of the age factor in the formation of procrastination behavior in this sample as specified in Table 2:

Table 2. – Correlation matrix

Variables	1	2	3	4	5
1. SGABS	1				
2. GPS	0.391**	1			
3. IPS	0.341**	0.637**	1		
4. PPS	0.387**	0.727**	0.697**	1	
5. Age	-0.177**	-0.104	-0.157*	-0.121	1

To determine the contribution of irrational beliefs to the formation of procrastination, a multiple regression analysis was performed. The dependent variable was the level of procrastination on the GPS scale, and irrational beliefs and age were predictors. The analysis results showed that irrational beliefs are a significant predictor of procrastination ($\beta = 0.39$, $p < 0.001$); age is not a significant

predictor ($\beta = -0.04$, $p > 0.05$); the model explains 15.4% of the procrastination variance ($R^2 = 0.154$), where the dependent variable is GPS; $R^2 = 0.154$ as specified in Table 3:

Table 3. – Regression analysis

Predictor	beta	p
SGABS	0.385	< 0.001
Age	-0.036	0.576

Conclusions. The results obtained confirm the hypothesis about the significant role of irrational beliefs in the formation of procrastination. The revealed correlations ($r \approx 0.34$ – 0.39) indicate that cognitive factors occupy an important place in the structure of procrastination. From a theoretical point of view, these results are consistent with the provisions of rational-emotive-behavioral therapy developed by Albert Ellis, in which irrational beliefs are considered as a key source of maladaptive emotional and behavioral reactions. In the context of procrastination, such beliefs can reinforce avoidance of activities through fear of failure, perfectionist attitudes, and low tolerance for frustration.

The results obtained confirm that irrational beliefs play a significant role in the formation of procrastination behavior, but their influence is moderate. This indicates that procrastination is a multicomponent phenomenon that is formed under the influence of both cognitive and other psychological factors. It can be assumed that irrational beliefs contribute to the formation of maladaptive strategies of emotional regulation, such as rumination, catastrophization and avoidance, which, in turn, enhance procrastination behavior. Thus, procrastination can be considered as a result of the indirect influence of cognitive factors through emotional mechanisms. It can be assumed that irrational beliefs contribute to the formation of maladaptive strategies of emotional regulation, such as rumination, catastrophization and avoidance, which, in turn, enhance procrastination behavior. Thus, procrastination can be considered as a result of the indirect influence of cognitive factors through emotional mechanisms. Thus, procrastination can be considered as a cognitively conditioned behavior based on irrational beliefs, but their influence is realized in a system of more complex psychological mechanisms.

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