

National Research University Higher School of Economics

**As a manuscript**

Naumtseva Elena

**SOCIO-PSYCHOLOGICAL PREDICTORS OF PSYCHOLOGICAL  
READINESS FOR ORGANIZATIONAL CHANGE**

PhD Dissertation Summary  
for the purpose of obtaining academic degree  
Doctor of Philosophy in Psychology

Academic supervisor:

V. A. Strooh

PhD, Associate Prof.

Moscow — 2020

## GENERAL DESCRIPTION OF WORK

### **The relevance of the research**

Modern organizations, both the commercial sector and the public sector, are undergoing numerous changes. Many factors contribute to this: globalization of socio-economic processes, rapid technological development, transformation of the economy into a knowledge economy and an economy of impressions. Such transformations require employees' high degree of psychological readiness for changes.

The need for change management and staff training for them is recognized by business and government. So, change management programs are regularly leading in company surveys on current training plans. In 2014, 359 HR directors and executives from 38 countries in a Henley Business School' survey responded that the key challenges their companies will face in the next three years will be the speed of change and growth management [Ludlow, 2014]. In 2015, a survey of two hundred HR directors by the British business school Henley Business School showed that the main challenges of the near future were the reorganization of the company, the evaluation and implementation of new ideas, the change in the organization's culture and the speed of change. Thus, four out of ten major challenges are associated with changes within the company [Ludlow, 2015].

These surveys demonstrate the relevance of managing change in social structures. At the same time, researchers respond rather slowly to an urgent and growing demand for practical, scientifically based models, approaches and tools in the field of readiness by organizations.

The number of introduced changes in organizations is growing every year, and increasing the effectiveness of organizational changes is becoming an increasingly important issue of management practice. C. Cartwright and R. Schoenberg indicate that more than 70% of organizational change initiatives fail [Cartwright et al., 2006]. Однако разные типы изменений реализуются с разной степенью успешности.

According M. Smith' study the implementation of the strategy and restructuring are implemented as successfully as possible in comparison with other types of changes. The implementation of it – platforms and the transformation of organizational culture are the most difficult to implement, while the question of the effectiveness of the introduction of innovations remains acute [Smith, 2002]. Failures and successes are often associated with “soft” factors, such as psychological stability [Danisman, 2010], reaction to changes [Oreg, Vakola, Armenakis, 2011], attitudes and beliefs of employees that influence the adoption of changes and adaptation to them [Armenakis et al., 2007]. Change implementation initiatives do not lead to the desired results due to the fact that employees are often not ready for them [By, 2007; Neves, 2009].

Thus, the relevance of the study is due to the presence of a request from the practice for scientifically based models of psychological readiness of staff for changes and tools for measuring it. At the same time, the relationships between organizational identification and perceived norms regarding changes are not theoretically substantiated, and the results of empirical work are scattered, which creates the obligatoriness to develop this subject.

### **Research problem**

Traditionally, studies of the complex relationships between organizational identification and attitudes toward change fall into the field of research on the relationship between a person and an organization during a period of transformation [Drzensky et al., 2012 Dutton et al., 1994; Ellemers, 2003; Gaertner et al., 1999; Richter et al., 2006; van Knippenberg, Ellemers, 2003].

However, there is no unity among researchers: a number of works show that a high level of identification is associated with a low level of involvement in changes and, ultimately, leads to resistance to changes [Bouchikhi, Kimberly, 2003; Fiol, O’Conner, 2002; Jetten, 2002]. Other studies show that the relationship between the level of identification and the level of involvement in change is positive [Hekman, Steensma, Bigley, and Hereford, 2009; van Knippenberg et al.,

2006]. It remains unclear what is the reason for these different results. In our opinion, it is associated with an insufficiently differentiated approach. It is necessary to highlight the levels of identification in the study of the relationship between organizational identification and readiness for organizational changes - identification with the organization as a whole and identification with the working group (with the unit). Similar studies, which would study the relationship and identification with the unit, and identification with the organization with readiness for change, are absent.

The relationship between subjective norms and attitudes towards change is being actively studied [Jimmieson, White, Peach, 2004; Terry, Hogg, 1996; Vakola, 2010]. And the researchers showed their positive relationship [Schepers, Jeroen, Wetzels, Martin, 2007]. However, the contribution of descriptive and injunctive norms to readiness for change formation has not yet been assessed separately.

Thus, each of the listed constructs (identification with the organization as a whole, identification with a working group or unit, injunctive norms, descriptive norms) has significant, but ambiguous connections with readiness for organizational changes. The question of the role of each of the factors and the correlation of their contributions to the formation of psychological readiness for organizational changes remains insufficiently studied. There are not enough studies that would consider complex models of predictors of psychological readiness for changes in the organizational context. This means a more detailed consideration of the relationships of these variables is required in this area.

This work represents an important step towards the formation of a model of predictors of readiness for change. Their identification and understanding seems to be critically important, both from a practical and theoretical point of view.

As an object of research, we consider organizational changes as the formation of a new organizational structure that is adequate to the nature of changes in the external environment.

The **subject of the study** is the psychological readiness of employees for organizational changes.

The **purpose of the study** is to study the socio-psychological predictors for the psychological readiness of employees for organizational changes.

To achieve this goal it is necessary to solve a number of theoretical, methodological and empirical objectives.

**Theoretical objectives of the study:**

1. To analyze the existing theoretical approaches to understanding the psychological readiness for organizational changes, outlining the levels of its manifestation: individual, group and organizational.

2. To outline possible socio-psychological predictors for psychological readiness for organizational changes and analyze their relationship.

**Methodological objectives of the study:**

To form and develop methodological tools relevant to the research goal. In particular, to adapt the existing English-language methodology for assessing the psychological readiness of employees for organizational changes and to check its psychometric properties in the Russian-language sample.

**Empirical objectives of the study:**

To identify and describe the characteristics of the psychological readiness of staff for organizational changes and organizational identification, taking into account the age, gender and seniority of employees of state and commercial organizations.

To identify the role (contribution) of specific variables of organizational behavior as socio-psychological predictors in the formation of psychological readiness of employees for organizational changes.

## **Research hypotheses**

Hypothesis 1. Organizational identification is interconnected with psychological readiness for organizational changes.

Hypothesis 1.1. Identification with the organization as a whole is positively associated with psychological readiness for organizational change. That is, the more employees identify with their organization, the higher the level of their psychological readiness for upcoming changes.

Hypothesis 1.2. Identification with the unit is negatively associated with psychological readiness for organizational changes, that is, the more the employee identifies with the unit, the lower the level of his psychological readiness for organizational changes.

Following R. Cialdini, under descriptive norms regarding changes, we consider the norms characterizing the perception that the majority of the changes significant for the addressee make changes in the situation (“as is” norms). Under the injunctive norms regarding changes are norms that characterize the perception of “how it should be”, how to act in a situation of changes to their addressee [Cialdini, Kallgren, Reno, 1991].

Hypothesis 2. Subjective norms regarding the upcoming change are positively related to the willingness to change.

Hypothesis 2.1. The injunctive norm regarding the upcoming change is positively related to the psychological readiness for organizational changes. That is, the more the employee shares the idea of colleagues that he should be involved in the changes, the more readiness for changes he shows.

Hypothesis 2.2. The descriptive norm regarding the upcoming change is positively related to the psychological readiness for organizational changes. That is, the more the employee believes that significant colleagues are included in the upcoming change, the higher level of psychological readiness he shows.

## **Study Sample**

The total sample of the study 801 people.

The **theoretical and methodological base** of the research is presented by the theory of social identity of G. Tajfel [Tajfel, 1978] and the theory of self-categorization by J. Turner [Turner et al., 1987], the application of the theory of social identity and self-categorization to the organizational context [Haslam, 2001; Hogg, Terry, 2000], a level model of psychological readiness by M. Vakola [Vakola, 2013], a general four-component model of psychological readiness by D. Holt, A. Armenakis and H. Field, considering it as cognitive beliefs of employees regarding the appropriateness of changes, abilities overcome change and support leadership and the personal valency of change [Holt, 2010].

## **Scientific novelty of research**

1. The assumption about the relationship between the psychological readiness of staff for organizational changes, on the one hand, and perceived norms, organizational identification, on the other hand, is theoretically grounded and empirically proven.

2. Research approaches to understanding the psychological readiness of staff for organizational changes are systematized. Psychological readiness is considered in terms of approaches of positive organizational learning (Positive organizational scholarship, POS) and positive organizational behavior (Positive organizational behavior, POB).

3. The psychological readiness of employees for organizational changes is considered at the individual, group and organizational levels of analysis, its structural and psychological factors are analyzed.

4. For the first time, a model of socio-psychological predictors of readiness for organizational changes was developed, theoretically grounded and empirically tested, which allows to evaluate the contribution of each of them.

5. A Russian-language version of the “Preparedness for Organizational Change” (ROC) scale has been developed, acceptable psychometric properties of the scale have been checked and confirmed.

## **Research stages**

Stage I (2014–2015): theoretical analysis of socio-psychological phenomena in the field of organizational change, analysis of research in the field of change management.

Stage II (2015–2017): the development of the research plan, the development of methodological tools for its implementation, the collection of empirical data.

Stage III (2017–2019): data processing. Formulation of the main conclusions and presentation of the results of work.

### **The theoretical value of the dissertation research**

The work critically analyzes and systematizes the existing knowledge about the phenomenon of psychological readiness of employees for organizational changes. The study made it possible to clarify the content of the concept of “psychological readiness for organizational change” from the point of view of various theoretical approaches at the individual, group and organizational levels of analysis. Psychological readiness for organizational change is the beliefs of employees regarding the success and relevance of change, their ability to overcome change, and leadership support [Holt, 2010]. These beliefs are positively colored (in comparison with the “resistance to change” construct), are characterized by their future orientation and shape behavior in a situation of organizational change.

The deficiency of methodological tools for studying the psychological readiness of workers for organizational changes in the Russian-language sample was filled by adapting and psychometric testing of the D. Read Holt et al. Methodology “Readiness for organizational change” (ROC).

Variables that have a significant impact on the formation of psychological readiness of employees for organizational changes have been identified.

The obtained results reveal the relationship between the psychological readiness of employees for organizational changes and its socio-psychological predictors in the organizational context. It is theoretically grounded and empirically proven that organizational identification is intricately interconnected with psychological readiness: negative relationships are established between identification with the working group and psychological readiness, positive - between identification with the organization as a whole and psychological readiness for change. Perceived social norms in relation to the upcoming change

(injunctive and descriptive) are associated with psychological readiness in a positive way.

### **The practical significance of the dissertation research**

The obtained results of the study allow the heads of organizations, organizational consultants, change management consultants to plan, predict, take into account and adjust the factors of formation of psychological readiness of staff for organizational changes. Evaluation of these factors is important when hiring new employees, forming cross-functional teams, organization change teams, and developing programs for engaging and retaining employees with high potential (high potential, HiPo). As a result, organizations have the opportunity to increase the effectiveness of the implementation of planned changes related to the digitalization of business processes and the introduction of new it-systems.

A set of research methods can be used as diagnostic tools in organizational psychodiagnostics with the aim of assessing personnel and making a forecast of the success of implementing changes in the studied work teams.

The results can be used in the educational program in sections of lecture courses on the social psychology of innovation, personnel management, strategic management, change management.

### **Items to defend:**

1. Psychological readiness for organizational change is a multi-level construct that characterizes various manifestations at the individual, group and organizational level.
2. A set of special socio-psychological factors (subjective norms regarding changes, identification with an organization, identification with a unit) act as predictors of the psychological readiness of an individual level for organizational changes
3. In order to assess the appropriateness of changes, significant positive predictors are injunctive norms, descriptive norms regarding changes,

and identification with the organization. A negative contribution to assessing the appropriateness of changes creates an identification with the unit.

4. To assess the degree of management support, a significant positive predictor is identification with the organization.
5. To assess personal effectiveness in a situation of change, significant positive predictors are injunctive norms, descriptive norms, and a significant negative predictor is identification with the unit.

**The reliability of the results** was ensured by a sufficient sample size relevant to the objectives of the study (803 employees of organizations in situations of organizational change), the application of measurement techniques that are consistent with the goals and objectives, and the use of adequate methods of data processing and analysis.

For statistical data processing, we used regression analysis, confirmatory factor analysis, correlation analysis, the Mann – Whitney U – test, and the Kraskel – Wallis test. Data processing was carried out in SPSS, AMOS.

### **Testing the results of the study**

The content of the work was repeatedly discussed at the postgraduate seminar on social psychology and at meetings of the department of organizational psychology at the Higher School of Economics National Research University (HSE). The results of an empirical study were presented at the 15th European Congress of Psychology (15th European Congress of Psychology, 2017, Amsterdam, The Netherlands), at the fourth international scientific-practical conference “Business Psychology: Theory and Practice” (HSE, 2017), scientific-practical conference with international participation “Innovative resources of social psychology: theories, methods, practices” (Moscow State University, 2017). The dissertation materials were used for the courses “Personnel Management” and “Strategic Management” (Moscow State Pedagogical University, 2015–2016).

Guidelines based on the results of an empirical study were presented at the Island 10-22 educational forum (2019) for representatives of 23 management teams of Russian universities and other institutions (SSU, FEFU, KGU named after V.G. Timiryasov, gymnasium No. 33 Ulyanovsk, SKFU, BFU named after I. Kant, NEFU named after MK Ammosov, GUU, TSU named after G.R. Derzhavin, ChSU named after I.N. Moscow Agricultural Academy named after K.A. Timiryazev, TSMU of the Ministry of Health of the Russian Federation, Vyatka State University, USPU named after I.N. Ulyanov, Hay Group, business incubator of the Republic of Mari El, Moscow Government area).

Guidelines based on the results of an empirical study were presented at an open master class in Ivanovo for representatives of the business community (Adidas, Orient Express, Art of Technology, Design and Control, MVM, Ormatek ”,“ Rostelecom ”), the educational sector (Ivanovo branch of RANEPa, IvSU, Ivanovo industrial and economic college) and public administration (Innovation Fund of the Samara Region, Government of the Ivanovo Region).

The results of the study are presented in seven publications of the author, including four publications in publications recommended by the Higher Attestation Commission, with a total volume of 3.5 printed pages.

### **Scope and structure of work**

The dissertation consists of two chapters, contains an introduction and conclusion, a list of references from 271 sources (230 in English and 41 in Russian) and three appendices. Two figures, 29 tables are included in the work. The total volume of the text of the dissertation is 159 pages.

## BASIC CONTENT OF THE DISSERTATION

The introduction contains a rationale for relevance, a description of the problem, scientific novelty and theoretical significance of the study. It sets out the goals, objectives, object, subject and methods of the study, the stages of the study, items to defend and the theoretical and methodological foundations of the study.

The first chapter **«Psychological readiness for organizational changes, organizational identification and perceived norms as a subject of socio-psychological analysis»** consisting of three sections, is devoted to the analysis of psychological readiness (the main approaches and factors affecting psychological readiness for organizational changes), organizational identification and perceived norms.

In paragraph 1.1. **«Organizational changes and the psychological readiness of employees for them»** discusses the types of organizational changes, organizational roles in a change situation (recipients, sponsors, change agents, leaders and practices of change management, change teams), the concept of “psychological readiness” and its contents, a detailed analysis is carried out approaches in which psychological readiness for organizational change is studied. D. Holt's definition is accepted as the main, relevant for our work.

The concept of “psychological readiness” is analyzed and compared with other types of attitudes to change: resistance to change (resistance to change); cynicism regarding organizational change (cynicism about organizational change) as a specific type of attribute; commitment to change; openness to change (openness to change); acceptance of change coping with changes. The general, “umbrella” concept for all concepts is “attitude” with a classical three-component structure [Bouckenooghe, 2010]. Readiness for change is understood as the beliefs of employees regarding the success and relevance of change, which are positively colored (compared to the “resistance to change” construct), are characterized by their future orientation and shape behavior in a situation of organizational change [Holt, 2016].

The concept of psychological readiness is reconstructed from the point of view of two main approaches in organizational practice: Positive Organizational Scholarship (POS) and Positive Organizational Behavior.

The differentiation of readiness for organizational changes at the individual, group and organizational levels is made. Individual readiness for change, according to M. Wakola, is a proactive positive attitude (attitude), which can be transformed into a desire to support change and confidence in the success of any initiative.

Group readiness includes collective perceptions and beliefs that:

- changes are needed,
- the organization is able to cope with changes efficiently,
- the group will benefit from the results of the change,
- The group has the ability to cope with the requirements.

M. Wakola considers organizational readiness as mechanisms, policies and procedures that promote, or vice versa, impede the implementation of change. For example, the organizational readiness of a company that seeks to introduce a more customer-oriented culture and at the same time has a rigid hierarchical management structure and poor communications will be low [Vakola, 2013]. The psychological and structural factors of readiness for change are highlighted.

In paragraph 1.2. «**The role of organizational identification in organizational change**» reveals the content of the “organizational identification” construct. It delimits with the concept of "organizational commitment", differentiates from the point of view of the object on identification with the working group and identification with the organization as a whole. The approaches to the conceptualization of organizational identification are revealed: social constructionism, G. Tajfel - J. Turner' theory of social identity, the theory of social actors [Selznick, 1949, 1957; Stinchcombe, 1965], functionalist, psychodynamic, and postmodern approaches.

The paragraph highlights the importance of organizational identification in a situation of organizational change. The positive relationship of identification with

the organization as a whole and readiness for organizational changes, the negative relationship of identification with the working group and readiness for organizational changes are substantiated. The general hypothesis 1 and particular hypotheses 1.1 and 1.2 are formulated and substantiated.

In **paragraph 1.3. «Subjective norms in a situation of changes and attitude to changes»** reveals the content of the “norm” construct, types of social norms that are descriptive and injunctive are differentiated. Norms that characterize the perception of what most people do, R. Chaldini suggests to name descriptive norms (or “as is” norms). He also identifies injunctive or prohibitive norms (or “as it should be” norms). The sources of the formation of subjective norms are considered: the behavior of group members, generalized information about the group and institutional signals.

At the theoretical level, the significant role of subjective norms in a situation of changes in the organization and the contribution of norms to the formation of attitudes to changes and staff readiness are substantiated. The general hypothesis 2 and particular hypotheses 2.1 and 2.2. are formulated.

In **paragraph 1.4.** conclusions on the first chapter are formulated.

The **second chapter «An Empirical Study of Predictors of Psychological Preparedness for Organizational Change»** consisting of seven sections, describes the object of study, describes the research methods and results of their adaptation, characteristics of the sample, sets out the main results, discusses the results and conclusions of the study.

In **paragraph 2.1. «Research conditions»** revealed the features of the study and substantiates the conformity of the conditions for testing hypotheses of the study.

In **paragraph 2.2. «Methodological apparatus of research»** shows the goals, theoretical and empirical object of study, the subject and hypotheses of the study (general and particular).

Hypothesis 1: organizational identification is interconnected with readiness for organizational change.

Two focuses of organizational identification relate to readiness for change as follows:

- Hypothesis 1.1. Identification with the organization as a whole is positively associated with psychological readiness for organizational change. That is, the more employees identify with their organization, the higher level of their psychological readiness for upcoming changes.

- Hypothesis 1.2. Identification with the unit is negatively associated with psychological readiness for organizational changes, that is, the more the employee identifies with the unit, the lower level of his psychological readiness for organizational changes.

Hypothesis 2. Subjective norms regarding the upcoming organizational change are positively related to the willingness to change.

- Hypothesis 2.1. The injunctive norm regarding the upcoming change is positively related to the psychological readiness for organizational changes. That is, the more the employee shares the idea of colleagues that he should be involved in the changes, the more readiness for changes he shows.

- Hypothesis 2.2. The descriptive norm regarding the upcoming change is positively related to the psychological readiness for organizational changes. That is, the more the employee believes that significant colleagues are included in the upcoming change, the higher level of psychological readiness he shows.

In **paragraph 2.3. «The procedure and methods of empirical research»** the theoretical constructs “psychological readiness for changes”, “identification with organization”, “injunctive norms”, “descriptive norms” were operationalized. Descriptions of the methods are given with indication of the coefficients of consistency and examples of points.

**Paragraph 2.4 «Stages of Empirical Data Collection and Study Sampling»** describes three stages of data collection and processing:

First stage. Assessment of the psychometric properties of the “Readiness for Organizational Change” methodology (n = 313, Table 2.1.)

Table 2.1. Respondent profile for adaptation of the methodology

<b>Index</b>	<b>N</b>	<b>%</b>	<b>Index</b>	<b>N</b>	<b>%</b>
Gender			Experience		
Male	105	34	Under 17 лет	285	91
Female	208	66	18–35 years old	26	8
Commercial sector	128	41	36–52 years old	2	1
Government sector	185	39	Position		
			Specialist	167	53
			Line manager	132	42
			Mid-level manager	14	5

Second stage. Pilot study on the material of two state organizations in the field of education and medicine in Moscow (n = 180, Table 2.2.).

Table 2.2. Respondent profile (pilot phase of the study)

<b>Index</b>	<b>N</b>	<b>%</b>	<b>Index</b>	<b>N</b>	<b>%</b>
Gender			Experience		
Male	7	4	Under 13,6 years	92	51,1
Female	173	96	13,6 – 27,3 years	74	41,1
<b>Promotion</b>			27,3 – 41 years	14	7,8
No	48	26,7	Position		
Under 8 years	104	57,8	Specialist	90	50
9–16 years	21	11,7	Line manager	88	48,8
17–24 years	7	3,8	Mid-level manager	2	1,2
<b>Age</b>					
<b>Under 24</b>	<b>25–44 years old</b>		<b>45–64 years old</b>		<b>More than 65 years</b>
3	178		67		2

The third stage. The study is based on the state medical organization of the city of Kaluga (n = 308, Table 2.3.).

Table 2.3. Respondent Profile of the Final Sample

Index	N	%	Index	N	%
<b>Пол</b>			<b>Position</b>		
Male	46	15	Specialist	275	89
Female	262	85	Line manager	33	11
<b>Age</b>					
<b>Under 24</b>	<b>25–44 years old</b>		<b>45–64 years old</b>		<b>More than 65 years old</b>
9	123		126		16

The total sample of the study includes 801 respondents.

**Paragraph 2.5 «Description of the obtained results»** presents the results of the dissertation research.

**Paragraph 2.5.1 «Verification of the psychometric properties of the Russian-language version of the «Readiness for organizational change» methodology»** describes the procedure for adapting the methodology to measure readiness. During this procedure, a confirmatory factor analysis was performed (the results are shown in Table 2.4).

Table 2.4. Goodness – of – fit indicators for the short version of the questionnaire (N = 487)

Model	<i>df</i>	$\chi^2$	<i>CFI</i>	<i>TLI</i>	<i>RMSEA</i>	90% <i>RMSEA</i>	<i>p</i>
4-factor model (short version)	69	191,90	0,950	0,94	0,06	0,05–0,07	0,000

Cronbach's alpha in the total sample of 313 subjects was 0.86. This indicator of the Russian-language version conforms to the standard (ie, exceeds the cutoff of 0.70) [Nunnally, 1978], which allows us to conclude that the methodology is reliable [Mitina, 2015].

The questionnaire shows an acceptable correspondence of the factor structure to the initial data. CFA has shown that the Russian-speaking ROC methodology has a four-factor structure, as in French and Algerian studies [Arnéguy, 2018; Haffar, 2016]. The reliability of the Russian-language ROC

method meets the requirements and is comparable with the reliability indicators of the original English-language questionnaire. The analysis of construct validity and re-test reliability of the methodology in Russian is made.

**Paragraph 2.5.2 «Results of a pilot study on the example of educational and medical organizations in Moscow»** presents the results of the preliminary stage in a sample of 180 people.

Table 2.5. Regression analysis of sample variables for a pilot study

Predictor	<i>B</i>	<b>B</b>	<b>T</b>	<b>KPД</b>
Subjective norms	1,792	0,196	2,691**	1,028
Unit Identification	-0,883	-0,191	-2,051*	1,694
Organization Identification	0,993	0,294	3,122**	1,723

$R^2 = 0,105$ ; *adjusted R*<sup>2</sup> = 0,089;  $F(3) = 6,784^{***}$ ;

\*  $p < 0,05$ , \*\*  $p < 0,01$ , \*\*\*  $p < 0,001$ .

As regression analysis shows (Table 2.5), all relationships are significant. Thus, two variables make a positive contribution to the formation of readiness for changes - identification with the organization ( $\beta = 0.294$ ;  $p < 0.01$ ) and subjective norms ( $\beta = 0.196$ ;  $p < 0.05$ ). Identification with the unit creates a negative contribution to the formation of readiness for changes ( $\beta = -0.191$ ;  $p < 0.01$ ).

The pilot phase of the study in two professional groups showed that both the focus of organizational identification (identification with the organization and identification with the working group) and subjective norms are predictors of readiness for organizational changes. We also confirmed the assumption that the focuses of organizational identification are related to readiness in a different way: identification with the organization as a whole is positively related, and identification with the unit is negative.

Further, some indicators significantly differ from one professional group to another. Therefore, a larger homogeneous sample, which included one professional group included in the same type of change, was required to test the hypotheses of the study

In paragraph 2.5.3. «The results of the study of the relationship of organizational identification, subjective norms with psychological readiness for organizational changes» presents the main results of the study (Table 2.6)

Table 2.6. Multiple regression analysis of the relationship of predictors and the level of psychological readiness

Predictor	<i>B</i>	<b>B</b>	<b>T</b>	<b>KPД</b>
Injunctive norms	2,617	0,308	4,273**	2,650
Descriptive Norms	2,516	0,294	4,108**	2,611
Organization Identification	0,708	0,213	3,943**	1,486
Unit Identification	-0,508	-0,165	-3,130*	1,416

$R^2 = 0,407$ ; *adjusted R*<sup>2</sup> = 0,399;  $F(4) = 51,947^{***}$ ;

\*  $p < 0,05$ , \*\*  $p < 0,01$ , \*\*\*  $p < 0,001$ .

Standardized  $\beta$ -coefficients describe the contribution of four factors included in the regression model, in comparison with each other (Table 2.6). So, the factor “Injunctive norms” has maximum significance ( $\beta = 0,308$ ;  $p < 0,01$ ). It is followed by the “Descriptive Norms” factor ( $\beta = 0,294$ ;  $p < 0,01$ ). Then the factor “Identification with the organization” follows ( $\beta = 0,213$ ;  $p < 0,01$ ). It is followed by the factor “Identification with the unit”, which has a negative effect ( $\beta = -0,165$ ;  $p < 0,05$ ). Regarding organizational identification, we got the result: identification with the organization is positively associated with readiness, and this confirms our hypothesis 1.1. However, identification with the unit is negatively associated with readiness. Thus, hypothesis 1.2 is also confirmed.

**Paragraph 2.5.3.1 «Relationships between organizational identification and subjective norms with the components of readiness for organizational changes»** presents the results of a study of the relationship of predictors with each of the readiness factors (Table 2.7).

Table 2.7. Regression model metrics for the Relevance of Change scale

Predictor	B	$\beta$	T	KPD
Injunctive norms	1,332	0,409	5,877**	2,650
Descriptive Norms	0,701	0,214	3,094*	2,611
Organization Identification	0,282	0,221	4,238**	1,486
Unit Identification	-0,238	-0,201	-3,954**	1,416

$R^2 = 0,446$ ; *adjusted*  $R^2 = 0,438$ ;  $F(4) = 60,892^{***}$ ;

\*  $p < 0,05$ , \*\*  $p < 0,01$ , \*\*\*  $p < 0,001$ .

The regression analysis showed that two predictors account for 44.6% of the variance ( $R^2 = 0.446$ ;  $F(4) = 60.892$ ;  $p < 0.01$ ). The most significant positive contribution to the formation of the factor “Relevance of changes” is made by the subjective norm, namely: the injunctive norm ( $\beta = 0.409$ ;  $t = 5.877$ ;  $p < 0.01$ ) and the descriptive norm ( $\beta = 0.21$ ;  $t = 3.09$ ;  $p < 0.05$ ) and identification with the organization ( $\beta = 0.221$ ;  $t = 4.238$ ;  $p < 0.01$ ) (Fig. 2.3). This means that the more an employee feels the relationship with his organization, the more he is inclined to assess the upcoming changes as appropriate and appropriate, consistent with the interests of the company; sees more opportunities and benefits of change than loss. Moreover, the more he believes that his immediate colleagues assess the changes as expedient for himself and for the employee, the more the employee himself, following them, notes this expediency. At the same time, a sense of involvement in the work collective creates the least significant in comparison with other predictors negative contribution to the formation of the “Relevance of Changes” construct ( $\beta = -0,201$ ;  $t = 3,954$ ;  $p < 0,01$ ). That is, the more the employee feels involvement in his work team, the less relevant the upcoming changes are perceived.

Table 2.8. Regression Model Indicators for the «banagement Support Scale»

Predictor	B	$\beta$	T	KPD
Injunctive norms	0,352	0,148	1,735	2,650
Descriptive Norms	0,361	0,151	1,781	2,611

Unit Identification	-0,069	-0,080	-1,284	1,416
Organization Identification	0,245	0,264	4,119**	1,486

$R^2 = 0,165$ ; *adjusted R*<sup>2</sup> = 0,154;  $F(4) = 14,929^{***}$ ;

\*  $p < 0,05$ , \*\*  $p < 0,01$ , \*\*\*  $p < 0,001$ .

For the “Management Support” factor, only one predictor has a significant contribution: identification with the organization ( $\beta = 0.264$ ;  $t = 4.119$ ;  $p < 0.01$ ) (Table 2.8). He accounts for 16.5% of the variance ( $R^2 = 0.165$ ;  $F(4) = 14.969$ ;  $p < 0.01$ ). This means that the more an employee feels involved in his organization as a whole, the more he is inclined to perceive the leadership of the company as committed and supporting the upcoming changes. At the same time, the relationship with identification with the unit is insignificant ( $\beta = -0.08$ ;  $p > 0.05$ ), as are the injunctive norms ( $\beta = 0.148$ ;  $p > 0.05$ ) and the descriptive norms ( $\beta = 0.151$ ;  $p > 0,05$ )

Table 2.9. The indicators of the regression model for the scale "Effectiveness of change"

Predictor	<i>B</i>	$\beta$	<i>T</i>	KPD
Injunctive norms	1,243	0,386	5,317**	2,650
Descriptive Norms	0,741	0,228	3,168*	2,611
Init Identification	-0,190	-0,163	-3,073*	1,416
Organization Identification	0,192	0,152	2,799	1,486

$R^2 = 0,398$ ; *adjusted R*<sup>2</sup> = 0,390;  $F(4) = 50,060^{***}$ ;

\*  $p < 0,05$ , \*\*  $p < 0,01$ , \*\*\*  $p < 0,001$ .

Two predictors (Table 2.9) make the most significant positive contribution to the formation of the "Efficiency of Change" factor: "Injunctive norms" ( $\beta = 0.386$ ;  $t = 5.317$ ;  $p < 0.01$ ) and "Descriptive norms" ( $\beta = 0.228$ ;  $t = 3.168$ ;  $p < 0.05$ ) (Tab. 2.9). That is, the more the employee shares the idea that his colleagues consider the change appropriate, the higher he assesses his skills and ability to cope with the difficulties of the upcoming changes, with the development of new tasks. A significant negative contribution is made by identification with the unit ( $\beta = -0.163$ ;  $t = -3.073$ ;  $p < 0.05$ ). That is, the more an employee feels his involvement in the unit in which he works, the lower he assesses his skills and ability to cope with the difficulties of the upcoming changes, with the development of new tasks. The model accounts for 39.8% of the variance ( $R^2 = 0.398$ ;  $F(4) = 50.060$ ;  $p < 0.01$ ). The relationship between identification and organization ( $\beta = 0.152$ ;  $p > 0.05$ ) was statistically insignificant.

Table 2.10. Indicators of the regression model for the scale "Personal valency"

Predictor	<i>B</i>	$\beta$	<i>T</i>	КРД
Injunctive norms	-0,310	-0,124	-1,359	2,650
Descriptive Norms	0,713	0,284	3,127*	2,611
Division Identification	-0,011	-0,012	-0,184	1,416
Organization Identification	-0,010	-0,010	-0,151	1,486

$R^2 = 0,041$ ; *adjusted R*<sup>2</sup> = 0,028;  $F(4) = 3,199^{***}$ ;

\*  $p < 0,05$ , \*\*  $p < 0,01$ , \*\*\*  $p < 0,001$ .

The contribution to the formation of the factor "Personal valency" (Table 2.10) creates only one predictor "Descriptive norm" ( $\beta = 0.284$ ;  $t = 3.127$ ;  $p < 0.05$ ). That is, the more an employee believes that his colleagues would be involved in the process of change, the more advantages for himself he is inclined to notice in the upcoming changes. The injunctive norm ( $\beta = -0.128$ ;  $t = -1.359$ ;  $p > 0.05$ ), identification with the unit ( $\beta = -0.012$ ;  $t = -0.184$ ;  $p > 0.05$ ) and identification with the organization are not statistically significant (Table 2.10 ). The model accounts for 4% of the variance ( $R^2 = 0.041$ ;  $F(4) = 3.199$ ;  $p < 0.01$ ).

**Paragraph 2.5.3.1 «Analysis of differences in socio-demographic indicators»** presents the results of a study of differences in socio-demographic indicators.

To compare the average paired samples (in the case of male and female groups and groups of managers and specialists), the Mana – Whitney U – test was applied. To compare the means in several groups (groups by age and length of service), we used the H – criterion of Kraskel – Walles.

Table 2.11. Analysis of differences in socio-demographic groups

Criterion	Group	Readiness for change	Identification with organization	Identification with unit	Injunctive norms	Descriptive Norms
<b>Gender</b>	Female	149,40	155,79*	155,76*	150,56	149,33
	Male	156,57	121,30*	121,48*	150,16	156,96
<b>Position</b>	Executives	224,59***	186,64*	156,18	207,68***	197,00*
	Specialists	146,09***	150,64*	154,30	148,12***	149,40*
<b>Age</b>	Under 24 y.o.	147,39	143,56*	105,17	141,67	133,17
	25–44 y.o.	139,28	120,45*	135,00	133,07	140,22
	45–64 y.o.	137,97	151,54*	142,74	139,97	134,89
	от 65 лет	114,53	154,56*	133,69	149,75	139,53
<b>Experience</b>	Under 1 y.	164,64	150,64*	121,86	149,90	150,57
	1 to 5 y.	140,81	137,87*	142,06	141,01	141,79
	6 to 10 y.	135,18	109,29*	122,73	131,02	132,02
	11 y.	132,96	147,64*	146,67	137,75	136,83

\*  $p < 0,05$ , \*\*  $p < 0,01$ , \*\*\*  $p < 0,001$ .

Significant differences were found for the following groups (in Table 2.11):

- in the level of readiness for changes among managers and specialists;
- in the level of identification with the organization for all groups (by gender, position, age and length of service);
- at the level of identification with the unit for women and men;
- at the level of injunctive norms among managers and specialists;
- at the level of descriptive norms among managers and specialists.

**Paragraph 2.5.3.2 «Analysis of relationships by socio-demographic indicators»** presents the results of a study of the relationships between variables (readiness for organizational changes on separate scales, identification with an organization and with a unit, injunctive and descriptive norms).

In **paragraph 2.6. «Discussion of the results of the study»** the analysis of the contribution of each of the predictors to the formation of employee readiness for organizational changes. The correlation of the significance of the contribution of each of the predictors is analyzed, significant predictors for each of the components of employee readiness for changes (valency, management support, relevance and effectiveness in the changes) are analyzed.

In **paragraph 2.7. «Conclusions»** summarizes the results of all stages of the empirical part of the dissertation research:

1. Short version of the “Readiness for Organizational Change” methodology (Russian-language adaptation of the ROC methodology by D. Holt and A. Armenakis) has acceptable psychometric characteristics and has internal consistency. It reproduces the factor structure of the original technique and can be used with confidence for research and diagnostic purposes.

2. It is theoretically grounded and empirically proven that organizational identification has a complex relationship with psychological readiness for organizational change. Identification with the company as a whole is significantly and positively related to psychological readiness, and identification with the working group is negatively related to the level of psychological readiness. In other words, a high level of psychological readiness is associated with a high level of identification with the organization and a low level of identification with the unit. In turn, a low level of readiness is associated with a low level of identification with the organization and a high level of identification with the unit.

3. The most significant positive contribution to the formation of psychological readiness is made by the norms perceived by employees regarding changes, injunctive (prescriptive) and descriptive (descriptive) ones.

4. The study showed significant differences in the level of psychological readiness by the level of the position. Employees show a lower level of psychological readiness than heads of departments.

5. Women are more likely to identify with the organization than men. Managers demonstrate identification with the organization more than specialists. The level of identification with the organization after a peak at a young age falls, and then begins to grow gradually to an older age. With an increase in seniority, the identification with the unit at the employees decreases, and after 10 years of work in one company begins to increase.

6. Women demonstrate a higher level of identification with their unit than men.

7. Managers generally show greater sensitivity to norms regarding change than ordinary specialists.

8. The relevance of changes is predicted by all four predictors (in decreasing order of importance): injunctive norms, identification with an organization, descriptive norms, identification with a unit (negative relationship).

9. Management support is significantly predicted only by identification with the organization.

10. The effectiveness of changes is significantly predicted by perceived norms (injunctive, then descriptive) and negative identification from the unit.

11. For a personal valency, only a descriptive norm that is connected positively is a significant predictor.

In the conclusion of the dissertation, the results are summarized, the main results are summarized, and the prospects for further research are noted.

Most of the scientific papers consider the predictors of psychological readiness individually, while the overall picture is not recreated. This study allows us to comprehensively assess the contribution of several predictors of employee readiness for change and correlate these contributions with each other. The discovered effects allow us to draw conclusions about where the resources are contained to increase the readiness of enterprise personnel for the proposed (planned) innovations. So, the main efforts can be directed to the formation of a norm of change in the team, the idea that the upcoming changes are necessary, and

this part is shared by most of the team. At the same time, it is important to take into account that efforts aimed at creating identification with a unit and a team can lead to the opposite effect, i.e., adversely affect the psychological readiness of staff.

Studying the relationship between socio-psychological predictors and psychological readiness creates the basis for forecasting and planning work with staff, forming teams of changes in the company before innovations. In such teams, managers can include employees who demonstrate, above all, a high level of organizational identification and job satisfaction. This group of workers will rather note the feasibility and advantages of the upcoming changes, the support of management and the availability of their own resources, that is, demonstrate a high level of readiness. The risk group will include employees who show a low level of identification with the organization, who do not share the subjective norm of change. The level of psychological readiness of this group will be low.

The results of the study show that psychological readiness has its own specific features related to the level of position and professional affiliation. Heads of departments show a higher level of readiness in comparison with ordinary employees and managers of a higher level. This fact is consistent with the conclusions of A. Martin and S. Vanberg that a higher level of subjective control is associated with a higher level of readiness [Martin et al., 2005; Wanberg, Banas, 2000]. Ordinary workers often act as addressees of change, that is, they do not have the ability to manage the situation to the same extent as line managers. The low level of readiness of senior managers may be due to the fact that their tasks often include developing a strategy for change, but not communicating this strategy to local employees and its implementation. And in this sense, line managers have more accurate information about the implementation of the strategy and the reaction of the staff to it, which allows them to perceive the situation of changes as being controlled to a greater extent.

The methodology for assessing psychological readiness, adapted on a Russian-language sample, is addressed primarily to management consultants,

managers, HR specialists, and is applicable in programs for implementing changes in organizations. It can be used to assess the readiness to change the members of work and project teams. Adaptation of the Russian-language version in addition to the English-language version will allow for cross-cultural studies of psychological readiness for organizational changes.

The results of the study are of applied value: they allow change leaders to distribute efforts to create conditions for the favorable implementation of changes in companies. The results can be used for practical recommendations to heads of organizations, strategy consultants, change implementation consultants. Thus, the results of the study show that the priority steps in creating readiness for the upcoming changes are the steps to form the idea that the staff supports the changes (for example, through the formation of a pool of examples of successful application of innovation). Measures related to increasing commitment to the unit and the workforce at the stage of preparation for change can lead to the opposite effect, namely, a decrease in readiness for change. The analysis of socio-demographic groups shows which of the employees can potentially be included in the group of “agents of change” (the most involved), and who constitutes the risk group (will demonstrate low readiness). The impact on these factors will help to create a higher level of readiness among employees for the upcoming changes, which, in turn, will positively affect the effectiveness of the implementation of innovations.

The following directions can be outlined as prospects for further research. Firstly, the study of predictors of psychological readiness in companies with various types of changes (reorganization, mergers and acquisitions, the introduction of new types of corporate cultures, cascading changes in a culture of change, etc.). Secondly, the study of the mechanisms and patterns of the formation of psychological readiness for organizational changes in non-hierarchical type companies, project teams and network communities. Thirdly, comparing the results of the study of psychological readiness in the public sector with the results

obtained in commercial companies. Fourth, comparing the results of the study of readiness for changes based on self-reports of employees with their real actions, as well as objective performance indicators, looks like a productive line for further development. Fifth, the study of cross-cultural characteristics of psychological readiness is an interesting and important research task. For example, depending on the degree of avoidance of uncertainty, such as a temporal perspective, masculinity or femininity, the degree of distance of power, the prevalence of a collectivist or individualistic orientation in the studied culture. Sixth, the study of the mechanisms of formation of psychological readiness of the group and organizational level. For example, the features of the mutual influence of the readiness of these levels on each other.

### **List of publications on the topic of the dissertation**

#### **Author's publications in journals included in the list of recommended journals of the HSE and international databases**

1. Naumtseva E.A. Psychological readiness for organizational changes: approaches, concepts, methods. [Electronic resource] // Organizational psychology, 2016. № 6(2). P. 55-74. URL: <http://orgpsyjournal.hse.ru>. -1 п.л.
2. Naumtseva E.A. Analysis of the psychometric properties of the methodology for assessing psychological readiness for changes by D. Holt ROC // Organizational Psychology. 2016. № 6 (4). P. 104–117. URL: <http://orgpsyjournal.hse.ru> (01.09.2016) -1 п.л.
3. Naumtseva E.A. The role of organizational identification in a situation of organizational change // Organizational Psychology. 2019. № 9(2). P. 106–128. URL: <http://orgpsyjournal.hse.ru> (01.02.2020) -1 п.л.
4. Naumtseva E.A. Shtroo V.A. Psychological readiness for organizational changes and its socio-psychological predictors // Social Psychology and Society. 2020 (In press) -1 п.л. (Personal contribution – 0,5 п.л.)

#### **Other publications by the author on the topic of dissertation research:**

1. Naumtseva E.A., Klimov A.A. The relationship of psychological readiness for organizational change and organizational identification // TSU Science Vector.

Series: Pedagogy, Psychology. 2017. № 3 (30). P. 71-75. -1 п.л. (Personal contribution – 0,75 п.л.)

2. Naumtseva E. The relationship between organizational identification and psychological readiness for organizational change // Abstract book, 15-th European congress of Psychology, 11-14 July 2017. PP 3-4.
3. Naumtseva E.A. Psychological readiness for organizational changes [Electronic resource] / ed. V.A. Shtroo // Business Psychology: Theory and Practice. Abstracts of reports. Moscow, 2017.  
URL: [https://www.hse.ru/ma/pb/abstract\\_book\\_2017](https://www.hse.ru/ma/pb/abstract_book_2017) (01.12.2017)
4. Naumtseva E. A. Shtroo V. A. Socio-psychological prerequisites of readiness for organizational changes: problem statement // Innovative resources of social psychology: theories, methods, practices: Collection of scientific papers [Electronic resource]. M. : [б.и.], 2017. С. 586-593. 1 п.л. (Personal contribution – 0,5 п.л.)