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An example of an APA-style article link.

Popovych, I. S. & Blynova, O. Ye. (2019). The Structure, Variables and Interdependence of the Factors of Mental States of Expectations in Students’ Academic and Professional Activities. *The New Educational Review*, 55 (1), 293-306. DOI: 10.15804/tner.2019.55.1.24

**Example of the article**

**The structure, variables and interdependence of the factors of mental states of expectations in students’ academic and professional activities** *(the name adequately reflects the subject of study)*

**Abstract**

The study presents the content-analysis (n=135) and factor analysis of students’ mental states of expectations (n=123). The understanding of mental states of expectations by education workers allows operationalizing the process of solving tasks of students’ academic and professional training.

The purpose is to examine the structure, variables and interdependence of the factors of students’ mental states of expectations.

The research methods are content-analysis, tests with standardized questionnaires, factor analysis. Factor analysis was used to determine the structure of mental states of expectations. The principal factor in this structure is F1“meaning-of-life moderation” (20.70%), which is interrelated with F2 “pragmatic regulation” (=.404; p≤.01) and F3 “subjective regulation” (=.357; p≤.01). *… (200-300 words).*

**Keywords:** academic and professional activities, mental state of expectations, expected situation, realization of expectations, structure of mental state of expectations. *(4-6 words / phrases).*

**Introduction**

Mental states of expectations are the kinds of mental states, which integrate mental processes and properties and act as important regulators of students’ progress. …

…

The achievement of expected results by students is directly dependent on the kind of mental states of expectations. …

…

Mental states of expectations affect the functioning of mental processes, and when frequently repeated they acquire stability and become a trait of personality (Popovych, 2017). Mental states are determined by a person’s needs, aspirations, abilities and resources, supporting his or her development in particular conditions of the environment (Prokhorov et al., 2015a).

A mental state of expectations implies an integral complex of available features, which have an impact on the expected performance of students’ activity. These views are confirmed by the study of cognitive states in the process of students’ intellectual activity through the structure of the state of interest / mental stress (Prokhorov et al., 2015b), the mental state of chronic fatigue, which worsens a person’s physical work ability (Marcora et al., 2009) etc.

…

**Hypothesis**. The authors assume that the structure, variables and interdependence of the factors of mental states of expectations are important components of students’ academic and professional activities; the application of the research results will contribute to efficient organization of educational process of students.

**The purpose and the research issue**

The purpose of the study is to examine the structure, variables and interdependence of the factors of students’ mental states of expectations.

**Methodology**

Methodological aspects in the research on cognitive mental states (Prokhorov et al., 2015a) have been taken into consideration. The characteristic of the fulfillment of an actual task has been obtained with the method of content-analysis. … Content-analysis measures not the things the research participants say, will do or try to do, but the things they have really done. … However it is evident that the accuracy of the obtained information depends on respondents’ ability to describe an expected situation and realization of expectations in the context of task performance. Further we chose a complex of methods according to the purpose and the research subject. The methods allowed determining the characteristics (variables) which created a factor structure of mental states of expectations. Such logic has been confirmed in the research proving that a mental state of expectations is an integral complex of available characteristics which affect a person’s expected performance (Popovych, 2017).

**Participants**

The students of the 2nd–4th years of study of Kherson State University took part in the research; their average age was 20.1 years. The sample consisted of 135 persons. …

**Procedures and instruments**

During the academic term we used psychodiagnostic instruments for measuring the research parameters. The questionnaire “The level of social expectations” (“LSE”) (Popovych, 2017) … The questionnaire “The level of subjective control” (“LSC”) (Rotter, 1966): general internality (ІG), internality in the area of achievements (ІA), internality in the area of failures (ІF), internality in family relationships (ІFR), internality in the area of labor relations (ІLR), internality concerning health and illness (ІHI); *“*Purpose in Life Test” (“PIL”) (Leontiev, 2006) …

…

The responses were estimated by means of the bipolar semantic differential scale, its value was within the range of -3 (not agree absolutely) to +3 (agree absolutely). The reliability indices obtained by means of Cronbach-α statistics were: αLSE = .777; …

…

The methods “Expected situation” (Popovych, 2017) and “Realization of expectations” (Popovych, 2017) were used to determine the properties of social expectations: internality/externality (ІЕp), activeness/passiveness (APp), openness/closeness (OCp), adequacy/inadequacy (AIp). The dichotomic scale was used, Cronbach-α was α = .836. The reliability indices of Cronbach-α were within the range of sufficient (.7) and high levels (.9).

**Data analysis**

Statistical processing of the empirical data and graphical presentation of the results were performed by means of the statistical programs “SPSS” v. 23.0 and “MS Excel”. The principal component method involving oblique Promax rotation was used that allowed calculating the correlations between the factors. …

…

**Research**

**Content-analysis of students’ mental states of expectations**

The method “Expected situation” implied a short description of a respondent’s behavior (8–10 sentences) in the actual situation (the participation in a students’ conference). …

…

**Table 1.** The arithmetic mean and the mean square deviation of the scales of the properties of mental states of expectations (n=123)

|  |  |  |
| --- | --- | --- |
| Scale | Arithmetic mean, M | Mean square deviation, SD |
| ІЕp | .47 | .19 |
| АPp | .46 | .20 |
| OCp | .71 | .23 |
| АIp | .73 | .23 |

Note: M – arithmetic mean; SD – mean square deviation.

… Further statistical analysis was performed using the data only of those respondents, whose mental states of expectations had full description and were dominating (n=123).

**The factor structure of mental states of expectations**

The obtained results of the research parameters were estimated using the scales of the arithmetic mean (M) and the mean square deviation (SD), they are given in Table 2.

**Table 2.** The arithmetic mean and the mean square deviation of the scales of the research parameters (n=123)

|  |  |  |
| --- | --- | --- |
| Scale | Arithmetic mean, M | Mean square deviation, SD |
| … | … | … |
| «LSC» | | |
| ІG | 197.95 | 20.43 |
| ІA | 54.33 | 7.79 |
| ІF | 49.94 | 8.13 |
| ІFR | 39.67 | 6.76 |
| ІLR | 36.71 | 5.28 |
| ІHI | 18.72 | 4.45 |
| … | | |

Note: M – arithmetic mean; – mean square deviation.

The complex of 35 psychological parameters is methodologically substantiated that reflects the subject of the research on students’ mental states of expectations. …

…

The correlation matrix with 35 variables was determined with the principal component method. 10 factors has the values which are more than unity and explain 71.63% of the variable dispersion (Table 3).

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **Table 3.** The matrix of factorial loads | | | | | | | | | | | | **Scale** | **F1** | **F2** | **F3** | **F4** | **F5** | **F6** | **F7** | **F8** | **F9** | **F10** | | … |  | … |  | … | … |  |  |  |  |  | | ІG |  |  | **.878** |  |  |  |  | -.088 |  | -.225 | | ІA | .137 |  | **.674** |  |  |  |  |  | .181 |  | | ІF | -.190 |  | **.934** |  |  |  |  |  | -.239 |  | | ІFR |  | -.179 | **.918** | -.124 |  |  |  |  |  |  | | ІLR |  | .227 | .332 |  |  |  |  |  |  | **-.686** | | ІHI |  |  | .338 |  |  |  | -.327 |  | .403 |  | | … | **…** | … |  |  |  |  |  |  | … |  | | Dispersion, % | 20.70 | 9.90 | 8.76 | 7.38 | 5.57 | 4.60 | 4.26 | 3.86 | 3.41 | 3.19 | | ∑ dispersion, % | 20.70 | 30.60 | 39.36 | 46.74 | 52.31 | 56.91 | 61.17 | 65.03 | 68.44 | 71.63 | | Value | 7.243 | 3.466 | 3.066 | 2.583 | 1.949 | 1.609 | 1.491 | 1.351 | 1.194 | 1.117 |   Note: The loads of the significant variables are given in bold type. |

F1 “Meaning-of-life moderation” shows the dependence of the expectations related to academic and professional activities on meaning-of-life and value orientations of a subject, on the level of his/her general sense of life, on setting aims of life, localizing control on “self”, on life, on process, on performance. The effect of this factor is characterized by meaning-of-life regulation of academic and professional activities.

…

F10 “Confident activity” consists of adequate self-expectations of a subject combined with the motif of a volitional effort. It is also characterized by the variable with a negative load, which reflects a subject’s responsibility for everything that occurs in academic and professional activities.

The following factors have the load that is beyond the limits of the total dispersion of variables (less than 0.943). Therefore the results of the statistical analysis allowed determining 10 basic factors (71.63%) determining the structure of mental states of expectations (Fig. 1).

**Figure 1.** The structure of mental states of expectations

**The interdependence of the factors determining the structure of mental states of expectations**

We will analyze the most significant relationships between the chosen factors (see Table 4). The most significant correlation (p≤.01) is the correlation F1 and F2 (.404), F1 and F3 (.357). F2 has the greatest number of significant relationships with F1, F3 and F4. Thus, pragmatic regulation is an important component in the structural and functional organization of mental states. …

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **Table 4.** The correlation matrix of the components of the structure of mental states of expectations | | | | | | | | | | | | **Factor** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | | **1** | 1.000 | .404\*\* | .357\*\* | .145\*\* | .027 | .131\*\* | .146\*\* | -.079 | .081 | .108\* | | **2** | .404\*\* | 1.000 | .281\*\* | .238\*\* | .099\* | .096\* | -.003 | -.172\*\* | .005 | .198\*\* | | **3** | .357\*\* | .281\*\* | 1.000 | .270\*\* | .066 | .010 | .153\*\* | -.262\*\* | .126\*\* | .088\* | | **4** | .145\*\* | .238\*\* | .270\*\* | 1.000 | -.095\* | -.059 | .211\*\* | -.165\*\* | .048 | .286\*\* | | **5** | .027 | .099\* | .066 | -.095\* | 1.000 | .110\*\* | -.078 | -.034 | -.041 | .039 | | **6** | .131\*\* | .096\* | .010 | -.059 | .110\*\* | 1.000 | .004 | -.053 | -.248\*\* | .002 | | **7** | .146\*\* | -.003 | .153\*\* | .211\*\* | -.078 | .004 | 1.000 | -.044 | .129\*\* | -.074 | | **8** | -.079 | -.172\*\* | -.262\*\* | -.165\*\* | -.034 | -.053 | -.044 | 1.000 | -.257\*\* | -.169\*\* | | **9** | .081 | .005 | .126\*\* | .048 | -.041 | -.248\*\* | .129\*\* | -.257\*\* | 1.000 | .112\*\* | | **10** | .108\* | .198\*\* | .088\* | .286\*\* | .039 | .002 | -.074 | -.169\*\* | .112\*\* | 1.000 |   Note: \* – statistical significance of p≤.05; \*\* – statistical significance of p≤.01. |

**Discussion**

There are few topical studies on mental states. The research on cognitive states in the process of intellectual activity of students has scientific and methodological value (Prokhorov et al., 2015b). The other scientific research illustrates a positive significant correlation between social expectations and the results of academic and professional activities (Popovych, 2017).

…

… The variables of actual mental states of expectations and the interdependence of the factors reflect the levels of the respondents’ regulatory ability. The achievement of the expected result is directly dependent on the type of a mental state of expectations. …

…

Therefore it could be stated that the achieved results of the research on students’ mental states of expectations operationalize the process of solving the tasks of academic and professional activities. It is obvious that the application of the research results will contribute to efficient organization of the education process of students. The problem of the correlation of a particular mental state of expectations and the indices of students’ progress is open-ended.

**Conclusions**

…

… The content analysis allowed qualitative interpretation of mental states of expectations, distinguishing one state from another, determining the properties of mental states of expectations.

The factor analysis determined the structure of mental states of expectations consisting of 10 basic factors (71.63%). It was established that the principal factor is F1 “meaning-of-life moderation” (20.70%), which is interrelated with F2 “pragmatic regulation” (=.404; p≤.01) and F3 “subjective regulation” (=.357; p≤.01).

It is substantiated that the structure, variables and interdependence of the factors of mental states of expectations are important components of students’ academic and professional activities; the obtained empirical results of the research will contribute to efficient organization of education process. The research results may be useful for the directors of educational institutions, education workers, and also researchers in the field of psychology of expectations, constructing the future. The prospects of further research are outlined.

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