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## Individual Adaptability to Work

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*Published in:*  
Studia Universitatis Vasile Goldis Arad, Economics Series

*DOI:*  
[10.2478/sues-2023-0013](https://doi.org/10.2478/sues-2023-0013)

**IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.**

*Document Version*  
Publisher's PDF, also known as Version of record

*Publication date:*  
2023

[Link to publication in University of Groningen/UMCG research database](#)

*Citation for published version (APA):*

Botezat, E. A., Crisan, D., Fotea, S. L., & Fotea, I. S. (2023). Individual Adaptability to Work: Scale Validation on the Romanian Population. *Studia Universitatis Vasile Goldis Arad, Economics Series*, 33(3), 37-60. <https://doi.org/10.2478/sues-2023-0013>

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## INDIVIDUAL ADAPTABILITY TO WORK: SCALE VALIDATION ON THE ROMANIAN POPULATION

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**(Received: July 2022; Accepted: October 2022; Published: July 2023)**

**Abstract:** This study aimed to validate the I-ADAPT scale to assess the individual adaptability to work within the Romanian population. Both a pilot study and a main study were conducted on a total sample of 966 Romanians. Following the application of standard scale validation procedures, the results of our study indicated that the I-ADAPT measure of work adaptability has good psychometric properties on the Romanian population. Our findings provide evidence that I-ADAPT continues to explain the unique variance in adaptability to work even if work patterns in the Covid-19 pandemic context moved more and more from a traditional to a virtual work environment. ROa I-ADAPT measure has excellent properties concerning convergent, discriminant, and criterion-related validity. One main finding was that the "Physical" dimension of adaptability to work had no empirical support in the Romanian population. Moreover, our results indicate that the "interpersonal adaptability" and the "cultural adaptability" dimensions cannot be empirically separated in the Romanian population. To our knowledge, this is the first validated instrument that can be used to assess the individual adaptability of Romanians in the context of work. Our study is

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relevant for decision-makers in Romania and such actors in other EU-member countries where Romanians represent the largest group of working-age EU citizens.

**Keywords:** I-ADAPT; adaptability to work; Romania; scale validation.

**JEL CODES:** M10, M12, J24.

## 1. Introduction

The recent global event that has cast its effect on the entire world - the COVID-19 pandemic - has revealed once again, but perhaps more brutally than ever, how important adaptability is as a characteristic of individuals at work. Albeit the pandemic, an unexpected and dramatic event, shall pass, the need for high levels of adaptability will remain stringent. This need is fueled by the already growing pace of technological innovations, which continue to dramatically transform the workplace and humans' role in it. These major transformations force individuals to adapt to new working requirements continually. Adaptability is broadly defined as a person's capacity to adjust to changing environments. Individual adaptability was proposed as a third type of job performance, in addition to task and contextual performance (M. Griffin et al., 2007; Tucker et al., 2009), and is proving increasingly important (Chen et al., 2020). Facing this, the capacity to adapt will become a de facto competence required from employees at all levels (Jimon et al., 2020). This new reality creates the need to provide both researchers and practitioners with valid instruments to evaluate a person's adaptability.

For Romania, which joined the European Union in January 2007, the existence and persistence of quantitative and qualitative labor shortages ask for a more stringent examination of adaptability at work. According to Chivu et al. (2020), the causes of the workforce crisis in Romania are : (a) the marked demographic decline (assessed to over 1 million people), (b) the massive external migration of the skilled labor force (estimated to 3,4 million people), (c) the low participation rate of youths in the labor market, (d) the high inactivity rate and the social marginalization of a significant part of the population remaining in the country, (e) the quantitative and qualitative discrepancies between the educational offer and the real needs of the labor market, and (f) the high quantum of undeclared work. The situation at the beginning of 2021 is much worse and more difficult. While in December 2019, Romania was facing a workforce crisis of 1 million workers, a year later the scale tipped when, due to COVID-19, Romania recorded a loss of 2 million workplaces (Cindrea, 2020).

Although Romanians are anecdotally known for their adaptability, to our knowledge, there are no valid measures to assess the adaptability of Romanians in the context of work. This article aims to close this gap by bringing evidence for the validity of the I-ADAPT scale, originally developed by Ployhart and Bliese (2006), to evaluate a

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person's individual adaptability at work. Our study is relevant not only for decision-makers in Romania but also for such actors in other EU-member countries where Romanians represent the largest group (2,524,000 persons) of EU citizens of working age (20-64) (European Commission, 2020, p. 33).

In this paper, we start by exploring different conceptualizations of adaptability to work in the literature and adaptability as a characteristic of Romanian workers. Next is the section dedicated to the description of the study and the research methodology followed by the section presenting data analysis and the results of the validation study. In closing, we present a discussion of the results, their implications, limitations of the current study, and further research.

## 2. Literature review

### 2.1. Adaptability to Work - Different Conceptualizations

In general terms, individual adaptability is viewed as both the capacity and the willingness to change oneself (B. Griffin & Hesketh, 2003; Hall, 2002). According to Martin et al. (2013), "adaptability is defined as appropriate cognitive, behavioral, and/or affective adjustment in the face of uncertainty and novelty". How adaptability has been named and/or defined often depends on the focus of the author. Adaptability was seen as a meta-competency (Hall, 1996, 2002; Pulakos et al., 2002; Wong et al., 2003; Ployhart & Bliese, 2006; Tucker et al., 2009; Wang et al., 2011; Motowidlo & Kell, 2012) which is a personal higher-order quality that enables an individual to master more specific skills in coping with disruption, change and uncertainty, and in working outside traditional temporal and geographic boundaries (Pearlman & Barney, 2000). Capturing developments related to individuals' resources, van Dam (2013) conceptualized individual adaptability at work as the "employees' underlying potential derived from cognitive, affective and behavioural resources that can be applied to effectively adjust and/or anticipate to task-related, environmental and vocational demands" (p. 127).

There are two main approaches in the study of adaptability. The first approach focuses on adaptive performance (i.e., the process of adapting one's behavior in order to achieve performance) (Charbonnier-Voirin et al., 2010; Pulakos et al., 2000; Shoss et al., 2012). The second approach focuses on adaptability as an individual's intrinsic quality of being adaptable (Chan & Schmitt, 2014; M. Griffin et al., 2010; Ployhart & Bliese, 2006). In line with these approaches, Pulakos et al. (2000) defined adaptability as "altering behavior to meet the demands of the environment, an event or a new situation" (p. 615) and, Ployhart and Bliese (2006) as "an individual's ability, skill, disposition, willingness, and/or motivation to change or fit the different task, social, and environmental features" (p. 13).

In the view of Ployhart and Bliese (2006), adaptability is a multidimensional construct placed within a nomological network of knowledge, skills, abilities, and

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other factors (KSAOs), performance, and situations. It is not a pure basic trait or skill but rather a characteristic composed of those sets of KSAOs that most contribute to performance in a dynamic environment. In the language of Chan and Schmitt (2014), this set of KSAOs would be composed of the individual's ability-based traits (e.g., cognitive ability, situational judgment ability) named the "can do" aspects and the preference- or tendency-based traits (e.g., personality, motivational constructs) named the "will do" aspect. Because often it is not known which specific KSAOs are most important for a given type of change that contains multiple influences and consequences, using a broad-based adaptability conceptualization seems to be adequate. In this way, adaptability is viewed in the light of a domain-general perspective (Baard et al., 2014; Kozlowski & Rench, 2009) as a relatively stable variable that differs from individual to individual and may be applied to various situations and contexts (Ployhart and Bliese, 2006; Pulakos et al., 2000).

The attempts to conceptualize individual adaptability guide how this concept is measured. Among studies that view adaptability as a performance construct, Pulakos et al. (2000) were the first to propose a model of adaptive performance as a multidimensional construct with eight dimensions, namely: (1) handling emergencies; (2) handling work stress; (3) solving problems creatively; (4) dealing with uncertain situations; (5) learning; (6) interpersonal adaptability; (7) cultural adaptability; (8) physically oriented adaptability. Also, Pulakos et al. (2000) developed the Job Adaptive Inventory (JAI) to assess behaviors within the domain of adaptive performance. The results of their research show support for the 8-dimension model of adaptability. Their study from 2002 indicated that past experience, interests, and self-efficacy are predictors of adaptive performance among military personnel (Pulakos et al., 2000).

Recognizing the suitability of the eight-dimensional individual adaptability construct proposed by Pulakos et al. (2000) for their I-ADAPT theory, Ployhart and Bliese (2006) developed a self-report measure to assess it (I-ADAPT-M). According to Chan and Schmitt (2014), among studies that view adaptability as a personal characteristic, most studies derive from Ployhart and Bliese's (2006) theory and measure, with few exceptions (e.g., (Van Dam, 2013)). Different scholars have explored how Ployhart and Bliese's set of theoretical and methodological tools can be used to test how individual differences in adaptability predict effects in diverse contexts. For example, subsets of the I-ADAPT-M predict organizational knowledge sharing, job satisfaction, fit perceptions, job performance, and turnover intentions in Jordanian manufacturing companies (Almahamid et al., 2010). The cultural, stress, learning, interpersonal, and uncertainty sub-dimensions of the I-ADAPT-M were used by Wang et al. (2011) to test the effects of Chinese newcomers' adaptability on the perceived person-environment fit. Tucker et al. (2009) conducted a study among military personnel to test whether adaptive skills can mediate the relationship

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between values and performance, using an abbreviated version of the I-ADAPT measure. Zorzie (2012) modified the I-ADAPT-M and proposed a model of individual adaptability using a group of students. I-ADAPT theory was used to study cross-cultural adjustment by Hua et al. (2018).

In conclusion, making a distinction between individual differences in performance (Pulakos et al., 2000, 2002) and individual differences in adaptability, Ployhart and Bliese's (2006) conceptualization allows for increased generalizability of the individual adaptability construct to different types of tasks and environments. Hamtiaux, Houssemand, & Vrignaud (2013) and Baard et al. (2014) encourage further use of the I-ADAPT theory and measure and present arguments in favor of the practical implications for selection, training, and performance activities in organizations.

## 2.2. Adaptability as a Characteristic of the Romanian Workers

Although adaptability at work is widely researched, little is known about it in Eastern Europe, and even less in Romania, a formerly communist country with a fascinating blend of Eastern and Western traditions, with consequences like mimicry, tolerance of diversity, and the coexistence of the opposites and the picturesque. The discrepancies between Romania's present situation and the situation of other European countries could be attributed to multiple differences in historical circumstances and a path-dependent continuity in the manner of working characteristic of the communist era (Heintz, 2001; Pichler & Wallace, 2009). According to David et al. (2015), Romanians have a high potential for cognitive/emotional intelligence, creativity, and learning, but it is not sufficiently capitalized. For most Romanians, their personality structure reflects the tendency to focus on negative components such as prevalent orientation towards the past at the expense of the future, distrust, low levels of proactivity, and procrastination. As an additional characteristic, Romanians tend to reduce the constraints imposed by strict norms and rules. Moreover, Romanians feel the need to prove their value and potential, making them competitive in their work (David et al., 2015).

According to David et al. (2015), the Romanian mentality proves a great capacity for adaptation but also versatility which can devolve into opportunistic behavior. Adaptability, as an intermediate "soul structure" (Malita, 2010) between the Westerner's creative aptitude and the passive resignation of the Oriental, can mean intelligence, practical spirit, agility, the genius of the moment and the immediate, but it can also mean passivity, procrastination, superficiality, and duplicity. Malita (2010) argues that most characteristics are relatively homogeneously distributed within the Romanian population, but a characteristic that appears to be certain is that people's behavior changes according to the circumstances. Other positive traits with the potential to be capitalized on at work - and with implications for adaptability -

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are creativity, tolerance, and quick learning (Neculaesei, 2016). Although scarce in general, research on the characteristics of Romanians has shown that they have a high potential and cultural prerequisites for being adaptable in the workplace.

### 3. Research Methodology

This study aimed to validate the I-ADAPT scale to assess the individual adaptability to work within the Romanian population. We assessed the following psychometric characteristics of the I-ADAPT measure: reliability, construct validity (convergent and discriminant validity), and criterion-related validity (predictive). These psychometric characteristics were investigated using data collected by the authors for the purpose of this study.

#### 3.1. Data Collection and Sample Characteristics

For the Pilot Study, the data were collected between May 7 - 19, 2020, using the online platform Qualtrics, and we employed the snowball sampling method. We gathered the responses of a total of 109 participants. From these, 93 participants (85.3%) responded to all questions, 88 participants (80.7%) responded to all I-ADAPT items, agreed to the GDPR consent, and were active in the work field. The remaining records were removed from the dataset. The demographic characteristics of the 88 participants are presented in Appendix 1 (Appendix).

For the Main Study, the data were collected between June and September 2020, using the online platform Qualtrics. The sampling method we used here was also a snowball sampling method. For the Main Study, we gathered the responses of a total of 1146 participants. From these, 3 (0.3%) participants were younger than 16 years old, 55 (4.8%) did not agree to the GDPR consent, and 27 (2.4%) were retired. These participants either withdrew from the study or their responses were removed from further analyses, based on these exclusion criteria. From the remaining 1061 participants, we also removed the responses of those who did not provide an answer to the exclusion criteria. The remaining 878 participants had the following demographic characteristics (Table 1):

**Table 1 Demographic characteristics of participants in the main study**

Variable	Response category	Frequency	Valid %	Cumulative %
Age (years)	16-17	6	0.68	0.68
	18-20	53	6.04	6.72
	21-29	330	37.59	44.31
	30-39	194	22.10	66.40
	40-49	163	18.57	84.97
	50--59	99	11.28	96.24

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	60-64	23	2.62	98.86
	>65	10	1.14	100.00
Gender	Females	539	66.46	66.46
	Males	272	44.54	100.00
	Missing	67		
Type of employment	Employed	603	74.35	74.35
	Employer	95	11.71	86.07
	Self-employed	74	9.13	95.19
	Family worker	12	1.48	96.67
	Unemployed	27	3.33	100.00
	Missing	67		
Education	Lower (primary school, secondary school)	3	0.38	0.38
	Middle (high school, professional high school, apprenticeship)	144	17.98	18.36
	Higher (university)	654	81.64	100.00
	Missing	77		

Source: Prepared by the authors.

### 3.2. Measures

#### 3.2.1. I-ADAPT Scale

The original I-ADAPT scale, proposed by Ployhart and Bliese (2006), consists of 55 items scored on a five-point strongly disagree - strongly agree scale. Following the recommendations of the International Test Commission (ITC, 2017), scale validation was conducted across two studies. In the Pilot Study, the original items of the I-ADAPT were translated from the English language to the Romanian language using a back-translation method. Then, the items went through a phase of item purification and pre-test by assessing face and content validity in preparation for the Main Study, in which we investigated the validity of the Romanian version of the I-ADAPT measure.

#### 3.2.2. In-Role Behavior Scale

Following the work of Murphy (2015), we used the task-performance measure developed by Williams and Anderson (1991) - the In-Role Behavior Scale - to assess the I-ADAPT scale's criterion-related validity. The IRB scale contains seven items measuring broadly applicable behaviors required for work. This scale was translated



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into Romanian by Dragos Iliescu (2014). The instrument has been widely used in organizational research, and its reliability is relatively high (over .90 according to (Sparrowe et al., 2001; Williams & Anderson, 1991)).

### 3.2.3. International Personality Item Pool (IPIP) - Adaptability

For convergent validity, we used the Adaptability scale from the IPIP inventory. The International Personality Item Pool (IPIP) is an open-source collection of personality scales and items (Goldberg, 1999). The Adaptability measure consists of 8 items and was previously translated to Romanian by Iliescu, Popa, and Dimache (2015) and showed satisfactory reliability. We expect a strong positive correlation between the scores on the I-ADAPT scale and the scores on the IPIP Adaptability scale.

### 3.2.4. Personal Need for Structure

To assess discriminant validity, we used the Personal Need for Structure (PNS) scale (Hamtaux & Houssemand, 2012; Neuberg & Newsom, 1993). PNS (Neuberg and Newsom, 1993) was evaluated with the PNS scale incorporating two main components: "desire for structure" (4 items) and "response to lack of structure" (7 items). Neuberg and Newsom (1993) reported different values for internal consistency. We expect a negative relationship between the scores on the I-ADAPT scale and the scores on the PNS scale.

## 4. Empirical Results

### 4.1. Pilot Study

We conducted basic descriptive statistics (e.g., category frequency analysis) together with reliability analysis on all the item responses, with the aim of purifying the scales and investigating the feasibility of conducting a full-scale study. Thus, for each scale we used, we inspected the item category frequencies, scale reliability (Cronbach's alpha), reliability if the item was deleted, and the corrected item-total correlations. Moreover, we conducted a principal component analysis (PCA) on each scale, in order to assess how well the items loaded on their original subscale.

Upon inspection of the item category frequencies, we conclude the following:

1. For most I-ADAPT, IPIP, PNS items, the response categories 1 (strongly disagree), 2 (disagree), and 6 (strongly agree) had very low frequencies (below 5). Therefore, we decided to merge the first two and the last two response categories in the main study. The new response scale consisted of 4 categories (1 = moderately or strongly disagree, 2 = partially disagree, 3 = partially agree, 4 = moderately or strongly agree).
2. For many IRB items, we found that none of the participants in the Pilot Study responded with 1 (never) to these items. Therefore, we decided to merge categories 1 and 2. Therefore, in the Main Study, the IRB items were measured on a 5-point

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Likert scale, where 1 = never or rarely, 2 = sometimes, 3 = often, 4 = every time.

The overall reliability of the I-ADAPT scale was excellent (Cronbach's alpha = 0.93). The item-total statistics indicated that items Q6\_2, Q6\_5, Q6\_8, Q7\_2, Q7\_4, Q7\_8, Q7\_13, Q7\_18 had small, corrected item-total correlations, indicating that these items were not measuring the same underlying construct as the other items. This finding was also supported by the PCA results (detailed outputs available upon request). We thus dropped these items from the main study, and the revised I-ADAPT scale comprised 47 items.

## 4.2 Main Study

### 4.2.1. Exploratory Factor Analysis (EFA) Results

The responses to the 47 I-ADAPT items were factor analyzed using principal component extraction with VARIMAX (orthogonal) rotation (see Hinkin (1998)). To interpret the results, the scree plot, the variance accounted for, and factor loadings were examined. The decision to keep or remove an item was based on: (a) Communality; (b) Primary (target) factor loading; (c) Item cross-loadings; (d) Meaningful and useful membership to a factor (face validity); and (e) Reliability (we checked the internal consistency of each factor using Cronbach's alpha and checked alpha if item removed to determine whether removal of any items would improve reliability).

The initial EFA analysis suggested an 8-factor solution, accounting for 56.7% of the total variability. However, we found large cross-loadings for many of the items, especially the items originally composing the Physical facet of adaptability. Moreover, many of the items from the Cultural subscale loaded onto the Interpersonal subscale and vice-versa, suggesting that a distinction could not be made between these two facets of adaptability in the Romanian population. Furthermore, the scree plot of the initial EFA analysis revealed a break after the 6th component. Using Cattell's (1966) scree test, and based on the findings regarding the Physical, Cultural, and Interpersonal items, we decided to remove all the Physical items from further analyses and to merge the Cultural and Interpersonal items into a single component. Thus, we reran the EFA on the remaining 43 items with six fixed components and reanalyzed the results.

The six fixed components explained 54.5% of the total variability in item responses, with the components explaining 12.5%, 10.8%, 9.1%, 8.6%, 7.6%, and 5.9%, respectively. We did not find any items with particularly low communalities. To ease the interpretation of these components, we performed VARIMAX rotation. Appendix 2 presents the component matrix with the item loadings for each component. The procedure yielded a solution with many cross-loadings and items which did not load largely and consistently on a single component, pointing towards the complexity of these items. Nonetheless, the main loadings on Factor 1 reflect

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adaptability to crises. The main loadings on Factor 2 reflect adaptability to cultural and interpersonal differences. The main loadings on Factor 3 reflect adaptability to uncertain situations. The main loadings on Factor 4 reflect adaptability to the demands of acquiring knowledge and skills. The main loadings on Factor 5 reflect adaptability to work stress. Finally, the main loadings on Factor 6 reflect a combination of adaptability through creativity and adaptability to interpersonal differences.

**4.2.2. Confirmatory Factor Analysis (CFA) Results**

Following EFA, CFA was conducted using the R programming language (R Core, 2021), to examine how well the items measure the six factors as revealed by the EFA results.

We specified and compared two CFA models: the first model was a six-factor, uncorrelated model where each factor loaded on the original items as proposed by Ployhart and Bliese (2006). The second model was a six-factor, correlated model where each factor loaded on the original items as proposed by Ployhart and Bliese (2006). Multiple fit indices were assessed. The model was assessed using absolute and incremental fit indices (Hu and Bentler, 1998), including the chi-square statistic, the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), the standardized root-mean-square residual (SRMR), and the root-mean-square error of approximation (RMSEA).

**Table 2 Confirmatory Factor Analysis of the I-ADAPT-M items**

Compe- ting models	Ch i2	df	p	CF I	TL I	AIC	BIC	RM SEA	RM SEA Low er	RM SEA Upp er	p RM SEA <= 0.05	SR MR
6 factors, uncorre- lated	65 24 .5	8 6 0	0.0 00	0.6 70	0.6 54	6887 7.171	6928 8.048	0.08 7	0.08 5	0.08 9	0.00 0	0.2 67
6 factors, correla- ted	36 95 .7	8 4 5	0.0 00	0.8 35	0.8 23	6606 8.334	6655 0.876	0.06 2	0.06 0	0.06 4	0.00 0	0.0 61

Source: Prepared by the authors.

The results from the CFA (Table 2) showed that the model with correlated factors showed an acceptable fit, with all indices falling within acceptable ranges (Hu and

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Bentler, 1995), except CFI and TLI [1] which were somewhat lower. Table 3 shows the model implied correlation matrix of the ROa I-ADAPT (Romanian adaptation of I-ADAPT) factors.

**Table 3 The model implied correlation matrix of the I-ADAPT factors**

Factor	1	2	3	4	5	6
1. Cultural/Interpersonal	1.000					
2. Learning	0.810	1.000				
3. Creativity	0.800	0.755	1.000			
4. Crisis	0.720	0.643	0.822	1.000		
5. Work stress	0.176	0.163	0.221	0.415	1.000	
6. Uncertainty	0.804	0.825	0.783	0.753	0.342	1.000

Source: Prepared by the authors.

Regarding the correlations between the 6 facets of ROa I-ADAPT, we found that all the facets, except for Work stress, were strongly and positively correlated with each other. Work stress had a positive and moderate correlation with Crisis and Uncertainty and a weak correlation with the other facets. Interestingly, the scores on the Work stress factor were only weakly or moderately associated with the scores on the other factors.

Subsequently, a reliability analysis was conducted with these 43 items. The Cronbach alpha for the I-ADAPT scale score was  $\alpha = .94$ , indicating excellent scale reliability as it was above the 0.70 threshold (alpha estimates of between .60 and .70 are considered acceptable; Hair et al. (2006); Nunnally and Bernstein (1994)).

#### 4.2.3. Convergent, Discriminant, and Criterion-Related Validity

We calculated the scores for the I-ADAPT scale, the IPIP Adaptability scale, the Personal Need for Structure (PNS) scale, and the In-Role Behavior scale by summing the item responses for each of these scales. To evaluate the convergent, discriminant, and criterion-related validity of the I-ADAPT scale, we estimated the correlations between the I-ADAPT scores (overall work adaptability), on the one hand, and the scores on the Adaptability scale (AdaptIPIP) from the IPIP, the scores on the Personal Need for Structure scale (PNS), and the scores on the In-Role Behavior scale (IRB), on the other hand.

To evaluate the convergent validity of the I-ADAPT measure, we estimated its correlation with IPIP. The Pearson correlation coefficient was  $r = 0.45$ , with the corresponding 95% confidence interval bounds at 0.40 and 0.51. According to Cohen's (1988) guidelines, this is a moderate correlation. This finding indicates that I-ADAPT measures a concept that is distinct from general adaptability but still

related to it.

To evaluate the discriminant validity of the I-ADAPT measure, we estimated its correlation with PNS. The Pearson correlation coefficient was  $r = -0.22$ , with its corresponding 95% confidence interval bounds at  $-0.28$  and  $-0.15$ . This weak and negative correlation indicates that the I-ADAPT measure does not strongly correlate with another measure whose underlying construct is conceptually unrelated to it, bringing evidence in favor of the discriminant validity of I-ADAPT.

To evaluate the criterion-related validity of the I-ADAPT measure, we estimated its correlation with IRB. The Pearson correlation coefficient was  $r = 0.53$ , with its corresponding 95% confidence interval bounds at  $0.48$  and  $0.57$ . According to Cohen's (1988) guidelines, this is a moderate to strong correlation. This shows that adaptability to work as measured by I-ADAPT is a strong predictor of work performance as measured by the In-Role Behavior Scale. This brings evidence in favor of the criterion-related validity of the I-ADAPT measure in the Romanian population.

Overall, our analyses indicate that the I-ADAPT measure of work adaptability has good psychometric properties on the Romanian population.

## 5. Discussions and Recommendations

This study investigated the validity of the adaptability to work measure, I-ADAPT (Ployhart and Bliese, 2006), on the Romanian population. To our knowledge, this is the first attempt to validate such a measure on the Romanian population. Our findings provide evidence that I-ADAPT continues to explain the unique variance in adaptability to work even if work patterns in the pandemic context moved more and more from a traditional to a virtual work environment (Fletcher & Griffiths, 2020). COVID-19 has accelerated the transformational work changes across all industries, already considerably marked by the technologies that underpin the Fourth Industrial Revolution. More and more risk factors reunited in the abbreviated term "VUCA" (i.e., a managerial catchall acronym for volatility, uncertainty, complexity, and ambiguity) deepen the need for adaptability to work (Ruiz-Frutos et al., 2020), which seems to be the only winning strategy for both employees and employers to deal the challenges and the opportunities of the "new normal" (Agubata et al., 2022). To deal with VUCA in a work setting, the Romanian I-ADAPT measure appears to have a strong potential for application among researchers and practitioners.

Regarding construct validity, we did not find empirical support for the items belonging to the original "Physical" dimension (Ployhart and Bliese, 2006). We would like to draw attention to the physical dimension of the model, which based on the results of our analysis, seems unsupported empirically. Similar findings have been obtained by Charbonnier-Voirin, Audrey & Roussel, Patrice (2012). These results could also be explained by the changing nature and content of work in the

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current work environment which renders this physical dimension marginal. Physical work is less important and present in the workplace due to technological advancements implemented (Sony & Naik, 2019). This trend was accelerated during the pandemic period when physical work was most disrupted (Savić, 2020), and these effects are more likely to stay (Lund et al., 2021). These results could also indicate a distinction between different work domains concerning the salience of the different dimensions of adaptability, in this case, the importance of physical work. Specific occupational domains require different combinations of the adaptability facets, as Pulakos et al. (2000) early specified, and their points are as pertinent as they ever have been, especially in pandemic times. These findings could also be a reflection of the fact that approximately a third of our sample consisted of individuals working in fields that do not require physical strength, such as education, administrative, support services, information and communication services, etc. Nevertheless, future studies regarding the feasibility of the eight original dimensions of adaptability to work should be investigated separately for different work domains. Another main finding of our research shows that in the Romanian population, the "interpersonal adaptability" and the "cultural adaptability" dimensions overlap greatly, so much so that they cannot be empirically distinguished from one another. Thus, in the final version of the Romanian adaptation of the I-ADAPT scale (from here on ROa I-ADAPT), these two dimensions are combined, forming a single adaptability dimension. Those who have "interpersonal adaptability" also have "cultural adaptability" and vice versa; conceptually, one cannot distinguish between them in our sample. It could be argued that the cultural mosaic in which Romanian workers activate, the massive work emigration of Romanians, the effects of globalization on workplace diversity, and the unfolding of industry 4.0 have blurred the boundaries between interpersonal and cultural adaptability. These findings are consistent, for example, with Ramakrishnan et al.'s (2018) study, which showed that some acculturated immigrants adapt better than others due to their constant adaptation to interpersonal differences. Moreover, the fact that more and more Romanians work with people from other cultures due to the nature of their job/roles generates frequent and meaningful interactions with other cultures. One can argue that these frequent interactions mean that interpersonal adaptability grows hand in hand with their cultural adaptability, so much so that over time the difference between these two dimensions of adaptability is blurred. A similar conclusion was reached by Foerster-Metz & Golowko (2017), which identifies a growing trend of demand for interpersonal skills in addition to cultural adaptability for the Romanian outsourcing industry. This cultural adaptability starts earlier (before the workplace context) in the case of younger Romanians who interact with other cultures more through video games and social media. Several review articles (e.g., (Naseri, 2017; Alamri, 2018)) underline strong relationships between the Internet, social

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networking sites, especially Facebook, and cultural adaptation. In an educational context setting, Brancu, Munteanu, and Golet (2016) found that Romanian business students both accept and desire intercultural interactions and are aware of their cultural knowledge doing this.

From a theoretical perspective, our results strengthen the conceptual integrity of Ployhart and Bliese (2006) I-ADAPT scale and provide psychometric support for the Romanian adaptation of the I-ADAPT scale as a multi-dimensional measure of a person's adaptability to work. This is even more significant considering that the I-ADAPT scale has not been previously validated, to our knowledge, in other Eastern cultures. Despite notable differences between Western and Eastern work values or work engagements (Hu et al., 2014; Torgler, 2012), I-ADAPT presents itself as a useful instrument for comparisons between countries and different cultures.

From a practical perspective, our study meets the need of HR specialists and managers looking for employees that fulfill the new requirements of pandemic and post-pandemic work concerning job performance. The ROa I-ADAPT scale can guide organizations to work and perform better in a VUCA environment by drawing attention to the six dimensions of adaptability to work and by bringing a genuinely positive contribution to organizational functioning. In this sense, an individual can learn to improve their adaptive dimensions including employment both, younger (Botezat et al., 2020) and older people (Berde & Tőkés, 2021), and the organization can learn to support them in these changes. The instrument can help practitioners be aware that adaptability to work consists of several dimensions that need to be monitored and evaluated in order to understand individual differences in adaptability to work and develop intervention programs to improve it.

This scale can be used at the department, organization, and individual levels to measure the changes in adaptability to work overtime.

## 6. Conclusions

Our study presents empirical support for a six-dimension model of individual adaptability and provides support for its validity among the Romanian workforce. The I-ADAPT scale, which we investigated is empirically supported as a validated instrument to measure a Romanian worker's general level of adaptability to work. Moreover, this scale can be confidently used to evaluate a Romanian's capacity to adapt to different situations, such as different cultures, situations of crisis, or uncertainty, which makes it useful for managers in their assessments and planning for talent development.

The highly uncertain, ambiguous, and changing COVID-19 work situations posed additional pressure on the workforce impacted by high health risks. As a consequence, our effective sample size is rather modest, including 878 participants. While this sample size was appropriate for statistical analysis purposes, a larger

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sample size would have strengthened the generalizability of the results.

Given the technological transformations in the nature and content of work, which lead to remote work, digitalization, and automation, further studies should be conducted amongst a broader spectrum of work domains, where the original "Physical" dimension of the scale might emerge. Although the findings for the ROa I-ADAPT scale were encouraging, it should be borne in mind that continued refinement is recommended. We also encourage further studies in other cultural work contexts to examine the reliability and usefulness of the scale.

### Acknowledgments

The authors thank the anonymous reviewers and editors for their valuable contributions.

### Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

### Author Contributions

EB and SF conceived the study and were responsible for the design and development of the data collection strategy and instrument and literature review section. EB and IF were responsible for data collection while DC was responsible for data analysis and data interpretation.

### Disclosure Statement

The authors have not any competing financial, professional, or personal interests from other parties.

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**Appendix**

**Appendix 1 Demographic characteristics of participants in the pilot study**

Variable	Response category	Frequency	Valid %	Cumulative %
Age (years)	18-20	10	11.36	11.36
	21-29	12	13.64	25.00
	30-39	15	17.05	42.05
	40-49	29	32.96	75.00
	50-59	16	18.18	93.18
	60-64	6	6.82	100.00
Gender	Females	48	57.14	57.14
	Males	36	42.86	100.00
	Missing	4		
Type of employment	Employed	57	67.86	67.86
	Employer	9	10.71	78.57
	Self-employed	13	15.48	94.05
	Family worker	1	1.19	95.24
	Unemployed	4	4.75	100.00
	Missing	4		
Education	Lower (primary school, secondary school)	4	4.82	4.82
	Middle (high school, professional high school, apprenticeships)	33	26.51	31.33
	Higher (university)	67	69.67	100.00
	Missing	5		

Source: Prepared by the authors.

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**Appendix 2 Exploratory Factor Analysis of the I-ADAPT-M items**

Item	F1	F2	F3	F4	F5	F6	Communality
I am able to maintain focus during emergencies [Crisis]	<b>.586</b>	.384			.164		.520
I enjoy learning about cultures other than my own [Cultural]	.182	<b>.465</b>		.152			.291
I usually over-react to stressful news [Work stress]			.107		<b>.672</b>		.469
I believe it is important to be flexible in dealing with others [Interpersonal]		<b>.663</b>	.193				.484
I take responsibility for acquiring new skills [Learning]		<b>.669</b>		.135			.483
6. I work well with diverse others. [Cultural]	.310	<b>.456</b>	.268			.167	.419
I tend to be able to read others and understand how they are feeling at any particular moment [Interpersonal]	.133	.241	.131			<b>.725</b>	.626
In an emergency situation, I can put aside emotional feelings to handle important tasks. [Crisis]	<b>.631</b>	.294	.145		.220		.562
I see connections between seemingly unrelated information. [Creativity]	.280	.168		.208		<b>.558</b>	.466
I enjoy learning new approaches to conducting work. [Learning]	.175	<b>.543</b>		.351		.189	.495
I think clearly in times of urgency. [Crisis]	<b>.707</b>	.215	.153	.135	.226		.644
It is important to me that I respect others' culture. [Culture]		<b>.687</b>	.119	.115		.153	.531
I feel unequipped to deal with too much stress. [Work stress]					<b>.603</b>		.378

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I am good at developing unique analyses for complex problems. [Creativity]	<b>.573</b>	.166		.176		.390	.547
I am able to be objective during emergencies. [Crisis-N]	<b>.619</b>	.238	.189	.107	.181	.142	.540
My insight helps me to work effectively with others. [Interpersonal]	.397	<b>.469</b>	.196	.163		.314	.546
I enjoy the variety and learning experiences that come from working with people of different backgrounds. [Cultural]	.190	<b>.643</b>	.218	.177		.157	.553
I am easily rattled when my schedule is full. [Work stress]	.104				<b>.769</b>		.617
I usually step up and take action during a crisis. [Crisis]	<b>.570</b>	.134	.114	.226		.177	.441
I am an innovative person [Creativity]	<b>.464</b>	.173	.187	.222		.371	.467
I feel comfortable interacting with others who have different values and customs. [Cultural]	.227	<b>.433</b>	.255	.128		.186	.359
I make excellent decisions in times of crisis. [Crisis]	<b>.763</b>		.231	.125	.104	.107	.679
I become frustrated when things are unpredictable [Uncertainty]					<b>.740</b>	.101	.568
I am able to make effective decisions without all relevant information [Uncertainty]	<b>.574</b>		.245	.149		.232	.470
I am an open-minded person in dealing with others. [Interpersonal]	.285	<b>.534</b>	.311	.153			.491
I take action to improve work performance deficiencies. [Learning]	.344	.354	.131	<b>.481</b>			.498

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I am usually stressed when I have a large workload. [Work stress]	.140	-.102			<b>.718</b>		.553
I am perceptive of others and use that knowledge in interactions. [Interpersonal]	.195	.153	.151	.133		<b>.710</b>	.607
I often learn new information and skills to stay at the forefront of my profession. [Learning]	.245	.332		<b>.643</b>		.224	.640
I often cry or get angry when I am under a great deal of stress. [Work stress]	.213				<b>.698</b>		.545
When resources are insufficient, I thrive on developing innovative solutions. [Creativity]	<b>.470</b>	.164	.257	.275		.251	.456
I am able to look at problems from a multitude of angles. [Creativity]	<b>.415</b>	.201	.249	.210		<b>.415</b>	.491
I quickly learn new methods to solve problems. [Learning]	.282	.234	<b>.555</b>	.319		.219	.596
When something unexpected happens, I readily change gears in response. [Uncertainty]	.233	.307	<b>.688</b>	.143		.137	.668
I try to be flexible when dealing with others. [Interpersonal-N]		.435	<b>.657</b>	.241		.116	.705
I can adapt to changing situations. [Uncertainty-N]	.208	.277	<b>.738</b>	.187	.129		.723
I train to keep my work skills and knowledge current. [Learning-N]	.143	.222	.393	<b>.697</b>			.714
I am continually learning new skills for my job. [Learning-N]	.152	.202	.285	<b>.764</b>			.738
I perform well in uncertain situations. [Uncertainty-N]	<b>.456</b>		<b>.461</b>	.300	.128	.106	.538



Botezat, E.A., Crisan, D., Fotea, S.L, Fotea, I.S., (2023)

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I take responsibility for staying current in my profession. [Learning-N]	.124	.251	.307	<b>.679</b>		.100	.645
I easily respond to changing conditions. [Uncertainty-N]	.270		<b>.624</b>	.233	.137		.543
I try to learn new skills for my job before they are needed. [Learning-N]	.258		.249	<b>.611</b>		.183	.539
I can adjust my plans to changing conditions. [Uncertainty-N]	.294	.145	<b>.558</b>	.328		.197	.571
Eigenvalue	5.38	4.63	3.92	3.70	3.26	2.53	
Variance explained (%)	12.51	10.78	9.12	8.60	7.58	5.88	
Cumulative (%)	12.5	23.3	32.4	41.0	48.6	54.5	

Source: Prepared by the authors.