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RESEARCH ARTICLE

Development of a New Personality-Oriented Work Analysis Questionnaire: First Steps Towards Validation

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Abstract

In this paper we detail the construction process for a new personality-oriented work analysis instrument, in the form of a standardized questionnaire, based on extant research that shows that personality traits are good predictors of job performance. We present the process of item development, frame of reference training, rating scale creation, and the selection of subject matter experts. By administering the instrument to three distinct positions, the interrater reliability coefficients resulted between .80 and .94. We also investigated the instrument's ability to discriminate between the same rated positions, and the results for this indicator were quite low. Conclusions provide some possible explanations for the lower resulted discriminability. Practical and theoretical implications are discussed as well as other future research for general improvement of data quality.

Keywords

job analysis, personality traits, job performance, frame of reference training

Introduction

Following the number of meta-analyses that provide support in regards to personality traits as valid predictor of job performance (Barrick & Mount, 1991; Hogan & Holland, 2003; Hurtz & Donovan, 2000; Judge et al., 2013; Lee et al., 2019; Salgado, 1997; Tett et al., 1991; Tett et al., 1999; Vinchur et al., 1998; Woo et al., 2014), a new topic, namely personality oriented work analysis (O'Neill et al., 2013) is currently expanding in the broad spectrum of the job and work analysis field, with many encouraging results during the last three decades in different occupational fields (Arumugam et al., 2014; Atkins, 2012; Conrad & Schweizer, 2018; Goffin et al., 2011; Jordan et al., 2018; Lubelski et al., 2016; Spilberg & Corey, 2014; Suresh et al., 2012).

Although there are a number of promising results in the field of personality-oriented work analysis (POWA), there is still a general need to develop valid predictive methodologies by addressing several current issues (Castille et al., 2019). First of all, it is necessary to explain the exact influence of personality traits on job performance, and how the job relevant traits needed for optimal performance can be identified for a certain job (Goffin et al., 2011; O'Neill et al., 2013). Also, besides the different sources of inaccuracy that can be present during the work analysis process (Morgeson & Campion,

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1997, 2012), there are also other reasons for the need to develop valid POWA methodologies, such as reducing the number of assessed traits for predicting performance in a certain job and, last but not least, a better legal defense when personality-based organizational decisions might be challenged by other parties (O'Neill et al., 2013).

Having in mind the aforementioned information about the ongoing status of this new type of job and work analysis methodology, in this paper we will describe the steps made towards the construction and validation of a new proposed POWA instrument that will mainly follow the recommendations provided by O'Neill et al.'s (2013) review regarding the current best practices in this field. Also, we will focus on the mitigation of cognitive and social sources of inaccuracy usually present during questionnaire-based work analysis processes (Morgeson & Campion, 1997, 2012) and on the self-serving bias identified especially in POWA by Cucina et al. (2005); these are biases that most of the already existing POWA methodologies did not specifically approach.

In order to further improve the data quality gathered through our proposed POWA instrument, besides O'Neil et al.'s (2013) recommendations, the general design, instructions, items, rating scale, frame of reference training (FOR training) of our proposed POWA questionnaire and the selection of relevant subject matter experts (SMEs) will also take into account the results from the meta-analyses published so far in the job and work analysis field (Dierdorff & Wilson, 2003; DuVernet et al., 2015; Voskuijl & van Sliedregt, 2002).

Further following the first steps in the validation process of our new POWA questionnaire, we will investigate the data quality indicators already established in the job and work analysis field.

Interrater reliability is the most common data quality indicator used in the job and work analysis processes (Dierdorff & Wilson, 2003; DuVernet et al., 2015; Voskuijl & van Sliedregt, 2002), because it asseses the level of consistency across all the SMEs that provide ratings for the job in question.

Research Question 1: What is the consistency of trait ratings across the SMEs for each position?

Another important indicator in the job and work analysis field is the ability of the questionnaire to discriminate between jobs and it represents the extent to which the SMEs manifest enough variance when providing ratings (DuVernet et al., 2015; Morgeson & Campion, 1997).

Research Question 2: What is the level of variance provided by the SMEs for each position?

Methods

The POWA instrument

The items

The construction of the items is based on the Big Five model within the NEO PI-R personality questionnaire built by Costa and McCrae (1992) and on its Romanian adaptation done by Iliescu et al. (2008). The decision to use the Big Five personality model of Costa and McCrae was based not only on its popularity among researchers and practitioners, but also on its proven validity in the industrial-organizational field (Costa, 1996), on its high level of cultural adaptation for the Romanian population (Ispas et al., 2014) and due to the extensive meta-analysis regarding this model and job performance conducted by Judge et al. (2013).

With very few exceptions (Salgado et al., 2013; Salgado et al., 2015), the published research so far concludes that broader personality factors are better predictors of overall job performance than their respective facets, and instead the latter can provide higher predictions for task performance (Judge et al., 2013; Debusscher et al., 2017) and contextual performance (Dudley et al., 2006; Judge et al., 2013). Taking these into account, we have to mention that the predictive value of facets depends very much on the specific performance criterion investigated and the occupational category in question (Dudley et al., 2006; Jenkins & Griffith, 2004) which is our aim in investigating the data quality provided by our instrument. Nonetheless, having in mind the multidimensional nature of individual job

performance (Harrari & Viswesvaran, 2018), following the recommendations of O'Neill et al. (2013), we chose to use facets of personality in our POWA instrument for several important reasons, some specific personality traits assessed through facets can be not just important, but sometimes even harmful for job performance, also, facets are more specifically defined in comparison with broader factors, certain specific traits can be linked to correspondently specific aspects of job performance and lastly, if needed, facets can be aggregated into broader factors when necessary, but the opposite would not be possible.

The meta-analysis performed by Shaffer and Postlethwaite (2012) revealed that contextualized items for the specific field of interest usually generate higher levels of accuracy. Thus, we introduced in the descriptions of the personality traits as many stimuli related to the occupational field, such as: "at work", "activity", "work environment", etc. In order to further add to the contextualization of the items and to avoid clinical connotations, those referring to the "Neuroticism" factor were reversed (Costa, McCrae, & Kay, 1995).

Besides the recommendations provided by O Neill et al. (2013) and by Goffin et al. (2011) regarding the general design of the POWA items, an important aspect that needs to be discussed is that of "observability". Although interrater agreement may increase when items have a lower degree of behavioral observability (Roch et al., 2009), simultaneously, when ratings for personality traits regarding their "importance" for job performance are used, the general interrater reliability might decrease (Dierdorff & Morgeson, 2009). Having in mind these indications, we also inspected the linguistic characteristics of the items, and for a greater reliability, we aimed that their content should have as few words as possible, so that we would not generate fatigue for the SMEs, also, a high degree of specificity and behavioral observability and to avoid double-barreledness, respectively, the sentences in question to address just one behavior (Brutus & Facteau, 2003; Kaiser & Craig, 2005).

The resulted items follow a trait-based description (O Neill et al., 2013), in which, each personality facet is described in terms of behaviors at work of a hypothetical incumbent in the rated position and the construction process was the following: a) we reviewed all the available sources regarding personality trait descriptions of the facets of either the Five-Factor (Costa & McCrae, 1995) or the Big Five (Goldberg, 1990) models b) based on these and on recommendations regarding observability and other linguistic aspects described above we created new trait descriptions, one for each facet c) we included in the trait descriptions not just "positive" aspects of the trait but also "negative" ones. The original items in Romanian can be viewed in Appendix 1 and a translated version is available in Appendix 2.

Also, regarding the order of placement of the items, for greater accuracy we used the recommendations of McFarland et al. (2002), to use an alternative order, respectively one item from each scale placed consecutively, and then the order resumed, until they are exhausted.

The rating scale

The evidence so far, shows us that there is also a linear personality-job performance relationship, even in a job analysis context, where the SMEs rate a certain trait in regards to its importance for performance in a certain job (Walmsley et al., 2018). It should also be noted that although subjective rating scales, such as those which assess the importance or difficulty regarding a characteristic or a task, produce higher levels of interrater agreement compared to objective ones, but at the same time are more prone to lower interrater reliability and discriminability between jobs (DuVernet et al., 2015), while Weekley et al. (2019) reported that the use of an "importance" rating scale when using personality traits as items, is valid enough to be used in the work analysis process.

For a better representation of the influence that personality traits can have, either positive or negative, on job performance (Tett et al., 1999), we opted to use a 5-point Likert type bidirectional scale on the "Disastrous

Influence - Optimal Influence" continuum according to the model used by Costa et al. (1995) and Goffin et al. (2011) and not one based on a classic continuum like the "Unimportant - Very Important". This decision was made in order to capture both the negative influence and not just the simple importance of the respective personality trait on job performance (O'Neill et. al, 2013). A sample of the developed rating scale can be viewed in Figure 2.

DI = Disastrous Influence…	**NI = Negative Influence…**	**N = No influence or relevance…**	**PI = Positive Influence…**	**OI = Optimal Influence…**
…on job performance in the rated position.				
Personality traits			**Your rating**	
Sociability – In this position the person prefers to interact with other people during the work activity. Enjoys and actively seeks other people's presence in the work environment. Develops or easily integrates in different professional circles, groups and social networks.			**DI** **NI** **N** **PI** **OI**	

Figure 1. Example of the rating scale regarding the influence of the "Sociability" personality trait on job performance for the rated position

Frame of Reference Training

In addition to providing expert instruction, FOR training helps in collecting higher-accuracy data from participants (Roch et al., 2012). The FOR training for our POWA instrument was also introduced in order to diminish the social and cognitive biases often encountered during the job and work analysis processes reported by Morgeson and Campion (1997, 2012) as well as self-serving bias (Cucina et al. 2005, 2012).

An important first step in implementing our FOR training was the one provided by Aguinis et al. (2009), in which they managed to significantly reduce the self-serving bias manifested by the SMEs in a similar POWA process. The other important step in building our FOR training is represented by Tsai's et al. (2019) model, respectively a "restructured" type of FOR training. In this type of training, SMEs are first introduced to the "correct" type of rating, and then they are invited to practice the example ratings using the previously learned scheme and only afterwards to rate the items (in our case, the personality traits) of the questionnaire itself. In contrast, in a "standard" or "typical" FOR training, the SMEs first practice the example items and only after, they receive feedback from the instructor regarding the "correct" type of rating, and finally they move on to filling the questionnaire itself.

Careless responding

Another important aspect that reduces the validity of work analysis processes is the tendency of SMEs to respond in a careless way (Sanchez & Levine, 2012). This may be due to both their lack of motivation (Morgeson & Campion, 1997) and their perceived ambiguity about the rated position (Dierdorff & Rubin, 2007; Stetz, Button, & Quist, 2012). To mitigate this possible tendency of the SMEs, we followed the recommendation of Morgeson et al. (2016) and used a warning text, informing them that a superior could verify their ratings and possible justifications might be asked of them regarding their choices made in rating the importance of personality traits.

The selection of relevant SMEs

In general, in the job and work analysis procedure, the process of selecting SMEs for a given position is based on five large groups of people, namely incumbents, supervisors - either direct supervisors or senior managers, technical experts - employees who do not directly perform the activity of the job in question, but have the necessary knowledge of its specific requirements, human resource specialists - either specialists in the human resources department or expert consultants in this field and other individuals relevant to the job, such as customers or suppliers of the company, etc… (Brannick et al., 2017; Guder, 2012; Morgeson & Dierdorff, 2011).

Regarding the selection of a certain person or a certain group from the categories described above, there are both disadvantages and disadvantages (Dierdorff & Wilson, 2003; DuVernet, et al., 2015; Voskuijl & van Sliedregt, 2002) and having in mind that there is no general consensus, in this case, for ensuring data quality and further research we will use all types of SME categories available (Manea, 2020).

Out of all the demographic information of the SMEs, Weekley et al. (2019) revealed that the most relevant one related to rating the importance of personality traits required for job performance was provided by individuals, both incumbents and supervisors, who reported that they "knew the job extremely well", regardless of either job experience in the field of activity or the job tenure. This last aspect was also strengthened by the results provided by DuVernet et al. (2015), respectively, job tenure was associated with a higher inflation of the mean ratings, and also by Morgeson et al. (2016) namely, a greater job experience was associated with careless responding and a lower convergence in terms of decomposed and holistic ratings. Taking into account the aforementioned information, we decided not to collect any information, or select SMEs based on job tenure or job experience. Also, we decided not to collect other demographic information, because gender-based characteristics in terms of sample heterogeneity have produced lower factor structure confirmation and other aspects such as race or age did not generate any significant effects concerning data quality (DuVernet et al., 2015). Instead, we opted to add a four step Likert type of scale in which SMEs can assess their own level of job knowledge (Hunter, 1983) of the activity occurred within the rated job on the following continuum: (1) extremely well (2) very well, (3) somewhat and (4) not at all (Weekley et al., 2019).

Also, in order to follow the recommendations of O'Neill et al. (2013) regarding the construction of a O*NET type of database for POWA rated positions, we added a field in which the job code can be filled according to the Classification of Occupations in Romania (Noua clasificare a ocupaţiilor din România, 2020).

Participants

The participants who acted as SMEs rated three of the following jobs, with their codes accordingly to the *Noua clasificare a ocupaţiilor din România* (2020), as follows: "Insurance inspector" (COR code: 241206), "Insurance coordinator" (COR code: 241246) and "Insurance automotive claims inspector" (COR code: 241248). All the selected SMEs were employed in a private insurance company, which operates in Romania. For each rated position, the following individuals completed the POWA instrument (Table 1):

Insurance inspector (N = 14), respectively eight incumbents, a supervisor, a human resources specialist, four technical experts and another organizational member. The self-reported level of job knowledge was "extremely well" for two of them, for nine SMEs "very well" and for the remaining three as "somewhat".

Insurance coordinator (N = 19), namely 12 incumbents, three supervisors, a human resources specialist, two technical experts and another organizational member. Two of the participants self-assessed their job knowledge as "somewhat" known, while eight considered it as "extremely well" and the other nine as being "very well".

Automotive claims inspector (N = 23), respectively 12 incumbents, six supervisors, a human resources specialist and for technical experts. Of these, six participants reported

their job knowledge as “extremely well”, while 17 of them as being "very well known".

Given that during the POWA process, the minimum number of SMEs recommended for the rating a position varies, being around 8–15 individuals (Foster et al., 2012; Raymark et al., 1997), we can consider that we have met the necessary conditions for sampling.

Table 1. *SME categories and their respective self-ratings of job knowledge for each rated position*

	Insurance inspector	**Insurance coordinator**	**Automotive claims inspector**
SME: Incumbent	8	12	12
SME: Supervisor	1	3	6
SME: Human resources specialist	1	1	1
SME: Technical expert	4	2	4
SME: Other organizational member	1	1	-
Total SMEs	14	19	23
SMEs’ job knowledge: “Extremely well”	2	8	6
SMEs’ job knowledge: “Very well”	9	9	17
SMEs’ job knowledge: “Somewhat”	3	2	-
SMEs’ job knowledge: “Not at all”	-	-	-

Procedure

The POWA instrument was administered by a PhD student in organizational-industrial psychology, in a pencil-and-paper format, with the SMEs joining in groups of about 10 individuals. After reading and signing an informed consent form, the SMEs participated in a group POWA session that lasted approximately 30 minutes.

The SMEs went through the FOR training which began with five hypothetical examples regarding the influence of the personality trait "Sociability" on job performance and the rationale for using the 5 options in the Likert rating scale for each position (Tsai et al., 2019).

Building from Aguinis et al. (2009) and Goffin et al. (2011), the FOR Training also contained three exercises regarding the influence of the personality trait "Sociability" on the performance for three distinct positions, respectively "Area sales director", "Production line operator" and "Network and computer technician". For each position, the SMEs were explained the reasoning for which they should select either the "Optimal Influence" or "Positive Influence" option for the first position, for the second the "No relevance or influence" option and for the last either the "Negative Influence” or “Disastrous Influence”.

After asking any possible questions and being provided with the necessary answers by the researcher, the SMEs individually completed the POWA questionnaire for their assigned position.

Results

We computed the mean (M) and the standard deviation (SD) resulted after the administration of the POWA instrument for each of the 3 rated positions (Table 1).

Following the model of Goffin et al. (2011), we also highlighted three personality traits relevant to the performance for each position according to the highest level of the

average scores offered by the experts, and if they were equal, we selected them according to the lowest level of its corresponding standard deviation value. Four traits were highlighted instead of three for the "Insurance coordinator" position.

Table 2. *POWA instrument: mean (M) and standard deviation (SD) values regarding the influence of personality traits on job performance for the three rated positions*

Personality traits	**Automotive claims inspector**		**Insurance inspector**		**Insurance coordinator**	
	M	**SD**	**M**	**SD**	**M**	**SD**
(N1) Anxiety control	1.09	.73	.64	.92	1.47	.61
(N2) Anger control	.26	1.32	.21	1.67	1.05	.97
(N3) Resilience	.87	.54	.71	.61	1.37	.68
(N4) Social presence	1.04	.63	.79	.89	**1.63**	**.49**
(N5) Impulse control	1.09	.84	.64	.92	1.37	.83
(N6) Stress tolerance	1.61	.72	**1.43**	**.51**	**1.63**	**.49**
(E1) Cordiality	.52	.94	1.14	.53	1.16	.68
(E2) Sociability	.96	.82	1.07	.73	1.47	.77
(E3) Assertiveness	.39	.94	.29	1.20	.11	1.15
(E4) Dynamism	1.26	.75	.79	.69	1.47	.69
(E5) Enthusiasm	–.91	.99	–.86	1.16	–.47	1.30
(E6) Optimism	.91	.73	.79	.69	1.05	.70
(O1) Imagination	.78	.90	.21	1.12	.89	1.04
(O2) Aesthetic sense	–.35	.83	–.36	.84	–.26	.99
(O3) Self-awareness	–.30	1.10	.43	.93	–.21	.78
(O4) Flexibility	1.09	.94	.64	1.00	1.16	.95
(O5) Vision	.83	.88	.50	.94	1.00	.66
(O6) Tolerance for diversity	.22	.79	.50	.76	.21	.85
(A1) Trust	–.30	.97	.21	1.47	.05	1.12
(A2) Sincerity	.91	.79	.93	.82	.68	1.10
(A3) Altruism	.39	.89	1.07	.47	.32	1.00
(A4) Conformism	.61	.94	.43	1.22	.53	.90
(A5) Modesty	–.04	1.02	.00	1.03	–.42	.96
(A6) Empathy	.26	.86	.57	.75	.53	.96
(C1) Effectiveness	1.52	.59	1.07	.61	1.53	.61
(C2) Organization	**1.65**	**.57**	1.21	.42	**1.68**	**.47**
(C3) Responsibility	**1.78**	**.42**	**1.43**	**.64**	**1.79**	**.41**
(C4) Ambition	**1.65**	**.57**	1.00	.67	**1.63**	**.49**
(C5) Self-discipline	1.48	.59	**1.29**	**.46**	1.47	.69
(C6) Planning	1.39	.58	1.29	.61	1.42	.76

Note: The most relevant personality traits for each position are highlighted. In the case were mean (M) values were equal, we chose the trait with the lowest standard deviation (SD) value.

Results indicate that certain personality traits are considered specific to the activity of a position, such as "(N6) Stress Tolerance" and "(C5) Self-Discipline" for the position of "Insurance Inspector" and "(N4) Social Presence" for the position of "Insurance coordinator". Instead, other features seem to be rather common across positions, e.g., "(C2) Organization" and "(C4) Ambition" for the positions "Insurance coordinator" and "Automotive claims inspector", and "(C3) Responsibility" for all 3 positions.

Research Question 1, examined if the level of consistency of trait ratings across all the SMEs for each job will be consistent enough. Thus, we computed the interrater reliability coefficient, as it is the most commonly used indicator of accuracy in job and work analysis questionnaire-based methods and we chose to express it by using the ICC method - Intraclass Correlation Coefficient (DuVernet et al., 2015; Dierdorff and Wilson, 2003; Morgeson et al., 2019; Voskuijl and van Sliedregt, 2002).

The interrater reliability coefficient turned out to be quite high, namely it varied between .80 and .94 for the rated positions as we can observe and in Table 2.

Table 3. *Interrater reliability coefficients and confidence intervals for the three rated positions*

Rated position	**ICC**	**95% CI**
Automotive claims inspector	.94	.90–.96
Insurance inspector	.80	.68–.89
Insurance coordinator	.93	.89–.96

In order to address Research Question 2 and to determine the discriminability between jobs of our POWA instrument, we computed an ANOVA procedure and, due to slight difference between the SME sample sizes for each position, a Gabriel Post Hoc test. The results present in Table 3 show us that only three rated traits could discriminate between two jobs, namely "(N3) Resilience" and "(N4) Social presence" for the „automotive claims inspector" and „insurance coordinator" and for the „insurance inspector" and insurance coordinator" positions, respectively. Subsequently, the "(C2) Organization" and "(C4) Ambition" traits could provide a significant difference for the ratings between the „automotive claims inspector" and „insurance inspector" positions and between the „insurance inspector" and "insurance coordinator" positions. Also, "(N1) Anxiety control", "(E4) Dynamism" and "(A3) Altruism" could offer a significant difference for the ratings between the „insurance inspector" and "insurance coordinator" positions, while "(E1) Cordiality" provided a significant difference between the „automotive claims inspector" and „insurance coordinator" positions. The other traits could not provide any other significant discriminability between the rated positions.

Table 4. *ANOVA and Gabriel Post Hoc test results for discriminability among the three rated positions*

Personality traits	***F***	***df***	**η2**	***p***	**M1**	**M2**	**M3**	***p*(Dif 1-2)**	***p*(Dif 1-3)**	***p*(Dif 2-3)**
(N1) Anxiety control	4.96	2	0.71	.01	1.09	.64	1.47	.22	.27	**.00**
(N2) Anger control	2.38	2	0.54	.10	.26	.21	1.05	.99	.16	.20
(N3) Resilience	5.48	2	0.73	.00	.87	.71	1.37	.83	**.03**	**.01**
(N4) Social presence	7.23	2	0.78	.00	1.04	.79	1.63	.58	**.01**	**.00**
(N5) Impulse control	2.86	2	0.58	.06	1.09	.64	1.37	.34	.64	.05
(N6) Stress tolerance	0.53	2	0.20	.59	1.61	1.43	1.63	.75	.99	.71
(E1) Cordiality	4.45	2	0.68	.01	.52	1.14	1.16	.06	**.03**	1.00
(E2) Sociability	2.38	2	0.54	.10	.96	1.07	1.47	.96	.10	.38
(E3) Assertiveness	0.36	2	0.15	.69	.39	.29	.11	.98	.77	.95
(E4) Dynamism	3.75	2	0.65	.03	1.26	.79	1.47	.15	.71	**.02**
(E5) Enthusiasm	0.83	2	0.29	.43	–.91	–.86	–.47	.99	.52	.71
(E6) Optimism	0.57	2	0.22	.56	.91	.79	1.05	.93	.89	.64
(O1) Imagination	2.03	2	0.50	.14	.78	.21	.89	.26	.97	.16
(O2) Aesthetic sense	0.06	2	0.02	.94	–.35	–.36	–.26	1.00	.98	.98
(O3) Self-awareness	2.73	2	0.57	.07	–.30	.43	–.21	.08	.98	.18
(O4) Flexibility	1.30	2	0.39	.28	1.09	.64	1.16	.44	.99	.35
(O5) Vision	1.46	2	0.42	.24	.83	.50	1.00	.57	.87	.25
(O6) Tolerance for diversity	0.65	2	0.24	.52	.22	.50	.21	.65	1.00	.67
(A1) Trust	0.97	2	0.32	.38	–.30	.21	.05	.46	.69	.97
(A2) Sincerity	0.41	2	0.17	.66	.91	.93	.68	1.00	.80	.83
(A3) Altruism	3.72	2	0.65	.03	.39	1.07	.32	.06	.98	**.04**
(A4) Conformism	0.14	2	0.06	.86	.61	.43	.53	.93	.99	.99
(A5) Modesty	0.97	2	0.32	.38	–.04	.00	–.42	.99	.54	.55
(A6) Empathy	0.72	2	0.26	.48	.26	.57	.53	.64	.69	.99
(C1) Effectiveness	2.93	2	0.59	.06	1.52	1.07	1.53	.09	1.00	.10
(C2) Organization	4.18	2	0.67	.02	1.65	1.21	1.68	**.03**	.99	**.03**
(C3) Responsibility	2.84	2	0.58	.06	1.78	1.43	1.79	.10	1.00	.11
(C4) Ambition	6.52	2	0.76	.00	1.65	1.00	1.63	**.00**	.99	**.00**
(C5) Self-discipline	0.52	2	0.20	.59	1.48	1.29	1.47	.71	1.00	.75
(C6) Planning	0.18	2	0.08	.83	1.39	1.29	1.42	.95	.99	.91

Note: M1 = mean values for the „automotive claims inspector" position; M2 = mean values for the „insurance inspector" position; M3 = mean values for the „insurance coordinator" position; *p*(Dif 1-2) = *p* difference between M1 and M2 values; *p*(Dif 1-3) = *p* difference between M1 and M3 values; *p*(Dif 2-3) = *p* difference between M2 and M3 values. Values of significant difference above .05 are highlighted.

Discussions and conclusions

Our study aimed at presenting the first steps towards the construction of a new POWA instrument which can keep at a minimum the effect of potential sources of social and cognitive Morgeson and Campion (1997) which can affect the data quality indicators. From our knowledge, no other POWA-based study did not set out to accomplish, and from our perspective this might be a significant step in the personality-job performance research and practice field, in exploring the exact influence of certain personality traits in predicting both the positive influence and especially, the negative one on certain work activities and outcomes (O'Neill et al., 2013: Tett et al., 1999).

The POWA instrument provided a high interrater reliability coefficient, thus Research Question 1 had a favorable answer and we can affirm that our instrument can be reliable enough so that we can continue future research by administering for other positions in different fields of activity.

The personality traits selected as relevant to job performance were considered by the SMEs to be somewhat similar for all three positions. This aspect could be explained either by the meta-analyses regarding the "Neuroticism" and especially "Conscientiousness" traits as general indicators of job performance (Hurtz & Donovan, 2000; Judge et al., 2013) or through a combination of different social or cognitive biases manifested by experts during the completion of the questionnaires, highlighted by Morgeson and Campion (1997, 2012).

While interrater reliability was considerably high, the discriminability between jobs was quite low; this might be explained from three perspectives. First, the general nature and design of our POWA instrument might be a cause, because in terms of general data quality, we know so far that more general activity work descriptors, non-traditional work analyses techniques and subjective rating scales provide lower levels of discriminability (DuVernet et al., 2015). The second explanation might lie within the selection of the participation, because among all the SME categories, professional analysts produce the highest levels of discriminability in comparison with supervisors and incumbents (DuVernet et al., 2015), and since our study included just one professional analyst per position, which might not be enough for ensuring a high for this indicator. Last but not least, the lower discriminability might have been affected by the presence of one or more of the social and cognitive biases proposed by Morgeson and Campion (1997), such as motivation loss, information overload, heuristics, categorization and careless responding.

Nevertheless, the traits that showed a significant discriminability, were generally those based on the "Neuroticism" and "Conscientiousness" factors. As we already outlined above, these two factors are the best predictors of job performance, so this might be no surprise.

Practical and theoretical implications

Our paper adds more value regarding the use of personality traits as a valid concept for assessing the requirements for job performance in the work analysis processes (O'Neill et al., 2013). Also, Weekley et al. (2019) found that individuals with the highest level of job knowledge are those who will provide the most valid rated, which was not confirmed in this study, because not that many of the SMEs reported to know the rated position as "extremely well". A possible explanation could be related to the semantics of the expression "extremely well" compared to "very well" in the self-reports scale, and that participants may have shown a negative attitude towards the expression containing the term "extreme". Also, the researcher noticed that most of the SMEs had a negative, both verbal and non-verbal, reaction to the instruction that a superior might question them regarding some of their ratings. Although this instruction was meant to reduce careless responding tendencies (Morgeson et al., 2016) we think that this type of warning should not be used, instead other methods for reducing carelessness might be integrated such as the use of "bogus items" as provided by Dierdorff and Rubin (2007).

We should note that the FOR training seems to be effective, and it should be taken into account in future researches, especially in terms of increasing its effect on the accuracy of data provided by the SMEs, which occurs immediately after the presentation of the purpose and definitions of the dimensions rated by participants (Hauenstein & McCusker, 2017).

Limitations

The present study involved just three positions with SMEs belonging to the same company, in the insurance field of activity. In order to further investigate the data quality that can be gathered through our POWA instrument, we must administer it in other diverse fields of activity, and not just in "white-collar" mediums. Also, more technical experts and human resource specialists need to be involved as SMEs in the rating process for both accuracy and further research (Manea, 2020). For example, our SMEs involved just one human resource specialist for all three rated positions, and having in mind that this category is the most exposed to cognitive biases that can affect the data quality gathered (Morgeson & Campion, 1997) we should aim to include at least two of this category.

Future directions for research

Morgeson and Campion (1997) proposed that some social and cognitive biases such as motivation loss, information overload, heuristics, categorization and careless responding might have a negative impact on the effective discriminability between jobs of job and work analysis questionnaires, thus, as directions for further research and especially for reducing these biases and for the general improvement of the accuracy of the data collected through our POWA instrument, we consider addressing them with some immediate and practical decisions. For example, the SMEs motivation loss could be reduced by including in the instrument's instructions a short text that will highlight the benefits for both the organization and the individuals regarding the results of the work analysis process (Cecil, 2015; Ispas, 2010). We believe that information overload was not an issue, as we have condensed the instrument's contents to a minimum and to its essential. Regarding the heuristics bias, although our FOR training was built in order to diminish the possible effects of anchoring and adjustment heuristics on the model based by Tsai et al., 2019, other two possible types of heuristics might be present, such as representativeness and availability (Morgeson & Campion, 1997). Firstly, we will inform the SMEs in the instructions section of the instrument that they can be unconsciously susceptible to some cognitive errors (Nisbet & Ross, 1980). Also, in order to prevent the representativeness heuristics, the SMEs will be noticed to base their ratings not just on small units of the position's activity but to also take into account its broader scope (Sanchez et al, 1994). Concerning the availability heuristics, we will also instruct the SMEs to not take into account the occasional factors that although they might cause strong memories and feelings when they provide their ratings, instead to focus just on the important and representative events of the respective position (Sanchez et al, 1994). Continuing with the categorization bias, we will ensure that there are no temporal pressures for the SMEs, that the instructions will be kept short enough and to the point, and that they will rate only one position per session (Fiske & Pavelchak; Kulik, 1989). Moreover, concerning careless responding, from the list of items present in the questionnaire, we will select at least one "bogus item" so that we can detect this type of responding type (Meade & Craig, 2012) and if the case, possibly eliminate the respective SMEs responses from the information database related to the position in question.

Moreover, another possible solution in reducing the aforementioned social and cognitive biases would be to administer the POWA instrument in an online medium and not in a pencil-and-paper format (Reiter-Palmon et al., 2006).

Finally, the future directions regarding the accuracy of our instrument will focus on gathering a greater number of positions from broader ranges of activity with a sufficiently number of SMEs and not only investigating the interrater reliability and discriminability

coefficients, but also other important data quality indicators used in job and work analysis such as intrarater reliability (Dierdorff and Wilson, 2003; DuVernet et al., 2015), interrater agreement, intrarater agreement, rate-rerate reliability, factor structure confirmation, endorsement of distractor items and the inflation or deflation of mean ratings (DuVernet et al., 2015).

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Appendix 1

Original items (trait descriptions) in Romanian

(N1) Controlul anxietăţii - În acest post persoana este calmă şi liniştită. Aceasta nu se îngrijorează în faţa potenţialelor probleme sau dificultăţi întâlnite în munca sa. În cadrul activităţii sale, ia lucrurile aşa cum sunt, fără să intre în stări de panică sau să resimtă alte stări de nervozitate sau anxietate.
(N2) Controlul furiei - În acest post persoana se înfurie şi se supără cu greu. Aceasta nu se enervează atunci când întâlneşte situaţii problematice în munca sa. Nu se simte ofensată sau iritată chiar şi în situaţiile în care este trasă la răspundere, criticată sau confruntată de către cei din mediu său de lucru.
(N3) Rezilienţă - În acest post persoana îşi revine rapid după eventuale eşecuri şi nu se plânge de problemele din trecut sau din prezent. Aceasta nu se culpabilizează pentru greşelile din trecutul activităţii sale profesionale. Se descurajează cu greu în faţa obstacolelor ce apar în munca sa**.**
(N4) Prezenţă socială - În acest post persoana se comportă într-un mod neinhibat în interacţiunile sociale. Aceasta se simte confortabil şi se ruşinează cu greu în situaţiile în care trebuie să desfăşoare activităţi în prezenţa altora. Iniţiază cu uşurinţă conversaţii cu persoanele străine întâlnite în activitatea sa.
(N5) Controlul impulsurilor - În acest post persoana este rezistentă în faţa propriilor dorinţe şi tentaţii de moment. Aceasta îşi ţine sub control emoţiile şi frustrările personale survenite în munca sa. Nu acţionează pe baza impulsului de moment, indiferent de emoţiile personale trăite de-a lungul activităţii sale.
(N6) Toleranţă la stres - În acest post persoana tratează în mod eficient situaţiile stresante. Aceasta se adaptează şi rămâne calmă în situaţiile de criză şi incertitudine din activitatea sa. În munca sa, îşi gestionează eficient propriile emoţii chiar şi în condiţii ridicate de stres şi presiune externă.
(E1) Cordialitate - În acest post persoana interacţionează cu ceilalţi într-un mod călduros şi prietenos. Aceasta iniţiază cu uşurinţă relaţii apropiate cu persoane din mediul său de lucru. Stabileşte legături de amiciţie şi prietenie de lungă durată cu alte persoane pe care le întâlneşte în activitatea sa.
(E2) Sociabilitate - În acest post persoana preferă să interacţioneze cu alte persoane în activitatea sa. Aceasta apreciază şi caută în mod activ compania altor persoane din mediul său de lucru. Dezvoltă sau se integrează cu uşurinţă în diverse grupuri, cercuri şi reţele sociale profesionale.
(E3) Asertivitate - În acest post persoana preferă să preia iniţiativa şi conducerea în cadrul grupului său. Aceasta se exprimă fără ezitare şi într-un mod în care poate influenţa acţiunile şi deciziile celorlalţi. Preferă să ia deciziile sau să facă parte din procesul decizional al activităţii sale.
(E4) Dinamism - În acest post persoana este energică şi doreşte un ritm intens şi rapid de activitate. Aceasta îşi doreşte să fie mereu ocupată sau implicată într-o activitate. Posedă resurse considerabile de energie pentru desfăşurarea activităţii sale şi oboseşte cu greu.

(E5) Entuziasm - În acest post persoana apreciază şi caută în mod activ stimularea emoţională. Aceasta preferă incertitudinea şi îşi doreşte "senzaţii tari" în activitatea sa. În munca sa, este dispusă sa-şi asume riscuri în situaţii care pot avea urmări incerte.
(E6) Optimism - În acest post persoana este bine-dispusă şi are o perspectivă pozitivă asupra activităţii sale. Aceasta apreciază glumele şi râde des şi cu uşurinţă în cadrul mediului său de lucru. Priveşte mereu „partea plină a paharului" în cadrul activităţii sale.
(O1) Imaginaţie - În acest post persoana posedă o imaginaţie bogată şi activă. Aceasta este dispusă să se implice în activităţi ce presupun folosirea creativă a imaginaţiei. Caută să ofere soluţii neîncercate sau abordări originale pentru obstacolele pe care le întâlneşte în munca sa.
(O2) Simţ estetic - În acest post persoana este sensibilă faţă de latura artistică şi estetică a activităţii sale. Aceasta îşi exprimă ideile pe care le propune în activitatea sa într-un mod artistic. Are un interes pronunţat pentru implicarea în activităţi ce necesită concentrarea asupra aspectelor estetice din munca sa.
(O3) Autoconştientizare - În acest post persoana este sensibilă şi atentă la propriile emoţii şi sentimente. Aceasta resimte o gamă largă şi intensă de stări, atât pozitive cât şi negative, pe parcursul muncii sale. Acordă o mare importanţă calităţii şi intensităţii emoţiilor trăite de-a lungul activităţii sale.
(O4) Flexibilitate - În acest post persoana îşi adaptează uşor şi rapid stilul de lucru la schimbările survenite în mediul său de lucru. Aceasta este interesată să fie implicată într-o gamă cât mai largă de activităţi profesionale. În munca sa, preferă varietatea şi noutatea în dauna rutinei.
(O5) Viziune - În acest post persoana este curioasă şi deschisă pe plan intelectual şi abstract. Aceasta apreciază implicarea în dezbaterea şi analiza problemelor şi subiectelor complexe din cadrul activităţii sale. În munca sa, caută în mod activ idei şi soluţii inovatoare sau necovenţionale.
(O6) Toleranţă la diversitate - În acest post persoana are un sistem de valori deschis, fără prejudecăţi. Aceasta este tolerantă şi receptivă la obiceiurile şi convingerile diferite ale persoanelor întâlnite în cadrul activităţii sale. Dispusă să pună la îndoială normele sociale deja existente în mediul său de lucru.
(A1) Încredere - În acest post persoana acordă încredere cu uşurinţă altor persoane. Aceasta nu are atitudini de suspiciune sau de neîncredere faţă de persoanele întâlnite în activitatea sa. Consideră că acţiunile celorlalte persoane din mediul să de lucru sunt motivate la rândul lor de bune intenţii.
(A2) Sinceritate - În acest post persoana este sinceră şi directă în cadrul interacţiunilor sociale. Aceasta este dispusă să-şi exprime adevăratele gânduri şi sentimente faţă de persoanele întâlnite în activitatea sa. Preferă să joace „cu cărţile pe masă" în relaţie cu persoanele din mediul să de lucru.
(A3) Altruism - În acest post persoana oferă ajutor altor persoane în mod necondiţionat. Aceasta are un interes autentic şi activ pentru binele celorlalte persoane din mediul său de lucru. Are tendinţa să ofere sprijin altora chiar şi în situaţiile în care trebuie să-şi pună interesele şi activităţile pe plan secund.

(A4) Conformism - În acest post persoana este cooperantă şi are o atitudine obedientă faţă de autoritate. Aceasta este dispusă să-şi modifice comportamentul pentru a se integra în standardele şi regulile impuse. Reticentă la exprimarea furiei şi a propriilor nemulţumiri din actvitatea sa.
(A5) Modestie - În acest post persoana are o atitudine modestă şi este reticentă la a-şi promova reuşitele şi abilităţile în faţa celorlalţi. Aceasta are tendinţa de se plasa pe plan secund în mediul său de lucru. Dispusă să accepte sarcini sau poziţii inferioare experienţei sau competenţelor sale.
(A6) Empatie - În acest post persoana este receptivă la nevoile, problemele şi emoţiile celorlalte persoane. Aceasta ia în calcul impactul deciziilor şi acţiunilor sale asupra celorlalte persoane din mediul său de lucru. Dispusă să se pună în pielea persoanelor cu care lucrează pentru a le înţelege perspectiva.
(C1) Eficacitate - În acest post persoana se simte sigură pe sine şi eficace. Aceasta este încrezătoare în propria judecată şi în propriul potenţial profesional. Consideră că este capabilă şi pregătită pentru a-şi atinge obiectivele şi pentru a depăşi obstacolele din activitatea sa.
(C2) Organizare - În acest post persoana este ordonată şi atentă la detalii. Aceasta este minuţioasă şi exigentă în ceea ce priveşte organizarea obiectelor şi informaţiilor din mediul său de lucru. Abordează sarcinile şi activităţile sale într-un mod sistematic şi metodic.
(C3) Responsabilitate - În acest post persoana are un simţ ridicat al răspunderii faţă de obligaţiile şi sarcinile pe care şi le asumă. Aceasta îşi respectă angajamentele şi se simte responsabilă pentru munca sa. Încurajează în mod activ şi aderă la sistemul de reguli existent în mediul său de lucru.
(C4) Ambiţie - În acest post persoana este ambiţioasă şi munceşte din greu pentru a atinge perfecţiunea în munca sa. Aceasta îşi stabileşte, în activitatea sa, standarde de calitate foarte ridicate. Dispusă să depună efort în mod constant pentru a-şi atinge obiectivele profesionale.
(C5) Autodisciplină - În acest post persoana este perseverentă. Aceasta are capacitatea de a-şi finaliza sarcinile la timp. Îşi menţine concentrarea şi voinţa, chiar şi atunci când sarcinile sunt plictisitoare sau obositoare, ori în dauna surselor de distragere a atenţiei survenite pe parcursul activităţii sale.
(C6) Planificare - În acest post persoana este prudentă şi calculată. Aceasta ia o decizie doar după ce analizează informaţiile disponibile şi elaborează planurile de acţiune. Încearcă să anticipeze potenţialele consecinţe pe termen mediu şi lung ale luării unei anumite decizii în cadrul activităţii sale.
Note: in brackets are presented six facets for each personality factor; N = Neuroticism (reverse-coded); E = Extraversion; O = Openness; A = Agreeableness; C = Conscientiousness

Appendix 2

Items (trait descriptions) translated into English

(N1) Anxiety control - In this position the person is calm and composed. He/she does not worry about the potential problems or difficulties encountered during his/her work. Throughout work, takes things as they are, without panicking or feeling nervousness or other anxiety states.
(N2) Anger control - In this position the person randomly gets infuriated and upset. Does not get angry when he/she encounters problematic situations during work. Does not feel offended or irritated in situations where he/she is held accountable, critiqued or confronted by other people from the work environment.
(N3) Resilience - In this position, the person quickly recovers after eventual failures and does not complain about past or present problems. He/she does not feel guilty for the past mistakes from his/her professional activity. Rarely feels discouraged in the face of the obstacles that appear throughout his/her work.
(N4) Social presence - In this position the person behaves in an uninhibited manner during social interactions. He/she feels comfortable and seldom feels shy in situations in which he/she has to perform activities in the presence of others. Easily initiates conversations with new people encountered in his/her activity.
(N5) Impulse control - In this position the person is resistant against his/her own momentary urges and temptations. He/she controls his/her personal emotions and frustrations that appear in his/her work. Does not act on momentary impulse, regardless of the personal emotions experienced during his/her activity.
(N6) Stress tolerance - In this position the person efficiently treats stressful situations. He/she adapts and remains calm in crisis and uncertain situations from his/her activity. In his/her work, he/she efficiently manages his/her own emotions, even in high stress and external pressure conditions.
(E1) Cordiality - In this position the person interacts with others in a warm and friendly way. He/she easily initiates close relationships with people in his/her work environment. Establishes long-term amicabilities and friendships with other people met in his/her activity.
(E2) Sociability - In this position the person prefers to interact with other people during his/her activity. Appreciates and actively seeks other people's company from the work environment. Develops or easily integrates in different groups, circles and professional social networks.
(E3) Assertiveness - In this position the person prefers to take the initiative and the leadership inside his group. Expresses himself/herself without hesitation and in a manner that can influence the actions and decisions of others. Prefers to make decisions or to be a part of the decisional process of his activity.
(E4) Dynamism - In this position the person is energetic and wishes for an intense and rapid activity rhythm. He/she wishes to be always busy or involved in some sort of activity. Possesses considerable energy resources for performing his/her activity and rarely gets tired.

(E5) Enthusiasm - In this position the person appreciates and actively seeks emotional stimulation. He/she prefers uncertainty and wants "thrills" in his/her activity. In his/her work, he/she is willing to take risks in situations that can have uncertain outcomes.
(E6) Optimism - In this position the person has a good mood and a positive perspective regarding his/her activity. He/she appreciates jokes and laughs easily and often in his/her work environment. Always sees "the bright side of things" throughout his/her activity.
(O1) Imagination - In this position the person possesses a rich and active imagination. He/she is willing to get involved in activities that involve the creative use of imagination. Seeks to offer untried solutions or original approaches to deal with the obstacles encountered during his/her work.
(O2) Aesthetic sense - In this position the person is sensitive toward the artistic and aesthetic side of his/her activity. Expresses the ideas that he/she proposes during the work activity in an artistic manner. Has a pronounced interest for the involvement in activities that require focus on the aesthetical aspects from work.
(O3) Self-awareness - In this position, the person is sensitive and receptive to his/her own emotions and feelings. He/she experiences a wide and intense range of emotional states, both positive and negative. Pays attention to the quality and intensity of the emotions felt during his/her activity.
(O4) Flexibility - In this position, the person easily adapts his/her work style to the changes that appear in his/her work environment. He/she is interested in being involved in a wide variety of professional activities. In his/her work, he/she prefers variety and novelty over routine.
(O5) Vision - In this position, the person is curious and intellectually open towards the abstract. He/she appreciates to be involved in debating and analyzing complex problems and subjects from his/her activity. In his/her work, he/she actively seeks ideas and innovative or unconventional solutions.
(O6) Tolerance for diversity - In this position the person has an open value system, without preconceptions. He/she is tolerant and receptive to the different habits and beliefs of people encountered in his/her activity. Willing to doubt the already existing social norms found in his/her work environment.
(A1) Trust - In this position the person easily trusts other people. He/she does not have suspicious or distrustful attitudes towards the people met in his/her work. Considers that the actions of other people from the work environment are in turn, motivated by good intentions.
(A2) Sincerity - In this position, the person is honest and frank during social interactions. Is willing to express his/her true thought and feelings towards the people encountered during his/her activity. Prefers to "play with an open hand" in the relationships with the people from his/her work environment.
(A3) Altruism - In this position the person offers help to other people in an unconditional manner. He/she has an authentic and active interest for the welfare of other people from his/her work environment. He/she has the tendency to offer support to other people, even in situations in which he has to put his/her own interests and activities aside.

(A4) Conformism - In this position the person is cooperative and has an obedient attitude towards authority. He/she is willing to modify his/her behavior in order to fit in the imposed standards and rules. Reserved in expressing anger and complaints from his/her activity.
(A5) Modesty - In this position the person has a humble attitude and is reserved in promoting his/her own accomplishments and abilities to others. He/she has the tendency to stay in the background of his/her work environment. Willing to accept tasks or positions that are inferior to his/her experience or competencies.
(A6) Empathy - In this position the person is receptive to the needs, problems and emotions of other people. He/she takes into account the impact of his/her decisions and actions on other people from his/her work environment. Willing to "step in the shoes" of the people he/she works with in order to understand their perspective.
(C1) Effectiveness - In this position the person feels confident and effective. He/she is confident in his/her judgment and professional potential. Considers that he/she is capable and prepared to achieve his/her objectives and to overcome the obstacles that appear during his/her activity.
(C2) Organization - In this position the person is orderly and attentive to details. He/she is thorough and exacting in regards to the organization of the objects and information from his/her work environment. Approaches his/her tasks and activities in a systematically and methodic manner.
(C3) Responsibility - In this position the person has a sigh sense of responsibility towards the assumed obligations and tasks. He/she respects his/her commitments and he/she feels responsible for his/her work. He/she actively encourages and adheres to the existing rules systems from his/her work environment.
(C4) Ambition - In this position the person is ambitious and pushes hard in order to reach perfection in his/her work. He/she establishes, in his/her activity, very high quality standards. Willing to put in constant effort in order to reach his/her professional objectives.
(C5) Self-discipline - In this position the person is perseverant. He/she has the capacity to finalize his/her tasks on time. He/she keeps his focus and willpower even in situations in which tasks are either boring or tiring, or despite sources of distractions that appear during his/her activity.
(C6) Planning - In this position, the person is prudent and calculated. He/she takes a decision only after analyzing the available information and developing action plans. In his/her activity, he/she tries to anticipate the potential medium and long term consequences regarding a certain decision.
Note: in brackets are presented six facets for each personality factor; N = Neuroticism (reverse-coded); E = Extraversion; O = Openness; A = Agreeableness; C = Conscientiousness