

Chapter 3

Measuring Individual Work Performance - Identifying and Selecting Indicators

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WORK: A Journal of Prevention, Assessment & Rehabilitation. 2013; 45(3)

DOI 10.3233/WOR-131659

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Abstract

Background: Theoretically, individual work performance (IWP) can be divided into four dimensions: task performance, contextual performance, adaptive performance, and counterproductive work behavior. However, there is no consensus on the indicators used to measure these dimensions.

Objective: This study was designed to 1) identify indicators for each dimension, 2) select the most relevant indicators, and 3) determine the relative weight of each dimension in ratings of work performance.

Methods: IWP indicators were identified from multiple research disciplines, via literature, existing questionnaires, and expert interviews. Subsequently, experts selected the most relevant indicators per dimension and scored the relative weight of each dimension in ratings of IWP.

Results: In total, 128 unique indicators were identified. Twenty-three of these indicators were selected by experts as most relevant for measuring IWP. Task performance determined 36% of the work performance rating, while the other three dimensions respectively determined 22%, 20% and 21% of the rating.

Conclusions: Notable consensus was found on relevant indicators of IWP, reducing the number from 128 to 23 relevant indicators. This provides an important step towards the development of a standardized, generic and short measurement instrument for assessing IWP.

Introduction

Although an individual's performance at work is one of the most important outcomes of studies in the occupational setting, recent research has shown that there is no consensus on the definition and measurement of individual work performance [1-3]. Various terms (often used interchangeably) are used to describe individual work performance (IWP), such as presenteeism, performance, or productivity. The definitions of these terms are often unclear. This is undesirable, because a clear definition and theoretical framework of IWP is a prerequisite for its valid measurement. Valid measurement, in turn, is necessary to accurately establish the causes and consequences of IWP.

Defining individual work performance

Considering the importance of IWP, it is not surprising that disciplines other than occupational medicine have concerned themselves with defining and measuring the concept. Within work and organizational psychology, defining the construct of IWP and attempting to understand its underlying structure has received much attention [4]. In the latter discipline, IWP is generally defined as "behaviors or actions that are relevant to the goals of the organization" [5]. Thus, IWP is defined in terms of behaviors or actions of employees, rather than the results of these actions. In addition, IWP consists of behaviors that are under the control of the individual, thus excluding behaviors that are constrained by the environment [6].

Recently, a heuristic framework of IWP was proposed in a multi-disciplinary, systematic literature review [7], in which IWP consisted of four broad and generic dimensions. The first dimension, *task performance*, refers to the proficiency with which an employee performs central job tasks [5]. The second dimension, *contextual performance*, refers to employee behaviors that support the organizational, social, and psychological environment in which the central job tasks are performed [8]. The third dimension, *adaptive performance*, refers to an employee's proficiency in adapting to changes in work roles or environment [9]. The fourth dimension, *counterproductive work behavior*, refers to behavior that is harmful to the well-being of the organization [6].

Measuring individual work performance

While four generic dimensions of IWP can be distinguished, there is still little consensus on how to measure the concept. Within occupational medicine, various

questionnaires exist to measure IWP or similar constructs, such as the Stanford Presenteeism Scale [10], Work Productivity and Activity Impairment [11], and Health and Performance Questionnaire [12]. Within work and organizational psychology, numerous scales have also been developed to measure task performance [e.g., 13], contextual performance [e.g., 14], or counterproductive work behavior [e.g., 15]. The multitude of scales in this discipline is perhaps best illustrated by LePine, Erez and Johnson [16], who identified more than 40 different measures of contextual performance.

The heterogeneous content of IWP measures is likely related to the use of different definitions of IWP, or a lack thereof, and by the use of different developmental or target populations. What is noticeable in the measures developed in occupational medicine is that a clear definition and theoretical model of IWP is often lacking [17-19]. Although the measures developed in work and organizational psychology do use definitions of IWP dimensions, none of them captured the complete range of individual behaviors at work. Moreover, measures from occupational medicine are often designed for individuals with physical or mental health problems [20]. This makes these measures less suitable for assessing IWP in healthy workers. In addition, the measures developed in work and organizational psychology, although intended to be generic, were often developed and refined based on a specific occupation.

Goal of the current study

The current lack of consensus on how to measure IWP impedes valid measurement of the construct. Research on IWP would benefit greatly from a standardized, generic, short instrument. The four-dimensional framework of IWP [7] provides a theoretical starting point for developing such an instrument. Next, it is essential to gain consensus on the indicators (important employee behaviors or actions) for each dimension of IWP. Therefore, we designed a study to: 1) identify indicators for each IWP dimension, 2) select the most relevant indicators, and 3) determine the relative weight of each dimension in ratings of IWP. Secondary aims of this study were to determine: 4) whether there were differences between the views of experts from different professional backgrounds (researchers, managers, human resource managers, and occupational health professionals) on the aforementioned research questions, and 5) whether the experts preferred a generic or job-specific questionnaire.

Methods

Identification of indicators

First, indicators were identified from a literature review on conceptual frameworks of IWP [7]. Second, indicators were identified from existing IWP related questionnaires. For this purpose, a systematic search was conducted to identify questionnaires measuring individual work performance or work productivity. As the terms work performance and work productivity are often used synonymously, we incorporated both terms in our search strategies. Search strategies were developed with the aid of experienced search specialists. Search terms included *work performance*, *work productivity*, *job performance*, *employee performance*, or *employee productivity* and *questionnaire*, *scale*, or *index*. Searches were conducted in two medical databases (PubMed and Embase.com) and one psychological (PsycINFO) database in September 2010. Additional questionnaires were identified by scanning the authors' personal collection of IWP literature. Third, interviews with 16 key-experts were held in November 2010. Key-experts were national and international researchers with over 20 years of experience in the areas of occupational health, psychology, or management.

A review of the literature, questionnaires and data from the experts interviewed resulted in an initial list of IWP indicators. From this list, the first and second author independently removed causal variables (e.g., motivation). In addition, overlapping indicators between dimensions (e.g., 'concentrating' in contextual performance, 'not concentrating' in counterproductive work behavior) were removed from the dimension where they were least well suited. Differences in judgment were resolved through a consensus procedure. Based on conceptual overlap, the first and second author independently reduced the remaining list of indicators, and using the definitions categorized each indicator into the dimension where it best fitted. Differences in judgment were again resolved through a consensus procedure.

Selection of indicators

Participants

A sample of 695 experts from different professional backgrounds (researchers, managers, human resource managers (HRM), and occupational health professionals (OHP)), including the key-experts, were invited to select the most relevant indicators

of IWP. This sample consisted of participants from one national and one international occupational health conference that took place in The Netherlands. Each participant was invited by e-mail to participate in the study. A link to the online questionnaire was included. Depending on their country of residence, participants completed the questionnaire in Dutch or English. Participants had three weeks to complete the questionnaire. After two weeks, non-responders received a reminder via e-mail.

Questionnaire

After a brief introduction to the study, participants were shown a list of all indicators per IWP dimension (task performance, contextual performance, adaptive performance, and counterproductive work behavior). Within dimensions, indicators were presented in random order. Per dimension, participants were asked to select the 6 most important indicators, keeping in mind work performance on a generic level. This means that they had to select indicators that were important in all types of professions, not just in their own profession. For practical reasons, contextual performance was split into two sub-dimensions (interpersonally directed and organizationally directed) because of the large number of indicators related to this dimension. In total, each participant selected 30 (5x6) indicators from the full list of indicators, which he or she believed to be most relevant. After every category of indicators, space was provided for comments and/or suggestions for additional indicators. In the second part of the questionnaire, participants were asked to divide 100 points between the four dimensions, according to the relative weight they would assign to each dimensions when rating IWP. They were also asked whether they believed it possible to develop a generic questionnaire, or whether a combination of a generic and job-specific questionnaire, or a job-specific questionnaire, was more likely. Finally, participants were asked to fill out their gender, age, highest educational level completed, profession, number of years experience in this profession, number of people they manage, and branch of industry. Participants were asked to leave their e-mail address if they wanted to receive the results of the study and be eligible for one of the five gift vouchers to be allotted.

Data analysis

To rank the indicators in order of importance, the percentage of participants who selected an indicator was calculated. Indicators were regarded relevant when they were selected by 40% or more of the participants. Chi-square tests were performed

to examine whether there were significant differences in scores between subgroups (gender, age, educational level, profession, number of years experience in this profession, number of people managed, and branch of industry). Although it was not possible to compute a statistical agreement score (e.g., Cohen's kappa), subgroups showing few statistically significant differences were considered to be in agreement.

To determine the relative weight of each dimension in IWP ratings, the mean number of points assigned to each dimension was calculated. Independent samples t-tests were performed to examine differences in weights between subgroups with two levels (gender). One-way analyses of variance were performed to examine differences in weights between subgroups with more than two levels (age, educational level, profession, number of years experience in this profession, number of people managed, and branch of industry). Post-hoc tests with Bonferroni correction were performed to determine which subgroups differed from one another. If assumptions of homogeneity of variance were not met, then Tamhane's T2 tests were performed to determine which subgroups differed [21].

Finally, the percentage of participants that believed in the development of a generic questionnaire, a combination of a generic and job-specific questionnaire, or a job-specific questionnaire, was calculated. SPSS version 17 was used for the analyses.

Results

Identification of indicators

In the literature review on conceptual frameworks, 54 IWP indicators were identified. In the systematic questionnaire search, 77 questionnaires were identified that aimed to measure the construct of individual work performance or productivity. Of these, full texts of 14 questionnaires could not be retrieved. Another 11 questionnaires were excluded based on full text, because they either did not measure work performance at the individual level, or did not measure work performance at all. Additional scanning of personal collections added 29 questionnaires. The 81 questionnaires yielded 231 IWP indicators which were not already identified in the literature review. None of the questionnaires were found to measure all dimensions of IWP. Only one fifth of the questionnaires explicitly measured one or two of the dimensions of IWP (task performance, contextual performance, adaptive performance, or counterproductive work behavior [e.g., 13,22,15]). More than one third of all questionnaires contained causal variables in

combination with indicator variables [e.g., 10,23]. In addition, a quarter of the questionnaires were developed for individuals with a mental or physical health problem [e.g., 24,25]. More than two third of the questionnaires were developed for generic purposes [e.g., 26,27], whereas around one third were developed for a specific job [e.g., 28,29]. The interviews with 16 key-experts yielded 32 additional IWP indicators, which were not identified in the literature or questionnaires.

In total, the literature, questionnaires, and expert interviews resulted in a list of 317 IWP indicators. The first and second author removed causal variables and indicators overlapping between dimensions. Based on conceptual overlap, the first and second author reduced the remaining list to 128 unique IWP indicators and categorized each indicator into one of the IWP dimensions. Task performance consisted of 26 indicators. Both sub-dimensions of contextual performance consisted of 30 indicators. Adaptive performance consisted of 18 indicators. Counterproductive work behavior consisted of 24 indicators.

Selection of indicators

In total, 253 participants (response rate of 36.4%) participated in the study, including 14 out of 16 key-experts. See Table 1 for participant characteristics. Table 2 presents a list of the indicators that were selected as most relevant for each dimension. The indicators are ranked based on the percentage of votes they received from the total group. Data on the indicators that did not make the final selection is available from the authors upon request. No additional indicators were suggested by the participants during the selection process.

There was high agreement between all subgroups on the importance of the indicators. For 20 items we found statistically significant differences between experts from different professional backgrounds. Hence, subgroups based on profession attributed similar importance to 84% (108 of 128) of the indicators. Subgroups based on gender agreed on 95% of the indicators. Subgroups based on age agreed on 93% of the indicators. Subgroups based on educational level agreed on 87% of the indicators. Subgroups based on number of years work experience agreed on 97% of the indicators. Subgroups based on the number of people one manages agreed on 93% of the indicators. Subgroups based on branch of industry agreed on 92% of the indicators.

Table 1. Participant characteristics

	Total	Profession			
		Researchers	Managers	HRM	OHP
N	253	113	48	54	38
Gender (% female)	47%	59%	33%	44%	29%
Age					
<i>30 years or younger</i>	11%	18%	0%	9%	5%
<i>31 – 50 years</i>	51%	51%	58%	52%	42%
<i>51 years or older</i>	38%	31%	42%	39%	53%
Completed educational level					
<i>Middle-level applied – apprenticeship or certificate</i>	1%	0%	2%	0%	5%
<i>Higher vocational, - Bachelor's degree</i>	26%	0%	35%	67%	34%
<i>Higher academic, - Master's degree</i>	38%	37%	40%	31%	50%
<i>Postgraduate academic, PhD</i>	35%	63%	23%	2%	11%
Work experience					
<i>0 – 5 years</i>	23%	26%	25%	17%	21%
<i>6 – 10 years</i>	21%	21%	19%	28%	16%
<i>10 or more years</i>	56%	53%	56%	56%	63%
Employees managed					
<i>None</i>	48%	47%	19%	59%	71%
<i>1 – 5 employees</i>	23%	28%	15%	22%	18%
<i>6 – 20 employees</i>	18%	17%	33%	15%	10%
<i>21 – 50 employees</i>	6%	4%	21%	2%	0%
<i>50 or more employees</i>	5%	4%	13%	2%	0%
Branch of industry					
<i>Scientific</i>	42%	88%	5%	2%	9%
<i>Policy</i>	5%	1%	2%	16%	3%
<i>Commercial</i>	5%	2%	12%	10%	0%
<i>Service</i>	26%	5%	50%	37%	43%
<i>Trade & industry</i>	4%	0%	10%	4%	6%
<i>Other</i>	18%	4%	21%	31%	40%

Task performance

The task performance dimension originally included 26 indicators. From these, 5 relevant task performance indicators were identified: work quality (69%), planning and organizing work (56%), being result-oriented (46%), prioritizing (45%), and working efficiently (44%).

There was a difference between experts from different professional backgrounds on one of these indicators. On average, researchers judged being result-oriented to be significantly less important (29%) than managers (64%) and human resources managers (66%).

Contextual performance

Initially, there were 60 indicators included in contextual performance. For practical reasons, these were split into two sub-dimensions (30 indicators at the interpersonal level and 30 indicators at the organizational level). Four relevant indicators at the interpersonal level were identified: taking initiative (51%), accepting and learning from feedback (48%), cooperating with others (45%), and communicating effectively (45%). Four relevant indicators at the organizational level were also identified: showing responsibility (67%), being customer-oriented (42%), being creative (41%), and taking on challenging work tasks (40%).

There were differences between experts from different professional backgrounds on two of these indicators. On average, managers found taking initiative significantly more important (75%) than researchers (41%), human resources managers (53%), and occupational health professionals (50%). Researchers found being customer-oriented significantly less important (21%) than managers (57%), human resources managers (69%), and occupational health professionals (47%).

Adaptive performance

The adaptive performance dimension originally included 18 indicators. Six relevant adaptive performance indicators were identified: showing resiliency (coping with stress, difficult situations and adversities; 70%), coming up with creative solutions to novel, difficult problems (66%), keeping job knowledge up-to-date (57%), keeping job skills up-to-date (52%), dealing with uncertain and unpredictable work situations (48%), and adjusting work goals when necessary (43%).

Experts from different professional backgrounds differed on two of these indicators. Managers found coming up with creative solutions to novel, difficult

problems significantly more important (82%) than human resources managers (57%) and occupational health professionals (58%). Researchers found keeping job skills up-to-date significantly more important (64%) than managers (41%), human resources managers (43%), and occupational health professionals (42%).

Counterproductive work behavior

Initially, there were 24 indicators included in counterproductive work behavior. Four relevant indicators were identified: displaying excessive negativity (62%), doing things that harm your organization (54%), doing things that harm your co-workers or supervisor (52%), and purposely making mistakes (48%).

Experts from different professional backgrounds differed on three of these indicators. Occupational health professionals found displaying excessive negativity significantly more important (86%) than researchers (57%), managers (55%), and human resources managers (61%). Managers (73%) and occupational health professionals (66%) found doing things that harm your organization significantly more important than researchers (44%). Last, human resources managers found purposely making mistakes significantly less important (31%) than researchers and occupational health professionals (both 54%).

Weight of dimensions in IWP ratings

Table 3 presents the relative weight that experts assigned to each of the IWP dimensions. On average, task performance received the heaviest weight when rating an employee's work performance (36 points). Contextual performance (22 points), adaptive performance (20 points), and counterproductive work behavior (21 points) received almost equal weightings. Experts from different professional backgrounds differed significantly on the mean weight they assigned to task performance ($F(3,225) = 3.318; p < 0.05$). Researchers (39 points) assigned a marginally significant ($p = 0.058$) greater weight to task performance than managers (33 points).

Generic versus job-specific questionnaire

Forty-four percent of the experts believed it possible to develop a generic questionnaire of IWP, while 23% of the experts believed that a combination of a generic and job-specific questionnaire was more likely to be effective, whereas 33% of the experts believed that a job-specific questionnaire was more likely appropriate.

Table 2. Individual work performance indicators that were selected as most relevant for each dimension and the percentage (%) of votes they received from the total group and per profession

Indicator	Total (n=253) %	Profession			
		Resear- chers (n=113) %	Mana- gers (n=48) %	HRM (n=54) %	OHP (n=38) %
Task performance					
1 Work quality	69	70	67	70	66
2 Planning and organising work	56	55	56	58	58
3 Being result-oriented *	46	29 ^{ab}	64 ^a	66 ^b	45
4 Prioritising	45	39	42	57	47
5 Working efficiently	44	47	38	43	42
Contextual performance - interpersonal					
1 Taking initiative *	51	41 ^a	75 ^{abc}	53 ^b	50 ^c
2 Accepting and learning from feedback	48	50	34	55	50
3 Cooperating with others	45	41	48	47	50
4 Communicating effectively (e.g., adequately expressing ideas and intentions)	45	43	48	45	50
Contextual performance - organizational					
1 Showing responsibility	67	67	70	35	67
2 Being customer-oriented *	42	21 ^{abc}	57 ^a	69 ^{bd}	47 ^{cd}
3 Being creative	41	44	41	39	33
4 Taking on challenging work tasks	40	45	41	25	42
Adaptive performance					
1 Showing resiliency (coping with stress, difficult situations and adversities)	70	71	70	73	67
2 Coming up with creative solutions to novel, difficult problems *	66	67	82 ^{ab}	57 ^a	58 ^b
3 Keeping job knowledge up-to-date	57	59	50	57	56

Table 2. Continued

Adaptive performance						
4	Keeping job skills up-to-date *	52	64 ^{abc}	41 ^a	43 ^b	42 ^c
5	Dealing with uncertain and unpredictable work situations	48	41	64	53	44
6	Adjusting work goals when necessary	43	42	48	37	47
Counterproductive work behavior						
1	Displaying excessive negativity (e.g., complaining, making problems bigger than they are) *	62	57 ^a	55 ^b	61 ^c	86 ^{abc}
2	Doing things that harm your organization (e.g., not following rules, discussing confidential information) *	54	44 ^{ab}	73 ^{ac}	51 ^c	66 ^b
3	Doing things that harm your co-workers or supervisor (e.g., arguing, leaving work for others to finish)	52	58	43	47	54
4	Purposely making mistakes *	48	54 ^a	50	31 ^{ab}	54 ^b

Notes: * = significant difference between profession subgroups.

^{abcd} = Denote which subgroups significantly differed from each other, for example, in item 3 of task performance the score of the researchers (29%) differed statistically significant from the score of the managers (64%) and HRM (66%).

Table 3. The relative weight (scale 0 – 100) of each dimension in IWP ratings, in total and per profession

Dimension	Total (n=253) Mean (SD)	Profession			
		Resear- chers (n=113) Mean (SD)	Mana- gers (n=48) Mean (SD)	HRM (n=54) Mean (SD)	OHP (n=38) Mean (SD)
Task performance *	36 (13)	39 (15) ^a	33 (10) ^a	35 (13)	33 (10)
Contextual performance	22 (8)	22 (8)	23 (8)	23 (8)	23 (7)
Adaptive performance	20 (8)	19 (8)	20 (6)	22 (9)	22 (10)
Counterproductive work behavior	21 (13)	20 (12)	24 (11)	20 (15)	22 (13)
Total	100	100	100	100	100

Notes: * = significant difference between profession subgroup.

^a Marginally significant difference ($p = 0.058$).

Discussion

The main goal of the current study was to gain consensus on how to measure IWP, which would enable the development of a standardized, generic, short instrument. Four broad, generic dimensions of IWP were used as a theoretical basis: task performance, contextual performance, adaptive performance, and counterproductive work behavior. Using a multi-disciplinary approach, possible employee behaviors or actions (indicators) were identified for each dimension, via a review of the literature, existing questionnaires, and data from interviews with experts. In total, 128 unique IWP indicators were identified, of which 23 were considered most relevant for measuring IWP, based on notable consensus among experts. On average, task performance received greatest weight when rating an employee's work performance. Contextual performance, adaptive performance, and counterproductive work behavior received almost equal weightings. There was agreement on 84% of the indicators between experts from different professional backgrounds. Furthermore, experts agreed on the relative weight of each IWP dimension in rating work performance. However, researchers weighed task performance slightly higher than managers. Almost half of the experts believed in the possibility of developing a completely generic questionnaire of IWP.

A multitude of measurement instruments aiming to measure IWP (or a similar construct such as presenteeism or productivity) were identified in a systematic search. Considering the large number of questionnaires (81), it is not

surprising that most IWP indicators were identified from questionnaires. Far more indicators were identified for contextual performance than for the other dimensions of IWP, although contextual performance was not rated higher than other dimensions. As task performance rated the highest; one could expect more indicators to be found for that dimension. This finding may indicate that task performance is a less complex and more uniform dimension to measure than contextual performance. However, it may also indicate that it is harder to think of generic behaviors for task performance than for contextual performance. This may mean that many task performance items are job-specific.

In the literature and questionnaire reviews, an indicator often (if not most often) used for assessing task performance was quantity of work [7]. Surprisingly, quantity of work was not selected as one of the most important indicators of task performance in the current study. In fact, it was selected by only 13% of the participants as an important indicator of IWP. This finding could be due to our sample containing relatively few participants from trade and industrial work. Alternatively, it could be due to the fact that quantity of work is captured in being result-oriented. While being result-oriented was not mentioned in the literature or questionnaires, it was selected as an important indicator for task performance in the current study, mainly by managers and human resources managers. These findings indicate that it may be more important to look at other indicators than work quantity to assess task performance, such as work quality or being result-oriented.

Based on the current findings, some of the most often used IWP scales do not incorporate all relevant indicators, or incorporate irrelevant indicators. Scales often used to assess contextual performance include for example Podsakoff and MacKenzie [13] or Van Scotter and Motowidlo [14]. The former focused on measuring altruism, conscientiousness, sportsmanship, courtesy, and civic virtue. The latter focused on measuring interpersonal facilitation and job dedication. The first dimension of both scales is mainly operationalized by helpful behaviors, such as helping others who have heavy work loads. In the current study, helping others was not one of the most relevant behaviors for contextual performance (selected by 16% of participants). Two of the top three contextual performance behaviors identified in the current study (showing responsibility and accepting and learning from feedback) are not directly included in either of these questionnaires.

Adaptive performance is a new and upcoming dimension in the work performance literature [7]. Except for the Job Adaptability Index developed by Pulakos, Arad, Donovan, and Plamondon [30], few researchers have identified

indicators or developed measures of adaptive performance. Adaptive performance behaviors, such as resiliency, coming up with creative solutions to difficult, novel problems, and keeping job skills and job knowledge up-to-date, were found to be very relevant for work performance in the current study. These types of behaviors can scarcely be found in existing literature or questionnaires. The aforementioned findings may represent new and contemporary developments in the concept of work performance or in today's job requirements.

Scales often used to assess counterproductive work behavior include for example Bennett and Robinson [15] or Spector et al. [31]. The former authors focus on measuring deviance directed at the organization (organizational deviance) and deviance directed at members of the organization (interpersonal deviance). The latter authors focus on measuring sabotage (e.g., damaging company equipment), withdrawal (e.g., taking longer breaks), production deviance (e.g., doing work incorrectly), theft (e.g., stealing company property), and abuse (e.g., making fun of someone at work). In the literature, these behaviors have also often been used to describe counterproductive work behavior [7]. This is largely in line with the findings of our current study, where displaying excessive negativity, doing things that harm your organization, doing things that harm your co-workers or supervisor, and purposely making mistakes, were found to be the most important indicators of counterproductive work behavior.

Strengths and limitations

The present study has several strengths. To our knowledge, this is the first study that has systematically identified the numerous indicators used for measuring IWP. Indicators of IWP were derived from reviews of the literature, questionnaires, and interviews with experts from multiple disciplines. In addition, during the selection of indicators, participants were given the opportunity to suggest additional items. This minimized the chance of missing indicators. Also, this is one of the first studies that aimed to gain consensus on which indicators were most important for measuring IWP. In selecting the most important indicators, not only researchers, but also stakeholders from practice were involved, which improved the practical representativeness and applicability of the findings.

The present study has some limitations. The first and second author categorized each indicator into one of the generic IWP dimensions from the list of 128 unique IWP indicators. This categorization may not be valid for every job, as the place of an indicator may differ depending on the context. For example, in some jobs,

communicating effectively may be an aspect of contextual performance, while in others jobs it may be an aspect of task performance. Future research will need to determine whether the indicators belong to the expected dimensions, and whether this categorization is similar over jobs. Far more indicators were identified for contextual performance than for the other dimensions. For practical reasons, it was decided to split the contextual performance indicators into two sub-dimensions (30 indicators at the interpersonal level and 30 indicators at the organizational level). From each sub-dimension, experts were asked to select the six most important indicators. This may have resulted in an overrepresentation of indicators from one of these sub-dimensions.

In addition, the extent to which participants were able to think on a generic level when selecting indicators is debatable. Participants were asked to select the most important indicators keeping in mind all types of professions, not just in their own profession. However, the extent to which participants were able to transcend their own company or field of work remains questionable. Despite the high similarities in ratings between professions, there were also some differences. For example, researchers found being customer-oriented significantly less important than other experts and managers found taking initiative significantly more important than other experts. This finding may indicate that, to a certain extent, the relevance of an indicator may depend on the job being evaluated or the evaluator. In general, however, the high agreement (84% or higher) between all subgroups indicates good generalizability of the findings over jobs. Nevertheless, future research should further establish whether the relevance of indicators is similar across jobs, as well as across companies and countries. Furthermore, we only looked at the number of times an indicator was selected as relevant and we did not ask the participants to rate each indicator on importance. The latter would have been too time-consuming for participants. Therefore, we cannot be sure that the most frequently selected indicator in our study was also the indicator judged to be most important by participants. However, it seemed reasonable to assume that an indicator selected by more than 40% of the participants is an important indicator for the measurement of IWP.

The decision to deem indicators relevant when selected by more than 40% of the participants may seem somewhat arbitrary. This decision was made for two reasons. First, this was based on a graph of the data, where 40% seemed to be a natural cut-off point. Second, ideally there should be a minimum of three items contributing to one dimension [32]. What would happen if the cut-off point was set

at 50% or 30% was also examined. For example, when using a 50% cut-off point, only two relevant indicators for task performance remained. When using a 30% cut-off point, 9 relevant indicators for task performance appeared. Therefore, to construct a short, but comprehensive questionnaire, a cut-off point of 40% was deemed to be sufficient.

Conclusion

Research on IWP would benefit greatly from a standardized, generic, short measurement instrument. In the current study, 128 unique IWP indicators were identified, of which 23 indicators were considered most relevant for measuring IWP, based on notable consensus among experts. This provides an important step towards the development of a standardized, generic, short instrument. Hopefully, results of the current study remove some of the uncertainty regarding the definition and measurement of IWP, and brings us one step closer to unraveling IWP and its causes and consequences.

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