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The Indonesian version of Individual Work Performance Questionnaire (IWPQ): Structure factor and criterion validity

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Article Info	Abstract
Manuscript Received June 12 th 2024	The aims of this study are to examine the structure factor of Indonesian version of Individual Work Performance Questionnaire (IWPQ) and to test the construct of IWPQ by correlating with Utrecht Work Engagement Scale (UWES) as criterion. A
Revision Accepted July 24 th 2024	total of 609 data from employees across Indonesia were involved in the research (Study $1 = 231$, and Study $2 = 378$). Data analysis was done using CFA to test the evidence validity based on internal structure and Pearson correlation to examine
Accepted for Publication July 28 th 2024	evidence of validity based on relation to other variables. The result of study confirms the three-factor model of Indonesian version of IWPQ including task performance, contextual performance, and counterproductive work behavior as dimension of
doi: https://doi.org/10.21831/ pri.v7i1.76457	IWPQ. The Indonesian version of the IWPQ also correlate positively with work engagement as criterion proving the evidence validity based on relation to others variable. The finding of this research strengthens the interpretation of IWPQ score in measuring work performance in Indonesian context. <i>Keywords: individual work performance; IWPQ; structure factor; work performance</i>

Suggested citation

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Introduction

Work performance is an important variable in the field of Industrial and Organizational Psychology (Borman et al., 2003) to measure and predict organizations performance (Berry, 2003). Individual work performance is essential for the entire organization and for the employees, because organizations need employees with high performance to achieve their goals, deliver products, and provide services of excellent expertise, to compete (Sonnentag & Frese, 2002). Work performance refers to behavior or actions related and contribute to the achievement of organizational goals (Campbell et al., 1990; Sonnentag & Frese, 2002; Viswesvaran & Ones, 2000). Given the importance of work performance, it is crucial to conduct work performance measurement, thereby requiring applicable work performance measurement tool to evaluate the aspects of work performance, with observable behavior and describable work results (Drewes & Runde, 2002). In practice, there has been an increasing use of work performance measurement tool (Prowse & Prowse, 2010), including the use of the Individual Work Performance Questionnaire (IWPQ) as an applicable tool to measure work performance.

As a tool to assess individual work performance in the form of a self-report developed by Koopmans (Koopmans, 2014, 2015), IWPQ was developed as a generic scale for ease of administration and ease of research to compare employees with diverse work backgrounds. IWPQ version 1.0 consists of three main dimensions, namely Task Performance (TP), Contextual Performance (CP), and Counterproductive Work Behavior (CWB) (Koopmans, 2014). The TP dimension refers to the skill or ability of an individual in carrying out the main task at work. Behaviors encompassing the TP dimensions include employees' ability to plan and organize tasks, focus on results, and ability to work efficiently. The CP dimension is extra behavior outside the main task that contributes indirectly to organizational performance. Behaviors in the CP dimension include taking on additional tasks, having initiative, taking on challenging assignments, and developing work-related skills. The CWB dimension is a behavior that contradict or is contrary to organizational goals, which can adversely have an impact on the organization. CWB includes behavior that can harm the organization, misuse of information, time, and poor work results.

IWPQ version 1.0 has met good construct validity, based on convergent validity with work engagement and presenteeism, and also met discriminant validity (Koopmans et al., 2014a). The Dutch version of IWPQ has been adapted to the American-English language with evidence of validity based on content and good internal consistency of Cronbach alpha (TP= .79; CP= .83; CWB=.89) (Koopmans et al., 2016). For wider use, IWPQ has been adapted to Swedish (Daderman et al., 2019), Argentina (Gabini & Salessi, 2016), Spanish (Ramos-Villagrasa, Barrada, Fernández-del-Río, et al., 2019), and South African (van der Vaart, 2021).

As for use in Indonesia, the English version of IWPQ has been adapted into Indonesian (Widyastuti & Hidayat, 2018). Adaptation into Indonesian was conducted based on the scale adaptation guide from Beaton et al., (2000), International Testing Commission (2017), and Wild et al., (2005) consisting seven stages: (1) getting permission to adapt IWPQ from the original developer, (2) forwarding translation from English into Indonesian by involving two independent translators with psychological and non-psychological backgrounds, (3) synthesizing to make one version of Indonesian translation, (4) back translation from Indonesian into English, (5) back-translation review to ensure conceptual equivalence between the translation and the original version of IWPQ by involving the original developer (Linda Koopmans), (6) cognitive debriefing by involving samples with characteristics according to the target subject to ensure there is no inappropriate or confusion of wording, and (7) finalization of scale. The IWPQ adaptation into Indonesian were found to have good evidence of validity based on content using Aiken's V (1985) with index ranging from .75-.91. It also has a satisfactory Cronbach alpha reliability in each dimension (TP= .871; CP= .858; CWB = .814).

The Indonesian version of the IWPQ has been widely used in various studies in Indonesia with the topic of work performance and involving Indonesian respondents (Amran et al., 2022;

Anggriani & Tiarapuspa, 2023; Anissa & Soetjiningsih, 2022; Cahyani et al., 2021; Mardianah et al., 2020; Sutarto, Izzah, et al., 2022; Sutarto, Wardaningsih, et al., 2022; Wulandari et al., 2020; Yuniardi et al., 2023). According to analysis using modern psychometric approach, Rasch, the items in Indonesian version of IWPQ also functioned well in measuring individual work performance (Dwiliesanti & Yudiarso, 2022). Nonetheless, there has been no further examination regarding the evidence of validity based on internal structure and evidence of validity based on relations to other variables of Indonesian version of IWPQ.

It was essential to collect evidence of validity to strengthen the interpretation of the scores based on the measurement of a measuring instrument (Miller & Lovler, 2020). Evidence of validity based on internal structure indicates the degree of relation between items and test components following the utilized measuring construct as the basis for interpreting the proposed scores (American Educational Research Association et al., 2014). The evidence of validity based on relations to other variables is necessary to highlight that the constructs measured on the instrument correlate with other constructs as previously expected (Miller & Lovler, 2020). Work engagement was selected as a criterion because work performance was found to influence work performance (Jankingthong & Rurkhum, 2012). In addition, work engagement was also known to be a strong predictor of work performance (Rich et al., 2010). Employees with high work engagement are indicated to have emotional ties to the organization, are actively involved, have high enthusiasm, and are willing to do extra work (Markos & Sridevi, 2010). This research is divided into two studies intended to collect evidence of validity based on internal structure and evidence of validity based on relations to other variables using work engagement as the criterion.

Study 1

The purpose of Study I is to test the structure factor of the Indonesian version of the IWPQ and collect evidence of validity based on its relation to other variables by correlating the IWPQ with the work engagement scale.

Method

Participants

This study involved 231 employees from 9 directorates in one university in Indonesia. Employees involved in research have served for at least three months because the IWPQ shall be filled based on work performance in the last three months. Most of respondents were employed as educational staff, administrative staff, financial staff, technicians, secretaries, cleaning staff, and drivers. The age of subjects ranged from 21 to 59 (Mage= 41,695; SD= 9,723). In terms of gender proportion, there were 121 male subjects (52.381%), 86 female subjects (37.229%), and 34 undisclosed subjects (10.390%). The information of descriptive statistics for Studies 1-2 can be seen on Table 1.

	Sample (n)	Scale	Min	Max	Mean	SD
Study 1	231	ТР	1.000	4.000	2.727	0.794
		СР	0.750	4.000	2.128	0.719
		CWB	0.000	3.000	0.661	0.548
Study 2	378	TP	0.000	4.000	2.726	0.914
-		СР	0.000	4.000	2.395	0.869
		CWB	0.000	3.800	0.833	0.636

Table 1. Descriptive statistics for Studies 1-2

Procedure and instrument

In this study, subjects were instructed to fill out two instruments: the Indonesian version of IWPQ and the Utrecht Work Engagement Scale (UWES). Prior to data collection, research permit was submitted to the chief from 9 Directorate in Universitas Gadjah Mada. Participants filled out the instrument through paper and pencil questionnaires. In the initial filling, participants were required to voluntarily express their willingness to be involved as research respondents. Participants were also asked to fill in personal data which included name, gender, age, occupation, and place of work. Upon completion, all participants were provided with goodie bags, block notes, and pens as a token of appreciation.

Participants filled out the Indonesian version of the IWPQ (Widyastuti & Hidayat, 2018), which was adapted from the English version of the IWPQ (Koopmans, 2014; Koopmans et al., 2016). The Indonesian version of the IWPQ adaptation was based on the adaptation guidelines Beaton (Beaton et al., 2000), International Testing Commission (International Testing Commission, 2017), and Wild (Wild et al., 2005) covering: (1) application for permission to adapt to the original developer, (2) forward translation, (3) synthesis of translation, (4) back-translation, (5) review of back translation by original developer, (6) cognitive debriefing to identify the ambiguous translation and confusion, and (7) finalization. The IWPQ consists of 18 items, which cover 5 items in the task performance subscale, 8 items in the contextual performance subscale, and 5 items in the counterproductive work behavior subscale. The response format on the TP and CP subscales ranges from seldom (0); sometimes (1); often (2); very often (3) and always (4). The response format on the CWB subscale ranges from never (0); seldom (1); sometimes (2); often (3); and very often (4). Information related to reliability coefficient of Indonesian version of IWPQ from study 1 and 2 are presented in Table 2.

Table 2. Renability coefficient of indonesian version of i wPQ						
Dimension	Item	œ	α			
		(n= 231)	(n= 378)			
Task performance (TP)	1-5	.871	.852			
Contextual performance (CP)	6-13	.858	.847			
Counterproductive work behavior (CWB)	14-18	.814	.806			

Table 2. Reliability coefficient of Indonesian version of IWPQ

Participants also filled out the Utrecht Work Engagement Scale (UWES) of 15 item version (Schaufeli & Bakker, 2004), which had been adapted to Indonesian by Riyono (Wijayanti, 2016). This version of UWES was used because it is already available in Bahasa Indonesia and can be accessed by researchers. The UWES consists of 5 items on the Vigor subscale (α = .808), 5 items on the Dedication subscale (α = .765), and 5 items on the Absorption subscale (α = .820). In each number, participants were required to rate how often they performed the particular behavior in the statement, for example "When I work, I feel an overflow of energy" with a response rate ranging from 1 (almost never) to 5 (very often). Information regarding reliability coefficient of UWES can be seen in Table 3.

Table 3. Reliability coefficient of UWES in study 1 (n=231)

Dimension	Item	α
Vigor	1-5	.808
Dedication	6-10	.765
Absorption	11-15	.820

Data analysis

The data were analyzed using JASP software version 0.16.4. The factor structure of the Indonesian version of IWPQ was done to examine the factor structure of Indonesian version of IWPQ. Confirmatory Factor Analysis (CFA) was employed to confirm the model or factor structure. The goodness of fit from Confirmatory Factor Analysis (CFA) was seen through the comparative fit index (CFI), Tucker-Lewis Index (TLI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR). A fit model was indicated by CFI of at least .90, TLI >.95 (Hu & Bentler, 1999), RMSEA and SRMR of at least 0.08 or less (Hair et al., 2019).

Evidence of validity based on relation to other variables in this study was revealed by correlating the measured test scores with the criteria scores, which were carried out at the same time (Allen et al., 1979; Gregory, 2015). The mean score of each dimension of IWPQ and the total score of IWPQ were correlated with the total score of UWES. Correlation (r) of \geq .5 was considered large, \geq .3 was deemed as medium, and \geq .1 was small (Cohen, 1988; Rosenthal, 1996). However, because the validity coefficient of more than .3 was rarely found, the minimum correlation was set at .25 (Murphy & Davidshofer, 2005).

Result and Discussion

Structure factor of Indonesian version of IWPQ in study 1

Factor	Item	Study I n=231	Study II n=378
ТР	1. Saya mampu merencanakan pekerjaan sehingga dapat menyelesaikannya tepat waktu.	.796	.769
	2. Saya terus mengingat target kerja yang harus saya capai.	.721	.673
	3. Saya mampu menetapkan prioritas dalam pekerjaan.	.741	.724
	4. Saya dapat menyelesaikan pekerjaan saya secara efisien.	.778	.772
	5. Saya mampu mengatur waktu kerja dengan baik.	.757	.760
СР	6. Saya berinisiatif memulai tugas baru setelah tugas sebelumnya selesai.	.507	.557
	7. Saya bersedia menjalankan tugas-tugas yang menantang yang ditawarkan kepada saya.	.706	.697
	8. Saya berusaha memperbarui pengetahuan terkait pekerjaan saya.	.592	.728
	9. Saya berusaha memperbarui keterampilan terkait pekerjaan saya.	.650	.703
	10. Saya menemukan solusi kreatif dalam menghadapi masalah baru.	.694	.693
	11. Saya mengambil tanggung jawab lebih dalam bekerja.	.611	.558
	12. Saya terus mencari tantangan baru dalam pekerjaan saya.	.803	.745
	13. Saya berpartisipasi aktif dalam rapat atau pertemuan.	.653	.538
CWB	14. Saya mengeluhkan persoalan-persoalan kecil dalam pekerjaan saya.	.519	.547
	15. Saya cenderung membesar-besarkan masalah di tempat kerja saya.	.680	.649
	16. Saya cenderung melihat sisi negatif daripada sisi positif di tempat kerja saya.	.741	.789
	17. Saya membicarakan hal-hal negatif dalam pekerjaan saya dengan rekan-rekan kerja.	.772	.757
	18. Saya membicarakan hal-hal negatif dalam pekerjaan dengan orang- orang di luar tempat kerja saya.	.725	.660

Table 4. CFA Factor loadings for three-factor of Indonesian version of IWPQ

Indonesian version of Individual Work Performance Questionnaire

The CFA's factor loading of IWPQ's items in this analysis is figured out in Table 4. In study 1, the weakest factor loading (.507) was item 12 "Saya terus mencari tantangan baru dalam pekerjaan saya", whereas the highest factor loading (.803) was item 12 "Saya terus mencari tantangan baru dalam pekerjaan saya". Initially, the CFA results based on the Maximum Likelihood estimator generated a close model fit (CFI= .884, TLI= .865; RMSEA= .083, and SRMR= .068). The researcher then modified the model by correlating items 8-9 as suggested by the modification index analysis. The modification is done by considering the results of correlation of residual variances of items 8 and 9 can produce the largest modification index (76.743). Items 8 and 9 are also in the same factor, TP factor, which measures about updating knowledge and skills related to the job. As a result, the three-factor model of IWPQ was found with a good fit (CFI = .926, TLI= .914, RMSEA = .066, and SRMR = .067). Table 5 gives information about fit indices from CFA analysis.

	CFI	TLI	RMSEA	SRMR
Study 1 (n=231)	.884	.865	.083	.068
Modification 8-9	.926	.914	.066	.067
Study 2 (n=378)	.912	.898	.069	.052
Modification 8-9	.948	.940	.053	.049

Table 5. Information of fit indices from CFA analysis

Evidence validity based on relation to other variables

Table 6 delineates that the TP subscale (.533), CP (.554), and the IWPQ total score (.614) have a high positive Pearson's r correlation with work engagement at p<.01. The CWB dimension has a moderate negative correlation (-.222) with work engagement at p=.01. The Pearson correlation value on CWB and work engagement is negative because the CWB dimension contains a construct that contradicts or negatively affect organizational goals. The results of this correlation are higher than the findings of Koopmans et al., (2014a), indicating that the dimensions of TP, CP, and CWB correlated at a moderate level with UWES. Based on the correlation results, the Indonesian version of IWPQ has evidence validity based on relation to other variables.

Table 1. Correlation between subscales in IWPQ and Work Engagement (n = 231)

33**
54**
22**
4***

Study 2

Study 2 was conducted using different participants to replicate the Indonesian version of the CFA IWPQ results obtained in Study I.

Method

Participants

A total of 378 participants consisting of 223 women and 155 men with an age range of 19 to 60 years (Mage = 28,847; SD = 7,375) were involved in Study II. The participants were mostly employed as Human Resources, Financial Staff, Health Staff, Information and Technology Staff,

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Graphic Design Staff, Marketing, Hotel Employees, and Tax Staff. They came from around Indonesia, ranging from Aceh, Lampung, West Java, Central Java, Yogyakarta and Makassar. Most of them had been working for less than 1 year to more than 10 years

Data collection

The participants were selected based on the following criteria: (1) employees, (2) having served in agencies or organizations for at least 3 months, (3) were at least 18 years old, and (4) were Indonesian citizens. Participants filled out the Indonesian version of the IWPQ questionnaire consisting of 18 items through an online survey shared via social media, such as the chat application WhatsApp, Instagram and Facebook. Prior to the survey, participants were asked to express their willingness to fill in personal data which included gender, age, occupation, length of work, and domicile. A total of 50 lucky participants received prizes in the form of credit balance worth IDR 25.000 (\$1,53).

Result and Discussion



Figure 1. Structure factor of Indonesian version of IWPQ

CFA with Maximum Likelihood estimator was used to replicate the Indonesian version of the IWPQ factor structure with a three-factor model. The initial CFA analysis, produce a close fit model (CFI= .912, TLI= .898; RMSEA= .069, and SRMR= .052). In this study, the researcher correlated items 8-9 as suggested in the analysis and found a better fit (CFI = .948, TLI= .940;

RMSEA = .053, and SRMR = .049). Based on these results, the Indonesian version of the IWPQ reflects a three-dimensional model. The three-factor model of the Indonesian version of the IWPQ replicates the results of the factor analysis of the IWPQ English version (Koopmans et al., 2016). Argentine version (Gabini & Salessi, 2016), Spanish version (Ramos-Villagrasa, Barrada, Fernandez-del-Rio, et al., 2019), as well as the South African version (van der Vaart, 2021). The structure factor of Indonesian version of IWPQ is depicted in **Figure 1**.

General Discussion

Work performance is an essential criterion to be predicted by the industry (Berry, 2003), since it affects the achievement of organizational goals (Viswesvaran & Ones, 2000). Therefore, work performance instruments with good quality psychometric properties are needed. In this context, the IWPQ can serve an applicable instrument option for organizations or researchers to measure work performance in various settings because it is structured as a generic work performance through three dimensions, namely TP, CP, and CWB (Koopmans et al., 2011).

Based on Study 1, the Indonesian version of the IWPQ construct was evaluated for the number of factors and the fit model, which generated that the Indonesian version of the IWPQ had a fit model with 3 factors according to the original version. As for the evidence validity based on relations to other variables by correlating with the work engagement variable, each IWPQ dimension was correlated at moderate to large levels. These results replicate the results of previous studies between the Dutch version of IWPQ and work engagement, revealing that work engagement scores had a moderate positive correlation with IWPQ task performance and contextual performance, and moderate negative correlation with counterproductive work behavior (Koopmans et al., 2014a). The stark difference was that the correlation between work engagement and the TP and CP dimensions in Study 1 was found to be better with a significant correlation level.

Study 2 replicated the CFA results in a different sample administered through an online survey. In terms of the number of dimensions of the IWPQ, several studies have found a four-factor model in the Swedish version of the IWPQ (Dåderman et al., 2020), or a one-factor model for the Spanish version of the IWPQ (Santalla-Banderali & Alvarado, 2022). This research replicated the three-factor model from the Dutch IWPQ, such as the results from previous research (Ramos-Villagrasa, Barrada, Fernández-del-Río, et al., 2019), the Argentine version of the IWPQ (Gabini & Salessi, 2016) and the South African version of the IWPQ (van der Vaart, 2021).

Conclusion

The Indonesian version of IWPQ has a good fit with three-factor model consisting task performance, contextual performance, and counterproductive work behaviour dimensions. The score of the Indonesian version of IWPQ also has a positive correlation with work engagement as a criterion which strengthen the evidence of validity based on relation to others variable. The finding of study amplified the Indonesian version of IWPQ as a robust scale in assessing the work performance.

Data Availability Statement

The data that supports the findings of this study can be accessed at https://osf.io/8dkbf/

Ethical Consideration & Disclosure

Before filling out the scale in this study, informed consent was obtained from the respondents.

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Appendix 1. Indonesian version of IWPQ

INSTRUKSI

Pernyataan-pernyataan berikut ini berhubungan dengan bagaimana Anda melakukan pekerjaan Anda selama tiga bulan terakhir. Untuk mendapat gambaran akurat mengenai bagaimana Anda bekerja, penting untuk mengisi kuesioner ini secermat dan sejujur mungkin. Apabila Anda ragu-ragu dalam menjawab suatu pernyataan, mohon berikan jawaban yang paling sesuai dengan diri Anda. Kerahasiaan Anda sepenuhnya terjaga: jawaban-jawaban Anda tidak akan dilihat oleh atasan atau rekan kerja Anda. Beri tanda cek ($\sqrt{}$) pada jawaban yang paling sesuai dengan Anda.

Dala	m 3 bulan terakhir	Jarang	Kadang	Sering	Sangat Sering	Selalu
1.	Saya mampu merencanakan pekerjaan sehingga dapat menyelesaikannya tepat waktu					
2.	Saya terus mengingat target kerja yang harus saya capai.					
3.	Saya mampu menetapkan prioritas dalam pekerjaan					
4.	Saya dapat menyelesaikan pekerjaan saya secara efisien.					
5.	Saya mampu mengatur waktu kerja dengan baik.					
6.	Saya bernisiatif memulai tugas baru setelah tugas sebelumnya selesai.					
7.	Saya bersedia menjalankan tugas-tugas yang menantang yang ditawarkan kepada saya.					
8.	Saya berusaha memperbarui pengetahuan terkait pekerjaan saya.					
9.	Saya berusaha terus memperbarui keterampilan terkait pekerjaan saya.					
10.	Saya menemukan solusi kreatif dalam menghadapi masalah baru					
11.	Saya mengambil tanggung jawab tambahan dalam bekerja					
12.	Saya terus mencari tantangan baru dalam pekerjaan saya.					
13.	Saya berpartisipasi aktif dalam rapat atau pertemuan.					

Dalam 3 bulan terakhir	Tidak Pernah	Jarang	Kadang	Sering	Sangat Sering
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Indonesian version of Individual Work Performance Questionnaire

14.	Saya mengeluhkan persoalan-persoalan kecil dalam pekerjaan saya.			
15.	Saya cenderung membesar-besarkan masalah di tempat kerja saya.			
16.	Saya cenderung melihat sisi negatif daripada sisi positif di tempat kerja saya.			
17.	Saya membicarakan hal-hal negatif dalam pekerjaan saya dengan rekan-rekan kerja.			
18.	Saya membicarakan hal-hal negatif dalam pekerjaan dengan orang-orang di luar tempat kerja saya.			

Appendix 2. IWPQ American- English Version

Instruction:

The following questions relate to how you carried out your work during the past 3 months. In order to get an accurate picture of your conduct at work, it is important that you complete the questionnaire as carefully and honestly as possible. If you are uncertain about how to answer a particular question, please give the best possible answer. The questionnaire will take about 5 minutes to complete. The questionnaire is completely anonymous: your answers will not be seen by your supervisor(s) or colleagues.

Scale 1: Task performance (5 items)

In th	e past 3 months	Seldom	Sometimes	Regularly	Often	Always
1.	I was able to plan my work so that I finished it on time.					
2.	I kept in mind the work result I needed to achieve.					
3.	I was able to set priorities.					
4.	I was able to carry out my work efficiently.					
5.	I managed my time well.					

Scale 2: Contextual performance (8 items)

In th	e past 3 months	Seldom	Sometimes	Regularly	Often	Always
6.	On my initiative, I started new tasks when my old tasks were completed					
7.	I took on challenging tasks when they were available.					
8.	I worked on keeping my job- related knowledge up-to-date.					
9.	I worked on keeping my work skills up-to-date.					
10.	I came up with creative solutions for new problems.					
11.	I took on extra responsibilities.					
12.	I continually sought new challenges in my work.					
13.	I actively participated in meetings and/or consultations					

Scale 3: Counterproductive work behavior (5 items)						
In the past 3 months		Never	Seldom	Sometimes	Regularly	Often
14.	I complained about minor work-related issues at work.					
15.	I made problems at work bigger than they were.					
16.	I focused on the negative aspects of situation at work instead of the positive aspects.					
17.	I talked to collegues about the negative aspects of my work.					
18.	I talked to people outside the organization about the negative aspects of my work.					

Scale 3: Counterproductive work behavior (5 items)