Psychometric Test of the Indonesian Version of the Procrastination at Work Scale (PAWS) Instrument

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Abstract

The Procrastination at Work Scale (PAWS) is an instrument that can be used to measure the level of procrastination that occurs in employees. Procrastination can make employees slow in completing assigned tasks. This research aims to obtain a standardized PAWS to be used in Indonesia. PAWS consists of two dimensions, namely soldiering and cyberslacking, and has a total of 12 items. PAWS was analyzed using the confirmatory factor analysis (CFA) method. The analysis results found that PAWS is an instrument with good validity and reliability values. The items contained in it can also measure the workplace procrastination level. However, PAWS is suggested to be a unidimensional instrument.

Abstrak

Procrastination at Work Scale (PAWS) adalah sebuah instrumen yang dapat digunakan untuk mengukur tingkat prokrastinasi yang terjadi pada karyawan. Prokrastinasi dapat membuat karyawan lambat dalam menyelesaikan tugas yang telah diberikan. Tujuan dari penelitian ini adalah untuk memperoleh PAWS yang terstandarisasi sehingga dapat digunakan di Indonesia. PAWS terdiri dari dua dimensi, yaitu *soldiering* dan *cyberslacking* dengan total 12 item. PAWS dianalisis menggunakan metode *confirmatory factor analysis* (CFA). Dari hasil analisis ditemukan bahwa PAWS adalah instrumen yang memiliki nilai validitas dan reliabilitas yang baik. Butir-butir yang terdapat di dalamnya juga mampu mengukur tingkat prokrastinasi di tempat kerja. Namun, PAWS disarankan untuk menjadi instrumen unidimensional.

INTRODUCTION

After the pandemic was proclaimed over, many industries resumed full implementation of work from the office. However, working from home (WFH) has not been abandoned entirely. Mujahid et al. (2023) conducted research comparing the effectiveness of WFO, WFH, and WFA or working from anywhere. The results show that employees prefer WFH with the highest ranking value. Some of the conveniences felt by WFH employee are that they can save transportation costs and time and choose companies outside the city or even abroad without considering the costs of migrating. WFH can also have an impact on employee productivity at work. A survey by Lenovo in several countries shows that 77% of WFH employees have increased work productivity (Suryanto, 2020).

However, a different thing was conveyed by McKinsey (in Afriyadi, 2020), which was also supported by the results of a survey conducted by YouGov together with USA TODAY and LinkedIn (Schrotenboer, 2020), which found data that WFH caused productivity to fall by 25%. Larson (in Callahan, 2020) explains that the cause of decreased productivity at work while working from home is the lack of supervision, which makes employees lose motivation. A report by Bloom (in Gorlick, 2020) also shows that worker productivity decreased quite drastically during WFH, namely by around 50%. Apart from that, one of the articles issued by the Indonesian Food and Drug Authority (Indonesian: *Badan Pengawas Obat dan Makanan*, shortened as BPOM) explained that WFH conditions make employees often feel more relaxed in doing their work, thus triggering procrastination behaviour. This is in line with research conducted by Fuad (2021), which found that procrastination caused employee productivity to decrease. Employees tend to procrastinate work, so they become unproductive.

Procrastination is nothing new in the world of work or education. Many employees procrastinate rather than complete the work they are supposed to do. Procrastination itself is Latin, namely *procrastinare*, which comes from two words, namely *pro*, which means 'pushing forward' or 'moving forward' and *crastinus*, which means 'decision for tomorrow'. Generally, procrastination means postponing until tomorrow (Ferrari et al., 1995). Wibowo (2014) explains that procrastination is the habit of delaying important work and preferring to do other enjoyable activities such as playing on phones, gaming, and browsing the internet. In line with the opinion expressed by Hidayah and Atmoko (2014), procrastination is a form of failure to complete what should be done to achieve existing goals. Procrastination can cause discomfort because it tends to take futile actions by delaying existing tasks.

Procrastination is postponing a job or task for unpleasant reasons or even without a clear reason. Some individuals make excuses for delaying work because there is much work that must be completed, even though this is also unjustified. There is a factor of the inability to set priorities, which makes individuals feel like they have too many tasks. Apart from that, low commitment and self-consistency also make individuals slump and ultimately choose to engage in procrastination. It is not uncommon for individuals who frequently engage in procrastination to become afraid and unable to deal with the situation (Imaduddin, 2018). When employees procrastinate at work, many negative impacts arise for themselves, their team members and the company. Procrastination in employees will reduce work productivity. Several previous studies also found a correlation between procrastination and work stress (Permatasari, 2016), organizational commitment (Pratiwi, 2013), self-management (Megawati, 2009), work performance (Santosa, 2008), and cyberloafing (Zatalina et al., 2020).

Although the literature on procrastination is growing rapidly, several gaps must be addressed. First, most research on procrastination has been conducted in academic settings (Khalid et al., 2019; Steel & Klingsieck, 2016), while research in work environments is still lacking (Metin et al., 2016). In addition, most previous research on procrastination in the work context used general or academic procrastination scales, which is a significant limitation (Metin et al., 2016), such as research by Aryanor and Febriani (2023) and Sari (2022). These studies used the procrastination scale developed by Tuckman (1990), which used junior and senior college students as research samples. In fact, according to Klingsieck (2013), procrastination in specific fields, such as work, health, leisure, and family environment, can be better explained using a scale that is specifically created by taking into account the specific characteristics of that field. Thus, measuring workplace procrastination using a scale designed to consider specific characteristics associated with this behavior is critical. One

such scale is used in research by Saman and Wirawan (2021), who measured workplace procrastination using a scale designed for this purpose. However, this research has not yet fully discussed the scale's psychometric properties.

Metin et al. (2016) developed a specific scale to measure procrastination behavior in the work context based on the statement from Klingsieck (2013). Procrastination in the workplace, as defined by Metin et al. (2016), is delaying work purposely by participating in activities unrelated to work without the intention of harming the employer, employees, workplace, or clients. Workplace procrastination can be classified into two dimensions: soldiering and cyberslacking. Paulsen (2015) defines soldiering as avoiding work-related tasks for more than an hour a day without intending to harm others or impose the work on coworkers. Daydreaming, doing enjoyable activities instead of working, and taking long coffee breaks are some examples of soldiering. Meanwhile, cyberslacking is a new form of procrastination in the workplace that has emerged with the increasing use of mobile devices. According to Garrett and Danziger (2008), cyberslacking is using the internet or mobile devices for personal purposes during work hours. While appearing busy working on a computer, employees may be shopping online, checking social networking sites, playing games, or sending instant messages.

The procrastination scale developed by Metin et al. (2016), which can be applied to employees, is called the Procrastination at Work Scale (PAWS). This scale was developed in three phases: questionnaire development, factorial structure of PAWS, and construct validity. The three phases sequentially aim to collect PAWS items, examine and replicate the factorial structure of the scale, and examine evidence of construct validity. From the results of this analysis, 12 items were obtained, eight of which were included in the soldiering dimension, and four other items were included in the cyberslacking dimension. The analysis results also show that PAWS is a valid and reliable instrument for measuring procrastination in the workplace. PAWS obtained reliability scores in the good category, both in the soldiering component (.89) and cyberslacking (.77), so PAWS can be relied on to measure the level of procrastination at work (Metin et al., 2019).

Previous research that also tested the validity of PAWS has been carried out in various countries. Wang et al. (2021) tested the validity of PAWS using original items translated into Mandarin. The Kaiser-Meyer-Olkin (KMO) value found was .91, with a significance of p < .001. PAWS and both dimensions have good internal consistency coefficients, with a total value of .93, a soldiering value of .93, and a cyberslacking value of .87. The correlation between the subscales showed that the two factors were significantly correlated (r = .54; p < .001). From the results of this research, it was found that the dimensions of soldiering and cyberslacking can be used to see the level of procrastination. However, the cyberslacking dimension is considered somewhat difficult because cyberslacking can seem like work—employees only need to sit in front of a computer and click a mouse.

To ensure work productivity is not negatively impacted by implementing the WFH work system, employers need to measure the level of procrastination carried out by their employees using a scale specifically created to measure this behavior. Although research on work procrastination has been widely carried out in Indonesia in various settings, such as civil servants (Mu'adzah, 2022), teachers (Fahmawanti et al., 2020) and private employees (Fernando, 2020), and linked to various other variables such as personality (Fauzi, 2017) or social context (Rezeki, 2022), no one has examined the psychometrical properties of the work procrastination scale. For this reason, this research was conducted to see the validity of the Indonesian version of PAWS as measured by factor analysis and its reliability by Cronbach's alpha value.

METHODS

This research design uses a quantitative approach. Azwar (2018) explains that the quantitative approach is intended to obtain data in numerical or numerical form through scientific procedures, which are then carried out with clear and measurable statistical analysis so that results from the research variables are obtained.

The validity process of this research was carried out using an approach by Lawshe (1975) called content validity ratio (CVR). This approach measures whether the available items or statements are good enough to measure the desired subject. Lawshe (1975) proposed that each subject matter expert (SME) provide suggestions for each item or statement in the measuring tool. The suggestions can take three forms: essential, useful but not essential, or not necessary.

The factor analysis process in this research uses the confirmatory factor analysis (CFA) method to verify the number of dimensions contained in an instrument. CFA is part of structural equation modelling (SEM), which can function to test how the variables work and whether the entire measuring instrument is a good indicator of representing a particular construct (Hair Jr. et al., 2009). Ghozali (2005) defines CFA as a method that can be used for multivariate analysis. This analysis can be used to test or confirm the model being studied. Apart from that, CFA also verifies the pattern of relationships between items in each dimension, which is characterized by the presence of factor-loading values (Brown & Moore, 2012).

Determining the number of research respondents used Raosoft calculations by looking at the population of 150 employees. The number of respondents obtained from the research sample calculation was 109 respondents obtained using the sample size formula with a confidence level of 95%. The criteria used in this research are divided into inclusion and exclusion criteria. Inclusion criteria included: (1) private company employees; (2) male or female; (3) have working hours of at least 8 hours per day; (4) come from various sectors or fields; and (5) included in the Generation X and Millennial generation categories. Exclusion criteria included: (1) Civil Servants; (2) more than 40 years old; and (3) status as a part-time, freelance or outsourcing employee.

Measurement of procrastination in the workplace will be carried out using the created Procrastination at Work Scale (PAWS) by Metin et al. (2016). This scale is in the form of a self-report where employees can evaluate for themselves how they perform while working at the company. With this self-report, researchers can determine whether employees' levels of procrastination are high or low when employees carry out their duties at work. Metin et al. (2019) tested and evaluated the PAWS. The correlation coefficient resulting from the two dimensions also shows good results, as seen from the magnitude of Cronbach's alpha for each aspect ($\alpha \geq .65$), which shows that this measuring tool is very consistent in measuring procrastination. The PAWS consists of 12 items representing the two dimensions to be measured: soldiering, which has eight items, and cyberslacking, which has four items.

The data analysis technique will use statistical analysis with the help of the SPSS for Mac Version 25.0 program. In this research, several instrument tests will be carried out, such as validity tests, reliability tests, and factor analysis tests.

RESULTS

The original instrument used in this research was in English, so it needed to be translated twice. The translation process is done by translating the original text into Indonesian using Google Translate and then translating it back into better Indonesian, according to Indonesian Orthography (Indonesian: *Ejaan Bahasa Indonesia yang Disempurnakan*, shortened as EYD). After the translation process was complete, a CVR process was carried out on seven expert judges with criteria that matched the

respondents' criteria. CVR is conducted to see whether the items describe the research objectives and whether the items that go through the translation process can be understood well by the respondents.

Reliability testing uses Cronbach's alpha and corrected item-total correlation values. From the results of the analysis, data was found that PAWS has good reliability values. Judging from the results of Cronbach's alpha for the soldiering dimension, it is at .886, with a CITC range of .613 to .729. This Cronbach's alpha value is good because it is greater than .70. Cronbach's alpha results for the cyberslacking dimension were .721, with a CITC range of .385 to .570. This Cronbach's alpha value is also good because it is greater than .70.

For factor analysis with CFA, 12 items from PAWS were included for processing. The data initially consisted of two dimensions, namely soldiering and cyberslacking. The KMO test value is .920 with a significance of .000 (p < .05).

Table 1.
Two-Dimensional Factor Analysis Test Results (Factor Loading Value)

Items	Componen		Items	Componen	
	Soldiering	Cyberslacking		Soldiering	Cyberslacking
PAWS_1	.789	-	PAWS_7	.745	-
PAWS_2	.682	-	PAWS_8	.742	-
PAWS_3	.707	-	PAWS_9	-	.716
PAWS_4	.706	-	PAWS_10	.690	-
PAWS_5	.683	-	PAWS_11	.554	.473
PAWS_6	.735	-	PAWS_12	.601	.466

Based on the factor analysis results, which can be seen in Table 1, it is known that items number 1 to 8 are in the soldiering component following the initial blueprint, as is item number 9 in the cyberslacking component. However, item number 10 is in the soldiering component, whereas in the initial blueprint, item number 10 is in the cyberslacking component. Items number 11 and 12 are in both components (cross-loading).

Data testing was carried out by combining these two dimensions. When all items are moved to unidimensional, the factor loading of item number 9 becomes very low, namely .20. However, items number 10, 11, and 12 have quite good factor loadings, namely .50–.60. Therefore, it was decided to remove item number 9 because it was deemed not to meet the factor loading requirements. After removing item number 9, the KMO test value was assessed at .924 with a significance of .000 (p < .05). The following are the factor analysis results after being converted to unidimensional.

Table 2.
Unidimensional Factor Analysis Test Results (Factor Loading Values)

Items	Componen	Items	Componen
PAWS_1	.796	PAWS_7	.745
PAWS_2	.683	PAWS_8	.751
PAWS_3	.710	PAWS_9	.680
PAWS_4	.713	PAWS_10	.544
PAWS_5	.685	PAWS_11	.591
PAWS_6	.741	PAWS_12	.796

Based on the results of the factor analysis, which can be seen in Table 2, it can be seen that after the two dimensions were combined, the factor loading results for all items were above .50. In addi-

tion, retesting was carried out for the reliability of PAWS if it was made unidimensional. The results found that Cronbach's alpha value was .893 with a CITC range of .473–.724. These results determined that PAWS would be used as a unidimensional measuring tool considering factor loading and Cronbach's alpha, which were relatively good.

DISCUSSION

In this research, it was found that the cyberslacking dimensions were not suitable for adaptation to Indonesian. The cyberslacking dimension is defined as non-work activities related to the internet, such as shopping online, checking social networking sites, playing games, or sending instant messages. Wang et al. (2021) can still maintain the cyberslacking dimension in their research. This can be caused because, in the work culture in China, they are known to be very obedient to the core teachings originating from the teachings of Taoist philosophy and Confucianism, which have been passed down by their ancestors from generation to generation from China (Rampengan, 2016). Some of the cultures that they adhere to are: (1) work is a mandate, which means work must be full of responsibility; (2) work is a calling, which means work must be complete and have integrity; and (3) work is actualization, which means work must be full of enthusiasm (Rampengan, 2016). The work culture they apply makes them have good integrity and discipline in their work.

In Indonesia, cyberslacking is seen as something beneficial instead of detrimental. Some benefits that can be obtained from using the Internet at work for personal purposes include increasing creativity and flexibility, as well as reducing feelings of boredom, fatigue and stress in employees (Blanchard & Henle, 2008; Vitak et al., 2011). Research by Adiba et al. (2021) proves that cyberslacking, which is also called cyberloafing, actually has more beneficial impacts than detrimental impacts, such as helping to balance work with daily life and reducing tension in the workplace. Apart from that, this research also did not find any significant differences in work productivity caused by cyberslacking.

This research also found that from the results of factor analysis, three items were found that were in both dimensions or cross-loading, namely item numbers 10, 11, and 12, as attached in Table 1. Then, testing was done by making the soldiering and cyberslacking dimensions into one dimension. However, after being made unidimensional, the factor loading of item number 9 became low (FL < .40), so it was considered for deleting. Item number 9 reads, "I use instant messaging (such as WhatsApp, Twitter, Instagram, Telegram, etc.) at work for personal purposes." After item number 9 was deleted, the reliability value increased (α = .893, with a CITC range of .473–.724). From the results obtained, it is known that the existing items do not measure cyber procrastination but rather as a whole.

The low factor loading of item number 9 is probably related to the current high popularity of the instant messaging application WhatsApp. Syarifhidayat and Wicaksono (2017) explained that WhatsApp is currently the most popular social media platform. Its use as a communication medium is considered the most useful because of its various conveniences and does not cost money. Rahartri (2019) explains that WhatsApp has become one of the most commonly used communication tools. The research results show that WhatsApp was the most widely used communication application for 3 years (2016–2018). This is in line with research conducted by Trisnani (2017), which shows that WhatsApp is currently the most dominant instant messaging platform. So far, WhatsApp has been used to convey messages, although it can still communicate face-to-face or in person.

Through several previous studies, it is known that currently WhatsApp is very popular and is the most dominant communication application used. Research from Musdalifah and Iswandari (2020) explains that WhatsApp influences employee performance. This is because conveying information

using WhatsApp is easy, making work-related coordination easier. This is in line with research by Ningrum and Pramonojati (2019), which also found that the use of WhatsApp by employees influenced the effectiveness of positive organisational communication. This can be felt in the features provided by WhatsApp, which help employees communicate, such as WhatsApp groups, sending invitations, calling, and sharing locations. Research conducted by Widya et al. (2021) also found a positive influence of WhatsApp on employee performance. This is proven by better communication and coordination through directions given via the WhatsApp group, which all organisation members can read. Previous research is a basic reference that WhatsApp has become part of work in Indonesia, so it is difficult to classify it at the level of procrastination. WhatsApp is also often used to coordinate with internal and external parties such as clients. This is a reference for researchers to make PAWS unidimensional and delete items that discuss instant messaging.

CONCLUSION

From the results of the research and analysis that has been carried out, the Indonesian version of the Procrastination at Work Scale (PAWS) instrument is an instrument that has good validity and reliability. Apart from that, the items contained in it can also be used to measure the level of procrastination at work even though one item has been deleted or removed. Suggestions for further research include using other methods to carry out analysis and adding tests for correlation with related variables so that they can be used as a whole within the company.

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