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Case Study

Do Job Boredom and Distress Influence Self-Report Individual Work Performance? Case Study in an Indonesia Muslim Fashion Industry

Auditya Purwandini Sutarto, Nailul Izzah

Department of Industrial Engineering, University of Qomaruddin, Gresik 61152, Indonesia

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CORRESPONDENCE

Phone: +6281235671955

E-mail: auditya@uqgresik.ac.id

A B S T R A C T

A creative and innovative workforce is a key determinant of the sustainability of the fashion industry in a highly competitive market. Such characteristics have been linked to employees' well-being. This study aimed at examining to what extent the employees' boredom, stress, and work performance levels in a medium-scale Muslim fashion Industry. We employed a cross-sectional study design by administering a set of questionnaires consisting of Dutch Boredom Scale; Depression, Anxiety, and Stress Scale; and Individual Work Performance in a total sampling of 75 female workers. The association between key variables and demographic factors was analyzed using non-parametric tests while the relationship between boredom, stress, and work performance was analyzed using the regression. Less-educated employees reported more stress and lower work performance while their boredom levels were similar, compared to their counterparts. Job boredom and stress were higher among newly hired employees but no significant difference in self-reported productivity between two job experience groups was observed. There are also no differences in job boredom, stress, and work performance between sales and non-sales groups. Our regression model shows that job boredom and stress were significant predictors to work performance after controlling age, education, job experience, and type of occupations. These findings support the importance of improving employees' well-being for better individual performance which may, in turn, lead to any tangible organizational outcomes. Regardless of the case study design, our study may provide insights for other industrial sectors and beyond the context of small and medium enterprises.

INTRODUCTION

In the early 21st century, a rising number of Indonesian women wearing veils or hijab has resulted in the rapid expansion of the domestic Muslim fashion sector. Muslim-wear has developed from a religious and cultural movement to a fashion-forward trend and booming industry. Muslim clothing has developed into a significant component of the national textile industry in a relatively short period. In general, the fashion industry is the second largest sub-sector of the creative industry in Indonesia with around 72% of 1,109,000 companies engaged in this business being small and medium enterprises (SME) [1]. The market share for SMEs Muslim-wear manufacturers accounted for nearly 30%, occupying 60% of the total market of Muslim-wear [2]. Before the pandemic, textile and fashion industries exhibit the fastest growing industries, reaching 18.98% while the employment rate accounted for 2.08 %, in 2019 and declined to 1.81 in 2020 [3]. In the context of service science, the integration of internal and external factors is critical to drive the fashion industries forward and remain sustainable [4]. From an internal perspective, a creative and innovative workforce is crucial to business success. One of the most distinguishing qualities of fashion brands is an innovation which has been an important component of the industry for decades [5]. Research shows high innovativeness and creativity which generally occur at an individual level, are fostered by high well-being and vice versa [6,7].

On the other hand, despite the substantial contributions of the Muslim-wear fashion industries to the Indonesian economy, empirical research has more focused on economic outlook [2,4,8,9] (e.g. customer behavior, marketing strategies, design product) rather than occupational health perspective. Occupational health scholars are interested in studying more about the cause and implications of work-related well-being [10,11], an interdisciplinary topic that spans medicine, psychology, engineering, and management. Both experimental studies [12] and real-world evidence [13] have demonstrated that investing in higher employee wellbeing resulted in increased employee productivity and, eventually, any tangible benefits such as customer loyalty, business unit profitability, and staff turnover.

Daniels [14] proposed a more comprehensive approach of work-related affective well-being that covers five dimension on the circumplex model; namely: anxiety-comfort, depression-

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pleasure, bored-enthusiastic, tiredness-vigor, and angry-placid. In this perspective, studying stress and boredom then allows us to study how the combination of stressful and motivating job characteristics may result in varying levels of well-being and work performance. Nevertheless, studies on the relationship between employees' well-being and individual productivity are scarce.

The term "stress" was originally described as "the body non-specific response of the body to any demand of change" [15] which can be either beneficial (eustress) or negative (distress). Stress will be considered to have a detrimental effect in the context of this study and will be addressed within the framework of the workplace (i.e., occupational stress). Occupational stress refers to the adverse physical and emotional responses that occur when a worker's job requirements or demands exceeds his or her capabilities and resources [16]. Occupational stress (hence referred to as "stress") is a significant health hazard in the modern workplace, accounting for a significant proportion of physical and psychological sickness, substance misuse, and family problems among millions of blue- and white-collar workers. An employee with higher level of stress is likely to experience increased negative emotions including depression, anger, and anxiety. Stress related to one's job has also been linked to decreased productivity, increased absenteeism, and higher risky behaviors on and off the job [17]. Meanwhile, the distinctive characteristic of the fashion industry has put its employees into high-stress levels [18]. Due to the highly dynamic environment of this industry, employees need to continuously update with the latest trends and field experiences, which resulted in mental and physical exhaustion. However, there is a low investment in workers' mental health [19].

In addition to stress, recent studies have demonstrated that boredom has been linked to a greater risk of negative emotional symptoms, and adverse performance outcomes [17,18]. According to Mikulas and Vodanovich [20], job boredom refers to an uncomfortable condition of relatively low arousal and dissatisfaction caused by an insufficiently exciting work environment. Lack of engagement, low or high arousal negative emotion, and trouble focusing attention are all symptoms of boredom [21]. At work, boredom-prone individuals may present problems in employment contexts. It is inevitable that workers experience occasional job boredom which is commonly harmless. However, a frequent occurrence may hamper their well-being and productivity [22]. Scholars have found that boredom has a clear association with significant health problems [22-24]. Boredom proneness has also been associated with increasing negative emotional symptoms and behaviors such as anxiety, depression, substance abuse, and eating disorders [20,25]. At the workplace, boredom may be manifested in negative impacts on work performance. Job boredom was first studied in certain jobs requiring vigilance or repetition with low external stimulation such as found among drivers, assembly workers, government clerks, repetitive press-operators, and long-haul truck drivers [26]. Since automation has become more prevalent across various work environments, boredom is expected to become a major issue. While boredom in safety-critical work domains is of clear concern, it is also prevalent in more benign work environments (e.g., fashion industry), frequently with such adverse consequences as absenteeism, turnover, and poor retention. Boredom is now widely considered to be a permanent fixture in many companies, not solely determined by certain tasks and employee status [22,27]. Furthermore, prior research has mostly dealt with the psychological and behavioral consequences of job boredom, such as organizational commitment, job satisfaction, and turnover intention, rather than its effect on individual productivity [22,28]. Despite its important effects on both individual and organizational-related outcomes, job boredom remains an under-researched area of employee ill-being, particularly in Indonesia. Most boredom studies in Indonesia have focused on the intervention to reduce boredom [29–31]. For example, Susihono and Kulsum [29] have redesigned agricultural tools using a participatory ergonomics approach, Ramadhani [30] provided music to cigarette factory workers, and Maulina [31] introduced job crafting to mitigate work-related boredom among service employees. Less attention was paid to investigating the consequences of boredom on productivity, particularly in the fashion industry.

Meanwhile, individual work role performance is the most critical variable in organizational productivity, driving the entire economy [32]. Traditionally, industrial or organizational psychologists have assumed that work performance is mostly related to selection, placement, and training. Later, it is broadly defined as employees' activities that contribute to the achievement of organizational goals. Individual work performance can be operationalized in various ways, from broad descriptions of behaviors (e.g., demonstrating effort, diligence, and adaptability) to more detailed ones (e.g., written and oral communications, attendance, adherence to rules). To deal with different assessment purposes yet produce meaningful performance information, scholars have developed a self-report measure that encompasses at least the major dimensions of work performance, thereby avoiding the difficulties associated with the concurrent use of various performance scales [32,33].

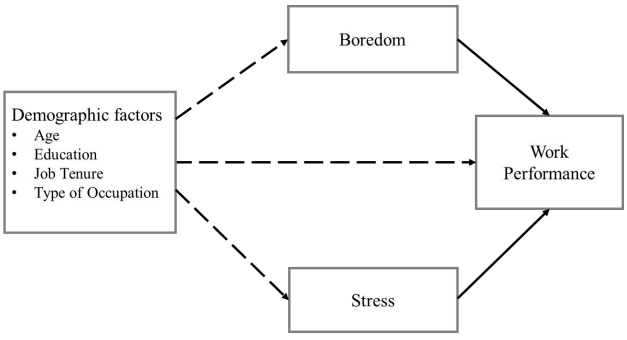

Figure 1. Proposed Model on the Relationship between Boredom, Stress, and Work Performance.
(*Dash line represent an association between demographic factors and measured variables. Solid lines represent the direct relationship in the regression model*)

Summarizing the aforementioned issues, it seems interesting to study to what extent boredom and stress influence self-report work performance. This study, to the best of our knowledge, is among the first studies that examine to what extent boredom and stress affect work performance in an Indonesian Muslim Fashion company. Therefore, the study aims to answer the following research questions, as illustrated in Figure 1.

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1. RQ1. To what extent do the workers perceive boredom, stress, and work performance?
2. RQ2. Are there differences in demographic factors: (age, level of education level, job tenure, and type of occupation) with respect to job boredom, stress, and work performance?
3. RQ3. Do boredom and stress influence self-reported work performance?

It is expected that knowledge gained from this study will add to better understanding the role of employees' well-being in work performance which in turn may be of benefit for the organizational outcomes

METHOD

Population and Participants

Due to the time and resource constraints, we employed a case study method in Pasmira, a medium-sized Muslim fashion industry. This company has been established in 2006 and had a total of 97 employees, categorized as a medium enterprise [34]. Because there was a very large difference proportion of male (15.5%) and female workers (84.5%) that may lead to sampling bias, our target population was then directed to a homogenous sample, only female workers. Given its relatively small population, a survey questionnaire was sent to all female employees with consent from the top management and the individual participant. Out of 78 copies distributed, 75 completed copies were returned, yielding a response rate of 96%. Since the online or digital marketing division has been established less than a year before the data collection, we also included employees whose length of employment was more than six months (i.e., newly hired employees). Figure 2 displays the flowchart of the study method and data analysis.

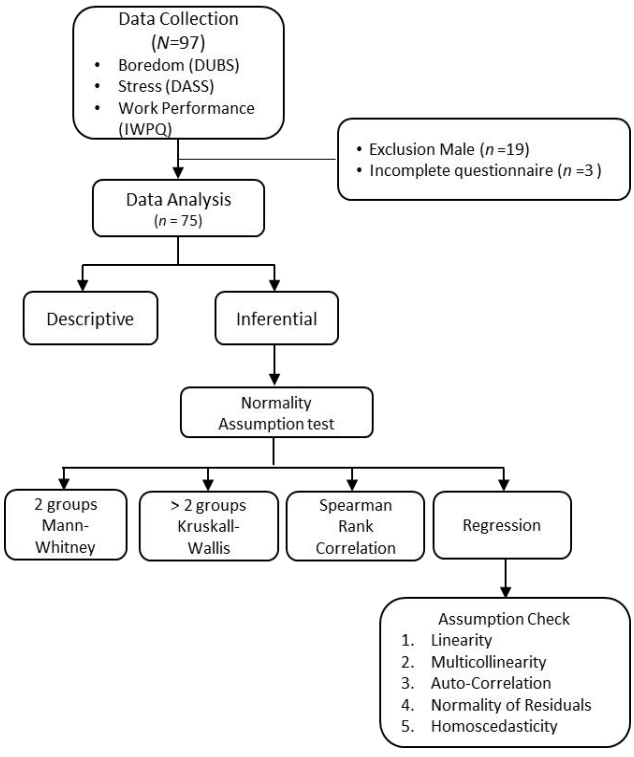

Figure 2. Flow-chart of the Study Method and Data Analysis

Measures

Demographic Factors

The demographic factors evaluated in this study consisted of age education, job tenure (working experience), and type of occupation. We divided the age and education factors into two categories while working experience into three categories. We classified the type of occupation as sales and non-sales since salespeople constitute the majority of workers in this company. Besides, salespeople are expected to have more distress than other types of occupations because they are always given clearer targets/goals and work in a highly competitive working environment [18,35].

Dutch Boredom Scale (DUBS)

The Dutch Boredom Scale (DUBS), developed by Reijseger [36], has been used to examine job boredom. The items have been adapted from previously general boredom scales. The scale covers affective, cognitive, and behavioral manifestations of boredom at the workplace (e.g., "At work, time goes by very slowly"). Instead of evaluating antecedent job features, each question in the DUBS aimed to exhibit the experience and manifestation of work boredom itself. Participants were asked to respond to eight questions on a seven-point Likert scale ranging from 0 (never) to 6 (very often) with total scores ranging from 0 to 48. This measure has been widely used as a boredom measure in Indonesia [37] and had an internal consistency of 0.76 in this study.

Depression, Anxiety, and Stress Scale

The Depression, Anxiety, and Stress Scale 42 (DASS-42) was used to evaluate the amount of stress. The scale was developed to distinguish and measure the three clinically important negative emotional symptoms of depression, anxiety, and stress [38]. Each subscale consists of 14 items that measure the severity of depression, anxiety, and stress symptoms over the previous week, respectively. The depression sub-scale assesses dysphoria, low self-esteem, hopelessness, devaluation of life, self-deprecation, lack of interest or involvement, anhedonia, and inertia. The anxiety sub-scale measures autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxiety and panic. The stress evaluates restlessness, nervous arousal, being easily upset, agitation, irritability or over-reactive, and impatience. The questionnaire should not be considered a diagnosis tool, but rather a screening tool that allows researchers to assess levels of all three emotional states at the same time.

Response options ranged from 0 (did not apply to me at all) to 3 (applied to me very much, or most of the time). Scores for each sub-scale are calculated by summing the scores for the relevant items. The higher the total score for each subscale, the more serious the condition associated with those emotional syndromes. For the majority of research purposes, it is preferable to use DASS scores rather than attempting to categorize subjects as "normal" vs "clinical" or "high" vs "low" [38]. However, for clinical purposes, a set of cut-off scores has been devised for each scale to assist in characterizing the degree of severity in relation to the population. Table 1 displays the general guidelines of the DASS categorical score based on the severity

of each sub-scale. The DASS-42 has been validated and has good psychometric properties in assessing mental health in the Indonesian population [39,40]. In our study, Cronbach's α values for the total DASS, depression, anxiety, and stress current study were 0.87, 0.75, 0.78, and 0.76, respectively.

Table 1. Categorization of the Depression, Anxiety, and Stress Scale (DASS) based on Cut-Off Scores of Each Subscale [38]

Category	Scale		
	Depression	**Anxiety**	**Stress**
Normal	0 - 9	0 - 7	0 - 14
Mild	10 - 13	8 - 9	15 - 18
Moderate	14 - 20	10 -14	19 - 25
Severe	21 - 27	15 - 19	26 - 33
Extremely Severe	28	20 +	34 +

Individual Work Performance

The Individual Work Performance Questionnaire (IWPQ) was used to measure workers' productivity that comprises of three main dimensions [33]. The first dimension, task performance, is defined as the individual's proficiency and ability to complete the job core tasks that contribute to the manufacturing of a product or the delivery of a service. Task performance can be indicated by employees' work quantity and quality, job skills, and job knowledge [32,41]. The second dimension is a contextual performance that refers to employees' behavior that helps the organization achieve its goals through improving the social and psychological environment. It encompasses tasks that go beyond job responsibilities, such as enthusiasm, initiative, proactivity, and teamwork. The counterproductive work behavior (CWB) is the third component of individual work performance, described as behavior that undermines the organization's well-being. CWB includes behaviors such as absenteeism, presenteeism (showing up when sick), being late for work, participating in off-task conduct, theft, sabotage, and substance abuse while on the job.

The IWPQ gauges individual productivity on behavior rather than results because behavior is multidimensional and connected with organizational goals [32]. The task performance scale consisted of five items (e.g.: "I was able to carry out my work efficiently"), the contextual performance of eight items (e.g.: "I took on extra responsibilities"), and the CWB of five items (e.g.: "I talked to colleagues about the negative aspects of my work"). Participants rated the total 18 items on a five-point Likert scale from 0 = seldom to 4 = always for the task and contextual performance dimension and 0 = never to 4 = often for the dimension of CWB. The mean score of each scale is calculated by summing the item scores and dividing the total by the number of items on the scale. The overall score is calculated using the formula: task performance + contextual performance + (4 – CWB), ranging from 0 (low) to 12 (high). The IWPQ has been widely used in diverse working populations across countries [42,43]. It has also been validated in Bahasa Indonesia and had good psychometric properties [40,44]. The scale had an internal consistency of Cronbach Alpha 0.85 in this study.

Statistical Analysis

Descriptive statistics were used to provide basic information about demographic characteristics and outcome variables. Because all key variables (boredom, stress, and work performance) were measured on an ordinal scale, we also reported the median and interquartile (IQR). The normality assumption of data was assessed using Kolmogorov Smirnov tests before performing further statistical analysis. Since all of the variables showed significant *p*-values (<0.05), indicating non-normality, the inferential statistical analysis was conducted using non-parametric tests. To evaluate to which extent the differences in boredom, stress, and productivity levels between age, education degree, type of occupation, and working experience categories, the Mann-Whitney or Kruskal Wallis tests were used, depending on the number of categories applied. The regression analysis was employed to determine the influencing factors of individual work performance, as exhibited in Equation 1. We checked the assumptions of multiple linear regression before performing the regression analysis: the linear relationship, normality of residuals, homoscedasticity, auto-correlation, and multicollinearity. The bivariate relationship between all key variables was assessed with Spearman rank correlation because of the data's non-normal distribution and ordinal nature [45]. Data analysis was performed using SPSS 23 for Windows (IBM) at 0.05 of the significance level.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_1 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \varepsilon \quad (1)$$

Where:

Y = work performance (IWPQ scores)
β_0 = intercept
$\beta_{1,\ldots,7}$ = regression coefficient for each independent/predictor variable
X_1 = age (baseline: 18-25 years old)
X_2 = education (baseline: < high school)
X_3 = job experience (baseline: 6 months – 1 year vs 1 – 5 years)
X_4 = job experience (baseline: 6 months – 1 year vs > 5 years)
X_5 = type occupation (baseline: sales)
X_6 = job boredom (DUBS scores)
X_7 = stress (DASS scores)
ε = residual

RESULTS AND DISCUSSION

Results from the descriptive statistics and the differences in all outcome variables between demographic factors are displayed in Table 2. The majority of employees had age 18-25 years (64%, attained high school education (84%), worked less than five years (37.3%), and served as salespeople (55.7%).

In general, all employees showed relatively low job boredom (Mean=12.9±5.63), less distress (Mean=21.1±11.25), and good work performance (Mean=8.2 ±1.55). These findings implied that the workload assigned to Pasmira workers might have not been a source of psychological strain and boredom. Currently, boredom at work was commonly found not only in jobs with highly automated tasks but also in transportation and storage, manufacturing, arts, entertainment, and recreation jobs [46]. It seems that most jobs carried out in Pasmira did not involve lacked challenges, repetitive tasks, and high automated supervisory control. Although Pasmira sells their fashion brands, they relied on separate contractors to produce most of their garments to the company's specifications. They focused on both

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wholesale and retail, selling clothes from various brands and manufacturers which explained why salespeople account for 66.7% of the type of occupation. Salespeople were categorized as pink-collar workers, member of the working class who performs in the service industry (retail/hospitality/administration) [47]. Research examining job boredom in pink-collar works still resulted in inconclusive findings which suggest further investigation [22,28,48,49]. Meanwhile, the majority of respondents reported normal to mild levels of depression, anxiety, and stress. It is plausible that stressful working condition stress was not an important issue which was in parallel with a fairly self-reported individual productivity.

Table 2. Descriptive Statistics of Socio-demographic Characteristics of Respondents (n=75) and Measured Variables

Variable	Category	Frequency (%)
Age	18 - 25	48 (64%)
	> 25 yrs	27 (36%)
Education	High School	63 (84%)
	> High School	12 (16%)
Job Experience	< 5 yrs	28 (37.3%)
	5 – 10 yrs	21 (2.0%)
	10-20 yrs	26 (34.7%)
Type of occupation	Sales	50 (66.7%)
	Non Sales	25 (33.3%)
Boredom (Mean ± SD)		12.9 (5.56)
Total DASS scores (Mean ± SD)		21.1 (11.250)
Depression (Mean ± SD)		4.05 (3.55)
Depression (Median, IQR)		3 (5)
Anxiety (Mean ± SD)		7.6 (4.76)
Anxiety (Median, IQR)		7 (5)
Stress (Mean ± SD)		9.4 (4.93)
Stress (Median, IQR)		9 (5)
Total IWPQ scores (Mean ± SD)		8.2 (1.55)
Task Performance (Mean ± SD)		2.5 (0.78)
Contextual Performance (Mean ± SD)		2.1 (0.856)
Counterproductive Behavior (Mean ± SD)		0.42(0.41)

With respect to the association between demographic factors and outcome variables, the Mann-Whitney statistics analysis showed that employees having higher education degrees reported significantly worse mental health than those who attained high school degrees (see Table 3). This finding is in accordance with previously large-scale surveys that documented associations between lower education and higher levels of work stress in European countries [50] and Iran [51]. Less-educated workers may encounter more stress due to a lack of skills to cope with stress. Education was also positively correlated with work performance which supports the results of Kahya [52] who studied among employees of a medium-sized metal company. Moreover, the similar level of boredom between the two groups is in line with a prior study which showed neither high nor low education workers experience more job boredom in Finnish workplaces [46].

Table 3. Association between all Demographic and Outcome Variables

Var.	Category	Boredom Mean (SD)	DASS Mean (SD)	IWP Mean (SD)
Age	18-25 y.o	12.8 (5.90)	22.2 (12.12)	8.3 (1.40)
	> 25 y.o	13.2 (4.98)	18.9 (9.33)	8.0 (1.80)
Edu	High School	13.2 (5.14)	22.6** (11.40)	8.0* (1.53)
	> High School	11.2 (7.40)	13.25 (6.25)	9.0 (1.42)
Exp	6 mo - 1 yr	14.2* (5.46)	25.1* (11.68)	8.3 (1.30)
	1-5 yrs	14.4 (5.69)	21.1 (19.0)	7.8 (1.63)
	> 5 yrs	10.3 (4.72)	16.8 (9.42)	8.4 (1.73)
Occ	Sales	13.3 (5.76)	22.8 (11.81)	8.1 (1.49)
	Non Sales	12.1 (5.12)	17.8 (9.40)	8.3 (1.68)

Note: Var=Variable, Edu=education, Exp=Job Experience, Occ=Type of Occupation. SD=Standard deviation. *Significance at p <0.05** Significant at p <0.01

With respect to the job experience factor, employees who worked less than a year experienced the highest boredom and distress levels as compared to those who worked longer although all working experience groups perceived similar levels of work performance. These suggested that newly hired employees might still adapt to their new working conditions. A qualitative study has identified some stressors experienced by newly hired employees in a Malaysian private sector encompassed the nature of the job, task-related stressors, and unsupportive environment [53]. A survey among newly recruited workers in many US industries also revealed such problems will lead to high turnover, as well as the loss of training, productivity, and effective work networks [54].

There are no significant differences in boredom, negative emotional symptoms of stress, and work performance between age (p=0.80; 0.46; 0.47) and type of occupation groups (p=0.39; 0.11; 0.77), respectively. These findings were contradictive to Fisherl [55] who argued that individual characteristics such as age and type of occupation have an impact on how much boredom people experience. However, Harju [22] has highlighted that in a modern-day work environment, job boredom affects a wide range of industrial sectors and employees, implying that it is not entirely driven by the type of work. Moreover, our result was also inconsistent with a large survey among 11,468 Finnish workers which found job boredom decreased with age [46]. Nevertheless, the prior study covered a wide range of groups (20 to < 56 years) while the age range of participants in our study is narrower, about 18 to 44 years old with a mean of 24.7 (standard deviation 5.61), which provides a plausible explanation for the insignificant effect of

age on all measured variables. Besides, a previous study also showed that the proportion of employees in different age groups has little impact on establishment productivity in various sectors including manufacturing, services, and metal production [56].

Concerning the association between occupational groups and stress, we found that salespeople experienced higher stress (Mean=22.8±11.8) than non-sales employees (Mean=17.8±9.4). Although this value did not statistically significant, which might be due to our small sample size, this tendency is aligned with prior studies [18,35] who found that salespeople were continually assessed by their sales results in comparison to other employees [18].

Moreover, and work performance, prior studies showed inconclusive findings, although ambulance drivers, social workers, customer service professionals, and prison and police officers are among the professions that are deemed to be more emotionally demanding and stressful than others [57]. It is also unclear whether the type of industry (fashion) with highly dynamic, or the organization behavior itself which is more likely to foster a relatively good performance to explain our findings. A study conducted in Malaysia revealed that salespeople in retail industries reported high-stress levels but their productivity remains high [35]. It seems that salespeople are aware of their dynamic competitive job natures that set clear targets/goals. Further studies are needed to compare with other industries and heterogeneous populations as well as to explore the phenomenon more thoroughly.

Regression

Before performing regression analysis, multicollinearity tests for all variables were assessed. The correlation coefficients between all measured variables showed no very high values ($0.001<|r|<0.45$). The Variance Inflation Factors (VIF) ranged from 1.17 to 1.46 which were lower than the critical value of 10, indicating no serious multicollinearity was detected. A value of Durbin Watson 2.01 indicates there is no autocorrelation detected in our sample. The graphical observation of the residuals showed that the normality and homoscedasticity assumptions were met (see Figure 3).

Table 4 displays the Spearman rank correlation between all key study variables, implying a medium relationship between boredom, stress, and work performance in negative directions [45]. Our regression model was significant (F=4.04, p<0.001, adj R^2=0.23) and underpinned the above bivariate correlation findings, indicating that boredom and stress levels were significant determinants to employees' work performance (see Table 5). This result is consistent with prior studies which showed that boredom and stress negatively influenced work performance [23,46]. Boredom and stress levels, two indicators of work-related well-being [14] have been linked to the workers happiness/productivity [11].

Interestingly, after controlling all demographic factors, education was no longer influencing work performance although their association analysis (see Table 2) revealed that employees with high school degrees performed lower productivity than their counterparts. This might be explained that education and stress, jointly explained work performance since the relationship between both variables was also significant as shown in Table 2.

The use of regression could demonstrate the unique effects of boredom and stress in revealing work performance after controlling demographical control variables. All demographic factors did not have a significant effect on work performance. Although our findings indicate the possibility of a reciprocal relationship between boredom and stress as well as the mediator role of stress in explaining work performance, lack of statistics power – due to our small sample size – hinders us from further investigation.

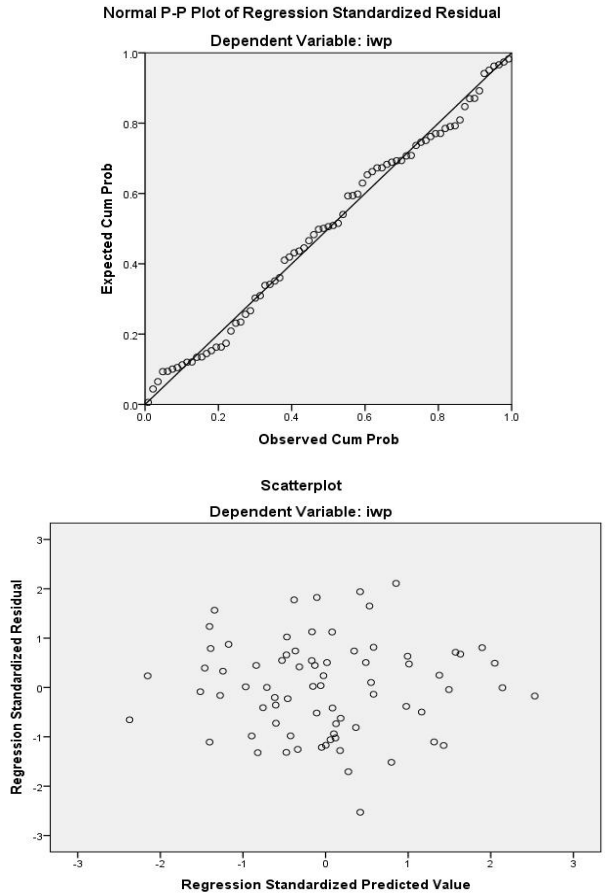

Figure 3. Graphical Observation of Normality of Residuals (above) Homoscedasticity (below)

Table 4. Correlation between all Measured Variables

	Boredom	**Stress**	**Work Performance**
Boredom	1		
Stress	0.48**	1	
Work Performance	-0.37*	-0.41**	1

Note: * Significant at p <0.01, **p<0.001

Another interesting finding was that our final model resulted in a relatively low R^2 value (0.23). This implies that additional variables may contribute to the explanation of job performance. However, in social sciences, it is impossible to include all relevant determinants to fully explain an outcome variable, which may lead to a lower R^2 value. We focused on establishing a unique contribution of boredom and stress which has not been investigated previously in either fashion or medium industries. Thus, a low value of R^2 does not always imply a negligible

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effect. Nonetheless, further research would benefit from a more extensive model in which other factors, such as employment conditions, quality of life, personal traits (e.g., self-discipline, motivation) are assessed.

Table 5. Multiple Regression Analysis with Boredom and Stress to Predict Work Performance (Controlled for Age, Education Level, Job Tenure, and Type of Occupation)

Variables	β	SE	CI 95%	
			LL	UL
Age (0: 18-25 years)	-0.11	0.36	-1.04	0.39
Education (0: < High School)	0.13	0.46	-1.45	0.17
Experience‡ (1 – 5 yrs)	-0.19	0.41	-1.47	0.16
Experience (> 5 yrs)	-0.20	0.41	-0.39	1.46
Type of occupation (0: Sales)	-0.01	0.37	-0.76	.704
Boredom	-0.28*	0.03	-0.14	-0.01
Stress	-0.32**	0.02	-0.08	-0.01

Note: ‡6 months - 1 year as reference. *Significant at p <0.05, **p < 0.01

CONCLUSIONS

In this study, boredom, stress, and work performance were perceived similarly across most demographic factors among employees in a medium scale of the Indonesian fashion industry. Nevertheless, our regression model also showed that job boredom and stress are strong determinants of individual work performance, suggesting their important roles.

This study has several limitations. First, job boredom and stress measurement are attached to self-report questionnaires which raise common method bias. Nevertheless, job boredom is a state that can be accurately reported only by the individual alone while self-reported stress is considered valid when being compared to other measures such as physiological and organizational outcomes [58]. Regarding work performance measurement, the used self-report work performance measure (IWPQ) may lead to social desirability bias, a tendency of survey respondents to answer questions in a way that will be seen favorably by others. However, the strengths of the IWPQ are that it combines all relevant dimensions of individual work performance into a single questionnaire, is suitable for many types of employment (generically applicable), and is simple to administer in various research and assessment contexts [33,42]. This measure is also valid and reliable and widely used across various types of jobs in many countries [40,42–44]. Nevertheless, it is of great importance for further studies to employ other productivity measurements in future studies such as absenteeism, presenteeism, supervisor rating, and physiological index [59,60]. Second, our cross-sectional study design limits us to infer causality, thus longitudinal designs need to be applied in future studies to investigate how job boredom and stress develop over time and what their long-term productivity consequences are. Third, the generalizability of this study is limited by the characteristics of the study participants. These findings were obtained from a medium-sized fashion industry company where some jobs are at intermediate levels of complexity with fewer heterogeneous samples. Hence, further studies in other industrial settings and more diverse workers' characteristics are warranted.

Notwithstanding these limitations, the current findings provide both theoretical and practical implications. Our study expands the knowledge of the role of boredom and stress in influencing individual work performance in the context of small and medium enterprises' fashion industry in a developing country. Our study offers insights for managers and human resource practitioners to promote employees' well-being by affecting employees' psychological and emotional which in turn may influence the organizational outcomes.

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REFERENCES

[1] S.Z. Ernawati. Info Komoditi Pakaian Jadi. Jakarta: AMP Press; 2015.

[2] D. Lisnawati and H.E. Ahman, "Relationship between Entrepreneurial Characteristics from Islamic Perspective and the Performance of Small and Medium-Sized Businesses (A Study of SMEs in Indonesia)". 2nd Int. Conf. Islam. Econ. Business, Philanthr. Theme "Sustainability Socio Econ. Growth," 2019, pp. 576–93. https://doi.org/10.18502/kss.v3i13.4232.

[3] BPS. Proporsi Tenaga Kerja pada Sektor Industri Manufaktur (Persen), 2018-2020 2020. https://www.bps.go.id/indicator/9/1217/1/proporsi-tenaga-kerja-pada-sektor-industri-manufaktur.html.

[4] L.A. Suryana, L. Mayangsari, and S. Novani, "A Virtual Co-Creation Model of the Hijab Fashion Industry in Indonesia," Int. J. Bus. Soc., vol. 18, pp. 409-424, 2017.

[5] F.G. Ünay and C. Zehir, "Innovation intelligence and entrepreneurship in the fashion industry," Procedia - Soc. Behav. Sci., vol. 41, pp. 315–321, 2012. https://doi.org/10.1016/j.sbspro.2012.04.036.

[6] J. Wang, J. Yang, and Y. Xue, "Subjective well-being, knowledge sharing and individual innovation behavior: The moderating role of absorptive capacity," Leadersh Organ Dev. J., vol. 38, no. 8, pp. 1110–1127, 2017. https://doi.org/10.1108/LODJ-10-2015-0235.

[7] L. Honkaniemi, M.H. Lehtonen, and M. Hasu, "Well-being and innovativeness: motivational trigger points for mutual enhancement," Eur. J. Train Dev., vol. 39, no. 5, pp. 393–408, 2015. https://doi.org/10.1108/EJTD-11-2014-0078.

[8] I. Kartika and S. Business, "Innovativeness P, Positional P, Performance SB. Product Positional Advantage on Muslim Fashion Business Performance in Indonesia," Int. J. Innov. Creat. Chang., vol. 4, pp. 115–44, 2019.

[9] R.P. Sari and N. Asad, "Barrier in Design Innovation of Fashion Business: Evidence from Indonesian Moslem Fashion SME," J. Din. Manaj., vol. 9, no. 1, pp. 9–79, 2018. https://doi.org/10.15294/jdm.v9i1.14653.

[10] D. Guglielmi, S. Simbula, G. Mazzetti, M.C. Tabanelli, and R. Bonfiglioli, "When the job is boring: The role of boredom in organizational contexts," Work, vol. 45, no. 3, 311-322, 2013. https://doi.org/10.3233/WOR-121528.

[11] K.M. Page and D.A. Vella-Brodrick, "The “what”, “why” and “how” of employee well-being: A new model," Soc. Indic. Res., vol. 90, pp. 441–458, 2009. https://doi.org/10.1007/s11205-008-9270-3.

[12] A.J. Oswald, E. Proto, and D. Sgroi, "Happiness and Productivity," J. Labor. Econ., vol. 33, no. 4, pp. 789–822, 2015. https://doi.org/10.1086/681096.

[13] C. Krekel, G. Ward, and J-E. De Neve, "Employee wellbeing, productivity, and firm performance," Evidence from 1.8 million employees 2019. https://voxeu.org/article/employee-wellbeing-productivity-and-firm-performance (accessed November 15, 2021). https://doi.org/10.2139/ssrn.3356581.

[14] K. Daniels, "Measures of five aspects of affective well-being at work," Hum. Relations., vol. 53, no. 2, pp. 275–294, 2000. https://doi.org/10.1177/a010564.

[15] H. Selye, The Stress of Life. New York: McGraw-Hills; 1950. https://doi.org/10.1080/00332925.2019.1564598.

[16] International Labour Organization. Workplace Stress: a collective challenge. Turin, Italy: 2016.

[17] J. Houdmont and S. Leka, Contemporary occupational health psychology: Global perspectives on research and practice. John Wiley & Sons, vol. 1, 2010. https://doi.org/10.1002/9780470661550.

[18] Y.A. Rhee, "A Qualitative Study on Factors Related to Job Stress for Fashion Corporation Employees: Focusing on Fashion Manufacturing Companies," Fam. Environ. Res., vol. 53, no. 4, pp. 463–473, 2015. https://doi.org/10.6115/fer.2015.037.

[19] C. Ramos-Galarza and P. Acosta-Rodas, "Stress and productivity in workers of textile companies," J. Fash. Mark. Manag. An Int. J., vol. 23, no. 1, pp. 17-29, 2019. https://doi.org/10.1108/JFMM-02-2018-0030.

[20] W.L. Mikulas, S.J. Vodanovich, "The Essence of Boredom," Psychol. Rec., vol. 43, no. 1, pp. 3-12, 1993.

[21] S.A. Fahlman, K.B. Mercer-Lynn, D.B. Flora, and J.D. Eastwood, "Development and Validation of the Multidimensional State Boredom Scale," Assessment, vol. 20, no. 1, pp. 68–85, 2013. https://doi.org/10.1177/1073191111421303.

[22] L.K. Harju and J.J. Hakanen, "An employee who was not there: a study of job boredom in white-collar work," Pers. Rev., vol. 45, no. 2, pp. 374–391, 2016. https://doi.org/10.1108/PR-05-2015-0125.

[23] M.L. Cummings, F. Gao, and K.M. Thornburg, "Boredom in the Workplace," Hum. Factors J. Hum. Factors Ergon. Soc., vol. 58, no. 2, pp. 279–300, 2016. https://doi.org/10.1177/0018720815609503.

[24] F.K.S. Lee and D.C. Zelman, "Boredom proneness as a predictor of depression, anxiety and stress: The moderating effects of dispositional mindfulness," Pers. Individ. Dif., vol. 146, pp. 68–75, 2019. https://doi.org/10.1016/j.paid.2019.04.001.

[25] E.A.J. van Hooft, M.L.M. van Hooff, "The state of boredom: Frustrating or depressing?," Motiv. Emot., vol. 42, pp. 931–946, 2018. https://doi.org/10.1007/s11031-018-9710-6.

[26] S. Mann, "Boredom at the checkout causes, coping strategies and outcomes of Workplace Boredom in a Supermarket setting," J. Bus. Retail Manag. Res., vol. 6, no. 2, pp. 1-14, 2012.

[27] A. Joyce, "Boredom Numbs the Work World. Washington Post 2005. https://www.washingtonpost.com/wp-dyn/content/article/2005/08/09/AR2005080901395_2.html (accessed November 14, 2021).

[28] E. Loukidou, Boredom in the workplace: a qualitative study of psychiatric nurses in Greece, 2008.

[29] W. Susihono, "Partisipatori Ergonomi : Redesain Hand Tools Pertanian Menurunkan Kebosanan Kerja," J. Ind. Serv., vol. 1, pp. 1-4, 2015.

[30] H.P. Ramadhani, "Efektivitas Musik Pengiring Kerja dalam Menurunkan tingkat kebosanan pekerja sortasi tembakau di KOPA Tarutama Nusantara Jember," Universitas Jember, 2018.

[31] R. Maulina, "Pengaruh Pelatihan Job Crafting untuk Menurunkan Tingkat Kebosanan Kerja Karyawan di Perusahaan X Yogyakarta," Universitas Islam Indonesia, 2018.

[32] J.P. Campbell and B.M. Wiernik, "The Modeling and Assessment of Work Performance, " Annu. Rev. Organ. Psychol. Organ. Behav., vol. 2, pp. 47-74, 2015. https://doi.org/10.1146/annurev-orgpsych-032414-111427.

[33] L. Koopmans, "Cross-cultural adaptation of the Individual Work Performance Questionnaire," Work, vol 53, no. 3, pp. 609–619, 2016. https://doi.org/10.3233/WOR-152237.

[34] BPS. Industri Besar dan Sedang 2020. https://www.bps.go.id/subject/9/industri-besar-dan-sedang.html#subjekViewTab3 (accessed October 5, 2021).

[35] S.M. Chia and D.H.M. Kee, "Workplace bullying and task performance: A study on salespeople in retail industry," Manag. Sci. Lett., vol. 8, pp. 707–716, 2018. https://doi.org/10.5267/j.msl.2018.4.011.

[36] G. Reijseger, W.B. Schaufeli, M.C.W. Peeters, T.W. Taris, I. van Beek, and E. Ouweneel, "Watching the paint dry at work: psychometric examination of the Dutch Boredom Scale," Anxiety, Stress Coping, vol. 26, no. 5, pp. 508-525, 2013. https://doi.org/10.1080/10615806.2012.720676.

[37] D.D.R. Martiani, "Hubungan Tingkat Religiusitas dan Status Psikologis dengan Obesitas Sentral pada Mahasiswa Pendidikan Dokter Universitas Muhammadiyah Yogyakarta," Universitas Muhammadiyah Yogyakarta, 2017.

[38] S.H. Lovibond and P.F. Lovibond, Manual for the depression anxiety stress scales. Sidney: Psychology Foundation of Australia, 1996. https://doi.org/10.1037/t01004-000.

[39] E. Damanik, DASS-42 Bahasa Indonesia 2011.

[40] A.P. Sutarto, S. Wardaningsih, and W.H. Putri, "Work from Home: Indonesian Employees’ Mental Well-Being and Productivity during the COVID-19 Pandemic," Int. J. Work Heal. Manag., vol. 14, no. 4, pp. 386–408, 2021. https://doi.org/10.1108/IJWHM-08-2020-0152.

[41] L. Koopmans, C.M. Bernaards, V.H. Hildebrandt, W.B. Schaufeli, C.W. De Vet Henrica, and A.J. Van Der Beek, "Conceptual frameworks of individual work performance: A systematic review," J. Occup. Environ. Med., vol. 53, no. 8, pp. 856–866, 2011. https://doi.org/10.1097/JOM.0b013e318226a763.

[42] A.M. Dåderman, "Cross-Cultural Adaptation, from Dutch to Swedish Language, of the Individual Work Performance Questionnaire'" Work, vol. 65, no. 1, pp. 97–109, 2020. https://doi.org/10.3233/WOR-193062.

 DOI: 10.25077/josi.v21.n1.p1-9.2022

[43] P/J. Ramos-Villagrasa, J.R. Barrada, E. Fernández-del-Río, and L. Koopmans, "Assessing Job Performance Using Brief Self-report Scales: The Case of the Individual Work Performance Questionnaire," J. Work Organ. Psychol., vol 35, no. 2, pp. 195–205, 2019. https://doi.org/10.5093/jwop2019a21.

[44] T. Widyastuti and R. Hidayat, "Adaptation of Individual Work Performance Questionnaire (IWPQ) into Bahasa Indonesia," Int. J. Res. Stud. Psychol., vol. 7, no. 2, pp. 101–112, 2018. https://doi.org/10.5861/ijrsp.2018.3020.

[45] P. Schober and L.A. Schwarte, "Correlation coefficients: Appropriate use and interpretation," Anesth. Analg., vol. 126, no. 5, pp. 1763–1768, 2018. https://doi.org/10.1213/ANE.0000000000002864.

[46] L. Harju, J.J. Hakanen, and W.B. Schaufeli, "Job boredom and its correlates in 87 finnish organizations," J. Occup. Environ. Med., vol. 56, no. 9, pp. 911–918, 2014. https://doi.org/10.1097/JOM.0000000000000248.

[47] M. Lips-Wiersma, S. Wright, and B. Dik, "Meaningful work: differences among blue-, pink-, and white-collar occupations," Career Dev. Int., vol. 21, no. 5, pp. 534–551, 2016. https://doi.org/10.1108/CDI-04-2016-0052.

[48] C-J Tsai, "Boredom at Work and Job Monotony: An Exploratory Case Study within the Catering Sector," Hum. Resour. Dev. Q., vol. 27, no. 2, pp. 207–236, 2016. https://doi.org/10.1002/hrdq.21249.

[49] R.M. Stock, "Understanding the relationship between frontline employee boreout and customer orientation," J. Bus. Res., vol. 69, no. 10, pp. 4259–4268, 2016. https://doi.org/10.1016/j.jbusres.2016.02.037.

[50] T. Lunau, J. Siegrist, N. Dragano, and M. Wahrendorf, "The association between education and work stress: Does the policy context matter?," PLoS One, vol. 10, pp. 1-17, 2015. https://doi.org/10.1371/journal.pone.0121573.

[51] A. Feizi, R. Aliyari, and H. Roohafza, "Association of perceived stress with stressful life events, lifestyle and sociodemographic factors: A large-scale community-based study using logistic quantile regression," Comput. Math. Methods Med., vol. 2012, pp. 1-12, 2012. https://doi.org/10.1155/2012/151865.

[52] E. Kahya, "The effects of job characteristics and working conditions on job performance," Int. J. Ind. Ergon., vol. 37, no. 6, pp. 515–523, 2007. https://doi.org/10.1016/j.ergon.2007.02.006.

[53] M. Rizki, "Stress and Coping among Newly Hired Employees in Private Sector in Malaysia," J. Manajerial dan Bisnis Tanjungpinang, vol. 2, pp. 56-70, 2018.

[54] D. Lattal, "Paying the Stress Toll 2015," https://www.aubreydaniels.com/media-center/paying-stress-toll (accessed November 12, 2011).

[55] C.D. Fisherl, "Boredom at Work: A Neglected Concept. Hum Relations," vol. 46, no. 3, pp. 395–417, 1993. https://doi.org/10.1177/001872679304600305.

[56] C. Göbel and T. Zwick, "Age and Productivity: Sector Differences," Economist, vol. 160, pp. 35–57, 2012. https://doi.org/10.1007/s10645-011-9173-6.

[57] A. Dėdelė, A. Miškinytė, S. Andrušaitytė, and Z. Bartkutė, "Perceived stress among different occupational groups and the interaction with sedentary behaviour," Int. J. Environ. Res. Public Health, vol. 16, no. 23, pp. 1-15, 2019. https://doi.org/10.3390/ijerph16234595.

[58] A.P. Sutarto, K.M. Khairi, and M.N.A. Wahab, "Assessment of stress among assembly-line workers: correlation between subjective and objective physiological measures," Int. J. Hum. Factors Ergon., vol. 7, no. 3, pp. 207-223, 2020. https://doi.org/10.1504/IJHFE.2020.10031820.

[59] K.M. Khairai, A.P. Sutarto, and M.N.A. Wahab, "The Influence of Stress on Industrial Operator's Physiology and Work Performance," J. Optimasi Sist. Ind., vol. 19, no. 2, pp. 82-90, 2020. https://doi.org/10.25077/josi.v19.n2.p82-90.2020.

[60] M. Bubonya, D.A. Cobb-Clark, and M. Wooden, "Mental health and productivity at work: Does what you do matter?," Labour Econ. vol. 46, pp. 150–165, 2017. https://doi.org/10.1016/j.labeco.2017.05.001.