The role of work engagement in the relationship of job autonomy and proactive work behavior for organizational sustainability

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Abstract. This study aims to examine the effect of job autonomy on proactive work behavior and to investigate the mediating role of work engagement in the relationship of job autonomy and proactive work behavior. This study involved 208 employees working in the private sector, public sectors, and government in Indonesia. Participants were taken using convenience sampling techniques through the distribution of questionnaires online. Data were analyzed using Structural Equation Model (SEM). This research shows that job autonomy directly influences work engagement and indirectly affects proactive work behavior through work engagement mediation. Our results found different results from previous studies, where job autonomy directly impacted proactive work behavior. Our results reveal the full mediation role of work engagement in the relationship between job autonomy and proactive work behavior.

1. Introduction

An ambitious global plan is currently being implemented by the United Nations [46,17]; 17 priorities support sustainable growth. These aims, collectively referred to as the Sustainable Development Goals (SDGs), discuss a variety of social, economic, and environmental problems [46] important to governments, public and private organizations around the world [31]. Given the importance of work and employment in people's lives and as a driver of economic growth, it is not surprising to see that one of the SDGs is directly related to work. That is, Target 8, which proposes to "promoting inclusive and sustainable economic development, employment and decent work for all," where employees have the opportunity to "safe and secure working environments," and precarious employment is reduced [46].

One unresolved issue in the employment study concerns appearing work practice issues increased autonomy and worker responsibility—employees' demands to be proactive influence the qualitative aspects of job and employment. On the one hand, this trend is causing additional pressure on workers and greater insecurity [24,40]. On the other hand, it leads to increased productivity [15], greater autonomy, job satisfaction, commitment, and trust [43]. Indirectly, this trend is related to the desire to change towards decent work for all, or not, as stated in the UN SDG 8.

Parker and Collins [34] described the proactive work behavior as "taking control of the internal organizational environment and bringing about change within it.". Proactive work behavior focuses on controlling processes and actively bring about changes in the organizational environment [34]. The dimensions of proactive work behavior include taking charge, individual innovation, voice, and problem

prevention. Taking charge is described as constructive and voluntary attempt to influence a functional transformation of organization regarding how work is performed; change-oriented behavior is purposed for improvement [36]. Voice is defined as conveying innovative ideas for improvement and proposing improvements to the standard process, even if others do not agree, speaking up that is constructive and supposed to input the organization [16] positively. Individual innovation is explained as behaviors, including creating and implementing ideas [51], recognizing an opportunity, developing new concepts or method and application of new ideas. Meanwhile, the definition of problem prevention is self-directed and predictive behavior to avoid the recurrence for work issues [20].

Many studies have been conducted to examine the antecedents of proactive work behavior [23,34,35,20,32] found that job autonomy is a situational aspect of an organization, which is considered affected by the proactive work behavior of the employee. Job autonomy relates positively to proactive behaviors such as personal initiatives [26], problem-solving, and idea implementation [35]. Job autonomy can also be described as to what extent an individual is given discretion and freedom to execute a task [4]. Breaugh [4] describes job autonomy by dividing the autonomy into three dimensions: autonomy on work methods, work schedule, and work criteria. The autonomy of the work method is the level of scope/choice of indivual consideration regarding the the process/methods they use in their job. Autonomy in work scheduling is the degree that the employees believe they could manage their work schedules/timing/sequencing. Autonomy of work criteria is the extent that the workers can alter or choose the criteria that used to evaluate their results.

Hornung and Rousseau [26] demonstrated that job autonomy has contributed to supporting organizational change for employees. By positioning employees to respond effectively to further demands and create opportunities for change, increased autonomy can be important in successful organizational changes. Studies have also found that working with much flexibility makes employees more likely to exchange information. Also, job autonomy was positively related to innovation with employees' innovative behavior [12]. Autonomy also allows workers to experiment with different methods and approaches to working. This is possible for them to discover ideas and evolve them further by implementing them on a small scope. However, different outcomes were found in Chang, Huang, and Choi [8] on autonomy and creativity. They revealed that autonomy reduced creativity when employees first gained new duties. This makes job autonomy as the antecedent of proactive work behavior, which needs to be researched further. Based on the explanation above, we propose the following hypothesis:

Hypothesis 1: Job autonomy is related positively to proactive work behavior.

Our research also wants to see work engagement in the correlation among job autonomy and proactive work behavior. Work engagement in recent years has become a widely studied vector of mediators linked to career requirements and jobs for employees [49,28]. Several studies have also found that work engagement mediates job autonomy and proactive work behavior [2,12]. Work engagement is a condition of affective and constructive motivation characterized by high energy and self-attachment levels [19, 52]. Work engagement consists of three dimensions: vigor, dedication, and absorption. [52]. Vigor includes a greater level of energy and motivation, resilience, a high desire to engage in effort, and persistence in dealing with problems. Dedication is characterized by employee excitement, work-inspired feelings, and someone's pride in doing the job. Absorption is demonstrated by concentration and focus on doing the job before time goes by, and he has the challenge of detaching himself from work [52].

Sullivan et al. [41], from their research of 747 nurses, discovered that supporting the workplace environment was a significantly related of work engagement on nurses. Giallonardo, Wong, and Iwasiw [22] also found that autonomy positively impacts employee work engagement, providing some evidence of intrinsic motivational processes. Meanwhile, Hakanen et al. [25] explained that job resources are important in work engagement, and work engagement often affects a personal initiative emerging. In line with this, Spiegelaere et al. [13] also found that job autonomy is associated with increased work engagement and innovative work behavior. Therefore, we intend to propose the following hypothesis:

Hypothesis 2: Job autonomy has a positive relationship with work engagement

Work engagement also contributes to the important contributions necessary for proactive behavior. Salanova & Schaufeli [37] explains that work engagement has a positive influence on initiative behavior. Meanwhile, Parker & Collins [34] suggest that work engagement can trigger proactive behavior because it potentially enables a higher level of vigor, energy, or passion. Employees with a high degree of engagement are relatively compassionate and rewarding jobs, and they show initiative and desire to change work situations. Some studies have explored the potential for a relationship between work engagement and proactive work behavior [28,37,39]. Based on this, our hypothesis is:

Hypothesis 3: Work engagement is positively related to proactive work behavior

Research by Bakker and Demerouti [2] and De Spiegelaere et al. [12] revealed that work engagement is the mediator between job autonomy and proactive work behavior. The findings of Salanova and Schaufeli [37] demonstrate that work engagement totally mediates the influence of job resources that consist of job controls, feedback, and job variations on proactive behavior in the workplace. This means an increase in the job resources associated with increased engagement, which is further positively associated with proactive work behavior. Additionally, De Spiegelaere et al. [12] discovered a positive relationship between autonomy and innovative behavior. Positive effects on work engagement partially mediate this relationship. The study revealed that giving employees some autonomy about doing their work enables employees to discover, develop, and implement creative workplace solutions. Based on that, we assume that:

Hypothesis 4: Work engagement to mediate relationships among job autonomy and proactive work behavior

Our research provide a number of contributions to the literature. First, we tried to analyze whether work autonomy has a direct effect on proactive work behavior. This article explores work autonomy as multi-dimensional, where most of the literature describes work autonomy as unidimensional [47,12,26]. On the other hand, this article examines the role of work engagement as a mediating variable among job autonomy and proactive behavior. Research by Parker et al. [35] describes modeling the antecedent of proactive behavior. Several mediation variables are explained there but not for work engagement. Our study is designed to add work engagement as this mediating variable.

2. Method

2.1. Participant and sampling procedure

Participants in this study work in the private sector, public sectors, and government in Indonesia. The number of participants in this study was 208 participants. This study used convenience sampling techniques by taking samples of individuals with sample characteristics [53]. Researchers spread the questionnaire online using Google forms. Questionnaires were disseminated via email and social media.

2.2. Data collection

This study used three scales for data collection as follows: Proactive Work Behavior, this study used the Proactive Work Behavior Scale instrument developed by Parker & Collins [34] consisting of 13 Item statements divided into 4 dimensions, namely: 3 items for taking charge dimensions, 4 items for voice dimensions, 3 items for individual innovation dimensions, and 3 items for the dimensions of problem prevention. The scale used in this instrument is a Likert scale consisting of 6 scales, starting from 1 (never) to 6 (always). The instrument was adapted and translated to Bahasa Indonesia. The This scale has a cronbach alpha value of 0,934. Confirmatory factor analysis (CFA) findings showed that the four-factor model had reasonable construct validity ($\chi 2 = 190.530$, $\chi 2/df = 2.094$, CFI = 0.939, NFI = 0.891, RMSEA = 0.081, SRMR = 0.063).

Job Autonomy, this research used the Job autonomy Scale developed by Breaugh [4], which is also used in research by Takaishi, Sekiguchi, Kono, & Suzuki [42]. The scale consists of 9 item statements divided into 3 sub-scales, each scale consisting of 3 items to assess the autonomy of work method, work schedule, and work criteria. The scale used is a Likert scale consists of 6 scales starting from 1 (very disagree) to 6 (very agree).). The instrument was adapted and translated in Bahasa Indonesia. The

internal consistency of the scale was 0,855, construct validity for this study was good validity ($\chi2$ = 45.453, $\chi2$/df = 1.976, CFI = 0.968, NFI = 0.939, RMSEA = 0.076, SRMR = 0.077).

Work Engagement, measurement of the work engagement used the Utrecht Work Engagement Scale Measurement Tool (UWES-9) developed by Schaufeli, Bakker, and Salanova [38]. The scale consists of 12 items of statement divided into 3 dimensions: Vigor, dedication, and absorption. Each dimension consists of 4 item statements. The scale used is a Likert scale consisting of 6 scales starting from 1 (never) to 6 (always).). The instrument was adapted and translated in Bahasa Indonesia. In this study, the scale showed high reliability (Cronbach alpha coefficient was 0.919) and acceptable validity ($\chi2$ = 132.564, $\chi2$/df = 2.501, CFI = 0.948, NFI = 0.918, RMSEA = 0.095, SRMR = 0.080).

2.3. Data analysis

T, We used the SPSS 20.0 software package for descriptive analysis and correlation analysis, and ANOVA analysis to test whether there are different means for each variable related to demographic data (gender, age, institution, and length of work). We also used AMOS 23.0 software package for SEM analysis. SEM is a statistical methodology that combines the study of regression, factor analysis, and path analysis, which simultaneously analyses the correlation between indicators and latent variables. It provide more accurate estimates than conventional multivariate techniques. Goodness-of-fit indices are used to determine model fit consistency by evaluating discrepancies among the covariance matrix of the sample data and the theoretical covarian model of the structural equation model's [27,6].

The hypotheses were evaluated in this study through SEM procedures: (1) the work engagement dimension scores, job autonomy, and the item scores for proactive work behavior as measurement variables and (2) the composite scores as latent variables. The maximum likelihood of a method was used in this study to estimate the covariance matrix.

In order to calculate model fit, we used a variation set of fit indices, including chi-squared, chi-squared ratio/degrees of freedom ($\chi2$ / df), Standard Roots Residual Square Index (SRMR), Root Mean Square Approximation Error Index (RMSEA), Comparative Fit Index (CFI) and Normed Fit Index (NFI). As for chi-square, the sample size is susceptible. Therefore, a model with relatively large sample size is often assumed to reject the null hypothesis (Wu, 2010). The following cut-off values were therefore used as the criteria for sufficient fit: $\chi2$/df < 5, SRMR < 0.05, RMSEA < 0.08, CFI > 0.90 and NFI > 0.90 (Wu, 2010).

3. Results and discussion

Table 1 shows the demographic frequency data for gender, age, institution, and length of service.

Table 1. The Demographic Frequency (N=208).

Characteristic	N	Percentage
Gender		
Male	46	22,10%
Female	162	77,90%
Age		
<30 years old	146	70,20%
31-44 years old	51	24,50%
>45 years old	11	5,30%
Institution		
Private sector	116	55,80%
Public sector	29	13,90%
Government	50	24,00%
Others	13	6,30%
Length of Work		

<2 years	91	43,80%
2 - 10 years	96	46,20%
>10 years	21	10,10%

Based on table 1, most of the questionnaires were completed by female respondents (77.90%). Most of the respondent's age is <30 years, which is 70.20%. Meanwhile, most institutions were in the private sector (55.80%). The majority of respondents' length of work is 2-10 years, which is 46.20%.

Table 2. ANOVA among variables (N=208).

	Gender		**Age**		**Institution**		**Length of work**	
	F	***p***	**F**	***p***	**F**	***P***	**F**	***p***
Job Autonomy	0,73	0,39	2,04	0,13	0,86	0,47	1,13	0,33
Work Enggagement	15,12	0,000	0,72	0,001	0,92	0,44	1,59	0,21
Proactive Work Behavior	14,98	0,000	4,55	0,012	2,19	0,09	2,08	0,13

Table 2 shows the ANOVA calculation of demographic data (gender, age, institution, and length of work) associated with the research variables (JA, WE, and PWB). Results show that there were no significant differences in the job autonomy found between demographic results. However, different from the work engagement and proactive work behavior variables study, it was found that the gender and age factors for the two variables were significantly different.

Table 3 presents descriptive statistics for proactive work behavior, work engagement, and job autonomy. The composite mean of proactive work behavior was 4,09 (SD 0.96). The composite mean of work engagement was 4,20 (SD 0,99), with absorption rated the lowest (Mean = 3.84, SD 0,99). This shows that participants responded poorly to the absorption dimension. Meanwhile, the composite score of job autonomy was 4,66 (SD 0.97), with the lowest ranking for work criteria autonomy (Mean = 4.52, SD 0.97).. These findings suggest that respondents appear to respond lower than other dimensions because they may have difficulty doing work criteria autonomy in their work.

Table 3. Correlations, Means, Standard Deviations And Cronbach's Alphas.

		M	**SD**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1	Work Methode Autonomy	4,72	1,01	(,84)									
2	Work Schedule Autonomy	4,75	0,96	,56*	(,76)								
3	Work Criteria Autonomy	4,52	0,93	,57*	,55*	(,61)							
4	Vigour	4,31	0,91	,43*	,30*	,45*	(,85)						
5	Dedication	4,45	1,07	,46*	,32*	,39*	,77*	(,90)					
6	Absorption	3,84	0,99	,35*	,21*	,38*	,59*	,65*	(,76)				
7	Individual Innovation	3,84	0,92	,26*	,29*	,37*	,54*	,51*	,37*	(,73)			
8	Problem Prevention	4,07	0,93	,26*	,20*	,32*	,46*	,44*	,35*	,73*	(,80)		
9	Voice	4,19	0,95	,24*	,20*	,33*	,47*	,45*	,38*	,68*	,68*	(,81)	

10	Taking Charge	4,25	1,05	,30*	,21*	,36*	,49*	,51*	,43*	,72*	,80*	,75*	(,89)

*p < 0.01. Cronbach's alphas in brackets on the diagonal.Hypothesis Result.

Figure 1 describes the results model where the quality of the fit index suggests a moderate fit level with $\chi 2 = 1055.014$, df = 628, $\chi 2$ / df = 1.680, RMR = 0.085, RMSEA = 0.057, NFI = 0.811 and CFI = 0.913. Figures 1 and Tables 4-5 show the results of the SEM and test the hypothesis. The results describe a significant positive relationship between work engagement and proactive work behavior (β= 0.599, p < 0.01), which means hypothesis 3 is supported. The same finding also has to do with a significant positive correlation among job autonomy and work engagement of β= 0.434, p <.01, meaning hypothesis 2 is supported. The relationship between job autonomy and proactive work behavior was significant for indirect effects (β= 0.260, p <.01). These findings indicate that work engagement mediate the correlation between job autonomy and proactive work behavior, this means that hypothesis 4 is supported. Meanwhile, the direct effect between job autonomy and proactive work behavior showed insignificant results (β = 0.127, p> .01), so hypothesis 1 is not supported.

The direct, indirect, and total effects of this proactive work behavior have been calculated in Table 4. It is known from these results that the value of the indirect effect (0.260) on the correlation between Job Autonomy and Proactive Work Behavior is greater than the value of the direct effect (0.127), so it can be assumed that in this model, there is a mediating function of work engagement on the correlation between job autonomy and proactive work behavior. These results indicate that hypothesis 4 is supported.

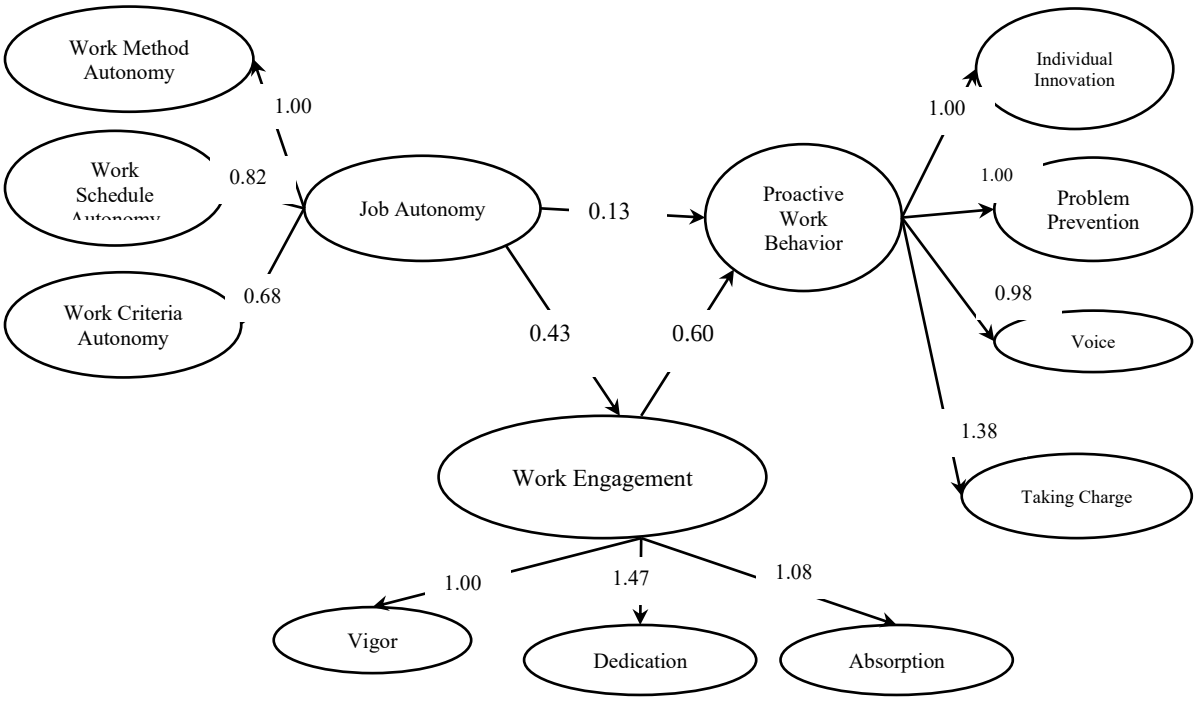

Figure 1. Results model.

Table 4. Regression weight of work engagement and job autonomy on proactive work behaviour.

	β	S.E.	C.R.	P	Label
Work Engagement --> Proactive Work Behaviour	0,599	0,120	4,986	***	Significant
Job Autonomy --> Work Engagement	0,434	0,077	5,657	***	Significant

Job Autonomy --> Proactive Work Behaviour	0,127	0,81	1,57 5	0,115	Not Significant

Table 5. Direct and indirect relation.

	Direct effect	Indirect effect	Total effect
Proactive Work Behaviour			
Work Engagement	0,599	-	0,599
Job Autonomy	0,127	0,260	0,387

The study aims to test the correlation among job autonomy and proactive work behavior and the role of work engagement as a mediator in the relationship between job autonomy and proactive work behavior. It has been revealed that the effect of job autonomy on proactive work behavior is fully mediated by work engagement; that is, an increase in job autonomy is correlated with an increase in work engagement, which in turn is positively linked to proactive work behavior. Our findings show, however, that there is no direct correlation between job autonomy and proactive work behavior. The findings of this study do not support previous research that indicate a clear correlation between job autonomy and proactive work behavior. (35,12]. Our results support the research of Choi et al. [8], who found that increased task autonomy did not lead to increased creativity. Nevertheless, our findings indicate that through the mediating influence of work engagement, the autonomy effect is still shown to affect proactive work behavior.

Furthermore, the result also showed that work engagement increases proactive work behavior. In other words, when individuals feel effectively associated with their job and have positive motivation, they will then be able to show proactive work behavior. These findings supported the previous research by Kong and Li. [28] Moreover, [54] find a direct relationship between work engagement and proactive work behavior, particularly in innovative behavior. Furthermore, Cheng et al. [9] also disclosed the correlation among work engagement and voice behavior.

SEM analysis results exhibit that there is no significant relationship between job autonomy and proactive work behavior. The influence of work autonomy is based solely on the indirect effect mediated by work engagement, meaning that the relationship among work autonomy and proactive work behavior is entirely mediated by work engagement. This mediation model is in line with previous research by Salanova and Schauveli [37], which examined the correlation between job resources (i.e., job control, feedback, and variety) and work engagement mediated proactive work behavior. The study by Hakanen[25], which revealed that work engagement mediated the relationship between job resources and personal initiatives, also supported this outcome.

If seen further, the dimension in job autonomy that gives the biggest contribution is work method autonomy. This is in line with the findings of [55] that the autonomy of work methods is affiliated to work engagement and innovative work behavior. They explained that the emphasis should be on giving them flexibility about how they do their job in terms of the method used for employees to feel engaged and giving innovation. Meanwhile, our study proves the mediation factor through work engagement, which is employees' adequate condition. The dimension of dedication shows the highest contribution to the correlation between job autonomy and proactive work behavior. Dedication is characterized by employee excitement, work-inspired feelings, and someone's pride in doing the job. The high effect of dedication is in line with Salanova and Schauveli's [37] research that the dimension of dedication also shows excellent results on the work engagement mediation model on the correlation between job resource and proactive work behavior. This proves that when employees are given autonomy in carrying out their tasks, they will feel excitement, motivation, and pride to encourage them to show proactive work behavior.

This research also suggest an important correlation between work engagement and proactive work behavior, thus increasing work engagement apart from job autonomy. For example, Breevaart et al [5] show that work engagement can be improved by increasing self-management. It is important to consider

the development of a self-management training program to be provided to the employees. Self-management training offers opportunities for organizations to enhance work environments for employees and can also increase work engagement.

This study's limitations are as follows: The self-report technique was used in this study, and common method variance can lead to response bias [56]. This research also applies a cross-sectional design, which did not measure causal relationships; therefore, a longitudinal study is needed to validate our findings and explore causal relations between variables.

Future study is expected to examine the role of job autonomy beyond the three dimensions discussed above. Today's more flexible workforce has made employees have autonomy regarding work methods, work schedules, and work criteria. Still, employees are given choices of where to do their work, whether working in an office versus working at home. Also, there are options for employees to work full-time vs part-time. Some of these dimensions can be the next research to see the correlation among job autonomy and proactive work behavior and work engagement as a mediator.

4. Conclusion

This study concludes that the correlation between job autonomy and proactive work behavior is completely mediated by work engagement. The direct correlation between job autonomy and proactive work behavior is not proven. Also, job autonomy has been found to have a significant influence on job engagement. This research has benefits for HR practitioners and policymakers. This study shows that job autonomy can directly influence work engagement and indirectly affect proactive work behavior. Employees who are given the autonomy of work will be more engage and later will want to show proactive work behavior. Thus, managers need to provide employees' needs to learn, develop, and be responsible for giving job autonomy to encourage their work engagement.

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