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Exploring Job Satisfaction as a Mediator Between Budgetary Participation and Organizational Citizenship Behavior in Public and Private Indonesian Universities

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Abstract

This research examines how budgetary participation influences organizational citizenship behavior (OCB) among faculty in Indonesian higher education and the potential mediating role of job satisfaction. Drawing on self-determination theory, the study also investigates whether these relationships differ between public and private institutions. A survey-based, quantitative approach was used, with 350 faculty members participating—149 from public and 201 from private universities. Causal mediation analysis revealed that, overall, job satisfaction does not mediate the effect of budgetary participation on OCB; both variables independently impact OCB. However, in public universities, job satisfaction does act as a mediator, linking budgetary participation to OCB. These findings suggest that the institutional context may shape how participative budgeting practices translate into extra-role behaviors through employee satisfaction. The study contributes to understanding the interplay between budgetary involvement, satisfaction, and discretionary workplace behavior in higher education settings.

Keywords: Budgetary participation, Indonesia, Job satisfaction, Higher education, Organizational citizenship behavior

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Introduction

In today's competitive environment, organizations must enhance efficiency and effectiveness, and fostering positive employee behaviors such as organizational citizenship behavior (OCB) is one approach. OCB refers to voluntary employee actions that support organizational effectiveness but are not part of formal job requirements or directly linked to rewards [1]. Examples include helping colleagues, complying with rules without supervision, and promoting the organization's reputation [2]. Despite being informal, OCB improves social mechanisms within organizations, ultimately enhancing individual and organizational performance [3, 4].

Understanding the antecedents of OCB is therefore crucial. Prior studies indicate that factors such as organizational trust [5, 6] and perceived justice [5, 7] influence OCB. From a management accounting perspective, budgetary participation—a process where employees are involved in budget planning—may also impact OCB indirectly through job satisfaction. Previous research suggests that budgetary participation enhances job satisfaction [8, 9], which in turn promotes OCB [4, 10-14]. This relationship aligns with self-determination theory, which posits that satisfaction fosters intrinsic motivation and functional behaviors, such as OCB [15].

While OCB has been widely studied in corporate contexts, research in higher education is growing. Studies in this sector have explored how factors like organizational justice, self-esteem, and governance affect OCB among faculty and students [16-22].



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However, most Indonesian studies focused on faculty outside Java, limiting generalizability. This study addresses these gaps by sampling faculty from both Java and non-Java islands, including budgetary participation as an antecedent and comparing public and private universities. Given the differing levels of government support—public universities receive more funding, whereas private institutions rely heavily on self-funding—this study also explores whether institutional context influences the relationships among budgetary participation, job satisfaction, and OCB.

Research questions and objectives

This study addresses two primary research questions: (1) Does job satisfaction mediate the relationship between budgetary participation and organizational citizenship behavior (OCB)? (2) Is the mediating role of job satisfaction consistent across public and private universities in Indonesia? Accordingly, the study aims to (1) examine the relationships among budgetary participation, job satisfaction, and OCB within the framework of self-determination theory, and (2) assess whether these relationships are stable for both public and private universities. Causal mediation analysis [23] was employed to analyze responses from 350 faculty members, revealing that job satisfaction mediates the effect of budgetary participation on OCB in public universities but not in private universities, indicating different patterns of OCB across institutional types.

This research contributes to the literature in two ways. Theoretically, it applies self-determination theory to the higher education context using a comprehensive sample, illustrating how participation in budgeting enhances job satisfaction, which subsequently promotes OCB in public universities. These findings support self-determination theory and reinforce earlier assertions that budgetary participation positively influences employee behavior [24]. Practically, the study offers insights for university management, especially in public institutions, highlighting that improving faculty job satisfaction can foster greater OCB.

The paper is structured into six sections: the background of the study, theoretical framework and hypothesis development, research design, empirical findings, discussion, and concluding implications for theory and practice.

Background

Investigating budgeting and OCB in Indonesian higher education is critical, as faculty members often have dual roles, combining teaching responsibilities with participation in institutional management. Indonesia's higher education landscape is notable for its high proportion of private institutions, which constituted nearly 70% of all universities in 2019 [25]. Unlike public universities, which receive substantial government support, private institutions rely heavily on internal resources and active involvement from faculty and staff to ensure operational efficiency and sustainability. Consequently, OCB patterns may differ between public and private institutions.

Moreover, student demand for higher education in Indonesia exceeds the capacity of public universities, which accommodate only 40% of applicants [26]. With 3,171 private universities compared to 122 public universities in 2018, private institutions face intense competition and must exert considerable effort to maintain their standing, making the study of OCB particularly relevant in this context.

Theory, Literature Review, and Hypotheses Development

Self-determination theory and social exchange theory

Organizational citizenship behavior can be explained through self-determination theory (SDT) and social exchange theory (SET). SDT emphasizes intrinsic motivation, suggesting that individuals engage in voluntary behaviors without the expectation of rewards [15]. According to SDT, psychological drives are key determinants of behavior [27], and intrinsic motivation is closely linked to job satisfaction.

In contrast, social exchange theory posits that behavior is influenced by an assessment of rewards, costs, and perceived fairness [28, 29]. Individuals weigh the benefits and costs of their actions, including financial and social rewards, and respond based on perceptions of equity and distributive justice [30]. From the SET perspective, OCB can be considered an investment aimed at obtaining rewards. While SDT frames OCB as driven by intrinsic satisfaction, SET emphasizes the role of perceived fairness and expected returns, highlighting that the operational mechanisms connecting satisfaction and OCB differ between these theories.

Budgetary participation and job satisfaction

Budgets serve as a crucial tool in organizational control systems [31], with development approaches typically classified as top-down, bottom-up, or participatory [31]. The budgeting process is vital for allocating resources efficiently to support organizational operations [32].

Participatory budgeting is often implemented to address organizational uncertainty, as it can enhance decision-making and reduce ambiguity [33]. Another key factor driving participatory budgeting is the facilitation of information sharing, which ensures that budget plans incorporate insights from all organizational levels and achieve greater accuracy [34].

In addition to improving accuracy, participatory budgeting can foster greater employee acceptance of budgets [35] and enhance performance [36]. However, some studies report mixed results regarding its effectiveness; for example, Milani [37] found a weak relationship between budgetary participation and performance. This inconsistency has been partially explained by Cherrington and Cherrington [38], who proposed that the impact of budget participation on motivation or performance is moderated by budget instrumentality—the perceived link between performance and rewards. Aranya [35] suggested that high performance or job satisfaction may arise under conditions of either high budget participation with low instrumentality or low participation with high instrumentality.

Empirical evidence indicates a generally positive relationship between participatory budgeting and job satisfaction. Chong *et al.* [39] found multiple pathways through which budget participation influences satisfaction, while country-specific studies in Mexico [40] and Indonesia [41] support similar conclusions. More recent studies [42-44] also highlight the significant effect of budgetary participation on job satisfaction, sometimes mediated by access to job-relevant information.

Job satisfaction and organizational citizenship behavior

Job satisfaction is widely recognized as a key antecedent of organizational citizenship behavior (OCB). Studies conducted by Heriyadi *et al.* [45] and Nurjanah *et al.* [46] confirm a positive association between job satisfaction and OCB. Consistent with Organ's [1] conceptualization, OCB represents voluntary, prosocial behaviors that contribute to organizational effectiveness but are not formally rewarded. In this study, OCB refers specifically to faculty members' voluntary actions that benefit the university, beyond their formal teaching or administrative duties.

The link between job satisfaction and OCB can be understood through multiple theoretical lenses. Social exchange theory posits that employees reciprocate satisfaction from their organization by engaging in positive discretionary behaviors [11, 47]. Self-determination theory (SDT) further explains that intrinsic motivation, enhanced by satisfaction, drives employees to exhibit OCB voluntarily [4, 12-14, 48, 49].

Other perspectives, such as valence-instrumentality-expectancy theory [50] and agency theory [51], suggest that economic or reward-based motivations can influence OCB, particularly when job satisfaction is low [52]. Nevertheless, OCB in the university context is more appropriately framed as non-reward-driven, discretionary behavior [1]. Based on this reasoning, the first hypothesis of this study is proposed:

Ha1: Job satisfaction mediates the relationship between budgetary participation and organizational citizenship behavior.

Given the high competition among universities and differing levels of government support, faculty members in private institutions may engage in higher levels of OCB than those in public institutions to sustain institutional performance. Accordingly, the second hypothesis is:

Ha2: The relationship among budgetary participation, job satisfaction, and organizational citizenship behavior differs between public and private higher education institutions.

Research Design

This study employed a positivist-quantitative research design using a survey methodology. Data were collected cross-sectionally through an online survey targeting faculty members from both public (state) and private higher education institutions across Indonesia. This design was chosen to enhance the external validity of the study by covering a diverse sample from various regions, including Java and islands outside Java.

The survey link was distributed to 25 public universities and 100 private universities via closed online communities, utilizing a virtual snowball sampling technique. The questionnaire items were adapted from previously validated instruments developed by Milani [37], Spector [53], and Lambert and Hogan [54]. To ensure semantic equivalence between the original and Indonesian versions of the questionnaire, a back-translation procedure was applied [55].

For hypothesis testing, a causal mediation analysis procedure was conducted using STATA [23]. This method was selected due to its suitability for the ratio of indicators to sample size and its stronger estimation capability compared to traditional regression-based mediation analyses. A total of 350 valid responses were collected, with 149 (43%) from public institutions and 201 (57%) from private institutions.

Measurement

Budgetary participation

The construct of budgetary participation was assessed using six items originally developed by Milani [37], rated on a 7-point Likert scale. The instrument demonstrated strong validity, as factor loadings for all items exceeded 0.6 [56]. Reliability was

also confirmed, with a Cronbach's Alpha of 0.901, indicating excellent internal consistency [57]. Detailed item statistics are provided in **Table 1**.

Table 1. Confirmatory factor analysis and Cronbach's alpha

Variable	Loading	Variable	Loading
OCB		Job Satisfaction	
ocb1	0.526	js1	0.695
ocb2	0.335	js2	0.695
ocb3	0.350	js3	0.430
ocb4	0.656	js4	0.655
ocb5	0.724	js5	0.552
ocb6	0.619	js6	0.454
		js7	0.626
Alpha	0.746	js8	0.399
		js9	0.604
Budgetary Participation		js10	0.558
pb1	0.835	js12	0.746
pb2	0.609	js13	0.475
pb3	0.601	js14	0.668
pb4	0.879	js15	0.698
pb5	0.874	js16	0.529
pb6	0.843	js17	0.683
		js18	0.740
Alpha	0.901	js19	0.446
		js21	0.385
		js22	0.549
		js24	0.723
		js26	0.798
		js27	0.568
		js28	0.621
		js29	0.554
		js30	0.454
		Alpha	0.930

Job satisfaction

Job satisfaction was evaluated using Spector's [53] 30-item scale, which employs a 7-point Likert rating system. During the validation process, two items were removed due to factor loadings below the 0.4 threshold [56]. The remaining 28 items demonstrated excellent internal consistency, with a Cronbach's Alpha of 0.930, confirming the reliability of the measure [57]. Comprehensive details for each item are presented in **Table 1**.

Organizational citizenship behavior

Organizational citizenship behavior (OCB) was measured with an adapted version of Lambert and Hogan's [54] instrument. The original scale had eight items; however, two were eliminated after pilot testing, and two more were removed during validity assessment due to insufficient factor loadings (<0.4). The final four-item scale showed satisfactory reliability, reflected in a Cronbach's Alpha of 0.746 [57]. **Table 1** summarizes the final items used in this study.

Empirical Findings and Interpretation

Descriptive analyses revealed that faculty members at public institutions reported a mean OCB score of 23.027, slightly higher than the 22.602 observed in private institutions. For job satisfaction, public institutions averaged 116.329, while private institutions recorded 117.508. Budgetary participation scores were 23.732 and 21.756 for public and private institutions, respectively. Statistical testing indicated that these differences were not significant, with p-values of 0.257 for OCB, 0.653 for job satisfaction, and 0.055 for budgetary participation, suggesting similar patterns across institution types (**Tables 2 and 3**).

Table 2. Description analysis

		Full sample (n = 350)	Public (n = 149)	Private (n = 201)
Budget Participation	Mean	22.597	23.732	21.756
	Std. Dev.	24.203	25.786	23.013
Job Satisfaction	Mean	117.006	116.329	117.508
	Std. Dev.	24.203	25.786	23.013

OCB	Mean	22.783	23.027	22.602
	Std. Dev.	3.466	3.589	3.369

Table 3. Description across institutions (Table view)

	Institution	Mean	Std. Dev.	Freq.	t test (p-value)
OCB	Public	23.027	3.589	149	1.134
	Private	22.602	3.369	201	(0.257)
	Total	22.783	3.466	350	
Job Satisfaction	Public	116.329	25.786	149	-0.445 (0.653)
	Private	117.508	24.203	201	
	Total	117.006	24.203	350	
Budgetary Participation	Public	23.732	9.698	149	1.925 (0.055)
	Private	21.756	9.338	201	
	Total	22.597	9.529	350	

Hypothesis testing procedure

To examine the proposed hypotheses, the causal mediation approach developed by Hicks and Tingley [23] was applied. The analysis followed a three-step procedure. First, the presumed mediating variable was regressed on the independent variable to assess the strength of the relationship. Second, the dependent variable was regressed on both the independent variable and the potential mediator. Finally, the mediation (indirect effect), direct effect, and total effect were calculated to determine the nature of the relationships.

Testing hypothesis 1

Hypothesis 1 was tested using the complete dataset (full sample). In the initial step, job satisfaction, as the mediator, was regressed on budget participation. The results indicated a significant positive relationship, with a coefficient of 0.769 and a p-value of 0.000, suggesting that higher budget participation is associated with greater job satisfaction.

In the second step, organizational citizenship behavior (OCB) was regressed on both budget participation and job satisfaction. The coefficient for budget participation was 0.065 ($p = 0.000$), while job satisfaction had a coefficient of 0.034 ($p = 0.000$). The third step assessed the mediation effect. The indirect effect of budget participation on OCB through job satisfaction was 0.026, with a 95% confidence interval ranging from 0.013 to 0.043. The direct effect of budget participation on OCB was 0.066, with a 95% confidence interval of 0.031 to 0.104, indicating significance. The total effect was 0.092, with the confidence interval between 0.058 and 0.128.

Since the direct effect exceeded the mediation effect and all intervals were positive, the results indicate that job satisfaction does not mediate the relationship between budget participation and OCB. Hence, hypothesis 1 was not supported. The findings suggest that both budget participation and job satisfaction act as independent predictors of OCB (**Table 4**).

Table 4. Mediation effects analysis

			Full sample (n=350)	Public (n=149)	Private (n=201)	
			Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)	
Stage 1	Dep. Var.= Job Satisfaction	Budget Participation	0.769 (0.000)	1.023 (0.000)	0.593 (0.002)	
Stage 2	Dep. Var.= OCB	Budget Participation	0.065 (0.001)	0.038 (0.244)	0.081 (0.000)	
		Job Satisfaction	0.034 (0.000)	0.037 (0.003)	0.033 (0.003)	
			Coefficient	95% Confidence Interval		
Stage 3		Full Sample (n=350)	Mediation Effect	0.026	0.013	0.043
			Direct Effect	0.066	0.031	0.104
		Total Effect	0.092	0.058	0.128	
	Public (n=149)	Mediation Effect	0.038	0.012	0.074	
		Direct Effect	0.041	-0.021	0.108	
		Total Effect	0.079	0.011	0.151	
	Private (n=201)	Mediation Effect	0.020	0.005	0.042	

Direct Effect	0.082	0.040	0.128
Total Effect	0.102	0.058	0.147

Hypothesis 2 Testing

To test Hypothesis 2, the sample was divided into two groups: lecturers from public universities and those from private universities. In the first stage of the analysis, regressions of job satisfaction on budgetary participation for each sub-sample revealed positive and significant associations. For public university lecturers, the coefficient was 1.023 ($p = 0.000$), while for private university lecturers, it was 0.593 ($p = 0.002$).

Stage 2 analyses, which regressed OCB on both budgetary participation and job satisfaction, yielded differing patterns. For private university lecturers, the coefficient for budgetary participation was not significant (0.038, $p = 0.244$). In contrast, for public university lecturers, the budgetary participation coefficient remained significant (0.081, $p < 0.001$), and job satisfaction was significant in both sub-samples.

Stage 3 focused on estimating mediation effects. Among public university lecturers, the direct effect of budgetary participation on OCB was not significant (95% confidence interval: -0.021 to 0.108), indicating that job satisfaction fully mediated the relationship between budgetary participation and OCB. For private university lecturers, however, the direct effect (0.082) exceeded the mediation effect (0.020), both significant, implying that budgetary participation and job satisfaction functioned as independent predictors of OCB. Overall, these results demonstrate a clear distinction between public and private institutions in the mechanisms linking budgetary participation, job satisfaction, and OCB, thereby providing empirical support for Hypothesis 2 (**Table 4**).

The findings align with Schiff and Lewin [24] and Deci and Ryan [48] for public university lecturers, showing that budgetary participation enhances job satisfaction, which in turn positively influences OCB. For private university lecturers, the pattern differed: both budgetary participation and job satisfaction contributed to OCB independently, without a mediating effect.

Sensitivity analysis

To further validate the observed relationships, a sensitivity analysis was conducted. Budgetary participation and job satisfaction scores were categorized based on their median values. Observations below the median were coded as low, while those above the median were coded as high. The resulting dichotomous variables were labeled **PBCUT** for budgetary participation and **JSCUT** for job satisfaction.

For PBCUT, a value of 0 indicated scores below the median, and 1 represented scores above the median. JSCUT was similarly coded, with 0 for scores below the median and 1 for scores above. This categorization allowed for additional inspection of the effects of high versus low budgetary participation and job satisfaction on OCB. The distribution of these new groups is summarized in **Table 5**.

Table 5. Groups distributions

	Frequency.	Percentage	Cummulative
PBCUT			
Low	166	47.430	47.430
High	184	52.570	100
Total	350	100	
JSCUT			
Low	172	49.140	49.140
High	178	50.860	100
Total	350	100	

A two-way ANOVA was conducted for the full sample as well as for each sub-sample. Specifically, a full factorial design was employed, with organizational citizenship behavior (OCB) as the dependent variable, and PBCUT, JSCUT, and their interaction term ($PBCUT \times JSCUT$) serving as independent variables to test the combined effects of budgetary participation and job satisfaction.

The results presented in **Table 6** indicate that the interaction effect between PBCUT and JSCUT was not statistically significant across all groups: the total sample, public university lecturers, and private university lecturers, with p-values of 0.551, 0.523, and 0.731, respectively. These findings suggest that job satisfaction does not act as a moderator in the relationship between budgetary participation and OCB. Rather, the results are consistent with the earlier conclusion that job satisfaction functions as an intervening (mediating) variable in this relationship.

Table 6. Two-way ANOVA analysis

	Public	Private	Total
Number of Observation	149	210	350
Adj. R Squared	0.088	0.102	0.104

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Model Prob.	0.001	0.000	0.000
PBCUT Prob.	0.039	0.000	0.000
JSCUT Prob.	0.005	0.003	0.000
PBCUT#JSCUT Prob.	0.523	0.731	0.551

Summary and Conclusion

This study provides empirical evidence highlighting differences in the relationships between budgetary participation, job satisfaction, and organizational citizenship behavior (OCB) among lecturers in public and private higher education institutions in Indonesia. The findings indicate that, in public universities, job satisfaction mediates the relationship between budgetary participation and OCB. Overall, the positive association between job satisfaction and OCB aligns with prior research [4, 14], confirming job satisfaction as a key antecedent of OCB.

The study offers two main theoretical contributions. First, it establishes a comprehensive framework linking budgetary participation, job satisfaction, and OCB. While previous studies have explored these relationships individually, this study integrates them to provide a more holistic understanding of how accounting practices influence organizational behavior. Second, the study's wide-ranging sample, including faculty from both public and private institutions across Indonesia, enhances the external validity and generalizability of the findings relative to earlier studies with narrower samples. Furthermore, the results provide empirical support for self-determination theory in explaining the motivational mechanisms underlying OCB.

The study also reveals differences in the nature of the relationship between budgetary participation and job satisfaction in shaping OCB. Specifically, OCB among lecturers in private universities appears to be influenced by a broader set of antecedents compared to lecturers in public institutions. From a practical standpoint, these findings suggest that management in public universities may benefit from focusing on strategies that enhance job satisfaction to boost OCB. In contrast, management in private universities could prioritize involving faculty in the budgeting process to foster greater OCB, consistent with earlier findings by Aranya [35] and Kenis [36].

Nevertheless, this study has certain limitations. The OCB measure used here is a general instrument that captures overall OCB rather than its specific dimensions [54]. While this instrument has been widely used [58, 59], future research could explore the distinct dimensions of OCB to gain a deeper understanding of the types of behaviors exhibited within academic communities.

Finally, this research provides insight into how budgeting systems and job satisfaction influence OCB differently across organizational contexts. These patterns suggest opportunities for future studies, such as examining how budgetary participation interacts with job dissatisfaction in shaping OCB within higher education institutions.

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References

1. Organ DW. Organizational citizenship behavior: The good soldier syndrome: Lexington Books; 1988.
2. Podsakoff PM, MacKenzie SB, Paine JB, Bachrach DG. Organizational citizenship behaviors: A critical review of the theoretical and empirical literature and suggestions for future research. *J Manag.* 2000;26(3):513-63.
3. Koys DJ. The effects of employee satisfaction, organizational citizenship behavior, and turnover on organizational effectiveness: A unit-level, longitudinal study. *Pers Psychol.* 2001;54(1):101-14.
4. Smith CA, Organ DW, Near JP. Organizational citizenship behavior: Its nature and antecedents. *J Appl Psychol.* 1983;68(4):653-63.
5. Akram A, Kamran M, Iqbal MS, Habibah U, Atif Ishaq M, Wanasika I. The impact of supervisory justice and perceived supervisor support on organizational citizenship behavior and commitment to supervisor: The mediating role of trust. *Cogent Bus Manag.* 2018;5(1):1-15.
6. Aryee S, Walumbwa FO, Monddejar R, Chu CWL. Accounting for the influence of overall justice on job performance: Integrating self-determination and social exchange theories. *J Manag Stud.* 2015;52(2):231-52.
7. Ang S, Van Dyne L, Begley TM. The employment relationships of foreign workers versus local employees: A field study of organizational justice, job satisfaction, performance, and OCB. *J Organ Behav.* 2003;24(5):561-83.

8. Chenhall RH. Authoritarianism and participative budgeting: A dyadic analysis. *Account Rev.* 1986;61(2):263-72.
9. Lau CM, Chong J. The effects of budget emphasis, participation and organizational commitment on job satisfaction: Evidence from the financial services sector. *Adv Account Behav Res.* 2002;5:183-211.
10. Bies RJ. Organizational citizenship behavior: The good soldier syndrome. *Acad Manage Rev.* 1989;14(2):294.
11. Organ DW. A reappraisal and reinterpretation of the satisfaction-causes-performance hypothesis. *Acad Manage Rev.* 1977;2(1):46-53.
12. Somech A, Drach-Zahavy A. Understanding extra-role behavior in schools: The relationships between job satisfaction, sense of efficacy, and teachers' extra-role behavior. *Teach Teach Educ.* 2000;11:649-64.
13. Van Dick R, Van Knippenberg D, Kerschreiter R, Hertel G, Wieseke J. Interactive effects of work group and organizational identification on job satisfaction and extra-role behavior. *J Vocat Behav.* 2008;72(3):388-99.
14. Williams LJ, Anderson SE. Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *J Manag.* 1991;17(3):601-17.
15. Ryan RM, Deci EL. Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemp Educ Psychol.* 2000;25(1):54-67.
16. Abror A, Patrisia D, Syahrizal S, Sarianti R, Dastgir S. Self-efficacy, employee engagement, remuneration and employee loyalty in higher education: The role of satisfaction and OCB. *Int J Adv Sci Technol.* 2020;29(3):16.
17. Azila-Gbetor EM, Atatsi EA, Mensah C, Abiemo MK. Self-esteem, organizational citizenship behavior and commitment among university students. *J Appl Res High Educ.* 2020;12(5):975-91.
18. Dong LNT, Phuong NND. Organizational justice, job satisfaction and organizational citizenship behavior in higher education institutions: A research proposition in Vietnam. *J Asian Finance Econ Bus.* 2018;5(3):113-9.
19. Indarti S, Solimun F, Hakim W. The effect of OCB in relationship between personality, organizational commitment and job satisfaction on performance. *J Manag Dev.* 2017;36(10):1283-93.
20. Junru X, Huang YJ. The influence of teachers' perceived organizational justice on organizational citizenship behavior in Chinese private universities: Mediate role of job satisfaction. *Int J Organ Innov.* 2019;12(1):295-303.
21. LeBlanc CJ. Characteristics shaping college student organizational citizenship behavior. *Am J Bus Educ.* 2014;7(2):99-108.
22. Munawir M, Raharjo K, Djalil MA, Syahputra H, Muslim B, Adam M. Dimensions of identity strength and organizational citizenship behavior (OCB) in establishing good university governance and performance of religious ideology-based higher educations. *J Appl Res High Educ.* 2019;11(2):250-72.
23. Hicks R, Tingley D. Causal mediation analysis. *Stata J.* 2011;11(4):605-19.
24. Schiff M, Lewin AY. The impact of people on budgets. *Account Rev.* 1970;45(2):259-73.
25. Kementerian Riset TdPT. Statistik pendidikan tinggi Indonesia 2019: Pusat Data dan Informasi Ilmu Pengetahuan, Teknologi, dan Pendidikan Tinggi; 2019 [Available from: <https://pddikti.kemdikbud.go.id/asset/data/publikasi/Statistik%20Pendidikan%20Tinggi%20Indonesia%202019.pdf>].
26. Kementerian Pendidikan dan K. Proyeksi siswa tingkat nasional tahun 2012/2013–2020/2021: Pusat Data dan Statistik Pendidikan; 2013, Available from: [http://publikasi.data.kemdikbud.go.id/uploadDir/isi_DDB5BA09-C2E4-4C86-A67E-A7C29105BD9B .pdf](http://publikasi.data.kemdikbud.go.id/uploadDir/isi_DDB5BA09-C2E4-4C86-A67E-A7C29105BD9B.pdf).
27. Hull CL. Principles of behavior: Appleton-Century-Crofts; 1943.
28. Blau PM. Exchange and power in social life: Wiley; 1964.
29. Homans GC. Social behavior: Harcourt Brace; 1961.
30. Redmond MV. Social exchange theory: English Technical Reports and White Papers, Vol. 5; 2015 [Available from: http://lib.dr.iastate.edu/engl_reports/5].
31. Anthony RN, Govindarajan V. Management control systems: McGraw-Hill; 2007.
32. Covalleski MA. Budgeting research: Three theoretical perspectives and criteria for selective integration. *J Manag Account Res.* 2003;48.
33. Chong VK, Johnson DM. Testing a model of the antecedents and consequences of budgetary participation on job performance. *Account Bus Res.* 2007;37(1):3-19.
34. Shields JF, Shields MD. Antecedents of participative budgeting. *Account Organ Soc.* 1998;23(1):49-76.
35. Aranya N. Budget instrumentality, participative organization effectiveness. *J Manag Account Res.* 1990;2.
36. Kenis I. Effects of budgetary goal characteristics on managerial attitudes and performance. *Account Rev.* 1979;54(4):707-21.
37. Milani K. The relationship of participation in budget-setting to industrial supervisor performance and attitudes: A field study. *Account Rev.* 1975:274-84.
38. Cherrington DJ, Cherrington JO. Appropriate reinforcement contingencies in the budgeting process. *J Account Res.* 1973;11:225-44.

39. Chong VK, Eggleton IRC, Leong MKC. The multiple roles of participative budgeting on job performance. *Adv Account.* 2006;22:67-95.
40. Frucot V, Shearon WT. Budgetary participation, locus of control, and Mexican managerial performance and job satisfaction. *Account Rev.* 1991;66(1):80-99.
41. Iriyadi, Gurd BI. Cultural effects of budgetary participation: Indonesian evidence. *Asian Rev Account.* 1998;6(2):71-100.
42. Farahmita A. Job satisfaction, cost management knowledge, budgetary participation, and their impact on performance. *Int Res J Bus Stud.* 2016;9(1):15-29.
43. Sim S, Utami W. Impact of budget participation on job satisfaction and employee performance with job relevant information (JRI) as an intervening variable. *J Profita.* 2018;11(1):81-94.
44. Zonatto VC, Da SN, Nascimento JC, Lunardi MA, Degenhart L. Effects of budgetary participation on managerial attitudes, satisfaction, and managerial performance. *Rev Adm Contemp.* 2020;24(6):532-49.
45. Heriyadi H, Tjahjono HK, Rahayu MKP. Improving organizational citizenship behavior through job satisfaction, leader-member exchange, and work-life balance. *Binus Bus Rev.* 2020;11(2):97-104.
46. Nurjanah S, Pebianti V, Handaru AW, Foroudi P. The influence of transformational leadership, job satisfaction, and organizational commitments on organizational citizenship behavior (OCB) in the inspectorate general of the ministry of education and culture. *Cogent Bus Manag.* 2020;7(1):1-12.
47. Katz D. The motivational basis of organizational behavior. *Behav Sci.* 1964;9(2):131-46.
48. Deci EL, Ryan RM. Self-determination theory: A macrotheory of human motivation, development, and health. *Can Psychol.* 2008;49(3):182-5.
49. Zenker S, Rütter N. Is satisfaction the key? The role of citizen satisfaction, place attachment and place brand attitude on positive citizenship behavior. *Cities.* 2014;38:11-7.
50. Vroom VH. *Work and motivation*: Wiley; 1964.
51. Jensen C, Meckling H. Theory of the firm: Managerial behavior, agency costs and ownership structure. *J Financ Econ.* 1976;3(4):305-60.
52. Bolino MC. Citizenship and impression management: Good soldiers or good actors? *Acad Manage Rev.* 1999;24(1):82-98.
53. Spector PE. Measurement of human service staff satisfaction: Development of the job satisfaction survey. *Am J Community Psychol.* 1985;13(6):693-713.
54. Lambert EG, Hogan NL. The association of distributive and procedural justice with organizational citizenship behavior. *Prison J.* 2013;93(3):313-34.
55. Maneesriwongul W, Dixon JK. Instrument translation process: A methods review. *J Adv Nurs.* 2004;48(2):175-86.
56. Hair JF, Jr., Black WC, Babin BJ, Anderson RE. *Multivariate data analysis*. 7th ed: Pearson Prentice Hall; 2010.
57. Nunnally JC. *Psychometric theory*: McGraw-Hill; 1967.
58. Organ DW, Ryan K. A meta-analytic review of attitudinal and dispositional predictors of organizational citizenship behavior. *Pers Psychol.* 1995;48(4):775-802.
59. Podsakoff NP, Whiting SW, Podsakoff PM, Blume BD. Individual- and organizational-level consequences of organizational citizenship behaviors: A meta-analysis. *J Appl Psychol.* 2009;94(1):122-41.