

Structural Equation Model on Work Engagement of Cooperative Employees in Davao Region

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ABSTRACT

Work engagement fosters employee satisfaction and organizational development. This study is aimed to establish the best-fit model for work engagement among the cooperatives of Davao City. Thus, the study in a quantitative approach uses structural equation modeling to establish the best fit model. It employed simple random sampling with 349 employees of cooperatives all over Davao Region as respondents. The study found the best-fit model through various goodness-of-fit models. The study found a presence of high to very high levels of OCB, WD, OC, and WE among the employees of cooperatives with the employee's organizational citizenship behavior as the best predictor of work engagement. The model shows presence of serial mediation but when teste dindicated insignificant. Thus, the best fit model provides evidence of direct effects of the variables on WE. The study recommends for the development of OCB initiatives in organizations that will help optimize work engagement of the employees among cooperatives.

Keywords: organizational citizenship behavior, organizational climate, structural equation modeling, work engagement, workforce diversity, Davao Region, Philippines

INTRODUCTION

The work engagement of cooperative employees plays a vital role in fostering organizational success, promoting member satisfaction, and contributing to the sustainable development of the cooperative movement. The common problems related to work engagement according to several authors including Imperatori (2017) include being dissatisfied, frequently whining, making excuses, procrastinating, lacking motivation, being irresponsible, not assisting others, and showing no enthusiasm. These are the traits of disengaged employees who may lose their dedication, innovation, and effectiveness, leading to a decline in performance (Bakker et al., 2022). Research in the USA revealed that work-life balance, job insecurity, and a lack of meaningful work are just a few examples of the problems that might affect employee engagement (Saks, 2006). In the Philippines, decision-making power in organizations is centralized and limited to senior management, which leads to a lack of autonomy and decreases work engagement (Abun, 2021). Further, Cuyab et al. (2020) said that employees who lack work engagement could experience several problems, including dissatisfaction, frequent complaining, making excuses, and procrastination, among many others, which causes a decrease in commitment, creativity, productivity, and poor performance.

The study of work engagement among cooperative employees is important since work engagement is considered to have great significance for both employees and organizations (Steger et al., 2013). It also enhances the social impact. Cooperatives did it to promote well-being and the roles of positive mental states like work engagement and supportive relationships among employees (Shimazu et al., 2010). According to Demerouti et al. (2010), engaged employees possess energetic and affective connections with their work activities, see themselves capable of dealing with job demands, and transfer their engagement to others at

work. The study uses 4 variables with Work Engagement (WE) as the endogenous variable. In the study of Lee et al. (2020), Organizational Citizenship Behavior (OCB) was found to be correlated with WE. The stronger the employee perception on organizational support and fairness, the higher the work engagement. OCB enhances work engagement by providing employees a sense of purpose and meaning beyond their formal job requirements.

This is also true to the variable's workforce diversity (WD) and organizational climate (WC) which were found correlated with WE. The authors Jehanzeb and Bashir (2013) and Gamage et al., (2021) all recognized workforce diversity to have significant positive effect on work engagement when the workplace is diverse creating a sense of belongingness, reducing discrimination and prejudice, and providing opportunities for personal and professional growth on the one hand. On the other hand, Organizational Climate according to the studies by Chaudhary et.al. (2013), Sunarsih & Helmiatin (2017), and Sambandam & Chockalingam (2019), among others claimed that organizational climate is positively related to work engagement and that organizational climate affects the temperature of the organization leading eventually to good workers' behavior, motivation, and work engagement.

The focus of this study are the cooperatives of Davao Region where there exists a unique form of organization that prioritizes democratic decision-making, member participation, and social responsibility. Therefore, understanding the factors contributing to work engagement among cooperatives may provide insights into how it can be promoted or enhanced in organizations. In addition, studying work engagement among the cooperatives is socially relevant as it can provide insights into how it can promote employee well-being, organizational performance, and social responsibility. Furthermore, the cooperative model is becoming increasingly relevant in today's economy, particularly in industries where collaboration and community are important, such as agriculture, healthcare, and renewable energy. Thus, it can have practical implications for the success and sustainability of these organizations.

Because of the serious predicaments that the matter presents, numerous studies have been conducted to identify factors, develop conclusions, and provide recommendations. However, the researcher has yet to find a study covering all the same variables stated above in the Philippines, particularly in Davao Region. The purpose of this study is to create a structural equation model on work engagement in Cooperative employees utilizing the three exogenous variables including Organizational Citizenship Behavior, Workforce Diversity, and Organizational Climate through the lens of the Cooperative employees. In particular, the model suggested a comprehensive view of how the measured and construct variables correlated and, thus, which factor highly predicted work engagement in Cooperative employees. This study on the work engagement among cooperative employees in the Davao Region is grounded on Blau's Social Exchange Theory (1964).

METHODOLOGY

This study is a quantitative research approach using Descriptive Correlational Approach. In various studies, quantitative research as mentioned by Sibanda (2009) focuses on quantifying gathered numerical data and generalizing it across a group of people. Creswell (2018) likewise pointed out that the quantitative method will be used to gather numerical data and analyze it using statistical tools to explain the phenomena. Descriptive studies as mentioned by Lungu et al. (2021) help describe the variables studied to provide vivid descriptions of the constructs studied. In this quantitative study, it will understand the levels of the variables WE, OCB, WD, and OC. Correlation is a statistical measure that describes the extent to which two or more variables change together or are related to each other. It quantifies the strength and direction of the linear relationship between variables.

This study will also use the Structural Equation Model (SEM) to look for a work engagement model for cooperative employees involving the variables of organizational citizenship behavior, workforce diversity,

and organizational climate. SEM will explain the relationship between variables using statistical analysis according to Bueno (2017) and Hancock et al. (2018). In this study utilized structural equation model (SEM) to allow the researcher to examine the complex relationships among the study variables within a single framework. It is important for purposes of testing the five theoretical models hypothesized. By specifying relationships between variables and incorporating relevant theoretical constructs, the researcher can evaluate the validity of proposed models and the theory. It was conducted in Davao Region.

The study whose respondents were 300 cooperative employees follows the recommendation of Hair et al. (2017) pointed out that 300 samples are already adequate for business research. These 300 samples are selected from the list of cooperative employees or sampling frame obtained from the Cooperative Development Authority (CDA). Thus, the selection of the participants was based on the inclusion and exclusion criteria including regular employees of the cooperatives, employed by a cooperative operating within Region XI. They must be at least three years from the time of employment. Employees may be office-based or field-assigned. On the other hand, employees who are not considered regular, not employed within Region XI, and employed for less than three years were not qualified and were not included in the study. The study adapted survey instruments from three different studies, Work Engagement was adapted from Schaufeli et al., (2004) with three dimensions, *Organizational Citizenship Behavior* was adapted from Habeeb (2019) with five dimensions, *Workforce Diversity* was adapted from Larkey, L. K., (1996) with five dimensions, and *Organizational Climate* from Putter (2010) with five dimensions All Cronbach's alpha have good reliability scores.

The researcher started gathering the data as soon as the approval of the cooperatives were provided. The researcher also asked the heads of the cooperatives to help identify the respondents who were able to meet the criteria for the study. The role of the branch head of the cooperative was critical in identifying the respondents. As soon as the respondents were identified, the survey questionnaire were handed directly to the respondents by the researcher.

The respondents were asked to sign the ICF form to guarantee that the researcher will keep their responses private and confidential. Their names were not revealed in any part of the study. The confidentiality of information was maintained throughout the conduct of the study according to the principles of the Data Privacy Act of 2012 or Republic Act 10173. The said law mandates transparency, legitimate purpose, and proportionality in collecting, retaining, and processing personal information and the researcher adhered all of them. Finally, as soon as the respondents were done filling up the survey forms, the researcher retrieved them back after 1 to 2 weeks depending on the distance of the respondent.

Permission from appropriate authorities was sought to ensure that the conduct of the study was objective following the prescribed parameters. First and foremost, this study was subjected to the evaluation of the University of Immaculate Conception Research Ethics Committee (UIC-REC) for the entire board review of the ethical aspects of the study regarding the ten dimensions of research ethics that include: social value, informed consent, vulnerability issues, risk-benefit ration, privacy and confidentiality of information, justice, transparency, qualification of the researchers, adequacy of facilities and community involvement.

RESULTS AND DISCUSSION

The Organizational Citizenship Behavior has five indicators with a total mean score of 4.39 which is described as very high and interpreted as Organizational Citizenship Behavior is highly manifested. It indicates a very high level of such behavior among the employees within the cooperative organizations in Davao Region. The indicators too were rated very high including Courtesy, Civic Virtue, Altruism, and Conscientiousness with mean scores of 4.62, 4.46, 4.42, and 4.28 except sportsmanship with a high rating and a mean score of 4.17. The standard deviations of the variable and indicators range from 0.37 to .53

which suggests that most respondents exhibit similar levels of OCB with relatively few extreme deviations from the mean.

Table 1
Level of Organizational Citizenship Behavior, Workforce Diversity, Organizational Climate, and Work Engagement

Variables	SD	Mean	Descriptive Level
Orgnl Citizenship Behavior	0.37	4.39	Very High
Conscientiousness	0.49	4.26	Very High
Sportsmanship	0.53	4.17	High
Civic Virtue	0.50	4.46	Very High
Courtesy	0.40	4.62	Very High
Altruism	0.45	4.42	Very High
Workforce Diversity	0.51	3.99	High
Inclusion/Exclusion	0.67	4.00	High
Convergence/Divergence	0.65	3.80	High
Varied/Conforming Ideation	0.54	4.12	High
Understanding/ Misunderstanding	0.60	3.91	High
Positive/Negative	0.60	4.11	High
Organizational Climate	0.43	4.46	Very High
Innovation	0.51	4.58	Very High
Responsibility	0.53	4.41	Very High
Standards	0.49	4.43	Very High
Rewards	0.64	4.33	Very High
Clarity	0.50	4.52	Very High
Work Engagement	0.47	4.36	Very High
Vigor	0.51	4.18	High
Dedication	0.50	4.49	Very High
Absorption	0.59	4.38	Very High

This finding indicates a very high levels of OCB manifested among the employees of the cooperatives of Davao Region. The very high and high ratings of the indicators support the studies of Kim and Lee (2020), Babakus et al. (2021); Guan et al. (2021), and Yang & Sun (2021) among many others. The very high rating mean score of conscientiousness is in line with the results of the study by Yang & Sun (2021) where a positive work environment that values and rewards OCB may encourage employees with high levels of conscientiousness to engage in such behaviors. Employees who exhibited very high levels of civic virtue were found to experience positive job outcomes such as job satisfaction and engagement are influencing better job outcomes according to Guan et al. (2021). The authors Kim and Lee (2020) and Castille and Buckner (2021) likewise suggested that promoting civic virtue in the workplace can help to foster a more positive organizational culture which leads to a more ethical and fairer workplace. Employees who exhibited high levels of civic virtue were more likely to engage in helping behaviors towards their coworkers and were viewed more positively by their supervisors according to Ducharme & Martin (2021). Ultimately it can have a positive spillover effect on employees’ personal lives according to the study by Foulk & Chung, (2021).

Workforce Diversity. Workforce diversity (WD) assesses the diversity of the workforce and in the context of this study it means the inclusion and exclusion measures, convergence, or divergence, varied or conforming ideation, understanding or misunderstanding among employees, and positive and negative outlooks. The mean score of WD is 3.99 which suggest that there exists a high level of workforce diversity among employees of the cooperatives in Davao Region and it is interpreted as workforce diversity is oftentimes evident. Moreover, all indicators of WD were all rated high ranging from 3.80 to 4.12. This finding indicates that workforce diversity among the employees of cooperatives in Davao Region is highly manifesting. It implies that workforce diversity can have a negative impact on work engagement in organizations, as indicated by the negative direct effect. The negative effect, however, does not mean that workforce diversity is not important. The SEM model in this study suggests that WD is part of the model. The negative implies that there might be other indicators that may bring improved workforce diversity. In addition, there may be opportunities for organizations to implement strategies or interventions to mitigate

this negative impact and potentially improve work engagement among their diverse work forces.

This finding of the study is similar to the findings of the study by Bauer & Erdogan (2019), Roberson & Park (2019), and Fitzsimmons & Callan (2021), among others which pointed out that employees who perceived their organization as having a diverse workforce result to high job satisfaction, organizational commitment, and lower turnover intentions.

Organizational Climate. Organizational Climate (OC) has a mean score of 4.45 and it indicates that, on average, the respondents who are the employees of the cooperatives perceive the organizational climate as being highly evident. This suggests that employees generally view their work environment as conducive, supportive, and healthy. It also suggests a very high-quality organizational climate among cooperatives in Davao Region. All indicators of OC were all rated very high including Innovation, Clarity, Standards, Responsibility, and Rewards with mean scores 4.58, 4.52, 4.43, 4.41, and 4.33 respectively. The standard deviation of the variable and indicators range from 0.43 to 0.64 indicating low variation of the responses and they are near the means.

The finding of the study on the very high ratings indicates that the perceptions of the employees of cooperatives in Davao Region on organizational climate is highly evident. This implies that the work environment is seen as conducive to productivity and well-being. Likewise, it implies that employees feel comfortable, supported, and satisfied with their workplace conditions. Several authors associated positive organizational climates with positive outlook with the organization similar to the findings of the studies by Huang & Huang (2021), Jiang et al. (2021), and Bell in grath et al. (2022), among others. On innovation, the finding of this study aligns with the results of the studies of Gillet et al. (2020) and Ma et al. (2021). The said authors pointed out that the organizations' positive organizational climate fosters innovation.

Work Engagement. Work Engagement (WE) has a mean score of 4.35 and it indicates a very high level of work engagement among the employees of cooperatives. In is also interpreted as work engagement is highly evident. The indicators of WE Dedication and Absorption were also rated very high with mean scores 4.49 and 4.38 respectively. However, Vigor was rated least but still high with a mean score of 4.18. The standard deviations of the variable WE and indicators range from 0.47 – 0.61 which indicates a moderate amount of variation in the levels of WE among the employees of the cooperatives.

The finding implies that that the employees of the cooperatives studied are enthusiastic, dedicated, and absorbed in their work. This also implies that the higher the work engagement is generally associated with increased job satisfaction, productivity, and overall well-being. The finding on the very high level of work engagement is supported by the findings of many studies on work engagement including those of Bakker et al. (2019), Roberson (2019) and Wang et al. (2021), among others. The authors pointed out that highly engaged workers possess a positive, fulfilling, work-related state of mind characterized by vigor, dedication, and absorption. In addition, the positive perceptions have several implications, including increased productivity, commitment, and job satisfaction.

CORRELATION

Presented in Table 2 are the results of the relationships between the exogenous, OCB, WD, OC, and the endogenous variable WE. From the table, all the exogenous variables are significantly correlated with the endogenous variables ranging from $r=.451$ to $r=.779$, significant at $p<.01$ (2-tailed test). Thus, the correlation between the exogenous and the endogenous variables is reflected and shows organizational climate (OC) has the highest correlation coefficient ($r=.779$, $p<.01$) when correlated with work engagement. Organizational Citizenship Behavior (OCB) follows closely with a very high correlation coefficient ($r=.716$, $p<.01$) followed by workforce diversity ($r=.51$ @ $p<.01$) when correlated with work engagement (WE). The correlation between organizational citizenship behavior (OCB) and organizational climate (OC) is also very

high ($r=.710 @ p<.01$) implying that OC and OCB have very strong possibility for mediation towards WE. Workforce Diversity (WD) has moderate positive correlation with work engagement (WE). However, the presence of the stronger relationship between workforce diversity (WD) and organizational climate (OC) ($r=.505 @ p<.01$) may encompass the relationship between workforce diversity (WD) and work engagement (WE) ($r=.482 @ p<.01$). The result however of the relationship between organizational citizenship behavior (OCB) and workforce diversity (WD) which is near the values of workforce diversity (WD) and work engagement (WE) may indicate that organizational citizenship behavior (OCB) may likewise be a good mediator between the moderate relationship of workforce diversity (WD) and work engagement (WE) ($r=.482 @ p<.01$). The analysis on correlation was one of the guides in coming up with the trials for the best fit model. All exogenous and endogenous variables were found important in the best fit model as well as the presence of multiple mediating in the best fit model. However, it is more important as a purpose for this section to present the collinearity of the variables. The model presented showed the constant at approximately -0.210.

Table 2
Correlation Between Variables:

Variables	r-value	p-value	Significance Level
Organizational Citizenship Behavior (IV) & Workforce Diversity (IV)	0.451	.000**	Significant
Workforce Diversity (IV) & Organizational Climate (IV)	0.505	.000**	Significant
Organizational Climate (IV) & Organizational Citizenship Behavior (IV)	0.710	.000**	Significant
Work Engagement (DV) & Organizational Citizenship Behavior (IV)	0.716	.000**	Significant
Work Engagement (DV) & Workforce Diversity (IV)	0.482	.000**	Significant
Work Engagement (DV) & Organizational Climate (IV)	0.779	.000**	Significant

** Correlation is significant at the 0.01 level (2-tailed). N=549, 0 missing data.

This implies that as workforce diversity increases, there is a tendency for work engagement to also increase. This finding implies that a diverse workforce can have a positive impact on employees' engagement levels, potentially leading to higher job satisfaction and performance. The variable OCB may enhance work engagement by providing employees with a sense of purpose and meaning beyond their formal job requirements. OCB behaviors may also increase social support and positive relationships with coworkers, contributing to greater job satisfaction and commitment (Lee et al., 2020). Moreover, OCB was positively related to work engagement, indicating that employees who engaged in OCB were more likely to be highly engaged (Safari et al., 2021). It was found that promoting OCB behaviors can increase work engagement among employees by providing them with the necessary resources and support (Shen et al., 2021). Authors like Bauer & Erdogan (2019), Roberson & Park (2019), and Ely & Thomas (2020) shows that when employees perceive the presence of workforce diversity indicators, they are more likely to be engaged, motivated, and productive. The presence of WD indicators fosters a sense of belonging and engagement among diverse employees increasing creativity, problem-solving, and decision-making.

Furthermore, the relationship between work engagement and organizational climate is correlated. It implies that when OC is good among organizations, employees are highly engaged. When employees are highly engaged with their work, they are motivated, fully immersed in their tasks, and experience higher job satisfaction, organizational commitment, and overall well-being. This finding is supported by authors associate positive organizational climates with work engagement such as those studies by Huang & Huang (2021), Jiang et al. (2021), and Bellingrath et al. (2022), among others.

Best Fit Model of the Work Engagement of the Employees of the Cooperatives. The best fit model result will begin with the results of the regression analysis within the context of structural equation

modeling (SEM). It is important because regression analysis is a fundamental component of SEM. It integrates both regression analysis and factor analysis to provide a more comprehensive understanding of these relationships. Table 3 presents the influence of the OCB, WD, OC, on WE include the collinearity statistics.

Table 3
Influence of OCB, WD, OC on WE

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	T	Sig.	Tolerance	VIF
(Constant)	-0.210	0.181		-1.16	0.25		
OCB	0.306	0.057	0.313	6.99	0.00	0.484	2.065
WD	0.075	0.034	0.081	2.21	0.03	0.728	1.374
OC	0.567	0.051	0.516	11.16	0.00	0.453	2.206

a. Dependent Variable: WE
Legend:
WE – Work Engagement
OCB – Organizational Citizenship Behavior
WD – Workforce Diversity
OC – Organizational Climate

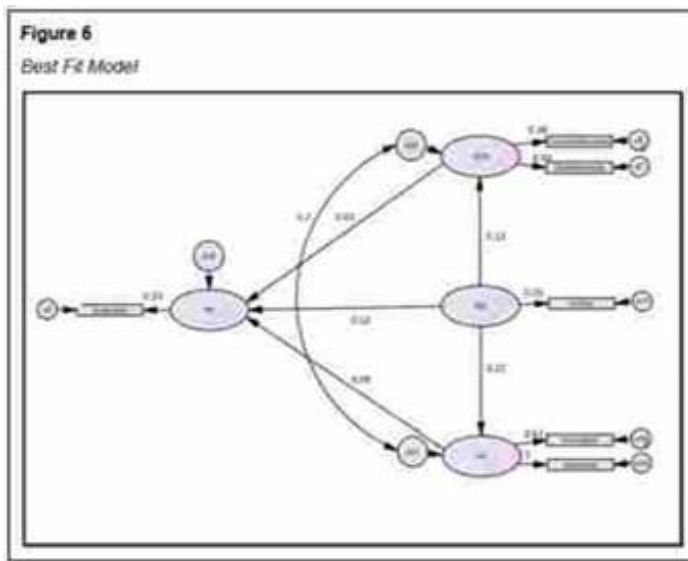
The regression analysis model presented, examines the influence of three independent variables, Organizational Citizenship Behavior (OCB), Workforce Diversity (WD), and Organizational Climate (OC), on the dependent variable Work Engagement (WE). The unstandardized coefficients indicate the change in the dependent variable (WE) for a one-unit changes in each independent variable while holding other variables constant. The standardized coefficients (Beta) show the strength and direction of the relationships in standard deviation units. The results suggest that OCB has a positive and relatively strong standardized coefficient (Beta = 0.313), indicating that higher levels of Organizational Citizenship Behavior are associated with increased Work Engagement. Workforce Diversity (WD) also has a positive but weaker effect (Beta = 0.081), suggesting that greater diversity in the workforce is modestly related to higher Work Engagement. Organizational Climate (OC) has the most substantial positive influence (Beta = 0.516) on Work Engagement, indicating that a positive organizational climate is strongly associated with increased Work Engagement. These findings are statistically significant ($p < 0.05$), and the collinearity statistics (Tolerance and VIF) suggest that multicollinearity is not a significant concern in the model. Overall, the results suggest that all three independent variables have a positive impact on Work Engagement, with Organizational Climate being the most influential factor.

Table 4
Summary of Goodness of Fit Indices

Indices	Structural Equation Models					
	1	2	3	4	5	Best Fit
Chi-Square/ Degrees of Freedom Value	4.188	4.353	4.216	4.268	4.188	2.71
Normed Fit Index	0.568	0.544	0.561	0.556	0.568	0.935
Goodness of Fit Index	0.527	0.513	0.526	0.521	0.527	0.951
Tucker-Lewis Index	0.555	0.532	0.551	0.544	0.555	0.957
Comparative Fit Index	0.625	0.599	0.619	0.613	0.625	0.956
RMSEA	0.096	0.098	0.096	0.097	0.096	0.05
P-Close	0.000	0.000	0.000	0.000	0.000	0.189

Hypothesized Model. Chapter 2 presented the five hypothesized models and this section presents the best fit model while the results of each hypothesized model is appended. The best fit model is shown in Figure 7 and Table 4. The model was deemed best fit after passing several criteria set under the structural equation modeling standards provided on chapter 1 on data analysis. The best fit model possessed values that fit the criteria falling within the acceptable range of all the test indices. The chi-square/ degrees of freedom value must be above 0 but not higher than 2. The normed fit index, the goodness of fit index, Tucker-Lewis's

index, and comparative index values must be greater than 0.95. The root mean square of error approximation value must be less than 0.05, and the P-close value must be greater than 0.05. As shown in Table 4, a comparative account of the obtained measures of the five models indicates the five hypothesized models cannot satisfy criteria for SEM. There were observed variables which does not fit the criteria allowing for the modification of the model to create a best fit. The modification of the model started with SPSS identifying the communal values in the dimension reduction of all the observed indicators and the higher than .7 the better the communal values it would be. However, due to several indicators with .6 communal values, the indicators above .6 were still considered as it is still near .7. After 4-dimension reductions, and among all the indicators observed, only the indicators conscientiousness, sportsmanship, inclusion/exclusion, innovation, standards, dedication were retained. Thus, creating the best fit model presented on figure 6.



The creation of the Best Fit Model using Model 5 as the basis. Among the five hypothesized models, the Best Fit model appears on figure 7. This determination is based on a combination of fit indices plus modifications of the observed indicators through Dimension Reduction and Factor Loading on SPSS. In this case, Model 5 consistently outperforms the other models across various fit indices, including the Chi-Square/ Degrees of Freedom Value (2.71) Normed Fit Index (.935), Goodness of Fit Index (.951), Tucker-Lewis Index (.957), and Comparative Fit Index (.956), which all indicate a better fit to the data. Additionally, the Root Mean Square Error of Approximation (RMSEA) is quite low (0.05), suggesting a good fit. However, it's worth noting that the P-Close value is relatively high (0.189), which is greater than .05. Nevertheless, based on the majority of fit indices, the modified Model 5 is the preferred choice and became the Best Fit Model.

The Best Fit model, presented on Figure 7 based on various fit indices, represents the most suitable structural equation model when analyzing data related to the work engagement of the employees of cooperatives. The best fit model indicates that in the context of employees of cooperatives, it effectively captures the relationships among various variables of interest, such as those related to the latent variables organizational citizenship behavior (OCB), workforce diversity (WD), Organizational Climate (OC), and Work Engagement (WE). The fit indices indicate that this model provides a better fit to the data compared to the alternative models

More specifically, the model shows that the variables OCB, WD, and OC influence significantly WE. However, comparing the estimates, OC predict WE (.98) followed by OCB (.61). However, WD still influence WE at a weak estimate of 0.12. The Best fit model shows that OCB is indicated by conscientiousness and sportsmanship, WD is indicated by inclusion, exclusion, OC is indicated by

innovation and standards, while WE are indicated by dedication.

Direct and Indirect Effects. The best fit model for work engagement among employees of cooperatives in Davao Region has both direct and indirect effects as presented on table 6. The said table shows the direct and indirect effects of the exogenous variables OCB, WD, and OC on the endogenous variable WE. The examination of both direct and indirect effects of exogenous variables (OCB, WD, and OC) on work engagement (WE) as valuable as it indicated several findings.

Variables	Direct Effect	Indirect Effect	Total Effect
Organizational Citizenship Behavior	0.574		0.574
Workforce Diversity	-0.122	.083	-0.039
Organizational Climate	.037		.037

Note: DV is Work Engagement

Organizational Citizenship Behavior (OCB). The results of the analysis shows the OCB has direct effect (0.574) to WE. The direct effect represents the immediate influence of the exogenous variable OCB on the endogenous variable work engagement without any mediation by other variables. In this case, an increase of 1 unit in OCB is associated with a direct increase of 0.574 units in work engagement. This suggests that OCB has a significant positive direct effect on work engagement. There is no indirect effect and thus, OCB's impact on work engagement is fully direct and not mediated by other variables. The total effect is thus at 0.574. This implies that OCB has a significant positive direct effect on work engagement. It reinforces that OCB is a factor that directly influences work engagement, and the effect is statistically significant. This provides evidence to support the claim that OCB plays a role in driving work engagement higher. This finding is supported by various authors especially the studies by Lee et al. (2020), Safari et al. (2021), and Shen et al. (2021), among others. The authors provided anchors that the results of the structural equation model and the relationships of the variables exist. OCB may enhance work engagement by providing employees a sense of purpose and meaning beyond their formal job requirements Liu et al. (2021). OCB behaviors may also increase social support and positive relationships with coworkers, contributing to greater job satisfaction and commitment (Lee et al., 2020).

Workforce Diversity. Workforce Diversity (WD) has both direct and indirect effect on work engagement. The direct effect is -0.122. The direct effect for workforce diversity on work engagement is negative indicating that an increase of 1 unit in workforce diversity is associated with a direct decrease of 0.122 units in work engagement. This suggests a negative direct effect, meaning that greater workforce diversity is linked to lower work engagement. The indirect effect is at 0.083. The indirect effect of workforce diversity on work engagement, which is positive (0.083), suggests that there might be some other mediating variables that partially offset the negative direct effect of workforce diversity on work engagement. The total effect is -0.039. The total effect combines both the direct and indirect effects. In this case, the total effect of workforce diversity on work engagement is -0.039, which indicates an overall negative impact, considering all direct and indirect pathways.

The total effect combines both the direct and indirect effects. In this case, the total effect of workforce diversity on work engagement is -0.039, indicating an overall negative impact when considering all direct and indirect pathways. This means that even with the potential offsetting influence of mediating variables, the net effect of workforce diversity on work engagement is still negative, albeit to a lesser extent. The

result implies that workforce diversity can have a negative impact on work engagement in organizations, as indicated by the negative direct effect. When an organization has a diverse workforce, employees may have varying backgrounds, perspectives, and experiences. These differences can sometimes lead to misunderstandings, communication challenges, and conflicts. If not managed effectively, these differences can create a sense of division among employees, which can negatively impact work engagement. This finding is supported by the authors Roberson et al. (2021) and

Organizational Climate. Organizational Climate has a direct effect at 0.037 on Work Engagement. Organizational climate has a direct effect of 0.037 on work engagement, meaning that an increase of 1 unit in organizational climate is associated with a direct increase of 0.037 units in work engagement. There is no indirect Effect which is similar to OCB. The indirect effect for organizational climate is the same as the direct effect, implying that its influence on work engagement is entirely direct and not mediated by other variables. Thus, the total effect is 0.037. The total effect, which is the sum of the direct and indirect effects, remains 0.037 which suggests that organizational climate has a positive effect on work engagement, and this effect is immediate and not mediated.

Thus, table 6 provides insights into how specific exogenous variables (OCB, Workforce Diversity, and Organizational Climate) impact work engagement within the best fit model for cooperative employees. The analysis distinguishes between direct effects, indirect effects (if present), and the total effects of these exogenous variables on work engagement, allowing for a more nuanced understanding of the relationships in the model. The best predictor of work engagement is thus organizational citizenship behavior.

Serial Mediation Analysis. In the presentation of the correlation analysis, the findings show a very weak correlation between workforce diversity (WD) and work engagement (WE). In the regression analysis, the beta value of workforce diversity as predictor of work engagement is insignificant. In the presentation of the best fit model, the direct effect of workforce diversity on work engagement is negative indicating as workforce gets diverse relative to the five observed indicators of WD, the lower the the work engagement. The best fit model provides an alternative to the weak relationship between WD and WE which is through the multiple mediation parameters in the model. The relationship between WD and WE may be strengthened through the mediation of both OCB and OC. Moreover, OCB and OC do not have mediators, both have direct effects only. However, the model shows that WD maybe mediated and the model suggests multiple mediation through OCB and OC. The serial mediation analysis however showed that taken individually, OCB and OC and their indirect relationship son WE through the mediation of WD, both were insignificant.

CONCLUSION

The study's findings indicate that cooperative employees in the Davao Region exhibit very high levels of organizational citizenship behavior (OCB), workforce diversity (WD), organizational climate (OC), and work engagement (WE). I therefore conclude of the presence of a positive workplace environment characterized by behaviors that go beyond formal job requirements (OCB), a diverse workforce (WD), a healthy organizational culture (OC), and enthusiastic work engagement (WE).

While the overall levels of these variables are high, there is moderate variability within each construct. I therefore conclude that while most employees exhibit positive behaviors and attitudes, there are some differences among individuals and departments within the cooperatives.

The correlation analysis reveals significant and meaningful relationships between the exogenous variables (Organizational Citizenship Behavior – OCB, Workforce Diversity – WD, Organizational Climate – OC) and the endogenous variable (Work Engagement – WE). Thus, I conclude that these factors are interrelated within cooperative employees in the Davao Region. Notably, Organizational Climate (OC) has the highest

correlation with Work Engagement (WE), suggesting that a positive organizational climate is strongly associated with higher levels of work engagement among employees. This finding underscores the importance of creating a supportive and conducive work environment for fostering employee engagement.

The correlations also suggest potential mediation and interaction effects among the variables. For example, the high correlation between Organizational Citizenship Behavior (OCB) and Organizational Climate (OC) implies that OCB may mediate the relationship between OC and WE. Similarly, the moderate positive correlation between Workforce Diversity (WD) and Work Engagement (WE) may be influenced or mediated by other factors, such as OCB. These findings point to the complexity of the relationships between these variables and suggest that further investigation into the underlying mechanisms is warranted.

The study employed structural equation modeling (SEM) to analyze the relationships among the variables, I therefore conclude that the best fit model was selected based on several criteria, including chi-square/degrees of freedom, normed fit index, goodness of fit index, Tucker-Lewis index, comparative fit index, root mean square error of approximation, and p-close value. The chosen model met the criteria and provided the best fit for the data. This rigorous approach ensures that the model accurately represents the relationships among the variables in the context of cooperative employees in the Davao Region.

I also conclude that best fit model revealed both direct and indirect effects of the exogenous variables (Organizational Citizenship Behavior – OCB, Workforce Diversity – WD, Organizational Climate – OC) on the endogenous variable (Work Engagement – WE). These effects help explain the influence of these factors on work engagement. Notably, OCB had a strong positive direct effect on WE, indicating that employees who exhibit organizational citizenship behavior tend to have higher work engagement. On the other hand, WD had a negative direct effect on WE, suggesting that greater workforce diversity is associated with lower work engagement. OC had a positive direct effect on WE, indicating that a positive organizational climate is linked to higher work engagement. I therefore conclude that the best fit model showed organizational citizenship behavior as the best predictor of work engagement.

The study two mediation analysis to explore the complex relationship between WD and WE through the mediation of OCB and OC. The study concludes that there was a weak direct relationship between WD and WE, the introduction of OCB and OC as mediator variables did not show mediation effects. Instead, these variables had direct positive effects on work engagement.

The results indicate that OCB and OC have strong direct positive effects on work engagement, emphasizing their significance in promoting employee engagement within cooperatives. I conclude however, that WD showed a negative direct effect on work engagement, highlighting the potential challenges associated with workforce diversity. These findings offer valuable insights for cooperative organizations in the Davao Region to enhance work engagement by focusing on factors like organizational citizenship behavior and organizational climate.

The study also conclude that there is a significant relationship between organizational citizenship behavior and work engagement, workforce diversity and work engagement, organizational climate and work engagement of Cooperative employees. Thus, H01 is rejected. I also conclude that there is a best fit model for the Work Engagement of Cooperative employees, thus, H02 is rejected.

The findings of the study showed highly engaged employees of the Cooperatives in Davao Region proving strong anchor on the Social Exchange Theory of Blau (1964) which explains work engagement and its relationship with OCB, WD, and OC. I therefore conclude that the result of the study supports the theory and its propositions including the proposition of reciprocity, the proposition of trust, and the proposition of comparison level.

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