

Research Paper

Relationship between Coding Experience and OCB Levels of Employees in MSME's

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ABSTRACT

This study examines the link between technical coding experience and organizational citizenship behavior (OCB) among tech industry employees in Delhi's NCR SME's. Surveys were completed by 70 software engineering professionals who reported their years of coding experience. Descriptive analyses, Pearson's correlations, and linear regressions were performed to determine whether greater coding experience was related to greater OCB. Overall, OCB and its subscales were not noticeably connected to the coding experience. Years of coding were insignificant next to the prediction of OCB levels in the regression models. These results indicate that more technical experience may not lead to higher levels of OCB in this sample.

Keywords: coding, Organizational Citizenship behaviour (OCB), employees, IT Industry, SME

Organizational citizenship behavior (OCB) is voluntary behavior that employees display, which is not part of their formal duties. OCB has been defined by Organ (1988) as "individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization." Essentially, OCBs are actions that employees engage in by choice, in addition to taking on those prescribed by the organization. This includes helping coworkers, being careful not to break organizational rules, and displaying initiative. Overall, these types of behaviors are beneficial for the workplace. Organizational citizenship behaviour (OCB) promotes an organization's success. This is important because it correlates with positive organizational outcomes. Work units with more OCB engage in better productivity and customer satisfaction. Furthermore, employees with more OCB have higher job performance and lower turnover intention. OCBs aimed at the organization (often labelled OCB-O) are actions such as following organizational rules, offering to serve on committees, and exhibiting civic virtue by taking an interest in the organization's affairs. On the other hand, OCBs that are directed at other people (OCB-P, also called OCB-I for individuals) are when an employee helps and offers courtesy to coworkers (Williams and Anderson, 1991). An example of this is when an employee helps a coworker with a task or resolves interpersonal conflict.

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Studies exploring demographic factors (e.g., age and tenure) have produced contradictory results. Studies show that a longer tenure is related to more citizenship behavior of employees, as it is thought that longer-tenured employees are more attached to the organization or more informed about it. According to the results of a study conducted by Atatsi et al., (2021), work tenure was found to be positively correlated with OCB. This means that employees with longer tenures engage in more citizenship behaviors than those with shorter tenures do. Podasakoff and MacKenzie (1997) suggest that OCBs significantly contribute to variations in organizational effectiveness, with helping behaviors exerting a more consistent impact than sportsmanship or civic virtue. Subramanian and Rajee (2017) highlighted that work–family balance, communication, engagement, and retention contribute to OCB. Sharma and Pandey (2019) found that psychological contract breach unfavourably impacts motivation, performance, and OCB. Emotional and psychological factors also became important, as shown by Nijhawan et al. (2022). Emotional intelligence and OCB are affected in ways that demographic factors moderate. According to Soni and Dwivedi (2013) being mindful at work leads to higher OCB through awareness and regulation of stress. Thakur et al. (2020) studied the link between work values and OCB in IT organizations in India. Similar values support OCB. However, the use of one method limits the generalizability of the results. Based on the overall findings scales, it appears that OCB in the IT sector is affected by structural, relational, emotional, and value mismatch. Therefore, there is a need for an integrated organizational approach that leads to OCB in the dynamic and changing work environment of the IT sector.

The literature lacks information on whether technical experience in coding/programming from the tech industry relates to OCB. In technology-driven organizations, employees with greater proficiency in coding may occupy positions as seniors or mentors who enable extra-role behavior, such as assisting junior developers and contributing towards organization-wide repositories. An experienced coder is more likely to help colleagues with technical problems (OCB-P) or proactively improve the way things are organized (OCB-O). It might also be that coding experience, being a specific human capital skill, is not a determinant factor of an individual's disposition toward discretionary helping or organizational participation. This study examines tech workers to determine whether people with more coding experience engage in higher OCB (Organisational citizenship behaviour).

METHOD

Participants and Procedure

Seventy full-time tech employees (e.g., software developers and IT professionals) working at the software tech industry employees in Delhi NCR SMEs. Participants were, on average, professionals for almost three years ($M = 3.22$ years, $SD = 2.01$) and had been coding for nearly three years ($M = 2.98$ years, $SD = 2.00$). Participants were recruited internally within the firm and provided informed consent to participate in the survey. The survey was conducted offline using demographic questions and standardized questionnaires on OCB. Informed consent was obtained from all participants involved in the study. Participants were provided with an information sheet, assured of the confidentiality and anonymity of their responses, and provided written consent before proceeding with the survey.

Measures

- **Coding Experience and OCB Checklist:** Participants noted their coding experience in years. This was considered a continuous predictor. The Organizational Citizenship Behavior checklist (OCB) is a 20-item checklist created by Suzy Fox and Paul E. Spector (2009).

Data Analysis

We calculated the means, standard deviations, and ranges using the descriptive statistics of all key variables. The bivariate relationships between coding experience and OCB were analysed using the Pearson correlation method. Ultimately, the team analysed the relationship between experience and OCB using a regression analysis.

RESULTS**Table 1. Descriptive Statistics for Study Variables (N = 70)**

Variable	N	Mean	SD	Min	Max
Age (years)	70	28.26	4.20	22	39
Total experience (years)	70	3.22	2.01	1.0	9.8
Coding experience (years)	70	2.98	2.00	1.0	9.0
Total OCB score	70	64.54	15.94	28.0	98.0
OCBO (Org.-focused OCB)	70	20.07	5.74	8.0	30.0
OCBP (Person-focused OCB)	70	18.94	5.22	8.0	30.0

Descriptive Statistics analysis

The descriptive data in Table 1 show that the participants were quite young; in fact, their ages ranged from 22 to 39 years, and their mean age was 28.26 years (SD = 4.20). They had an average of 3.22 years of total work experience (SD = 2.01). They also spent 2.98 years coding (SD = 2.00). Thus, the majority of the roles were coding. The findings revealed a mean total OCB score of 64.54 (SD = 15.94), with a range of 28-98 indicating variability across the sample in terms of discretionary, prosocial behaviors. The mean OCBO (M = 20.07, SD = 5.74) and OCBP scores (M = 18.94, SD = 5.22) were evenly distributed, ranging from 8 to 30. This indicates that the subjects exhibited an equally high intention to engage in behaviors favouring both the organization and individuals. The analysis of employee behaviors and characteristics shows that this group is quite early in their careers but shows engagement in high to moderate amounts with organizations as well as individuals.

Table 2. Pearson Correlation Matrix of Key Variables (N = 70)

	Coding Exp	Total Exp	Age	Total OCB	OCBO	OCBP
Coding Exp	1.00	.97**	.72**	.08	.13	-.08
Total Exp	.97**	1.00	.74**	.08	.14	-.05
Age	.72**	.74**	1.00	.09	.12	.01
Total OCB	.08	.08	.09	1.00	.89**	.84**
OCBO	.13	.14	.12	.89**	1.00	.62**
OCBP	-.08	-.05	.01	.84**	.62**	1.00

Note: **Coding Exp** = Coding experience; **Total Exp** = Total work experience.

All correlations marked with ** were significant at $p < .01$ (two-tailed).

Correlations analysis

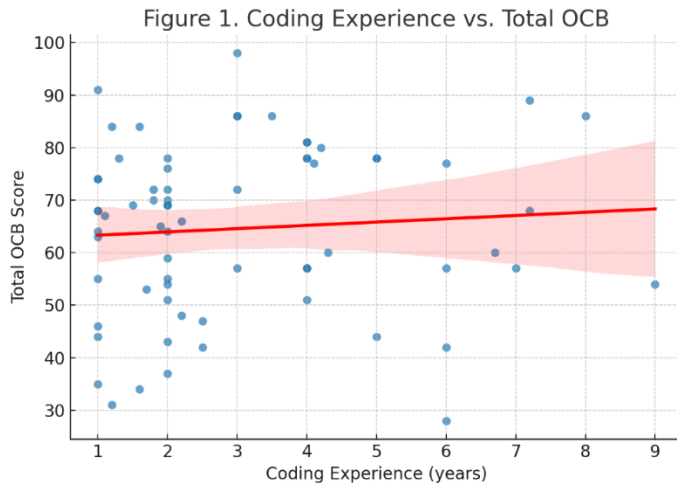
The Pearson correlation matrix of the variables-coding experience, total experience, age, total OCB, OCBO, and OCBP is given in Table 2. As expected, coding experience was highly correlated with total work experience ($r = .97$, $p < .01$). Similarly, coding experience correlated highly with age ($r = .72$, $p < .01$), as older workers generally had more years on the job and years of coding. However, coding experience showed a correlation of $r = .08$ with total OCB (essentially zero and statistically non-significant).

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The scatterplots depict the near-zero relationships of the coding experience with OCB and others.

Scatterplot of coding experience vs. total OCB score. The regression line is shown in red. The near-horizontal trend line indicates no significant relationship between coding experience and overall OCB level. The proposed conceptual model illustrating these relationships is presented in **Figure 1**.

Figure 1. Conceptual Framework of the Study



The OCBO score, which indicates the identifier capacity of an employee, was plotted against coding experience. The regression line exhibits a faint positive slope, indicating a weak correlation. For instance, some employees with average coding tenure achieved the highest OCBO scores, whereas highly experienced coders only achieved average OCBO scores. In the right panel (OCBP vs. coding experience), the red trend line is flat and may be slightly negative, indicating that no straight-line trend is evident. Overall, the scatterplots for both subscales convey a similar message to that of total OCB: there is no increase in OCB-P or OCB-O with increasing coding experience. In Figure 2 Scatterplots Showing Score Correlation for OCB and Coding Experience. The two graphs do not show much slope and thus there does not appear to be any relation between coding tenure and either OCB form

Figure 2. Scatterplots Showing the Correlation Between Organizational Citizenship Behavior Subscale Scores (OCB-O and OCB-P) and Employee Coding Experience.

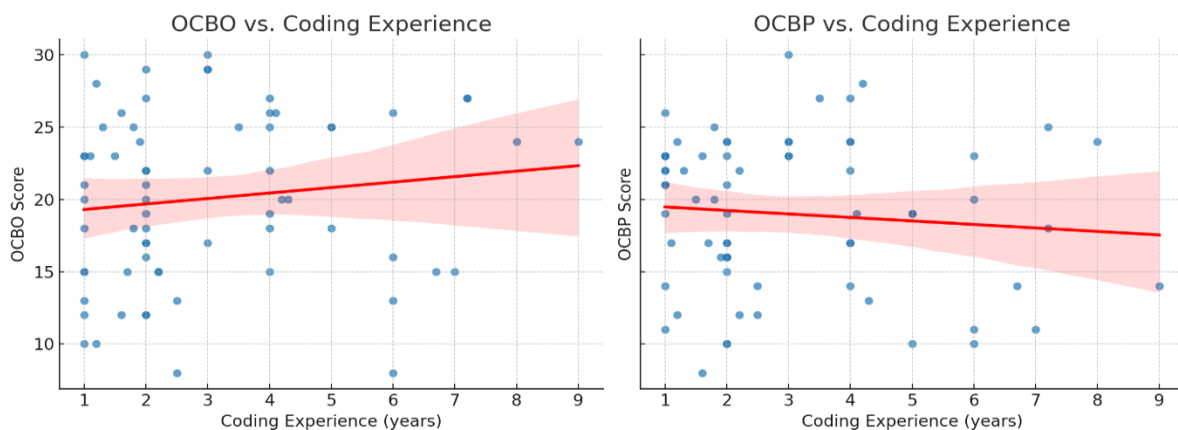


Table 3. Linear Regression Predicting Total OCB from Coding Experience

Predictor	B	SE	β	T	P
Intercept	62.67	3.44	—	18.21	<.001
Coding experience	0.63	0.96	.08	0.66	.514

Note. Model $R^2 = .006$, $F(1, 68) = 0.43$, $p = .514$. Unstandardized B, standard error (SE), standardized beta (β), t-statistic, and p-values were reported. The intercept represents the expected Total OCB score when the Coding Experience = 0.

Regression Analysis

Table 3 shows the regression of total OCB on coding experience. In line with the correlation results, the beta coefficient for coding experience is not significant. According to the coding experience, unstandardized $B = 0.63$ ($SE = 0.96$). In predicting total OCB, it had a positive but very small effect ($\beta = .08$), which was not statistically different from zero ($t = 0.66$, $p = .514$). The R^2 of the model was 0.6%, which means that coding experience alone did not explain almost any variance in the total OCB.

Table 4. Regression Models for OCB Subscales (OCBO and OCBP) Predicted by Coding Experience

Outcome (DV)	Predictor	B	SE	β	T	P
OCBO	(Intercept)	18.97	1.23	—	15.39	<.001
	Coding experience	0.37	0.34	.13	1.07	.288
OCBP	(Intercept)	19.58	1.13	—	17.39	<.001
	Coding experience	-0.21	0.32	-.08	-0.68	.499

Note. Two separate OLS regression models were summarized for DV = OCBO and DV = OCBP. Neither model showed a significant effect on the Coding Experience. For OCBO: $R^2 = .017$, $F(1, 68) = 1.15$, $p = .29$. For OCBP: $R^2 = .007$, $F(1, 68) = 0.46$, $p = .50$.

Table 4 shows how OCB is affected by coding experience. OCBO and OCBP. In both situations, prior coding experience wasn't a key factor in their success. The coefficient B for coding experience in the OCBO model was .37 ($SE = .34$), which was a small positive number and non-significant, $p = .288$. The R-Square model was 0.017, which means that there was an explained variance of OCBO of 1.7 per cent (and the F-test was non-significant). The coefficient of coding experience for the OCBP is negative this is $B = -0.21$ with a standard error of $SE = 0.32$. But again, non-significant $p = -0.21$ with $R^2 = 0.7\%$. The regressions further indicate that years of coding were not significantly related with organizationally- or interpersonally-directed citizenship behaviours.

In conclusion, there is no evidence of a positive association between coding experience and OCB levels among technical employees. With more years of coding, as reflected in the ratings, neither the total OCB nor the specific dimensions of citizenship behavior show any appreciable increase.

DISCUSSION

This map of technical experience in coding is a predictor of organizational citizenship behaviour among technology sector employees. We speculate that staff of higher ranking and those with more coding expertise would exhibit higher OCB. However, our findings did not support this expectation. Employees will not exhibit positive OCB, either towards the organization or coworkers, if they possess years of coding experience. In fact, employees with only one or two years of experience had the same levels of OCB as those with expansive coding experience.

The findings of this study, which should be considered when interpreting the results, have specific limitations. One limitation of using only 70 employees was that the sample size was generally considered small. A weak positive relationship between experience and OCB may exist in reality, but this is not detected here because of the sample size. Future studies can conduct a more robust test with more samples from more companies. Second, since the sample consisted mostly of sample from a single tech company, the results may not apply elsewhere. The correlation of levels and their correlates in a more balanced sample or in different organizational cultures.

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Conflict of Interest

The author(s) declared no conflict of interest.

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