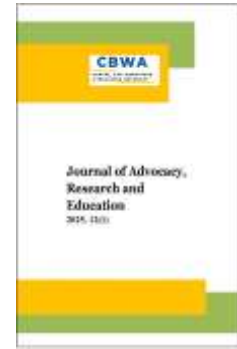




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Cognitive-Person Factors and Organisational Citizenship Behaviour: Mediating Role of Employee Engagement

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Abstract

While research indicates that organisational citizenship behaviour is a positive employee outcome influenced by various cognitive-person factors, few studies have examined the specific individual cognitive processes that affect organisational citizenship behaviour. Drawing on Social Identity Theory and the Job Demands-Resources (JD-R) model, this study investigates the impact of prosocial values, cognitive moral development, and person-organisation fit as cognitive-person factors influencing organisational citizenship behaviour. Furthermore, it explores the mediating role of work engagement in these relationships. Data were collected using questionnaires from 302 civil servants across eight ministries in Ghana, employing a time-lagged design, and analysed using JASP software. The findings reveal that the three cognitive-person factors positively influence organisational citizenship behaviour. Additionally, work engagement mediates the link between these cognitive-person factors and organisational citizenship behaviour. This research is among the maiden studies to explore how work engagement mediates the positive relationship between cognitive-person factors such as prosocial values, cognitive moral development, and person-organisation fit and organisational citizenship behaviour in Ghana.

Keywords: Cognitive-person factors, Prosocial values, Cognitive moral development, Person-organisational fit, Organisational citizenship behavior, Work engagement.

1. Introduction

To achieve higher performance levels, organisations must consider factors beyond executing assigned job responsibilities. Success cannot be attained, nor can public service be effectively delivered, if employees limit their efforts to fulfilling only their formal duties (Donkor, Segbenya, 2023). For organisations to thrive, it is essential to foster and reward organisational citizenship behaviour (OCB) among employees (Taamneh et al., 2024). The OCB encompasses discretionary and voluntary actions performed by employees that extend beyond their official job requirements, significantly enhancing the overall functioning and environment of the organisation (Asiedu et al., 2014; Boakye et al., 2022). These behaviours include collaboration, supporting colleagues, and willingly taking on additional tasks. Employees who demonstrate OCB contribute to increased efficiency and productivity by assisting peers, sharing knowledge, and going above and beyond their prescribed roles (Jayaraman et al., 2024). This, in turn, cultivates a supportive and cohesive

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workplace, boosting morale and satisfaction. Moreover, OCB plays a crucial role in organisational effectiveness by encouraging proactive participation in decision-making and goal achievement (Asiedu et al., 2014; Boakye et al., 2022). Given its significant impact, OCB should be prioritised as a key determinant of organisational success (Halim et al., 2023). However, the complexities surrounding OCB stem from the variety of factors that influence individuals' decisions to engage in helpful behaviours without material incentives (Donkor, Segbenya, 2023). Both internal and external factors shape employee OCB, making it a dynamic and multifaceted phenomenon. Among these multifaceted factors, cognitive-person factors (CPFs) have been identified as key determinants of OCB (Arvanitis, 2023; Choy, Yeung, 2023; Jia et al., 2023; Lim et al., 2024).

The CPFs are individual characteristics and mental processes that affect how a person perceives, interprets, and responds to their environment (Jayaraman et al., 2024). Studies have examined CPFs such as self-efficacy (Soomro et al., 2023), empathy (Gong, 2024), organisational identification (Halder, Chatterjee, 2024), resilience (Boakye et al., 2022), and emotional intelligence (Fernandes, 2024) in relation to OCB. However, there is a paucity of studies assessing the influence of moral cognitive factors, such as prosocial values (PSV), cognitive moral development (CMD), and person-organisation fit (P-O fit), on OCB. The few studies investigating these factors have yielded contradictory results (Choong, Ng, 2023; Jayaraman et al., 2024). While Jayaraman et al. (2024) found that moral CPFs, such as CMD, influence OCB, Halder and Chatterjee (2024) indicated that CPFs, such as CMD, do not predict OCB. Additionally, no study has assessed all three factors simultaneously.

These research gaps concerning CPFs and employee OCB suggest that other factors may play a significant role in affecting the relationship. Moreover, according to Halder and Chatterjee (2024), assessing the relationship between CPFs and OCB is insufficient without considering the context, which plays a significant role in shaping the relationship. To address this research gap, the present study proposes that work engagement, which is vital for understanding how employees connect with their work, mediates the linkage. Work engagement refers to the positive, fulfilling state of mind where employees exhibit high levels of vigour, dedication, and enthusiasm for their tasks (Mishra et al., 2023). Although studies have revealed that work engagement positively affects employee attitudes and behaviours, such as OCB (Diko, Saxena, 2023; Nguyen, Ha, 2023), researchers have not found studies assessing WEB as a mediator in the link between moral CPFs and OCB. Moreover, while social identity theory (SIT) provides valuable insights into the influence of CPFs on OCB, it does not fully explain the mechanisms influencing the relationship. This study employs the Job Demands-Resources (JD-R) model to elucidate the underlying mechanism, including the role of work engagement in shaping the relationship.

This study aims to address the existing gap in research by examining how CPFs, such as prosocial values (PSV) and cognitive moral development (CMD), impact OCB among civil service employees, with a particular emphasis on the mediating role of work engagement. Drawing on the JD-R model, which highlights the interplay of resources and demands in shaping organisational outcomes (Bakker, Demerouti, 2017), the study argues that aligning CPFs with work engagement is critical for fostering OCB. Theoretically, this research contributes to the OCB literature by applying both the SIT and JD-R models to investigate how CPFs and work engagement jointly promote OCB in the civil service sector. The findings have practical implications for civil service organisations seeking to enhance OCB and improve overall performance. By prioritising work engagement and strengthening CPFs, civil service organisations can cultivate a more proactive workforce, enhancing efficiency and service delivery.

2. Literature Review and Hypothesis Development

Social identity theory (SIT)

Social Identity Theory (SIT) posits that an individual's self-concept and identity are shaped by their membership in social groups (Tajfel, Turner, 1986). SIT emphasises how an individual's sense of belonging to a social group, such as an organisation or team, influences their attitudes, behaviours, and interactions within that group (Halevy, Gross, 2024). According to SIT, people categorise themselves into various social groups, and this categorisation shapes their identity and self-esteem. When employees identify strongly with their organisation, they are more likely to engage in behaviours that benefit the organisation and its members. Employees with high levels of moral CPFs, such as person-organisation fit, are likely to perceive themselves as integral members

of the organisation. This strong identification motivates them to engage in OCB because they see these actions as benefiting the collective identity of the group. The theory again suggests that employees are motivated to demonstrate OCB when they perceive their organisation as an in-group and value its goals and welfare (Chan et al., 2023). CPFs, such as prosocial values and cognitive moral development, help employees develop stronger bonds with their in-group (the organisation), making them more inclined to display voluntary behaviours that go beyond formal job requirements to support the in-group.

Job demand-resources theory (JD-R theory)

The JD-R theory (Bakker, Demerouti, 2007) suggests that the work environment comprises both job demands and job resources, and the balance between these elements influences employee well-being and performance. Job demands refer to aspects of the work environment that require sustained effort and can lead to stress, while job resources are those that help employees achieve their work goals, reduce demands, or stimulate personal growth. Cognitive-personal factors (CPF), such as prosocial values, cognitive moral development, and person-organisation fit, are considered personal resources within the JD-R model. These resources enable employees to cope with job demands and enhance their ability to engage with work in a positive and proactive manner. When employees possess high levels of CPFs, they will be better equipped to deal with challenges, increase their motivation, and maintain focus and enthusiasm for their tasks. According to the theory, CPFs enhance employees' ability to manage job demands and experience higher levels of work engagement characterised by vigour, dedication, and absorption. This engagement fosters positive attitudes and behaviours that extend beyond formal job responsibilities, such as assisting colleagues and taking the initiative. Additionally, when employees are highly engaged in their work, they are more likely to utilise their cognitive-personal resources, leading to increased OCB effectively (Lim et al., 2024).

Prosocial values (PSVs) and OCB

Prosocial values (PSVs) refer to a set of beliefs and principles that prioritise the welfare and interests of others over one's self-interest (Kasler et al., 2023). Individuals with strong prosocial values (PSVs) tend to engage in behaviours that benefit others, such as helping, sharing, and cooperating, even at personal cost. These values are often rooted in empathy, compassion, and a sense of social responsibility, which drive individuals to participate in altruistic actions and contribute positively to their communities and society (Gujar et al., 2024). PSVs play a crucial role in promoting social cohesion, trust, and cooperation, fostering healthier interpersonal relationships and collective well-being (Gertsen et al., 2022). In organisational settings, employees with strong PSVs are more likely to exhibit higher levels of OCB, as their inclination to exceed job responsibilities and actively assist colleagues helps foster the overall success of the organisation (Caetano et al., 2023). Therefore, nurturing PSVs in both individuals and organisations can lead to a more compassionate and altruistic society, benefiting both individuals and the broader community (Gujar et al., 2024). In a study among employees, Choong and Ng (2023) found that PSVs predict altruism. Since both altruism and OCB involve voluntary actions that benefit others or the organisation beyond formal job requirements, contributing to a positive work environment, fostering cooperation, and enhancing organisational effectiveness, it is logical to propose that:

H1. *PSVs have a positive relationship with employees' OCB.*

Cognitive moral development and OCB

Cognitive moral development (CMD) refers to the progressive maturation of an individual's moral reasoning abilities (Matthys, Schutter, 2023). It suggests that individuals advance through distinct stages of moral understanding, becoming increasingly capable of complex ethical reasoning and decision-making (Camassa, 2024). According to Matthys and Schutter (2023), employees with higher levels of CMD tend to exhibit greater ethical awareness and a more substantial commitment to moral principles, leading them to engage in discretionary behaviours that benefit the organisation and its members. Such individuals are more likely to exceed formal job requirements, demonstrating altruistic actions, cooperation, and adherence to organisational values, which positively contribute to the overall functioning and effectiveness of the organisation (Arvanitis, 2023; Fernandes, 2024). Social Identity Theory (SIT) suggests that individuals with higher levels of CMD are more likely to perceive themselves as ethical members of their organisation, leading to a stronger identification with organisational values (Matthys, Schutter, 2023). This heightened identification fosters a sense of belonging and commitment, motivating individuals to engage in

OCB as a way of affirming their positive social identity within the organisation. In a study by Arvanitis (2023), CMD was found to correlate with OCB among students. However, other studies suggest that CMD does not predict OCB (Halder, Chatterjee, 2024). Given the contradictory findings regarding the relationship between CMD and OCB, it is prudent to assess this relationship within the context of Ghana. Therefore, it is predicted that:

H2. *CMD is positively and significantly associated with OCB.*

Person-organisational fit and OCB

Person-organisation fit (P-O fit) refers to the alignment between an individual's characteristics (such as values, skills, and preferences) and the attributes of the organisation (such as its culture, goals, and practices) (Farzaneh et al., 2014). It reflects how well an individual's qualities align with the organisation's culture and requirements, influencing job satisfaction and performance. According to Sharma and Tanwar (2023), a strong P-O fit is associated with enhanced job satisfaction, commitment, and performance. Employees who perceive a strong fit with the organisation are more likely to identify with its goals and values, fostering a sense of belonging and motivating them to engage in OCB, going beyond their formal duties to contribute to organisational success (Subramanian et al., 2023). From the perspective of social identity theory (SIT), individuals derive a significant part of their self-concept from their group memberships, including their identification with the organisation (Tran, 2023). A strong P-O fit strengthens this identification, increasing commitment and further motivating OCB (Choy, Yeung, 2023). Conversely, when there is a poor P-O fit, it may lead to dissatisfaction and disengagement, thereby decreasing the likelihood of engaging in OCB (Choy, Yeung, 2023). Based on the proposition of SIT, we hypothesise that:

H3. *P-O fit is positively and significantly associated with OCB among employees.*

The mediating role of work engagement

Work engagement represents a favourable psychological state at work, characterised by increased energy, enthusiasm, and dedication toward one's job (Singh, Sant, 2023). Engaged employees exhibit strong vigour, absorption, and a deep commitment to their tasks. Empirical studies across different contexts consistently show a positive correlation between CPFs, work engagement, and OCB (Jia et al., 2023). Furthermore, according to Social Identity Theory (SIT), employees who strongly identify with their organisation tend to be more engaged, experiencing a deep sense of belonging and commitment (George, Thomas, 2023). Thus, heightened engagement drives employees to exhibit OCB, motivated by their desire to contribute to the organisation's success. Zhou et al. (2023) argue that work engagement influences OCB by inspiring employees to exceed formal job duties, driven by passion and dedication.

The JD-R theory suggests that CPFs serve as personal resources that enhance work engagement (Bakker, Demerouti, 2007). When employees have sufficient job resources to meet demands, they become more engaged, which may lead to extra-role behaviours that benefit the organisation. Although the mediating role of work engagement between CPFs and OCB has not been extensively studied, the literature implies that work engagement acts as a pathway through which CPFs influence employee behaviours. Studies indicate that CPFs increase employee engagement (George, Thomas, 2023), fostering vigour, dedication, and absorption in work, which in turn leads to productive behaviours. Therefore, we argue that work engagement mediates the relationship between CPFs and OCB. As Diko and Saxena (2023) suggest, CPFs shape how individuals perceive their work environment and roles, influencing their engagement levels. When employees feel engaged, they experience a greater sense of fulfilment and meaning in their work, which can lead to a higher likelihood of engaging in OCB (Soomro et al., 2023). In light of these arguments, we posit that:

H4. *Work engagement mediates the association between PSVs and OCB among employees.*

H5. *Work engagement mediates the association between CDM and OCB among employees.*

H6. *Work engagement mediates the association between P-O fit and OCB among employees.*

3. Materials and Methods

Research design

To conduct the study, a pilot test involving 10 % of the 400 respondents targeted for this study was initially distributed to teachers in Accra, Ghana. Out of the 40 questionnaires

distributed, 38 valid responses were collected, achieving a high response rate of 95 %. The analysis of the pilot survey confirmed the reliability and validity of the measurement constructs. Following this successful pilot phase, the main phase of data collection targeted all civil service employees working at the ministries in Accra. Civil servants play a critical role in formulating and implementing government policies and programs, serving as the backbone of the public administration system. Their diverse responsibilities and structured work environment make them an ideal group for studying the mediating role of work engagement in the relationship between CPFs and OCB. Investigating this relationship within this context can provide valuable insights into how to enhance employee performance and organisational effectiveness in the public sector.

The study employed a time-lagged survey design to mitigate common method bias by temporally separating the measurement of independent and dependent variables (He et al., 2023). Based on calculations from the Raosoft online sample size calculator, the recommended sample size was 347 civil servants, considering a population of 3500, a 50 % response distribution, a 95 % confidence level, and a 5 % margin of error. Anticipating a high non-response rate typical of time-lagged studies (He et al., 2023), the sample size was increased to 400 civil servants. Data collection began by soliciting participation from willing respondents. Utilising an online survey platform, the first set of questionnaires (T1) focused on CPF, while the second set (T2) centred on the mediator and criterion variables. These questionnaires were distributed at two-month intervals between them. Initially, 400 questionnaires were distributed at T1, resulting in 387 responses. Subsequently, T2 questionnaires were sent to the 387 civil service employees who responded to the study in T1, with 306 providing complete responses. After excluding four incomplete responses, 302 valid responses remained, indicating a 75.5% valid response rate. Participation in the study was voluntary, and to ensure anonymity, all personal identifiers were removed from the data. Unique codes were assigned to maintain confidentiality throughout the research process. The data were analysed using JASP software.

Among the valid responses, 58.6 % were female, with an average age of 36.7 years. The distribution of respondents' managerial positions was as follows: 28.1 % in senior management, 43.4 % in middle management, and 28.5 % in junior management. In terms of educational qualifications, 36.1 % held a first degree, 28.5 % had a diploma, 24.8 % possessed a postgraduate degree, and 19.6 % were SSSCE graduates.

Instrument

Various published standardised scales developed and utilised by other researchers were used to assess the variables in this study. All scales were assessed on five-point response options ranging from 5 ("Strongly Agree") to 1 ("Strongly Disagree"). Below is an overview of the scales employed:

Prosocial values (PVs). We adapted 5 items from the study by Caetano et al. (2023) to measure PVs. Sample statements include: "I believe in making sacrifices to help those in need" and "I feel compelled to assist others whenever possible." The internal consistency reliability coefficient (Cronbach's alpha) of this scale in this study is 0.839.

Cognitive moral development (CMD). To assess respondents' CMD, we adapted 5 items from the studies by Rest et al. (1999). The items measure moral reasoning and ethical decision-making. Example items include statements such as "People should always tell the truth, even if it might harm someone" and "It is sometimes acceptable to break the rules if it leads to a good outcome." The Cronbach's alpha obtained in our study was 0.828.

Person-organisational fit (P-O fit). We assessed P-O fit using the 6-item Perceived Person-Organization Fit scale devised by Kristof-Brown et al. (2023). Participants responded to statements such as "I feel that my values align well with the values of this organisation" and "I believe that the goals of this organisation are consistent with my own professional goals." The reliability coefficient for this scale in this study is 0.787.

Work engagement. We assessed work engagement using the 9-item Utrecht Work Engagement Scale (UWES; Schaufeli et al., 2017). Items on the scale include: "At my work, I feel bursting with energy" and "I feel strong and vigorous when I am working." The reliability coefficient for this scale in this study was 0.833.

Organisational Citizenship Behavior (OCB): OCB was measured using a 12-item scale adapted from Lee and Allen (2002). Sample items include "I offer suggestions for improving the work environment" and "I follow organisational rules and procedures even when no one is watching." The scale encompasses three dimensions: helping behaviour, civic virtue, and

sportsmanship. For this study, all items were treated as a composite variable, yielding a reliability coefficient of 0.840.

Control variables. Control variables were chosen based on previous research indicating the influence of demographic factors on OCB. Studies indicate the impact of demographic characteristics such as age and managerial position on OCB (Saffariantoosi, Khaleghi, 2024; Zampetakis, Arvanitis, 2024). Consequently, age and managerial position were identified and controlled to mitigate their potentially confounding effects in this study.

Data analysis

The data analysis followed a three-step process. Initially, data entry was completed, incorporating checks for validity and reliability while also assessing data normality. Next, the model's suitability was examined using key indicators, including the root-mean-square error of approximation and the Parsimony Normed Fit Index. Finally, hypothesis testing was conducted using JASP software, utilising Bootstrap resampling with 5,000 iterations.

Psychometric properties

To assess the psychometric properties of the constructs, various measures of validity and reliability were examined. The internal consistency of the scales was evaluated, yielding convergent validity and composite reliability scores for each construct: PVs (AVE = 0.693, CR = 0.926), CMD (AVE = 0.685, CR = 0.917), P-O fit (AVE = 0.637, CR = 0.906), work engagement (AVE = 0.638, CR = 0.948), and OCB (AVE = 0.615, CR = 0.956). All average variance extracted (AVE) values exceeded the 0.5 threshold, indicating satisfactory convergent validity (Hair et al., 2019). The composite reliability values for all constructs surpassed the 0.70 benchmark, confirming the reliability of the measurement scales. The findings regarding both convergent validity (AVE) and composite reliability suggest the robustness and adequacy of the constructs for subsequent analyses (Table 1).

Table 1. Results showing composite reliability and average variance extracted

Variable	Composite Reliability	Average variance extracted (AVE)
Prosocial values	0.839	0.575
Cognitive moral development	0.778	0.694
Person-organisational fit	0.787	0.620
Work engagement	0.833	0.705
Organisational citizenship behavior	0.840	0.689

Additionally, the items for CPFs, work engagement, and OCB demonstrated satisfactory Exploratory Factor Analysis (EFA) results, with factor loadings exceeding the recommended adequacy threshold of 0.07 (Hair et al., 2019). This further validated the measurement items. To assess the robustness of the data, a Confirmatory Factor Analysis (CFA) was conducted. The chi-square statistics for the proposed five-factor model revealed a chi-square value of 1643.159, 665 degrees of freedom (df), and a p-value of 0.001, indicating a good fit. Additional fit indices supported this result (CFI = 0.974, SRMR = 0.029, RMSEA = 0.008). In contrast, the alternative single-factor model did not fit the data adequately, as evidenced by the following fit indices ($\chi^2 = 1773.353$, df = 318, CFI = 0.528, SRMR = 0.189, RMSEA = 0.090). These results suggest that the five-factor model offers a superior fit to the data compared to the alternative single-factor model.

Discriminant validity and variance inflation factors

The discriminant validity of the variables was further evaluated using the heterotrait-monotrait ratio (HTMT) with a benchmark value of 0.85, as suggested by Verma and Verma (2024). As shown in Table 2, all HTMT values were below this threshold, confirming that the constructs exhibit distinctness from one another. This finding provides additional evidence for the discriminant validity of the measurement model. Furthermore, potential issues related to multicollinearity were assessed using variance inflation factors (VIF). According to the guidelines by Herkes et al. (2020), the VIF values for each predictor in the model were all below 0.5,

suggesting that there are no concerns related to collinearity among the variables. These results further validate the robustness and reliability of the model used in the study.

Table 2. Discriminant validity using HTMT benchmark

Variable	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	VIF
PSV	1.000					0.361
CMD	0.097	1.000				0.273
P-O fit	0.183	0.084	1.000			0.337
WEG	0.062	0.201	0.451	1.000		0.350
OCB	0.091	0.120	0.287	0.505	1.000	0.296

Notes: PSV – Prosocial values; CMD – Cognitive moral development, P-O fit – Person-organisational fit; WEG – Work engagement; OCB – Organisational citizenship behavior.

4. Results

Descriptive statistics and intercorrelations

As shown in Table 3, prosocial values demonstrated significant correlations with cognitive moral development ($r = 0.38$, $p < .01$), person-organisation fit ($r = 0.42$, $p < .01$), work engagement ($r = 0.39$, $p < .01$), and OCB ($r = 0.47$, $p < .01$). Additionally, cognitive moral development was significantly correlated with person-organisation fit ($r = 0.35$, $p < .01$), work engagement ($r = 0.44$, $p < .01$), and OCB ($r = 0.52$, $p < .01$). Person-organisation fit also showed significant relationships with work engagement ($r = 0.41$, $p < .01$) and OCB ($r = 0.38$, $p < .01$). Furthermore, the skewness and kurtosis values for all constructs ranged between -1 and +1, indicating that the data followed a normal distribution.

Table 3. Descriptive statistics and intercorrelation among the variables

No	Variable	Mean	SD	1	2	3
1.	Prosocial values	2.93	2.31			
2.	Cognitive moral development	2.99	3.48	0.38**		
3.	Person-organisational fit	3.57	1.53	0.42**	0.35**	
4.	Work engagement	3.22	4.64	0.39**	0.44**	0.41**
5.	OCB	3.31	3.50	0.47**	0.52**	0.38**
4.	Skewness	-	-	0.04	0.18	0.33
4.	Kurtosis	-	-	-0.18	-0.27	-0.07

Notes: ** $p < .01$

Hypothesis testing

According to Table 4, PSV has a significant positive effect on OCB, accounting for 4.6 % of its variance ($b = 0.046$, $z = 4.037$, $p < 0.001$). To confirm this result, a bootstrap analysis with 10,000 replications was conducted. The 95 % confidence interval from this analysis did not include zero (L95 % CI = 0.016, U95 % CI = 0.076), thus supporting H1.

Table 4. Direct effects of CPFs as determinants of OCB

	Estimate	Std. Error	z-value	P	95 % Confidence Interval	
					Lower	Upper
PSV → OCB	0.046	0.011	4.037	< .001	0.016	0.076
CMD → OCB	0.021	0.005	2.002	0.045	0.004	0.024
P-O fit → OCB	0.110	0.010	10.668	< .001	0.086	0.133

Notes: PSV – Prosocial values, CMD – Cognitive moral development, P-O fit – Person-organisational fit, OCB – Organisational citizenship behaviour

Similarly, CMD has a significant positive influence on OCB, accounting for 2.1 % of its variance ($b = 0.021$, $z = 2.002$, $p < 0.05$). This result was also verified using the bootstrap method with 10,000 replications, yielding confidence intervals that excluded zero (L95 % CI = 0.004, U95 % CI = 0.024). This also supported H2.

Furthermore, the P-O fit has a significantly positive impact on OCB, explaining 11% of the variance in OCB ($b = 0.110$, $z = 10.668$, $p < 0.001$). This result was further substantiated by the bootstrap method with the 95 % confidence interval excluding zero (L95 % CI = 0.086, U95 % CI = 0.133). Hence, H3 is also supported.

Table 5. Indirect effect of work engagement

					95% Confidence Interval	
	Estimate	Std. Error	z-value	P	Lower	Upper
PSV→WEG→OCB	0.008	0.003	2.368	0.018	0.001	0.020
CMD→WEG→OCB	0.006	0.002	3.077	0.002	0.003	0.010
P-O fit→WEG→OCB	0.013	0.004	3.364	< .001	0.006	0.024

Notes: PSV – Prosocial values, CMD – Cognitive moral development, P-O fit – Person-organisational fit, OCB – Organisational citizenship behaviour

Table 5 reveals that work engagement significantly mediated the relationship between PSV and OCB, with an indirect effect size of 0.8 % ($b = 0.008$, $z = 2.368$, $p < 0.05$). Bootstrapping analysis with a 95 % confidence interval shows that the upper and lower limits exclude zero (L95 % CI = 0.001, U95 % CI = 0.002). These results support H4.

Work engagement also positively mediated the relationship between CMD and OCB, accounting for 0.6 % of the variance ($b = 0.006$, $z = 3.077$, $p < 0.01$). This result is further corroborated by bootstrapping with 10,000 replications, as the confidence intervals excluded zero (L95 % CI = 0.003, U95 % CI = 0.010), supporting H5.

Additionally, work engagement significantly mediated the positive effect of P-O fit on OCB, accounting for 1.3 % of the variance ($b = 0.013$, $z = 3.364$, $p < 0.01$). This finding is confirmed by bootstrapping with 10,000 replications, where the confidence intervals exclude zero (L95 % CI = 0.006, U95 % CI = 0.024). Therefore, H6 is supported. These results indicate that work engagement partially mediates the positive relationship between CPFs (PSV, CMD, and P-O fit) and OCB.

Table 6. Path estimates of moral emotions

					95% Confidence	
		Std.	z-	P	Lower	Upper
WEG→OCB	0.201	0.043	4.689		0.119	0.298
PSV→OCB	0.046	0.011	4.037	< .001	0.016	0.076
CMD→OCB	0.021	0.005	2.002	0.045	0.004	0.024
P-O fit→OCB	0.110	0.010	10.668	< .001	0.086	0.133
PSV→WEG	0.041	0.015	2.744	0.006	0.005	0.077
CMD→WEG	0.029	0.007	4.077	< .001	0.014	0.044
P-O	0.064	0.013	4.827	< .001	0.037	0.095

Notes: PSV – Prosocial values, CMD – Cognitive moral development, P-O fit – Person-organisational fit, WEG – Work engagement. OCB – Organisational citizenship behaviour

Figure 1 represents the path estimates in Table 6.

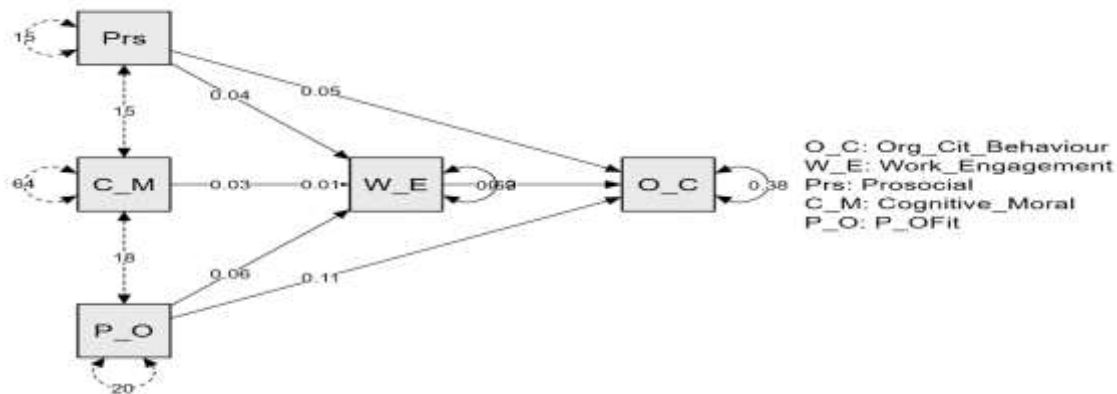


Fig. 1. Path plot showing the mediation effect

5. Discussion

The primary objective of this study is to evaluate the mediating effect of work engagement on the relationship between CPFs and OCB. The study contributes novel and significant findings on CPFs and OCB. Firstly, the findings indicate a significant positive influence of CPFs on OCB, thereby supporting hypotheses H1, H2, and H3. These results align with findings in other studies suggesting that moral CPFs such as PSV (Tran, 2023), cognitive CMD (Fernandes, 2024), and P-O fit (Choong, Ng, 2023) positively influence OCB by enhancing individuals' engagement and commitment to their roles. This enhancement promotes behaviours that benefit the organisation, fostering a deeper connection and alignment with organisational values and goals. As a result, employees will exert discretionary efforts and engage in cooperative behaviours.

Caetano et al. (2023) propose that PSV influences OCB by fostering a sense of appreciation and alignment with organisational values, motivating employees to exceed their formal job requirements. CMD also enhances employees' ability to make ethical decisions and consider the broader impact of their actions (Tran, 2023). Higher levels of CMD lead to increased moral reasoning, which encourages employees to engage in behaviours that benefit the organisation and its members (Fernandes, 2024). Additionally, according to Choy and Yeung (2023), P-O fit influences OCB by ensuring alignment between employees' values and goals and the organisation's culture. This alignment enhances job satisfaction and commitment, motivating employees to perform discretionary behaviours that support and enhance organisational effectiveness (Subramanian et al., 2023). These insights illustrate why CPFs such as PSV, CMD, and P-O fit are linked to OCB.

The results also supported the supplementary predictions, indicating that work engagement mediated the significant relationship between CPFs (PSV, CMD, and P-O fit) and OCB. These findings also agree with the assertion by Gertsen et al. (2022), who indicated that high levels of CPFs enhance work engagement, making employees more absorbed, dedicated, and energised in their roles. This increased engagement, in turn, motivates employees to exhibit OCB, such as helping colleagues and going beyond their job requirements to benefit the organisation. As suggested by Zhou et al. (2023), the way people perceive their work environment and their role within it is heavily influenced by CPFs, such as personality traits, values, and attitudes. These elements play a significant role in determining how invested individuals are in their work. When people feel connected and committed, they tend to find greater satisfaction, purpose, and meaning in what they do (George, Thomas, 2023), which often translates into a greater willingness to go above and beyond in their OCB.

6. Limitations and Future Studies

While this study offers valuable theoretical and practical contributions, it is important to acknowledge certain limitations. The research was restricted to civil servants employed within ministries in Accra, Ghana, which means the findings and their interpretations are context-specific. Therefore, the applicability of the results should be considered within this particular setting. To improve the generalisability of the outcomes, future studies should replicate the investigation in

diverse environments. Expanding the sample to include civil servants from regions beyond Accra, as well as from other developing countries, would provide a broader perspective on the phenomena under study. Moreover, the study focuses solely on work engagement as a mediating variable in the relationship between CPFs and OCB within the Ghanaian context. While work engagement plays a significant role in this relationship, other factors, both contextual and personal, may also influence the dynamics between CPFs and OCB. Future research could explore additional variables, such as emotional intelligence, organisational culture, workload, and role conflict, to gain a more comprehensive understanding of the factors influencing OCB. By considering these additional variables, researchers would be able to uncover more nuanced insights into how CPFs shape organisational behaviours and performance across diverse contexts.

7. Conclusion and implications

This study examines the impact of CPFs on OCB among civil service employees while also investigating the mediating role of work engagement. By applying SIT and the JD-R theory, it sought to understand how CPFs influence OCB and how work engagement mediates this relationship. The research demonstrates that all three CPFs (PSVs, CMD, and P-O fit) significantly affect employees' OCB. This finding suggests that bolstering CPFs among employees could potentially enhance their OCB, thereby improving overall organisational performance. Additionally, the study reveals that work engagement acts as a mediator in this relationship. This implies that fostering higher levels of work engagement among employees has the potential to strengthen the connection between CPFs and OCB, ultimately contributing to enhanced organisational effectiveness.

This research significantly advances our understanding of the relationship between CPFs and OCB among civil service employees in Ghana by applying Social Identity Theory (SIT) as a theoretical framework. The findings highlight that CPFs, such as PSVs, CMD, and P-O fit, play a crucial role in motivating employees to engage in extra-role behaviours. This empirical evidence enriches the existing OCB literature, underscoring the importance of individual CPFs in shaping workplace behaviours. Additionally, the study broadens the application of SIT, which is traditionally employed in social psychology, into the organisational domain. Offering empirical support for how CPFs influence individuals' identification with their organisation and subsequent behaviours, it strengthens SIT's theoretical foundations, demonstrating its applicability beyond intergroup dynamics.

Furthermore, the research provides valuable insights into the JD-R theory by examining how work engagement mediates the relationship between CPFs and OCB. While JD-R theory typically focuses on the influence of job demands and resources on employee well-being and performance, this study extends the framework to include internal CPFs such as PSVs, CMD, and P-O fit. The findings suggest that these internal attributes impact OCB through work engagement, highlighting the need to integrate individual predispositions with external job factors to understand workplace behaviours fully.

The study also offers practical implications for organisations aiming to enhance OCB among their employees. By recognising how CPFs like PSVs, CMD, and P-O fit contribute to increased OCB, organisations can prioritise these factors in recruitment, selection, and employee development processes. Emphasising these elements in leadership training programs, performance appraisal systems, and organisational policies can help cultivate an environment that fosters behaviours supporting the collective well-being of the organisation. Moreover, understanding that work engagement serves as a mediator in the CPF-OCB relationship suggests that efforts to enhance employee engagement can further amplify positive outcomes. Organisational strategies aimed at boosting work engagement, such as offering skill development opportunities, creating a supportive work environment, promoting autonomy, and recognising employee contributions (Choy, Yeung, 2023) can help maximise the positive effects of OCB.

8. Declarations

Ethics approval and consent to participate

Institutional approvals and participants' consent were obtained before the commencement of the study. The authors ensured that the study met the requirements per the Declaration of Helsinki

- Ethical Principles for Medical Research Involving Human Subjects, developed by the World Medical Association in 1964.

Consent for publication

All authors read and approved the final version of the manuscript for publication and agree to be accountable for all aspects of the work, ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Availability of data and materials

Available upon formal request to the corresponding author.

Conflict of interest statement

The authors report no conflicts of interest.

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Authors' contributions

All authors contributed equally to this work. They collaboratively developed the concept and design of the study, collected data, and contributed to the analysis and interpretation of the collected data. Additionally, all authors were involved in drafting, revising, and finalising the manuscript.

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