Abstract. This study investigates the effect of co-worker support and role clarity on work engagement among staff members of Federal Colleges of Education in Northern Nigeria. Drawing upon a structural equation modelling (SEM) framework, a survey-based, cross-sectional research technique was employed to examine these interrelated constructs. The study found significant relationships between co-worker support and work engagement, role clarity and work engagement: demonstrating the pivotal role of supportive work relationships and clear roles in enhancing work engagement. Furthermore, this study explores the moderating influence of role clarity, shedding light on how well-defined job roles can amplify or attenuate the impact of co-worker support on work engagement. The study found that role clarity significantly moderated the relationship between co-worker support and work engagement. These findings contribute to the growing body of knowledge on employee well-being and organizational dynamics, offering insights that can inform strategies for enhancing work engagement in educational institutions in Northern Nigeria and beyond. This study underscores the importance of fostering supportive work environments and the need for organizations to provide clear and well-defined job roles for their employees to maximize their engagement and productivity.

Keywords: co-worker support, role clarity, work engagement, social exchange theory

JEL Classification: ML10, ML12, ML14.

INTRODUCTION

Employees have been discovered to play an important function in organisations since they contribute to all organisational activities (Putri, Triatmanto & Setiyadi, 2018). They are sacrosanct to the achievement of organisational goals and objectives (Aseanty, 2016). As one of the most important assets in any organisation, their impact is far-reaching and cannot be overemphasised...

(Nanzushi, 2015). This is not far-fetched since every firm strives to remain competitive and relevant in today's global market (Udembia, 2018), these personnel provide a competitive edge (Gabanová, 2011). According to Osborne and Hammoud (2017), businesses must have an engaged workforce to get this advantage since engaged employees are considered to be an organization's lifeblood (Gallup, 2012). Unquestionably, Jouany and Makipaa (2020) argued that businesses with highly engaged employees are 21% more profitable overall.

According to study by Gallup (2022) on the state of the global workplace in 2021, work engagement declined internationally by 2% from 22% in 2019 to 20% in 2020, which was 1% higher than the 2020 level of 21% in 2021. Gallup (2022) also noted that the worldwide workforce's proportion of disengaged workers continues to outweigh that of engaged workers. For instance, just 15% of the workforce in Nigeria is engaged for three years in a row in 2019, 2020, and 2021 (Gallup, 2021; Gallup, 2022). According to the survey, Nigeria's rate of 15% work engagement in 2021 is shockingly low when compared to Mali, Senegal, and Guinea, which have comparable socioeconomic conditions to Nigeria and have rates of 43%, 35%, and 28%, respectively (Gallup, 2022). Moreover, Nigeria's engagement figure is below the global figure of 21% by 6% in 2021.

Work engagement is described as "the simultaneous expression of a person's preferred self in task behaviours that promote connection to work and others" (Kahn, 1990). To Schaufeli, Salanova, González-Romá, and Bakker (2002), it is a pleasant, reassuring work-related frame of mind distinguished by vigour, dedication, and absorption. Guaspari (2015) sees it has the degree to which an individual is moved to use additional effort and energy in the tasks that must be completed. Work engagement is defined by Yongxing, Du, Xie, and Lei (2017) as a high degree of energy and excitement demonstrated by employees in the workplace towards the fulfilment of organisational goals. Work engagement is defined in this study as positive conduct and state of mind that leads to positive work-related outcomes.

Regrettably, Agbionu, Anyalor, and Nwali observed in 2018 that public tertiary institutions in Nigeria had poor work engagement. Working in the public tertiary education system, according to Oladejo, Kareem, and Ghanni (2013), is an inherently difficult profession, with long hours, big workloads, substantial paperwork, tough students, and competing expectations. Many of these public tertiary institutions now feature a bureaucratic organisational culture based on power distance, authority, collectiveness, low peer support, and political influences (Bakare, 2021). It has also been noticed that the administration of these institutions, as well as the Federal Government, fail to assist in employee welfare, funding, and the elimination of dehumanising working circumstances for staff of public tertiary institutions (Ardo, Ubandawaki, & Ardo, 2020).

Work engagement has been related to a variety of beneficial workplace outcomes, both on an individual and organisational level (Anitha, 2014). According to Agbionu, Anyalor, and Nwali (2018), it improves employee performance and retention (Olaniyi & Olaniyi, 2019), increases employee commitment (Eghlidi & Karimi, 2016), increases job satisfaction, reduces stress, and improves sleep management problems (Gatane, Florence, & Gaylord, 2014) at the employee level. Work engagement, on the other hand, impacts organisational productivity, profitability, and attrition (Nguyen, Nguyen, Ngo, & Nguyen, 2019) as well as organisational citizenship conduct (Kasinathan & Rajee, 2019) at organisational level. Gallup's research of 112,312 businesses in 96 countries discovered a substantial correlation between engagement and performance outcomes like retention, safety, productivity, and profitability (Gallup, 2022).

Previous studies (e.g., Heuvel, Demerouti, Schaufeli & Bakker, 2010; Bakker & Demerouti, 2014; Ojeleye, Abu-Abdissamad, Umar, & Usman, 2022) have highlighted co-worker support as a key predictor of work engagement to understand what motivates employee work engagement in the workplace. According to research by Consiglio, Borgogni, Tecco, Schaufeli, and Bakker & Demerouti (2016) and significant predictors of work engagement by Kulikowski & Sedlak (2017), Tringale (2018), and Znidarsi & Bernik (2021) and others, co-workers' support is one of the most crucial job resources. These behaviours often involve giving co-workers the tools and social support
they need to perform their jobs more effectively, which also enhances their mental health (Joiner, 2016). Hashigami and Tsujimoto (2020) noted that employees personify an organisation and interpret the actions of its agents (such as co-workers) as the actions of the organisation itself. So, according to independent assessments of care provided by co-workers on behalf of the organisation (Hashigami & Tsujimoto, 2020; Mokhta, Ambad, Annuar & Lajuni, 2020), the perception of co-worker support is a by-product of that. Despite the breadth of these numerous research, attention has been focused on the direct impact of co-worker support on work engagement. As a result, the current study deepened this line of inquiry by exploring the moderating mechanism.

Moreover, inconsistency findings have also been reported in previous studies. Studies such as Ojeleye et al., 2022; Anitha, 2014; Cureton, 2014; Ariani, 2015; Vera, Martinez, Lorente & Chambel, 2016; Nasurdin, Ling & Khan, 2018; Kulikowski & Sedlak, 2017; Tringale, 2018; Mokhta et al., 2020 and Znidarsič & Bernik, 2021 have documented a positive significant relationship between co-worker support and employee engagement. Other studies by Selam, 2018; Makera 2018 and Wright, 2009 documented a nonsignificant relationship between co-worker support and employee engagement. Baron and Kenny (1986) posited that whenever there are contradictions in research findings, a moderator is desirable to either strengthens, weaken or change the direction of the relationship. Therefore, based on this literature gap, the current study introduced role clarity as a moderator of the relationship between co-worker support and work engagement. Moreover, there are no previous studies to the best of our knowledge that employed role clarity to moderate the aforementioned relationships.

Vullinghs, De Hoogh, Hartog, and Boon (2020) see role clarity as the degree to which employees believe they have clear direction regarding the tasks and actions connected with their jobs. It is regarded as the availability of essential job information that enables an employee to carry out his or her duty as efficiently as possible (Thangavelu & Sudhahar, 2017). It serves as a line of necessity defining what the employer expects of a worker (Kundu, Kumar, & Lata, 2020). Since an employee's performance and work are connected with their level of clarity, this may be used to quickly demonstrate their proficiency (Yadav & Anil Kumar, 2017). Due to the variety of responsibilities that employees play in each business, role clarity has therefore emerged as a key research variable of discuss in management research. In particular, in service-based companies, role clarity is typically considered as being more crucial and vital (Pahi et al., 2020). Hence, anytime a worker's tasks and responsibilities are unclear or ambiguous, apathy is triggered (Zolkapli et al., 2022). Role ambiguity lowers employee’s confidence and capacity to operate at work, causes a rise in job stress and a loss in employee performance (Syarifah, Nadia, Wardani, & Jayanti, 2023; Unguren & Arslan, 2021).

Meanwhile, role clarity has been employed in a plethora of studies as a moderator of several organisational outcomes. For instance, as a moderator of the relationship between authentic leadership and psychological empowerment (Towsen, Stander, & Van Der Vaart, 2020), leadership styles and commitment to service quality (Pahi et al., 2020). Hence, this study posited that when employees have a clear understanding of their roles and responsibilities, they may be more likely to perceive co-worker support as a valuable resource that enhances their work engagement, reinforcing the social exchange process within the organization. Therefore, on the basis aforementioned literature gaps, the study hypothesised that:

**H1:** Co-worker support has a significant effect on work engagement among the staff of Federal Colleges of Education in Northern Nigeria.

**H2:** Role clarity has a significant effect on work engagement among the staff of Federal Colleges of Education in Northern Nigeria.

**H3:** Role clarity significantly moderated the relationship between co-worker support and work engagement among the staff of Federal Colleges of Education in Northern Nigeria.

**Social Exchange Theory**

The Social Exchange Theory (SET) serves as the foundation for this investigation. Social exchange theory, or SET, is a concept in social psychology that focuses on how people interact with
others as a sort of exchange or transaction (Blau, 1961). Fundamentally, according to Cropanzano, Anthony, Daniels, and Hall (2017), SET proposes that people get into relationships and engage in transactions with others in the hope of obtaining something worthwhile in return. In addition to intangible incentives like emotional support or recognition, this can also include concrete rewards like help, resources, or support (Cook, Cheshire, Rice, & Nakagawa, 2013). SET posits that individuals assess the costs and benefits of these social exchanges and are more likely to engage in them when they perceive that the benefits outweigh the costs (Ojeleye, Abu-Abdissamad, Umar, & Usman, 2022; Cropanzano & Mitchell, 2005). This theory helps us understand various social interactions, including friendships, work relationships, and even economic transactions, by highlighting the inherent reciprocity and evaluation of gains and losses that underlie human social behaviour (Nunkoo, 2016). The Social Exchange Theory can help us understand the dynamics of the relationship between co-worker support, work engagement, and role clarity among staff in Federal Colleges of Education in Northern Nigeria. In the context of this study, co-worker support represents a form of interpersonal exchange, where employees provide assistance, cooperation, and emotional support to their colleagues (Ojeleye et al., 2022). In return, they anticipate receiving similar support or other valuable outcomes, such as increased work engagement. Role clarity plays a moderating role by influencing the perceived value of co-worker support. When employees have a clear understanding of their roles and responsibilities, they may be more likely to perceive co-worker support as a valuable resource that enhances their work engagement, reinforcing the social exchange process within the organization.

**RESEARCH METHODOLOGY**

The study adopted a quantitative methodology to collect and analyze numerical data. Specifically, the research employed survey methods and cross-sectional research designs. Survey research involves collecting specific information from individuals to describe, compare, and explain their knowledge, attitudes, and behaviour, as defined by Hair, Celsi, Money, Samouel, and Page, (2016). The choice of a survey research approach stems from the utilization of a well-structured questionnaire to gather responses from participants. This method is advantageous due to its speed, reduced potential for bias, and cost-effectiveness, as highlighted by Ojeleye, Bakare, Umar and Ojeleye (2021). Moreover, since data is collected from participants at a single point in time, the questionnaire items were distributed using a one-shot or cross-sectional research approach. The population of the study is made up of the entire staff of three selected Federal Colleges of Education in Northern Nigeria namely: Federal College of Education Zaria, Federal College of Education Okene and Federal College of Education (Technical) Gombe.

**Table 1**

<table>
<thead>
<tr>
<th>S/N</th>
<th>Name of the Institutions</th>
<th>No of Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Federal College of Education Zaria</td>
<td>2,525</td>
</tr>
<tr>
<td>2</td>
<td>Federal College of Education Okene</td>
<td>1,137</td>
</tr>
<tr>
<td>3</td>
<td>Federal College of Education (Technical) Gombe</td>
<td>1,352</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>5,014</td>
<td></td>
</tr>
</tbody>
</table>

*Source: Authors’ systemization*
Cluster sampling, proportional sampling, and simple random sampling were used as part of a multi-stage sampling approach. First, since the institutions are dispersed over several geographic locations, the researcher uses cluster sampling to attempt to group the institutions. According to Sekaran and Bougie (2016), the cluster sampling approach also offers greater variation within groups and greater uniformity between groups. Second, a proportional sampling strategy was used in the study. The total sample size was calculated as the sum of all items from each cluster. The proportion of items chosen from each cluster to the final sample size depends on the size of the cluster (Hair et al., 2020). According to Pondent's (2017) argument, proportional sampling techniques provide equal representativeness since they result in sample sizes that are truly representative of the population. After determining the sample size, the institutions’ sampled workers were contacted using a simple random sampling procedure. Taro Yamane's sample size for a finite population was used to calculate the study’s sample size, which is mathematically described below: Where \( n = \text{Sample Size} \), \( N = \text{population} \) and \( e = \text{margin error (assume 5%)} \)

\[
n = \frac{N}{1 + N(e)^2} = \frac{5,014}{1 + 5014(0.05)^2} = \frac{5,014}{1 + 12.535} = 370
\]

Israel (2013) additionally recommended raising the sample size by 10% to 30% to minimise non-response error, which can occur when information is not obtained from several respondents who are included in the sample and is capable of introducing bias into the study (Sekaran & Bougie, 2016). Because of this, the 370 sample size for the derived research was raised to 407 samples (1.10*370=407). 392 in total (96%) were correctly filled out, returned, and used in the study.

Table 2

<table>
<thead>
<tr>
<th>S/N</th>
<th>Name of the Institutions</th>
<th>No of Staff</th>
<th>Proportional Sampling%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Federal College of Education Zaria</td>
<td>2,525</td>
<td>205</td>
</tr>
<tr>
<td>2</td>
<td>Federal College of Education Okene</td>
<td>1,137</td>
<td>92</td>
</tr>
<tr>
<td>3</td>
<td>Federal College of Education (Technical) Gombe</td>
<td>1,352</td>
<td>110</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>5,014</td>
<td>407</td>
</tr>
</tbody>
</table>

Source: Authors' systemization

Measures

Instruments from past studies were adapted to assess the research constructs. First, co-worker support consists of four-item adapted from O’Driscoll (2000) often employed to measure the four types of social support provided by co-workers in the workplace. The sample item for the instrument that was used to measure co-worker support is: My colleagues provide helpful information about my work. The overall Cronbach’s alpha for this instrument as reported by

O’Driscoll, Brough and Kalliath (2004) stood at 0.89, indicating that the instrument is reliable and appropriate for the present study. For this study, the composite reliability is 0.861. Furthermore, the item for measuring role clarity is made up of seven-item adapted from Rizzo, House and Lirtzman (2007). A sample item that was used to measure role clarity is: I am given a clear explanation. The overall composite reliability for this instrument as reported by Wang, Cadiz and Andy (2023) ranges between 0.904, indicating that the instrument is reliable and appropriate for the present study. For this study, the composite reliability is 0.882. Lastly, the item for measuring employee engagement is made up of the short version of the Utrecht Work Engagement Scale (UWES-9) developed by Schaufeli, Bakker and Salanova (2006). This version is called the UWES-9 and it differs from the longer version also so that it only provides the measurement for the whole engagement, not the dimensions separately (Schaufeli et al., 2006). Saks and Gruman (2014) noted that UWES has been widely used in engagement research and it has been validated in various countries. The reliability of the instrument was reported with a Cronbach alpha coefficient of 0.78. A sample of the item for the instrument that was used to measure employee engagement is: At my work, I feel bursting with energy. For this study, the composite reliability is 0.891

RESULTS

The study utilised a structural equation model to analyse the data collected from the respondents. The model is comprised of measurement and structural models. While the measurement model was employed to ascertain the model’s fit, reliability and validity of the research instrument, the structural model was used to analyse the hypothesised relationship between the study’s constructs. Furthermore, the predictive relevance, effect size and coefficient of determination were examined.

Assessment of Model Fit

<table>
<thead>
<tr>
<th>Fit Index</th>
<th>Recommended Value</th>
<th>Saturated Model</th>
<th>Estimated Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRMR</td>
<td>&lt;0.08</td>
<td>0.071</td>
<td>0.071</td>
</tr>
<tr>
<td>NFI</td>
<td>&gt;0.90</td>
<td>0.907</td>
<td>0.908</td>
</tr>
</tbody>
</table>

Source: Authors’ systemization of Smart-PLS output

The ability of a model to reproduce the data, often the variance-covariance matrix, is referred to as fit. Since they are largely consistent with the data, well-fitting models do not necessarily need to be respecified (Hair et al., 2021). The Standardised Root Mean Square Residual (SRMR) was used in this study; it is defined as the difference between the observed correlation and the correlation matrix suggested by the model (Hair, Hult, Ringle, & Sarstedt, 2022). The average size of the discrepancies between observed and predicted correlations may therefore be used to evaluate the (model) fit criteria (Hair, Black, Babin, & Anderson, 2019). Additionally, Bentler & Bonett's Normed Fit Index (NFI), commonly known as the Bentler and Bonett Index (BBI), was one of the first fit metrics to be suggested in the SEM literature. It computes the Chi-square value of the proposed model and evaluates it against an important benchmark. Since the Chi-square value from the proposed model does not, by itself, provide sufficient information to judge model fit, the NFI uses the Chi-square value from the null model as a yardstick. To check model fit, the suggested criterion for SRMR is < 0.08 and NFI is > 0.90 (Hair et al., 2022). The values of SRMR and NFI in
the saturated model are 0.08 and >0.90, respectively, which supported the model's fit, as shown in Table 3.

Assessment of Measurement Model

The measurement model was used to ascertain the internal consistency, convergent validity and discriminant validity. First, the item loading was evaluated. Hair, Hult, Ringle and Sarstedt, (2017) argued that loadings of 0.70 and above should be retained while any loading below 0.7 should be deleted. On the contrary, Hulland (1999) advocated for the retainment of loadings of 0.5 and above but the deletion of items below this threshold since they add little or no explanatory power to the model. As a consequence, this study retained loading of 0.5 and above and deleted those items loading below 0.5. For instance, RC4, WE4 and WE7 were deleted because they all loaded below the 0.5 threshold (See: Figure 1 and Table 2 below). After deleting the items with low loading scores, all the remaining indicators met the AVE criterion.

![Figure 1. Measurement Model](source)

In addition, to determine the validity of the research instruments, first, content validity was by five (5) experts as recommended by Lawshe (1975). All terms within the items were scrutinised for their appropriateness to ensure the items are not ambiguous, easy and single-barrel. Meanwhile, Fornell and Larcker (1981) proposed employing Average Variance Extracted (AVE) to assess the convergent validity of the research instrument. In this context, Fornell and Larcker (1981) asserted that the AVE of every latent construct ought to be greater than 0.50 to established a satisfactory convergent validity. Table 4 below offers insight into the satisfactory justification of each construct’s convergent validity. Second, the test for consistency within the indicator was analysed using a composite reliability score for each of the reflective constructs. If a construct has a composite reliability score of 0.70, they are considered reliable (Hair, Page, & Brunsveld, 2020).

Table 4

<table>
<thead>
<tr>
<th>Construct</th>
<th>Indicators</th>
<th>Loadings</th>
<th>Composite Reliability</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-worker Support</td>
<td>CS1</td>
<td>0.753</td>
<td>0.861</td>
<td>0.613</td>
</tr>
<tr>
<td></td>
<td>CS2</td>
<td>0.896</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CS3</td>
<td>0.849</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CS4</td>
<td>0.600</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Role Clarity</td>
<td>RC1</td>
<td>0.608</td>
<td>0.882</td>
<td>0.515</td>
</tr>
<tr>
<td></td>
<td>RC2</td>
<td>0.612</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>RC3</td>
<td>0.789</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>RC5</td>
<td>0.760</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>RC6</td>
<td>0.723</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>RC7</td>
<td>0.791</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work Engagement</td>
<td>WE1</td>
<td>0.771</td>
<td>0.891</td>
<td>0.542</td>
</tr>
<tr>
<td></td>
<td>WE2</td>
<td>0.841</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WE3</td>
<td>0.835</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WE5</td>
<td>0.620</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WE6</td>
<td>0.602</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WE8</td>
<td>0.785</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WE9</td>
<td>0.658</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Authors’ systemization of Smart-PLS output

Lastly, the heterotrait-monotrait correlation ratio was utilised to assess this study's discriminant validity. Kline (2011) recommended that the correlations between variables should not be greater than 0.85 when the constructs are conceptually different. However, Henseler et al. (2015) advocated for a more relaxed threshold of 0.900 when the constructs are conceptually similar. As a consequence, any value above the chosen benchmark represents a deficiency in discriminant validity (Hair et al., 2022; Hair et al., 2021). As such, since both CS and RC are conceptual dissimilar, the study employed Kline (2011) benchmark. In Table 5 below the correlation’s figures are all less than 0.85 confirming the discriminant validity between the study’s constructs.

Table 5

<table>
<thead>
<tr>
<th>Constructs</th>
<th>CS</th>
<th>RC</th>
<th>WE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RC</td>
<td>0.136</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WE</td>
<td>0.287</td>
<td>0.260</td>
<td></td>
</tr>
</tbody>
</table>

Source: Authors’ systemization of smart-PLS output

Assessment of Structural Model

The structural model was used to test the proposed hypotheses of the study by analysing the path coefficients. The study followed the recommendation of Hair, Hult, Ringle, and Sarstedt
(2014) by assessing the proposed hypotheses' strength using 5000 bootstrapping samples. Furthermore, the moderating effect was assessed by utilising the product indicator method since all the study's constructs are reflective indicators (Sarstedt, Hair, HaJun-Hwa, Becker, & Ringle, 2019).

**Figure 2. Structural Model**

*Source: Smart_PLS 3.3.8 output*

**Hypotheses Testing**

The test of hypotheses comprised the direct and the moderating effect.

**Direct Effect**

As shown in Figure 2 and Table 6 co-worker support has a positive and significant effect on work engagement. Hence, $H_{01}$ was supported ($\beta=0.277$, t-value=5.366, p-value<0.01). This is interpreted as a 1% increase in CS will lead to a 28% increase in WE at a 1% significant level. Similarly, role clarity has a positive and significant effect on work engagement. Thus, $H_{02}$ was also supported ($\beta=0.302$, t-value=6.835, p-value<0.01). Interpreted as a percentage increase in RC will lead to a 30% increase in WE at a 1% significant level.

**Moderating effect**

Figure 2 and Table 6 showed role clarity significantly moderated the relationship between co-worker support and work engagement. ($\beta=0.257$, t-value=2.920, p-value<0.01). The positive beta value showed that role clarity strengthen the relationship between CS and WE. Sharma (2003) referred to this typology of moderation as a quasi-mediator. It is said to occur whenever both the direct and indirect relationships are statistically significant. Furthermore, Gardner, Harris, Li, Kirkman and Mathieu (2017) posited that when the coefficient of both the direct and indirect
relationship is positive or negative (i.e., 0.277 and 0.257) then, the strengthening effect particularly accentuating effect is said to exist between the variables. This means that RC amplifies the relationship between CS and WE. Meanwhile, the R-squared ($R^2$) value of 0.361 indicates that the models including these relationships can explain approximately 36% of the variance in the endogenous variable. Based on Chin's (1998) valuation, the $R^2$ value is moderate.

**Table 6**

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Relationship</th>
<th>Beta</th>
<th>Standard Error</th>
<th>T-Values</th>
<th>P-Values</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>$H_{01}$</td>
<td>CS $\rightarrow$ WE</td>
<td>0.277</td>
<td>0.052</td>
<td>5.366</td>
<td>0.000</td>
<td>Supported</td>
</tr>
<tr>
<td>$H_{02}$</td>
<td>RC $\rightarrow$ WE</td>
<td>0.302</td>
<td>0.044</td>
<td>6.853</td>
<td>0.000</td>
<td>Supported</td>
</tr>
<tr>
<td>$H_{03}$</td>
<td>CS*WE</td>
<td>0.257</td>
<td>0.088</td>
<td>2.920</td>
<td>0.004</td>
<td>Supported</td>
</tr>
</tbody>
</table>

$p<0.05$.

**Effect Size**

The effect size underscores the individual contribution of each exogenous variable and moderator variable to the variance in the endogenous variable. Cohen (1988) suggested thresholds for the $f^2$ values. Cohen (1988) advocated values of 0.02, 0.15, and 0.35, to represent small, medium, and large effects respectively. Consequently, CS and CS*RC have small effect sizes while RC has a medium effect size variance to the endogenous variable.

**Table 7**

<table>
<thead>
<tr>
<th>Construct</th>
<th>$f^2$</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS</td>
<td>0.084</td>
<td>Small</td>
</tr>
<tr>
<td>RC</td>
<td>0.131</td>
<td>Medium</td>
</tr>
<tr>
<td>CS*RC</td>
<td>0.056</td>
<td>Small</td>
</tr>
</tbody>
</table>

**Predictive Relevance**

Predictive relevance, often referred to as $Q^2$ is a statistical measure used to assess the predictive power or utility of a model in relation to the original data (Ojeleye, Ojeleye, Karem, & Abdullahi, 2023). It represents the proportion of the variance in the outcome variable (dependent variable) that is explained by the model's predictions (Hair et al., 2017). In other words, $Q^2$ indicates how well a model's predictions align with the actual observed values, serving as an indicator of the model's ability to accurately forecast or predict outcomes. A higher $Q^2$ value suggests that the model's predictions are more relevant and reliable. The value of $Q^2$ of the model is 0.148 in Table 7 and Figure 3 below which is above the value of zero (0). Hence, the study concludes that the model has predictive relevance.
Co-worker support plays a crucial role in promoting work engagement among the staff of colleges of education in Nigeria, aligning with the principles of the social exchange theory. The positive effects of co-worker support are undeniable, as it leads to increased job satisfaction, job involvement, and overall well-being of employees. When individuals feel supported and valued by their colleagues, they experience a sense of belonging and emotional support in the workplace (Ojeleye et al., 2022). This, in turn, fosters positive relationships, collaboration, and cooperation among colleagues (Tringale, 2018). Such supportive work environments create a positive work culture, where employees are more likely to be motivated, energized, and committed to their work. The social exchange theory posits that when individuals receive support and assistance, they feel obligated to reciprocate such behaviour (Selam, 2018). Consequently, employees are more likely to be engaged in their work, go above and beyond their job requirements, and contribute positively to their organizations (Nasurdin, Ling, & Khan, 2018; Tirastittam, Sirikamonsi, Li, & Aun-a-nan, 2020). Therefore, co-worker support not only improves individual work engagement but also contributes to organizational success and productivity in colleges of education in Nigeria.

Role clarity has a positive and significant effect on work engagement among staff in colleges of education in Nigeria, in alignment with the principles of the social exchange theory. When employees have a clear understanding of their roles, responsibilities, and expectations within the organization, they are more likely to be engaged and motivated in their work (Panari, Caricati,
Pelosi, & Rossi, 2019). Role clarity provides individuals with a sense of purpose and direction, allowing them to prioritize tasks, make informed decisions, and effectively contribute to the overall goals of the institution (Alnuaimi, 2022; Bellamkonda, Santhanan, & Pattusamy, 2021). Moreover, clear roles reduce ambiguity and job-related stress, enabling employees to focus their energy and efforts on their core responsibilities (Hassan, 2020). The social exchange theory suggests that when organizations invest in providing employees with clear role expectations, employees are more likely to reciprocate by displaying higher levels of job satisfaction and commitment (Murthy, 2017; Znidarsic, Vukovic, & Maric, 2020). Consequently, staff members in colleges of education in Nigeria who experience role clarity are more engaged, enthusiastic, and dedicated to their work, leading to improved performance and productivity within the organization.

The moderating role of role clarity in the relationship between co-worker support and work engagement is significant among staff in colleges of education in Nigeria, according to the social exchange theory. Role clarity acts as a crucial factor that enhances and strengthens the positive effects of co-worker support on work engagement. When employees have a clear understanding of their roles and responsibilities, they are better equipped to seek and provide support within their work environment (Tirastittam et al., 2020). Co-worker support becomes more effective and impactful when individuals know how their responsibilities align with those of their colleagues (Ojeleye, et al., 2022). Role clarity enables employees to collaborate, communicate, and coordinate their efforts more efficiently, leading to increased co-worker support and work engagement. The social exchange theory suggests that individuals who experience both co-worker support and role clarity are more likely to reciprocate with higher levels of engagement, commitment, and loyalty. Therefore, the combination of co-worker support and role clarity creates a synergistic effect, contributing to a positive and thriving work environment among staff in colleges of education in Nigeria.

Implications

The practical implications of the positive and significant effect of co-worker support on work engagement among staff in colleges of education in Nigeria are significant. Firstly, organizations should foster a culture of collaboration and teamwork, encouraging employees to support one another. This can be achieved by organizing team-building activities, promoting open communication channels, and emphasizing the importance of collective goals. Additionally, providing opportunities for staff to participate in training and development programs focused on enhancing their interpersonal skills and building effective relationships can further strengthen co-worker support. Secondly, managers should ensure that roles and responsibilities are clearly defined and communicated to staff. This will help in reducing ambiguity and confusion, enabling employees to understand their contributions to the organization and how they fit into the broader team. Lastly, recognizing and acknowledging the importance of co-worker support in performance evaluations and reward systems can reinforce the desired behaviour. This can include incorporating peer feedback and evaluating how individuals contribute to fostering a supportive work environment. By implementing these practical strategies, colleges of education in Nigeria can harness the power of co-worker support, leading to increased work engagement and ultimately enhanced productivity.

The theoretical implications of the positive and significant effect of co-worker support and role clarity on work engagement among staff in colleges of education in Nigeria align with the social exchange theory. The social exchange theory suggests that individuals engage in a reciprocal relationship where they exchange resources, such as support, to achieve outcomes that are personally beneficial. In this context, employees who receive co-worker support and experience role clarity are more likely to reciprocate with higher levels of work engagement. Co-worker support acts as a resource that provides emotional and instrumental assistance to individuals in their work environment, creating a sense of belonging and support. Role clarity, on the other hand, enables employees to understand their role expectations, which in turn, facilitates effective collaboration.
and coordination with colleagues. This reciprocal exchange of support and clarity leads to increased work engagement among staff in colleges of education in Nigeria. The underlying mechanism is that when employees feel supported and have a clear understanding of their roles, they are more likely to be motivated, committed, and loyal to their work, ultimately leading to higher levels of engagement. Therefore, the social exchange theory provides a theoretical framework to understand and explain the positive relationship between co-worker support, role clarity, and work engagement in this context.

Additionally, the social exchange theory suggests that role clarity plays a significant moderating role in the relationship between co-worker support and work engagement. The presence of clear role expectations provides a framework for employees to understand their tasks, responsibilities, and the support they can expect from their co-workers. When role clarity is high, the positive effect of co-worker support on work engagement is amplified. Employees with clear roles are more likely to recognize and appreciate the support they receive from their co-workers, leading to increased levels of engagement. On the other hand, when role clarity is low, the impact of co-worker support on work engagement may be diminished. Without clear expectations, employees may struggle to understand how co-worker support aligns with their roles, resulting in reduced engagement. This highlights the importance of establishing and communicating clear role expectations to maximize the positive effect of co-worker support on work engagement among staff in colleges of education in Nigeria.

Overall, the theoretical implications of the social exchange theory suggest that co-worker support and role clarity have both direct and interactive effects on work engagement. College staff in Nigeria who receive support from their co-workers and have a clear understanding of their roles are more likely to be engaged in their work. Therefore, organizations should prioritize fostering a supportive work environment and promoting role clarity to enhance work engagement and ultimately improve job performance among staff in colleges of education in Nigeria.

CONCLUSION

In conclusion, this study highlights the significant influence of co-worker support and role clarity on work engagement. The findings indicate that both factors, co-worker support and role clarity, play crucial roles in enhancing employees' level of work engagement. The presence of supportive colleagues and a clear understanding of one's role contribute positively to employees' overall engagement in their tasks and responsibilities. Moreover, the study goes beyond this direct relationship by uncovering an intriguing aspect of moderation. Role clarity has been identified as a significant moderator in the relationship between co-worker support and work engagement. This implies that the impact of co-worker support on work engagement is contingent upon the degree of role clarity that an individual perceives. When employees have a clear understanding of their roles and responsibilities, the positive effects of co-worker support on work engagement are magnified. This underscores the importance of not only fostering supportive work relationships but also ensuring that employees have a comprehensive understanding of their roles within the organization. In practical terms, these findings emphasize the multifaceted nature of factors contributing to work engagement. Organizations should not only focus on promoting co-worker support and role clarity individually but should also recognize the dynamic interplay between these factors. By addressing both elements in tandem, organizations can create an environment that cultivates high levels of work engagement among their employees, ultimately leading to improved performance, job satisfaction, and overall well-being.

LIMITATIONS AND SUGGESTIONS FOR FURTHER STUDY

While the study provides valuable insights into the effects of co-worker support and role clarity on work engagement among staff in colleges of education in Nigeria, some limitations need
to be acknowledged. First, the study used a cross-sectional design, which limits causal conclusions. Future research could benefit from longitudinal or experimental designs to establish causality and better understand the temporal relationships between variables.

Second, the study relied on self-reported measures, which may introduce common method bias. It would be beneficial for future research to incorporate objective measures or multiple sources of data to mitigate this bias.

Third, the study focused specifically on staff in colleges of education in Northern Nigeria. The generalizability of the findings to other contexts or industries may be limited. Future research could explore the relationships in different sectors or geographic regions to assess the generalizability of the findings.

Fourth, the study only examined the direct and moderating effects of role clarity on co-worker support on work engagement. There may be other factors or variables that could further influence the relationship. Future research could explore additional variables, such as psychological capital, leadership style or organizational culture, to enhance the understanding of work engagement in this context.

Lastly, the study did not consider other potential moderators or mediators that could contribute to the relationship between co-worker support, role clarity, and work engagement such as supervisory support, organisational justice and work-life balance. Future research could investigate the underlying mechanisms or boundary conditions that may affect this relationship, such as individual differences or contextual factors.

REFERENCES


Bakker, A. B., & Demerouti, E. (2018). Multiple levels in job demands-resources theory:


244. https://doi.org/https://doi.org/10.1108/SHR-09-2015-0070


Acta Biomed for Health Professions, 90(11), 60–67. https://doi.org/10.23750/abm.v90i6-S.8481


ПІДТРИМКА КОЛЕГ ТА ЗАЛУЧЕННЯ ДО РОБОТИ СПІВРОБІТНИКІВ ФЕДЕРАЛЬНИХ КОЛЕДЖІВ ОСВІТИ В НІГЕРІЇ: МОДЕРУЮЧА РОЛЬ

**Ojeleye Yinka Calvin**

*PhD, School of Business & Entrepreneurial Education*

*Federal College of Education (Technical)*

*Gusau, Zamfara State, Nigeria*

**Abdullahi Mukhtar**

*School of Business & Entrepreneurial Education*

*Federal College of Education (Technical)*

*Gusau, Zamfara State, Nigeria*

**Salami Oluosola Akeem**

*School of Business & Entrepreneurial Education*

*Federal College of Education (Technical)*

*Gusau, Zamfara State, Nigeria*

У цьому дослідженні вивчається вплив підтримки з боку колег і чіткості ролей на залученість до роботи серед співробітників федеральних коледжів освіти на півночі Нігерії.

For the study of these interrelated constructs, cross-sectional research based on structural equation modeling (SEM) was used. The study revealed significant relationships between co-worker support and work engagement, role clarity, and job involvement, demonstrating the key role of supportive working relationships and clear role distribution in increasing job involvement.

It is evident that employees play a crucial role in organizations, as they contribute to the entire organizational activity. They are essential for achieving organizational goals and tasks. As one of the most significant assets of any organization, their impact is far-reaching and cannot be underestimated. This is not an overstatement, as every company strives to remain competitive and up-to-date on the current global market, and it is the personnel that ensures competitive advantage.

In addition, the study examines the restraining influence of role clarity, shedding light on how clearly defined work roles can enhance or weaken the impact of co-worker support on job involvement. The study showed that role clarity significantly reduces the link between co-worker support and work engagement. These findings contribute to the growing knowledge of employee well-being and organizational dynamics, offering ideas that could become the foundation for strategies to enhance job involvement in educational institutions in Nigeria and beyond.

Key words: co-worker support, role clarity, job involvement, theory of social exchange.