Work-Family Role Interface Conflict and Organizational Climate as Predictors of Teamwork Effectiveness Among Industrial Workers in Nnewi, Anambra State, Nigeria

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Abstract
The success of any industrial system hinges on the quality and effectiveness of its workers. The study which is non-experimental and cross-sectional survey examined work-family role interface conflict and organizational climate as correlates of teamwork effectiveness among industrial workers in Nnewi, South-East, Nigeria. Using a non-purposive sampling technique, a total number of two hundred and forty (240) industrial workers were selected from Chicason Groups of companies located at the commercial hub of Nnewi, Anambra State, Nigeria. The participants comprised of 143 (59.5%) males and 97 (40.5%) female industrial workers. Modified Teamwork Effectiveness Questionnaire (MTEQ), Work-Family Conflict and Family-Work Conflict Scale (WFC), and Organizational Climate Scale (CLIOR) were used to collect data from the participants. Pearson Product Moment Correlation (PPMC) was used to analyze the relationship between the variables of study while multiple regression was utilized to evaluate the independent and joint predictions of the predictor variables. Results of the multiple regression demonstrated that work-family role interface conflict negatively predicted teamwork effectiveness [$\beta = -.24; p<.01$] while perceived organizational climate showed significant positive prediction on teamwork effectiveness [$\beta = .37; p<.01$] among the industrial workers. Based on the findings of the study, it is recommended that organizational climate of the organization should be harnessed to the extent that it reflects reward for hardworking employees and create an atmosphere that make employees feel as an integral part of the organization while achieving the organizations goals and objectives.

Keywords: Work-family role interface conflict; Organizational climate; Teamwork effectiveness; Nnewi.

1. Introduction
Industrial system involves the method of producing and manufacturing using machines and human task through the process of division of labour to accomplish the organizations goals and objectives. Industrial workers are a group of individuals performing various tasks and responsibilities, depending on the type of factory they are engaged in. The services of industrial workers are utilized in an industrial unit where they may engage in either the processing or packaging of the industrial products (The Royal Academy of Engineering, 2012). Industrial system was first adopted...
in Britain at the beginning of the industrial revolution in the late eighteenth century and later spread around the world (Walker, 1993).

The success of any industrial system is hinged on the quality and effectiveness of the workers. The ability of managers of industrial organizations to harness individuals experience, interest, abilities and personality into cohesive unit to achieve the organizations objectives is effectively termed team work (Prendergast, 1999). The ability to get individuals who would work together to achieve the same result is often a daunting task, one that is dependent on the organization’s success. Intricate is the success of team effectiveness on the achievement of any organization. Such importance attached to team effectiveness have been linked to other factors such as the organizations environment, ability to consolidate work and family responsibilities, sequence of communication, leadership style and perception of organizational justice (Bakotic and Bulog, 2021; Schmutz et al., 2019).

Work-family role interface conflict is a phenomenon that has been extensively researched in scientific literature (Kengatharan, 2015). Work-family role interface conflict is common subject-matter among employees, especially those workers who are married or those with dependants within the family. Work-family role interface conflict is a situation in which an individual (worker/employee) experiences incompatible demands between work and family roles, causing participation in both roles to become more difficult at work-life interface (Greenhaus and Beutell, 1985). The work-family role interface conflict is a situation in which participation in the work-related roles is made more difficult by participation in a non-work role such as family responsibilities (Greenhaus and Beutell, 1985). The understanding and management of work-family role interface conflict is important for organizational success and employee life satisfaction (Yucel, 2016). Some authors have also emphasized the importance of the organizational climate, how environment in which employees carry out their tasks as having to hold important influence on teamwork effectiveness (Berberoglu, 2018).

Those at the echelons of management are responsible for providing suitable working environment so that employees can adequately carry out their duties and responsibilities. Having conducive organizational climate can enhance team cohesiveness and performance (Brimbhall et al., 2016). Isaksen and Lauer (2002), refer to organizational climate as the recurring patterns of behaviour, attitudes and feelings that characterize the overall perception of the organization by employees in the organization. In other words, organizational climate can be described as how the employee perceives the values, objectives, and relational goals of the organization viz-a-viz his own personal goals and achievements and how the organization helps one to accomplish them. Thus, organizational climate can be described as conducive if it aligns with the personal aspirations of the individual worker and the overall organizational goals and objectives.

A large number of previous and extant studies have examined the effectiveness of organizational climate in relation to teamwork performance (Al-Madadha et al., 2019). Organizational psychologists and social science researchers claim that in order to understand the mechanism by which organizational climate influences teamwork effectiveness, extensive research must be carried out with psychological variables in other to find and recognize significant connections that would improve performance within workgroups and teams in an organization (Sun et al., 2012; Dust et al., 2014; cited in, Al-Madadha et al. (2019)). Despite these claims, literature suggests that organizations often neglect the significance of the perceptions of the employees about their workplace (Ioannidou et al., 2016).

1.1. Statement of the Problem

Research studies that have examined the link among work-family role interface conflict and organizational climate and teamwork effectiveness within Nigeria, can best be described as little or almost non-existent. Though, some studies exist that have looked at one of the variables in the context of this study, none has examined it comprehensively. Researchers who had examined the relationship between work-family conflict and team effectiveness (Obrenovic et al., 2020) had presented inconsistent results and those studies that had examined the relationship between organizational climate and teamwork effectiveness (Al-Madadha et al., 2019) have mostly been conducted in Europe and therefore lacked ecological validity when compared to studies conducted in Nigeria. Due to the paucity of research in this area of study, it is imperative that studies are aimed in this direction to add to the body of knowledge and to help address teamwork effectiveness in the purview of cultural relativism so as to make recommendations that would guide and promote professional corporate practices.

The ongoing debate between teams and effectiveness is a subject-matter that only a handful of empirical studies have shown a clear significant link between team and their effectiveness when evaluated in terms of performance and even fewer studies have assessed the significance of work-family conflict and organizational climate in relation to effectiveness of work teams within industrial settings (Gautam, 2018). It is therefore of paramount importance that, studies which focus attention on work-family role interface conflict and perceived organizational climate within the purview of team effectiveness be conducted so as to shed more light into this area of subject-matter and provide more consistency in empirical results that portend practical relevance backed up by research evidence. Work-family role interface conflict and organizational climate have been extensively studied in scientific research. However, studies using these variables have often focused on law enforcement agents, and professionals working in healthcare and financial sectors. It is important that research studies conducted within the purview of industrial workers be conducted in other to proffer ecological validated research outcomes to help increase productivity in the sector.
1.2. Objectives of the Study

Given the identified gaps in literature, this study sets out to examine work-family role interface conflict and organizational climate as correlates of teamwork effectiveness among industrial workers in Nnewi, South-East, Nigeria. The specific objectives of this study were to:

1. Determine the extent to which work-family role interface conflict correlates with teamwork effectiveness among industrial workers in Nnewi, South-East, Nigeria.
2. Ascertain the degree of relationship between organizational climate and teamwork effectiveness among industrial workers in Nnewi, South-East, Nigeria.
3. Examine the joint correlation among work-family role interface conflict and organizational climate on teamwork effectiveness among industrial workers in Enugu State, South-East, Nigeria.

1.3. Hypotheses

In line with the study objectives, the following hypotheses were formulated:

H₁. Work-family role interface conflict will significantly predict teamwork effectiveness among industrial workers in Nnewi, South-East, Nigeria.

H₂. Perceived organizational climate will significantly predict with teamwork effectiveness among industrial workers in Nnewi, South-East, Nigeria.

H³. Work-family role interface conflict and perceived organizational climate will significantly predict with teamwork effectiveness among industrial workers in Enugu State, South-East, Nigeria.

2. Methods

2.1. Research Design

The design for this study was a cross-sectional correlational survey design. This research study utilized data collected from a single time point. The predictor variables were work-family role interface conflict and perceived organizational climate and the dependent (criterion) variable was teamwork effectiveness.

2.2. Research Setting

Nnewi in Anambra State is in the South-East zone of Nigeria. Nnewi is one of commercial and industrial hubs after Onitsha located in the eastern part of Southern Nigeria. The city is known for its industrial and commercial activities especially in motor and motor cycle spare parts and other manufacturing companies that produce other goods. Nnewi shares a common border with Abia State and Imo State to the south, Enugu State to the north and Delta State to the west. The most notable industries in Nnewi include Innoson Karia motor manufacturing company and Chicason Groups of company that produces A-Z motor engine oil, vegetable oil, soup detergent and other products. The industrial workers engaged in this study were all designated at the locale of this study in Chicason Groups located at Umudim Nnewi, Anambra State, Nigeria. The company is privately owned with over four hundred employees situated at the industrial plant. The industrial workers who consented and volunteered to participant in the study were engaged during the break periods which was divided into two batches, those set of employees who would go for break by (12:00-12:30pm) and another batch who would also go for break from (12:30 pm to 1:00 pm) which would last for thirty minutes in each of the intervals.

2.3. Sampling and Sampling Techniques

The study participants were sampled using non-probabilistic convenient sampling technique, and this is due to the work schedule and routine of industrial plant operations. Two hundred and forty (240) industrial workers were sampled from the plant. Participants earlier selected were assigned specific number based on the last 3 digits in their identity cards to avoid being reselected and given copies of the questionnaire. The participants ranks were not considered in this study, rather participants qualification was used in the study.

2.4. Research Participants

Using a non-purposive sampling technique, a total number of two hundred and forty (240) industrial workers were selected from the Chicason Groups of Company. The participants comprised of 143 (59.5%) male and 97 (40.5%) female industrial workers. The participants age ranged from 21-58 (Mean = 34.37; SD = 08.68) as well as their working experiences ranging from 1 year-35 years (mean 16.33; SD = 10.63). Also, 104 (62.0%) were married, 38 (23.3%) of the participants were single, 15 (9.8%) were separated, 5 (3.7%) were divorced and 1 (1.2%) was only reported a widowed participant. Academic qualifications of industrial workers showed that those who had secondary school education were 65 (32.2%), Diploma/OND 58 (23.7%), 57 (20.6%), B.Sc., 60 (23.4%). In addition, religion also varied; 130 (54.4%) were Christians, 107 (44.6%) Muslims, and those who indicated other belief systems were 3 (1%).

2.5. Instrument

The instrument used in this research was a well-designed self-report questionnaire which consisted of five (4) sections. Three standardized scales were used. These include, Modified Teamwork Effectiveness Questionnaire (MTEQ), Work-Family Conflict and Family-Work Conflict Scale (WFC), and Organizational Climate Scale (CLIOR). The first section comprised of statements related to the demographic characteristics of the participants which include: gender, academic qualification, marital status, religion and job tenure.
Modified Teamwork Effectiveness Questionnaire (MTEQ) was developed by Huyck et al. (2006). The survey was developed on the basis of research by LaFasto and Larson (1989) reporting on extensive studies of work groups. The survey measure according to Huyck et al. (2006), includes 20 statements; response options are 1 = False, 2 = More False than True, 3 = More True than False, 4 = True. Statements are phrased in such a way that true statements describe teams assessed to be well-functioning in business settings. They identified 7 dimensions differentiating poorly functioning teams and effective teams. These dimensions consist: (1) a clear elevating goal (items 1, 2); (2) results-driven structure (items 3, 4, 5); (3) competent team members (items 6, 7, 8); (4) unified commitment (items 9, 10); (5) collaborative climate (items 11, 12); (6) standards of excellence (items 13, 14); and (7) external support and recognition (items 15, 16). The original survey included seventeen Likert-scaled items, with items designed to correspond to these identified dimensions. Huyck et al. (2006), reported that the MTEQ has robust internal reliability as measured by the alpha statistic; split-half values range from .88 to .93 for the administrations. Evidence of construct validity was established by the researchers who initially constructed the measure (LaFasto and Larson, 1989).

Work-family Interference was measured by the Work-Family Conflict and Family-Work Conflict Scale (WFC) developed by Netemeyer et al. (1996). These scales assess how work affects family life and vice versa. Each scale comprises five items. The scale ranges from 1 “Strongly agree” to 7 “Strongly disagree”. An example of an item from the WFC scale is “The amount of time my job takes up makes it difficult to fulfill family responsibilities”. A high score on the WFC scale indicates a strong conflict in which work is impaired by family responsibilities. The items of FWI (Family Work Inventory) parallel the items of WFI, reversing the source of the stressor. Netemeyer et al (1996) have determined the validities of these scales and reported Cronbach’s alpha for the present group was .89 for the WFC and .86 for the FWC.

The Organizational Climate Scale (CLIOR) was developed by Peña-Suárez et al. (2013). The CLIOR consists of 15 Likert-type items, with an alpha coefficient of 0.97 which is essentially one dimensional structure. The discrimination indexes of the items are greater than 0.40, and the items show no differential item functioning in relation to participants’ sex. A short version of the scale was developed, made up of 15 items, with discrimination indexes higher than 0.40, an alpha coefficient of 0.94, and its structure was one-dimensional. Sample of items include ‘The relationship of my bosses are good’, and ‘Opportunities for training are offered’.

2.6. Research Procedure

Participation in the study was made voluntary after a clear explanation of the purpose of the study. Explanation was done in such a way that participants were moderately informed about the specific purpose of the research. The duration to complete the questionnaire was an estimated five minutes for each participant. The copies of the questionnaires were distributed to industrial workers who had given consent and who were willing to participate in the study. Participation was voluntary and participants were told that they can opt-out of the administration anytime they felt like. In all, a total number of (250) two hundred and fifty copies of questionnaires (250) were distributed, but only two hundred and forty (240) was retrieved, and found usable. This yielded a response rate of 96%. No incentive was given to participants.

2.7. Data Analysis

Pearson Product Moment Correlation (PPMC) was used to analyze the relationship between the variables of study while multiple regression were utilized to evaluate the independent and joint predictions of the independent variables (work-family and organizational climate), criterion variable (teamwork effectiveness).

3. Results

Table 1. Correlation Matrix showing the Mean, SD and Inter-Variable Correlation of the Study Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gender</td>
<td>21.47</td>
<td>9.10</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2. Academic Qualification</td>
<td>-</td>
<td>-</td>
<td>21**</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3. Marital Status</td>
<td>-</td>
<td>-</td>
<td>.06</td>
<td>.16**</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4. Religion</td>
<td>-</td>
<td>-</td>
<td>.29**</td>
<td>.69**</td>
<td>.29**</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5. Work-Family Conflict</td>
<td>-</td>
<td>-</td>
<td>.25*</td>
<td>.25**</td>
<td>.25*</td>
<td>.42*</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>6. Organizational Climate</td>
<td>2.35</td>
<td>1.31</td>
<td>.06</td>
<td>.10*</td>
<td>.04*</td>
<td>.06*</td>
<td>.021*</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>7. Teamwork Effectiveness</td>
<td>12.30</td>
<td>7.82</td>
<td>.02</td>
<td>.28*</td>
<td>.02</td>
<td>.17**</td>
<td>.26**</td>
<td>.27*</td>
<td>1</td>
</tr>
</tbody>
</table>

*correlation is significant at 0.05 level**<0.01; N= 240

Results in Table 1 indicated that gender of industrial workers in Chicasgon Groups does not show significant relationship with teamwork effectiveness [r (240) = .021, p<.01]. Academic qualification showed significant relationship with teamwork effectiveness [r (240) = .28*, p<.01] among the industrial workers. Marital status does not have significant relationship with teamwork effectiveness [r (240) = .02, p<.01] among the industrial workers. A positive correlation was found among industrial workers who reported strong religious affiliations as they demonstrated an equal significant higher scores on the measure of teamwork effectiveness [r (240) = .17*, p<.01]. Furthermore, results from the Pearson Product Moment Correlation in Table 1 indicated that work-family role interface showed significant inverse relationship with teamwork effectiveness [r (240) = -.26**, p<.01] among the
industrial workers. In addition, organizational climate showed significant positive relationship with teamwork effectiveness \( r \) \( (240)=.27^*, p<.01 \) among the industrial workers.

To test study hypotheses formulated, multiple regression analysis was conducted to ascertain the level of predictability of work-family role interface conflict and organizational climate among the industrial workers. The results are presented in Table 2 below:

Table 2. Summary of Multiple Regression Analysis showing the level of Predictive Significance Between Work-Family Role Interface and Organizational Climate on Teamwork Effectiveness

<table>
<thead>
<tr>
<th>Dependent</th>
<th>Independent</th>
<th>( \beta )</th>
<th>( t )</th>
<th>( p )</th>
<th>( R )</th>
<th>( R^2 )</th>
<th>df</th>
<th>( F )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teamwork Effectiveness</td>
<td>Organizational Climate</td>
<td>.37</td>
<td>5.48</td>
<td>&lt;0.01</td>
<td>.52</td>
<td>.47</td>
<td>240</td>
<td>8.33*</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>

*p<0.01; p<0.05**N=240.

From the results of Table 2 above, the summary of the multiple regression demonstrated that work-family conflict negatively predicted teamwork effectiveness among the industrial workers in Chicason Group, Nnewi, Anambra State \( [\beta = -.24; p<.01] \). This implies that industrial workers who reported significant scores on the measure of work-family role interface are more likely to report less teamwork effectiveness. With the result, hypothesis 1 was confirmed.

However, perceived organizational climate showed significant positive prediction of teamwork effectiveness \( [\beta = .37; p>0.01] \) among industrial workers in Nnewi, Anambra State, South-East, Nigeria. The implication of this result suggests that industrial workers who reported significant levels of organizational climate are more likely to engage in activities that would increase teamwork effectiveness \( (F = 8.33; p< .01) \). The two variables (work-family conflict and organizational climate) accounted for 47% \( (R^2 = .47) \) variance in teamwork effectiveness. Therefore, hypothesis 3 was confirmed.

4. Discussion

This study examined the extent to which work-family role interface conflict and organizational climate correlate with teamwork effectiveness among industrial workers in Nnewi, Anambra State, Nigeria. The finding in the test of hypothesis 1 showed that work-family role interface conflict showed an inverse correlation with teamwork effectiveness. This outcome suggests that industrial workers with elevated levels of work-family role interface conflict have a higher tendency to perform poorly in tasks that require teamwork effectiveness to be successful. This is possible because industrial workers carry out duties that require them to work with specific groups. For example, industrial workers who deal in packaging products do so as a team of packaging unit and when a worker has marital issues or problems within his or her family, this might affect his or her concentration at work leading to assembly line mishaps and packaging error that affects the overall performance of the group. This position has been substantiated in scientific literature, espousing the plausible impact of work-family conflict on team effectiveness. For instance, Obrenovic et al. (2020) report that work-family conflict has a negative impact on employees' performance within groups by decreasing work-related satisfaction of employees and increases the chances of turnover and turnover intention, psychological distress and impedes cognitive functioning of employees who require mental stability in carrying out their duties. Another plausible explanation as a resultant effect of work-family conflict on team effectiveness is the cognitive dissonance associated with the psychological imbalances caused by conflict associated with work and family responsibilities which often interfere with one's work in an organization because people often have an intrinsic need to ensure that their beliefs and their behavioral manifestations are consistent (Vaidis and Bran, 2019). The failure to balance work related issues, coupled with family demands and responsibilities can hamper the physical and mental functioning of an employee in such a way that holding two conflicting beliefs, thoughts, opinions and values can result to mental discomfort and impair overall functioning, either from an individualistic perspective or workgroup. Employees tend to seek consistency in their attitudes and perceptions so these feelings can result to discomfort in value judgments, decisions and evaluations in the employee.

Hypothesis 2 which stated that there will be a significant correlation between organizational climate and teamwork effectiveness among industrial workers in Nnewi Anambra State, South-East, Nigeria, was also confirmed. The result is indicative of the fact that the industrial workers with high perception of conducive organizational climate from the organizations they are employed in would have a higher contribution to teamwork effectiveness when working on a group task such as those tasks involved in an assembly line that requires individuals to contribute in part to achieve a collective result. An explanation for this outcome, can result from the fact that employees who feel or perceive that the overall climate or environment in which they work is satisfying and often rewarding and recognizing their effort in carrying out their duties and responsibilities would want to perform effectively and noticeably within the group in such a way that it seem as if they are rewarding the organization for providing a good working atmosphere in the most conducive manner. For example, a worker in a factory who perceives that the organizational policies and objectives are reflecting on the overall climate of the organization, would most likely not be absent from work and he or she may look forward to going to work as he expects that the organizations and his fellow colleagues at work provide a platform for him to feel respected, as if he or she is a part of the success story of the organization. These perceptions have enormous effect on the performance of employees. As a result, workers who have these sorts of perceptions feel they have an ethical responsibility to add their quota onto achieving organizational goals and objectives. This outcome is in line with the study of Mercer and Bilson (1985) cited by El-Kassar et al. (2011) who found significant positive relationship between organizational climate
and outcomes induced by employees that often leads to perceptions of job satisfaction and increased work commitment. Organizational climate have been associated with employees’ discernment towards creativity and increased productivity of employees (Litwin & Stringer, 1968 cited in El-Kassar et al. (2011).

For hypothesis 3, which states that work-family role interface conflict and organizational climate would jointly correlate with teamwork effectiveness among industrial workers in Nnewi, Anambra State, Nigeria was confirmed in this study. The combination of work-family role interface conflict and organizational climate showed strong significant relationship with teamwork effectiveness. This is an indication that industrial workers with increased perception of work-family role interface conflict and organizational climate have a higher tendency to contribute positively to teamwork effectiveness in an industrial setting. The combinations of the two variables portend a significant implication for team work cohesiveness and performance.

5. Conclusion

The impact of work-family role interface and organizational climate on teamwork effectiveness were determined. The statistical analysis of the data obtained from two hundred and forty industrial workers in Chicason Groups of manufacturing company, Nnewi was conducted. It was established that work-family role interface showed indirect correlation with teamwork effectiveness, and organizational climate indicated a positive and direct correlation with teamwork effectiveness in this study.

Recommendations

Based on the findings of the study, it is recommended that for industrial workers to improve teamwork effectiveness, the organizational climate of the organization should be harnessed to the extent that it reflects reward for hardworking employees and create an atmosphere that employees would feel as an integral part of the organization while achieving the organizations goals and objectives. In addition, organizations should create a unit to cater for the wellbeing of employees so as to provide emotional and psychological support for those employees who may have the need of them, especially, those whose performance at work is declining due to family pressures. This study also recommended that future studies should focus in this direction, by inculcating a larger pool of industries, preferably, a nation-wide study from the six geo-political zones of the country so as to make better and more reliable generalizations.

References


