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## Article

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## The Moderation Effect of Age on the Influence of Shift Work Practices on Organizational Citizenship Behaviour of Medics in Tanzania's Government Hospitals

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### Abstract

*This study examines the moderation effect of age on the influence of Shift Work Practices on the dimensions of organisational citizenship behaviours (OCB). Data were collected from 330 randomly-selected medics working in Tanzania's government hospitals. Results from the analysis conducted using Structural Equation Modelling with AMOS indicate statistically significant direct effects of shift work practices on all the three dimensions of OCB namely, conscientiousness, sportsmanship and civic virtue. Results also show that age significantly moderates the influence of shift-work practices on sportsmanship and civic virtue. The findings imply that how shift-work practices influence OCB behaviours isn't straightforward — it changes depending on the age of the employee. This suggests that managers of government hospitals need to consider employees' age in designing shift works to enhance employees' OCB and subsequently service quality.*

**Key Words:** *Shift Work Practices, Organisation citizenship behaviour, Age, medics.*

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## **Introduction**

The prevailing consensus in the literature suggests that the quality of service delivery relies heavily on employee behaviour, which in turn, is influenced by the conditions present within the workplace (Sanga, 2020; Turyasingura & Nabaho, 2021). One of the types of behaviour that have received increased attention in relation to service delivery in recent years is organizational citizenship behaviour (Liu & Lin, 2021; Mella et al., 2023). Organizational citizenship behaviour (OCB) refers to the additional, positive actions taken by employees that go beyond their formal job responsibilities in the workplace (Ocampo et al., 2018). Employees engage in OCB not due to a mandatory obligation outlined in the official employment agreement, but rather as a manifestation of a psychological agreement. In this understanding, employees anticipate that their additional efforts can be appreciated by the organization, potentially leading to future rewards. The discretionary nature of OCB implies that employees have the option to either do it or abstain, based on their personal evaluations of the treatment they receive from management (Gupta et al., 2016).

It is because of the close association OCB has with organizational performance that both researchers and practitioners in different sectors have developed high interest in understanding it. It is for the same reason that research on factors promoting OCB has over the past three decades been increasing worldwide (Organ, 2018). One of the factors that has gained more recognition in recent years have been work-life balance (WLB). WLB, which is described as management initiatives aimed at maintaining the right balance between time for work duties and time for family responsibilities of employees, is believed to be very effective in inducing employees to engage in positive work behaviour including OCB (Mella et al., 2023; Oludayo et al., 2018). This is because the competing needs between work and time for family obligations have become of increased relevance for employees in recent years. Oludayo et al. (2018) suggest that meaningful work organization increases employees' sense of self-worth which is a critical predictor of job performance. Today, employees' desires for a balance between work and non-work responsibilities come first before their daily survival needs (Oludayo et al., 2018).

Numerous studies have been conducted to examine the link between WLB and OCB in different contexts (Erdianza & Sari, 2020; Eriyanti & Noekent, 2021; Harikaran & Thevanes, 2018; Lavanya & Sree, 2021; Mella et al., 2023). Many of these studies have established a positive association between WLB and OCB (Erdianza & Sari, 2020; Harikaran & Thevanes, 2018; Lavanya & Sree, 2021; Pradhan et al., 2016). Results from these studies indicate that employees exhibit more OCB when they perceive the organization has initiatives in place that bring a balance between their work obligations and family obligations. However, most of these studies have examined WLB either as a unidimensional variable or as a bundle of initiatives (Erdianza & Sari, 2020; Harikaran & Thevanes, 2018; Lavanya & Sree, 2021). The initiatives studied collectively under the umbrella of WLB include shift work, flexitime and work breaks. Examining WLB as a unidimensional concept ignores the fact different organizations adopt different WLB initiatives depending on the nature of their activities. For example, while shift work is most preferred in high-contact service organizations like hospitals which need availability of staff 24 hours a day (Griffiths & Dall'ora, 2017; Okemwa, 2016), flexitime is most suitable for business activities that are facilitated by information and communication technology, like banking and telecommunication companies (Idris, 2014;

Mohan et al., 2010). Given the diversity among organizations in addition to WLB, it makes sense to examine the effect of WLB on OCB in its separate dimensions or initiatives.

The current study examines influence of shift work practices on the dimensions of OCB within the healthcare service industry. Shift work practices (SWP) form one of the WLB initiatives that is commonly adopted in healthcare service organizations. The extant literature suggest that if not managed properly shift work may result in disastrous consequences which may include increased error rate, poor quality of service delivery and employee turnover (Cho & Lee, 2019; Griffiths & Dall'ora, 2017). For instance, Griffiths and Dall'ora (2017) assert that long shifts may lead to increase in burnouts, rising errors, performance deficit and high rates of turnover. Despite its wide application in high contact services like healthcare (Dehring et al., 2018; Torquati et al., 2019), studies assessing how shift work practices relates to OCB are scanty in the mainstream literature and in human resource management (HRM) in particular. The few studies that have been conducted have produced mixed results. There are studies that have established a positive relationship between shift work and OCB (Adnan Bataineh, 2019; Harikaran & Thevanes, 2018; Johari et al., 2018; Okemwa, 2016) but there are others that have found that WLB initiatives negatively impact on OCB (Elovainio et al., 2010; Haile et al., 2019; Torquati et al., 2019). For instance, in a study conducted by Eriyanti and Noekent (2021) to determine the relationship between WLB and OCB, WLB was found to have a significant positive relationship with OCB. On the other side, a good example is Haile et al. (2019) who investigated the association between shift work and sleep disorders among nurses in Ethiopian government hospitals and found that shift work had a positive effect on sleep disorders which then affected employee performance.

The mixed findings observed above could be a result of the influence some dispositional and demographic factors have on the relationship between WLB and OCB. It is because of the inconclusive results observed in similar studies that prominent OCB scholars such as Organ (2018) and Podsakoff et al. (2018) advocate for more research on the antecedents of OCB with inclusion of intervening variables in the form of mediators and moderators. This study examines the influence of shift work in Tanzania's government hospitals in. While shift work is commonly adopted in organizations requiring availability of staff 24 hours a day like hospitals (Dehring et al., 2018; Haile et al., 2019; von Treuer et al., 2014), OCB is an established key determinant of service delivery in service organizations (Meira & Hancer, 2021; Tang & Tang, 2012). As recommended by Podsakoff et al. (2018) and Organ (2018), the influence of SWPs on OCB is examined with the moderating effect of age. The Erikson's Psychosocial Development Theory suggests that age may interacts with other organizational factors to influence work motivation and career development among employees (Booker et al., 2018). However, the reviewed literature indicates that only a few studies have examined the role of age the influence of SWPs on employee outcomes in general and OCB in particular (Auyeung et al., 2014; Berkery et al., 2020). Therefore, building on theoretical and empirical perspectives that support the idea that employees' reactions to different organizational practices vary with their age (Chahil, 2015; Meyers et al., 2020; Munley, 1977), we examine the potential moderating role of age in the influence of SWPs on the dimensions of OCB among medics in Tanzania's government hospitals.

## **Literature**

### ***Theoretical Framework***

The study of the influence of SWPs on the dimensions of OCB with the moderation effect of age can be guided by many of the motivational theories. However, the current study follows two theoretical perspectives, namely the Blau's (1964) Social Exchange Theory (SET) and the Erik Erikson's (1963, 1968) Psychosocial Development Theory (PDT). The two have been the most influential theoretical frameworks in the association of organizational conditions and demographic factors with work outcome (Auyeung et al., 2014; Bal & De Lange, 2015; Cropanzano et al., 2017; Wikhamn & Hall, 2012). On the one hand, the Social Exchange Theory (SET), involves a series of interactions that are interdependent between parties and generate social obligations (Cropanzano et al., 2017). It describes the motivation behind employee behaviours and attitudes in response to organizational conditions (Wikhamn & Hall, 2012). This means that favourable treatment of employees by the organization compels employees to repay the employer with beneficial actions or behaviour (Eisenberger et al., 2001). Grounded in SET, it is anticipated that favourable shift work arrangement can be perceived by employees as an organization's favour that they must repay with favourable behaviour including OCB. Medics working in hospitals are expected to exhibit more OCB as hospitals properly adopt favourable modes of shift work arrangement.

On the other hand, the Psychosocial Development Theory (PDT), developed by Erikson and Erikson (1998), provides an explanation based on age as to how and why individuals choose and adjust to occupations (Munley, 1977). PDT is based on the idea that employees' knowledge about their own strengths and its application to work increases with age (Meyers et al., 2020). According to Meyers et al. (2020), employees undergo maturity that makes them more self-confident and responsible, enabling them to be more effective in their family and work roles. Erikson and Erikson (1998) outlines eight stages of individual human development which are briefly described by Cherry (2022) as follows: (i) basic trust versus mistrust (infancy - birth to 18 months) – represents child's total dependency on the caregiver; (ii) autonomy versus shame and doubt (early childhood - 18 months to 3 years) – the caregiver is responsible for maintaining a secure environment for the child; (iii) initiative versus guilt (play age - 3 to 5 years) – the child's own initiatives and interests guided by the caregiver; and (iv) industry versus inferiority (school age - 6 to 11 years) – the child meets some of the school and home expectations .

The other developmental stages are: (v) identity versus identity confusion (adolescence - 12 to 18 years) - matching social expectations with own aspirations, (vi) intimacy versus isolation (young adulthood - 18 to 40 years) – establishing long-term friendships and partnerships, (vii) generativity versus stagnation (senior adulthood - 41 to 65 years) – parenting and teaching next generation; and (viii) ego integrity versus despair (old age - 66 to death years) – contemplating and acknowledges accomplishments. According to Erikson and Erikson (1998), in each stage, an individual must face and resolve or cope with a central psychosocial problem. Relevant to the study are groups of the working age, Group Six (18-40 years) and Group Seven (41-65 years) (Booker et al., 2018). Erikson's PDT has been used in examination of a wide range of issues that individuals face at different developmental stage and how they adapt successfully to changes in the environment they live. In the workplace setting, age has

been found to play a moderating role in the relationship between HRM practices and work outcomes (Berkery et al., 2020; Meyers et al., 2020).

### ***The Concept of Organizational Citizenship Behaviour (OCB)***

OCB can be described as employees' tendency to offer more discretionary behaviours beyond the formal contractual duties which in general, contribute to organizational effectiveness. Organ (1988), who formalized the use of OCB as a concept, defines OCB as "individual behaviour that is discretionary, not explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization" (pp. 4). Examples of such behaviours include an employee helping a co-worker without selfish intent, sharing insights on improvements, protecting the organization and following company rules without needing to be watched (Ocampo et al., 2018).

OCB has been described in different ways including the Organ's (2018) popular five dimensions of altruism, courtesy, sportsmanship, conscientiousness and civic virtue. Other scholars categorise OCB based on the final beneficiary, that is OCB directed to individuals and organisational-oriented OCB (Williams & Anderson, 1991). The current study focuses on organisational-oriented OCB. According to Williams and Anderson (1991), organizational-oriented OCB has three dimensions namely, sportsmanship, conscientiousness and civic virtue (Podsakoff et al., 2018; Sanga, 2020). In general, the three types of OCB require employees to be tolerant to challenges they experience in their jobs, to observe orderliness even when they are not watched and to voluntarily contribute ideas on organizations performance (Podsakoff et al., 2018).

### ***Shift Work Practices (SWPs) and the Dimensions of OCB***

Shift work refers to the work arrangement in which an employee works in hours that are outside the normal daytime ones (Barton et al., 1995; Dall'Ora et al., 2015). The arrangement may involve early morning, evening or night hours. Such arrangements may be consequential to employees' performance and wellbeing hence need to be carefully planned (Cho & Lee, 2019; Farzianpour et al., 2016). SWPs make one of the most common WLB initiative and may be obligatory for organisations operating for 24 hours like healthcare facilities. The literature has evidence that SWPs lead to improved work outcomes both at individual and organizational levels. However, it may become a source of grave concern if poorly managed (Farzianpour et al., 2016; Griffiths & Dall'ora, 2017). SWPs represent an avenue through which organizations can informally induce employees to engage in different OCB behaviours. As stated in the preceding section, this study focuses on OCB behaviours which are directed towards the organization rather than to individuals (co-workers and managers). According to Williams and Anderson (1991) these behaviours can be described in three categories namely conscientiousness, sportsmanship and civic virtue. The expected relationships between SWPs and the OCB dimensions are presented below.

*Conscientiousness* represents employees' tendency to go beyond the minimum levels of compliance (Organ, 1990). It includes behaviour like care for organizational resources, attendance and proper use of company time, peacekeeping as well as adhering to the rules of the organization. According to SET, employees can engage more in conscientiousness if they feel that they are treated well by the their organizations (Wikhamn & Hall, 2012). One way to treat employees fairly is by supporting them to maintain a balance between their family or

social responsibilities and work responsibilities. SWPs can be considered as an initiative aimed at ensuring employees' well-being. Properly managed shift work schedules are likely to be considered by employees as favourable treatment that may evoke an obligation for them to repay with favourable behaviour including adherence to rules and regulations, proper use of the company's resources and taking good care of organization's property. Therefore, SWPs are expected to positively influence employee conscientiousness. This expectation is also supported by findings from the few related studies observed from the literature.

From a survey conducted to examine the influence of work-life balance on organizational citizenship behaviour of employees in Indian manufacturing industries Pradhan et al. (2016) reports significant positive effects of WLB and conscientiousness. In this study, WLB was examined as bundle of flexible time, job rotation and shift work. Therefore, it is reasonable to expect a positive relationship between SWPs and employee conscientiousness which can be specifically stated as follows:

**Hypothesis 1:** SWPs has a positive influence on medics' conscientiousness.

*Sportsmanship* is a dimension of OCB representing employees' ability to demonstrate tolerance and refraining from complaining or creating grievance which can negatively impact on the organizational effectiveness. Examples include focusing more on the positive side of work than on what is wrong and to avoid complaining about trivial matters in the organization. According to SET, going that extra mile must be a result of positive perceptions employees hold in favour of their organizations (Berkery et al., 2020). According to Gould-Williams and Davies (2005), sportsmanship is stimulated more by organizational conditions which signify discretion. Such conditions include shift work initiative which is primarily aimed at promoting employees' well-being. Properly organized shift work can, therefore, create employees' general opinion of being valued and cared for by the organization and be responded by sportsmanship.

Studies that specifically examine the relationship between SWPs and sportsmanship are scarce across the world and they almost do not exist in Tanzania, particularly in the healthcare setting. However, being dimensions of WLB and OCB respectively, their relationship can be implied in the positive relationships that have been established between WLB and work outcomes. For example, Eriyanti and Noekent (2021) conducted a study to determine the relationship between WLB and OCB with organizational commitment as a mediator and the results showed that WLB had a significant positive relationship with OCB. In another study, Lavanya and Sree (2021) assessed association between work-life integration and Citizenship behaviour of the employees in the banking industry and found that quality WLB increased Citizenship behaviour of the employees. These empirical findings suggest that SWPs can influence sportsmanship. Therefore, it can be hypothesized that:

**Hypothesis 2:** SWPs has a positive influence on medics' sportsmanship .

*Civic virtue* refers to employees' responsible participation in the political life of the organization (Williams & Anderson, 1991). This includes participating in organizational meetings, following organizational developments, and offering opinions to the organization appropriately. Civic virtue increases with perception of favourable conditions within the

organization an indication that the organization cares about its employees (Meira & Hancer, 2021). The extant literature also suggests the influence of SWPs on civic virtue (Alnesser et al., 2022; Erdianza & Sari, 2020; Fiernaningsih, 2019). For example, in the study of organizational management, Alnesser et al. (2022) found that OCB was significantly and positively related to the quality of WLB. Similarly, Fiernaningsih (2019) examined the effect of WLB and OCB and confirmed that WLB has a significant positive effect on OCB. Given that SWPs and civic virtue are dimensions of WLB and OCB respectively, it is reasonable to expect that the former will positively influence the latter. It is therefore hypothesized that:

**Hypothesis 3:** SWPs have a positive influence on medics' civic virtue.

### ***The Moderating Role of Age***

The OCB research must include factors that may interplay to influence OCB (de Geus et al., 2020; Ocampo et al., 2018; Podsakoff et al., 2018). Grounded in SET and PDT this study assumes that senior adult employees benefit relatively more from SWPs and respond strongly with OCB than the young adult employees. As senior adults have growing family and social responsibilities to apply part of their strengths, shift work will be an important trigger for them to put more effort to work in the form of OCB (Meyers et al., 2020). Conversely, senior adults will react strongly to SWP compared to young adults. According to Meyers et al. (2020), SWP may not be of high interest to younger employees because they are still seeking to explore who they are hence would like to be at work.

Previous empirical findings suggest a moderation role of SWPs on the dimensions of OCB. For instance, Innocenti et al. (2013) analysed the influence of age on the effect of human resource development practices on job satisfaction and established that human resource development practices were associated with lower job satisfaction and affective commitment among the oldest employees. These findings are similar to what was established by Bal and De Lange (2015) who investigated the role of age in the relationship between flexibility HRM on employee outcomes. In this study, it was found that flexibility HRM enhanced job performance more for older workers compared to younger workers.

On the basis of the theoretical and empirical perspectives presented here, the current study assumes that senior adults can react more strongly to the influence of SWP on all the three dimensions of OCB than the young adults. The logic behind this assumption is that senior adults have a lot of work and social responsibilities to meet compared to young adults. Age has also been used as a moderator in several studies of the relationship between HRM practices and employee outcomes (Bal & De Lange, 2015; Innocenti et al., 2013; Stoffers & Van der Heijden, 2018). Therefore, the following hypothesis is proposed:

**Hypothesis 4:** The influence of SWPs on dimensions of OCB among medics is stronger for senior medics than for young medics.

## **Methodology**

### ***Data***

The participants of this cross-sectional research study were randomly selected from medics working in purposely selected 19 district and municipal government hospitals located in Dar



es Salaam, Dodoma and Mwanza in Tanzania. Staff lists obtained from the human resource department of each of the participating hospital were used as sample frame for random selection of study participants. While the choice of Dar es Salaam and Mwanza regions was based purely on population size which would reflect the workload that medics have as part of the roles. According the National Census of 2012, Dar es Salaam and Mwanza had the highest population size of 4,364,541 and 2,772,509 people respectively. Dodoma (2,083,588 people) was selected based on the fact that it is the capital city of the country in addition to the population size criteria. Data were collected on a voluntary and anonymous basis using a self-administered survey questionnaire. Out of the 396 distributed survey questionnaires 354 were returned out of which only 330 were complete and usable hence a response rate of 83%.

### ***Measurement of Variables***

The study involved three major variables, SWP as an independent variable, OCB dimensions as a dependent variable, which is examined from three dimensions. Multiple items from existing instruments were used to measure each of the study constructs. The dimensions of OCB were measured using 25 items in total, six items for sportsmanship, six items each for civic virtue and conscientiousness, all adapted from Williams and Anderson (1991). The sample items include “I observe orderliness at work” (Conscientiousness), “I can tolerate occasional inconveniences when they arise” (sportsmanship) and “Always I offer suggestions for ways to improve operations” (civic virtue). SWP were assessed using seven items adapted from Barton et al. (1995) with example of items being “Shift work balances my home and office work.” All the items were measured using a five-point Likert scales.

**Table 1: Respondents’ Profile**

<b>Variable</b>	<b>Count</b>	<b>Percent</b>	<b>Variable</b>	<b>Count</b>	<b>Percent</b>
<b><i>Gender</i></b>			<b><i>Education level</i></b>		
Male	226	68	Certificate	68	21
Female	104	32	Diploma	123	37
	<b>330</b>	<b>100</b>	Advanced Diploma	33	10
<b><i>Age (Years)</i></b>			1 <sup>st</sup> degree	91	28
18 – 40	149	45	Masters	8	2
Above 40	181	55	Other qualifications	7	2
	<b>330</b>	<b>100</b>		<b>330</b>	<b>100</b>
<b><i>Marital Status</i></b>			<b><i>Experience in years</i></b>		
Married	148	45	<5	26	8
Single	141	42	5-10	68	21
Divorced	9	3	11-15	100	30
Widow	9	3	16-20	87	26
Widower	1	0	>20	49	15
Others	22	7		<b>330</b>	<b>100</b>
	<b>330</b>	<b>100</b>			

## Analysis and Results

### *Respondents' Profiles*

The research participants' profile is presented based on sex, marital status, working experience and age as shown in Table 1. On the grounds that age is presented in two categories namely, young adults (aged 18 – 40 years) and senior adults (aged above 40 years). As it can be seen from Table 1, 149 (44%) were aged 18 up to 40 years (young adults) while 186 (56%) were of the age of above 40 years (senior adults). This distribution is typical of aging workforces in public service, having more senior adults being a dominant group compared to young adults. Regarding sex, the findings show that the majority of participants were males (68.96%), and in terms of marital status, there was an almost equal distribution between married (45.67) and single (42.09) participants groups. The married participants were the dominant group in terms of marital status. For the level of education, only a minority of the participant group had an education of below a diploma (< 10%) and had a working experience of less than five years. This means that the majority of respondents were knowledgeable about the research questions asked in this study. The rest of the details are presented in Table 1.

### *Measurement Model*

SEM requires testing the assumptions of multivariate data analysis ahead of the testing of the study hypotheses (Hair et al., 2013). Such assumption includes missing data and outliers, normality, linearity, homoscedasticity and multicollinearity. Therefore, prior to the analysis, data were appropriately cleaned and checked for violation of these assumptions. The results indicated that there was no major violation of the assumptions hence data analysis could proceed. A Confirmatory Factor Analysis (CFA) was then conducted to check for internal consistency and validity of study constructs as well as determine whether the research model would fit the data. The Normed chi-square ( $\chi^2/df$ ) or *CMIN/df* ratio, Goodness of Fit Indices (GFI), Comparative Fit Index (CFI) and Root Mean Square Error Approximation (RMSEA) were used to assess the fit of the research model. The recommended thresholds are  $\geq 0.90$  for GFI and CFI,  $\leq 3$  for *CMIN/df* ratio and  $\leq 0.08$  for RMSEA (Hair et al., 2013).

**Table 2: Model Fit Indices for the Measurement Model**

Criterion	CMIN/DF	GFI	IFI	CFI	RMSEA
Threshold Value	$\leq 3$	$\geq 0.80$	$\geq 0.90$	$\geq 0.90$	$\leq 0.08$
Observed Value	1.875	0.924	0.954	0.953	0.051

The initial model included four factors (variables), SWP as an independent variable and Conscientiousness (CONS), Sportsmanship (SPORT) and Civic Virtue (CIVIC) as dependent variables. SWP had 7 items (SWP1-SWP7), CONS was captured by 6 items (CONS1-CONS6), SPORT had 4 items (SPORT1-SPORT4) and CIVIC was captured by 6 items (CIVIC1-CIVIC6). This initial model provided a slightly poor fit. Five out of the 25 items had factor loadings and squared multiple correlations below the threshold of 0.6 and 0.4 respectively. These items are SWP1, SWP2, SWP5, SPORT1, and CIVIC5. These five items were deleted from the model. As Table 2 above shows, after this elimination, the final four-factor model with 20 items yielded a good fit: *CMIN/df* of 1.875; GFI= 0.924, IFI= 0.954, CFI= 0.953 and RMSEA = 0.051.

### Construct Reliability and Validity

In addition to assessing the measurement model, it was necessary to check for reliability and validity of the construct measurement. Reliability was assessed using the regression weights ( $\beta$ ), Cronbach's Alpha ( $\alpha \geq 0.70$ ) and Composite Reliability ( $CR \geq 0.70$ ). The assessment of convergent validity was based on Average Variance Extracted ( $AVE \geq 0.50$ ) whereas the discriminant validity was assessed using Fornell-Larcker criteria which the square root value of AVE to be higher than the inter-factor correlations (Hair et al., 2013). Shown in the brackets are the recommended threshold for each of the assessment criteria (Hair et al., 2013; Kline, 2023).

**Table 3: Construct Reliability and Convergent and Discriminant Validity Tests**

Indicator	Loading	A	CR	AVE
<b>Conscientiousness</b>		0.700	0.721	0.505
cons1	0.701			
cons2	0.694			
cons3	0.646			
cons4	0.567			
cons5	0.556			
cons6	0.550			
<b>Civic Virtue</b>		0.879	0.795	0.575
civic1	0.922			
civic2	0.862			
civic3	0.744			
civic4	0.678			
civic6	0.672			
<b>Sportsmanship</b>		0.845	0.816	0.598
Sport2	0.904			
Sport3	0.870			
Sport4	0.782			
Sport5	0.730			
Sport6	0.667			
<b>Shiftwork Practices</b>		0.874	0.891	0.790
Swp3	0.810			
Swp4	0.776			
Swp6	0.750			
Swp7	0.739			

As can be seen in Table 2, all the factor loadings and the values for Cronbach's Alpha, Composite Reliability and Average Variance Extracted (AVE) exceed the recommended threshold (Hair et al., 2013), demonstrating that reliability and convergent validity of the constructs have been achieved. All the inter-factor correlations for each of the study constructs also did not exceed the square root of its AVE, confirming the existence of discriminant validity. These results mean that a four-factor model with 20 items was acceptable for further analysis.

### Hypotheses Testing

On the basis of the reviewed theoretical and empirical literature, the influence of Shift Work Practice (SWP) on the dimensions of OCB namely, conscientiousness, sportsmanship and civic virtue was anticipated. On the same grounds, it was hypothesized that employees' age would moderate the influence of SWP on the OCB dimensions. To test these hypotheses, a structural model was specified and the goodness of fit indices together with the regression coefficients were calculated. As anticipated, the model generated a fairly adequate fit:  $\chi^2 = 294.972$ ,  $df = 149$ ,  $p < 0.01$ ;  $CMIN/df = 1.980$ ;  $GFI = 0.917$ ,  $IFI = 0.939$ ,  $CFI = 0.947$  and  $RMSEA = 0.054$ . The model fit indices show that all the observed values for the tested structural model meet the requirement.

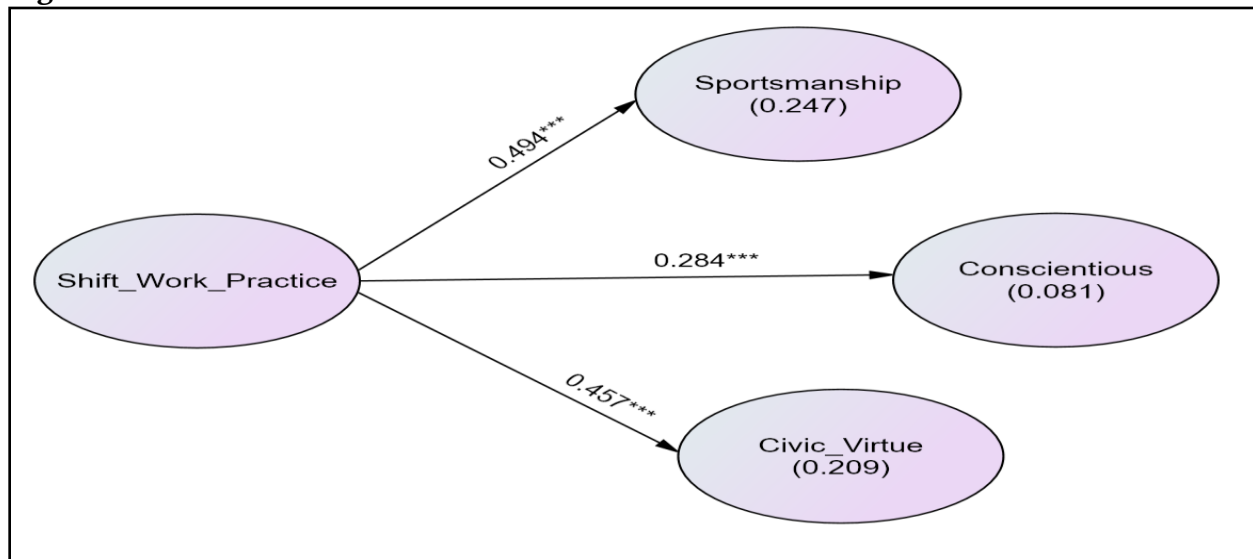
**Table 4: Model Fit Indices for the Structural Model**

Criterion	CMIN/DF	GFI	IFI	CFI	RMSEA
Threshold Value	$\leq 3$	$\geq 0.80$	$\geq 0.90$	$\geq 0.90$	$\leq 0.08$
Observed Value	1.980	0.917	0.939	0.947	0.054

### The Direct Relationship of the OCB Dimensions with SWPs

The structural model (Figure 1) shows that SWP positively influences all the OCB dimensions, CONS ( $\beta = 0.284$ ,  $p < 0.001$ ), SPORT ( $\beta = 0.497$ ,  $p < 0.001$ ) and CIVIC ( $\beta = 0.457$ ,  $p < 0.001$ ).

**Figure 1: Structural Model – Influence of SWPs on OCB Dimensions**



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Significant at 99% confidence interval.

In brackets are values of the variance explained by the SWP of OCB dimensions.

These results indicate that Hypothesis 1 to Hypothesis 3 are fully supported. Therefore, SWPs have a statistically significant positive influence of conscientiousness, sportsmanship and civic virtue. This means favourable SWPs increases employees' engagement in conscientiousness, sportsmanship and civic virtue and vice versa.

Results in Figure 1 above show further that the exogenous variable, SWPs, explains 25% of the variance in sportsmanship ( $R^2 = 0.247$ ), of the variance in 21% of Civic Virtue ( $R^2 = 0.209$ ) and 8% of the variance in conscientiousness ( $R^2 = 0.209$ ). The variances explained of sportsmanship and civic virtue are well within the acceptable range ( $R^2 \geq 0.20$ ) as recommended for studies in the area of HRM (Ringle et al., 2020).

***The Moderation Effect of Age on the influence of SWPs on the OCB Dimensions***

The extent to which Age moderates these relationships of OCB dimensions with SWPs was examined using multi-group SEM. Multi-group SEM is normally used when the moderating is a categorical variable (Hair et al., 2013). In this study, age was measured as a categorical variable with two groups, the young adults (aged 18 - 40 years) and senior adults (aged 41 to 65 years). The analysis involved several steps including testing both the unconstrained and constrained models (Vij & Farooq, 2014). In the first step, the paths of the model were estimated separately for each age group (unconstrained model) whereas the second step involved the estimation of a model with the paths of interest constrained to be equal between the groups. The third step involved conducting Chi-square ( $\chi^2$ ) difference test between the two models. A significant difference between constrained and unconstrained models would then indicate that moderation exists (Hair et al., 2013).

Results of the multi-group moderation analysis showed that in the unconstrained model, the path “SWP - CONS” had insignificant P-values in both groups the young adults and senior adults. This path was deleted from both models. It must also be noted that in the direct relationships the variance explained of CONS is negligible. Re-estimation produced  $\chi^2 = 627.724$ ,  $df = 339$  for the fully constrained model and  $\chi^2 = 614.868$ ,  $df = 336$  for the unconstrained model. The calculated difference ( $\chi^2 = 12.856$ ,  $df = 3$ ) between the two models showed that the relationships are significantly different across the two groups.

**Table 5: Results of the Moderation Effect of Age on the Influence of SWPs on the OCB**

Hypothesis	Age Groups				$\chi^2$ path by path model	$\chi^2$ threshold
	Young Adults		Senior Adults			
	$\beta$	$p$ value	$\beta$	$p$ value		
H2b: SPORT $\leftarrow$ SWP	0.487	0.000	0.548	0.000	635.538	614.868
H2c: CIVIC $\leftarrow$ SWP	0.442	0.000	0.503	0.000	621.040	614.868

The results of model comparison in Table 5 show that the paths, SWP  $\rightarrow$  SPORT ( $\chi^2 = 635.538$ ) and SWP  $\rightarrow$  CIVIC ( $\chi^2 = 621.040$ ) have significant Chi-Squares which are greater than the criterion chi-square ( $\chi^2 = 614.868$ ). This means that the relationships along these two paths differ between the two age groups, the young adults and the senior adults. Therefore, Hypothesis 2b and 2c are supported. The hypothesis that moderates the relationship between SWPs and Conscientiousness was not supported. The findings in Table 5 also indicate that the moderation of Age on the influences of SWP on SPORT and CIVIC is partial because the relationship is significant in both groups. Moreover, the regression weights suggest that the moderation effect is stronger in Senior Adults group,  $\beta = 0.548$  ( $p \leq 0.001$ ) for SPORT and  $\beta = 0.503$  ( $p \leq 0.004$ ) for CIVIC than in young adults,  $\beta = 0.487$  ( $p \leq 0.001$ ) for SPORT and  $\beta = 0.442$  ( $p \leq 0.001$ ) for CIVIC.

= 0.442 ( $p \leq 0.001$ ) for CIVIC. This means that the relationship between SWPs and Civic Virtue is stronger for senior adults than for young adults. In other words, senior adults react strongly to changes in SWPs compared to young adults.

## **Discussion of the Findings**

This research endeavours to address the existing gaps in the literature concerning the impact of HRM practices on OCB. Identified limitations include a lack of comprehensive understanding of how WLB strategies, such as suitable shift work arrangements, influence OCB, and the degree to which age modifies this relationship. The results align with the Social Exchange Theory (Blau, 1964), suggesting that favourable shift work arrangements encourage employees to participate in OCB. The overarching hypothesis that shift work significantly and positively impacts OCB has been affirmed across all three examined OCB dimensions. The findings align with previous research, corroborating the assertion of a positive relationship between SWPs and employee behaviors (Cho & Lee, 2019; Farzianpour et al., 2016; Griffiths & Dall'ora, 2017). Several studies have also identified a relationship between SWPs and OCB, primarily assessing shift work as a dimension of WLB (Eriyanti & Noekent, 2021; Harikaran & Thevanes, 2018; Mella et al., 2023; Oludayo et al., 2018).

The study also demonstrates that age is a significant moderating factor in the relationship between SWPs and OCB. The findings suggest that elderly employees display a heightened sensitivity to shift work initiatives compared to their younger counterparts. Individuals below the age of 40, often characterized by ambition and energy, typically bear less familial responsibilities, thereby demonstrating a greater propensity to extend their work hours. Conversely, employees aged 40 and above often grapple with an expanding scope of social responsibilities, which can lead to a perceived sense of fatigue. As such, older employees may require more time to cater to familial and social obligations, inclusive of leisure activities. This necessitates a nuanced understanding of employees' needs across varying age groups in the design and implementation of shift work schedules.

The findings suggest that the principles of Social Exchange Theory may not uniformly apply across all employees, instead varying depending on the age group to which an individual belongs. Erikson's Psychosocial Development Theory provides further context for these variations, as these results mirror its assertion that individuals respond to occupational demands differently depending on their age (Munley, 1977). This research may be among the first to consolidate these two theoretical perspectives in an explanation of OCB.

Theoretically, this research enriches the OCB literature by corroborating the effects of shift work initiatives on OCB within an under-examined context: the public healthcare sector in a developing country. The study also contributes to the understanding of the role of age on the influence of HR practices on employees' attitudes. Despite previous calls for further exploration of the factors moderating the relationship between OCB and its antecedents (Organ, 2018; Podsakoff et al., 2018), studies focusing on age remain sparse. This research responds to this call by verifying the mediating role of age in the relationship between OCB dimensions and SWPs.

From a practical perspective, the findings offer additional insight into the determinants of OCB, equipping managers of healthcare facilities and other organizations with valuable

knowledge to structure work and encourage discretionary behaviors. To deliver high-quality services, organizations such as hospitals require employees who willingly perform beyond their job requirements (OCB). This study's insights can help organizations, particularly healthcare facilities, to devise work arrangements that foster appropriate and acceptable behavior among employees, improving their well-being and enhancing organizational performance. If not appropriately managed, shift work can have detrimental effects on employee health. As Cho and Lee (2019) suggest, it is crucial for managers to ensure predictability in work schedules, minimize night shifts, and guarantee equitable working conditions. Consideration must be given to the age of employees, as older adults may require accommodations for medication schedules, naps, and planned meals.

## **Conclusion**

This study is one among the earliest to explore the influence of medics' perception of SWPs and OCB in an African country context. Shifts arrangements are common practice in many organizations worldwide, nonetheless, in African countries, they are taken for granted without regard to both positive and negative behavioural consequences they are associated with. The findings of this study have shown that properly planned shift work arrangement is capable of inducing employees to engage in OCB and other discretionary behaviour. The study further indicated that the influence of shift work arrangement influence employees' OCB behaviours differently whereby senior employees is highly affected than young adults. The study could be one of the few studies that have looked into how Shift Work Initiative influences OCB and how such an influence can be moderated by employees' Age. It has broadened the OCB literature by investigating the extent to which Age interacts with HRM practices in general but shift work initiative, in particular, to influence employees' OCB. The study also confirms the propositions of both Social Exchange Theory and Psychosocial Development Theory indicating how they do complement each other in HRM context.

Results of the current study provide the basis for managers of health facilities in African context to rethink about routine implementation of shifts in line with consequences they have on the employee outcomes. The findings underscore the need for HRM managers of health facilities to design shift work arrangements that are perceived to be favourable by medics. They also have to pay attention to age of their medical personnel in designing shifts. The elderly medics needs to be assigned shifts which are considered to be less difficult to handle than the young adults in order to enhance medics OCB and subsequently quality of health services.

This study is not without limitations. Firstly, the cross-sectional research design employed during sampling, data collection, and analysis constrains the capacity to deduce causality between medical professionals' perceptions of shift work policies and Organizational Citizenship Behaviour (OCB) within hospital settings. Additionally, while age is identified as a significant moderating factor in the relationship between OCB and shift work, there exist unobserved variables such as gender, marital status, and educational attainment that could also impact this relationship. These variables, however, were not included in the analysis to maintain simplicity within the study's model. Lastly, the research did not consider certain pertinent aspects of shift work, including overtime, breaks during shifts, and total work hours

per week, which could have potentially influenced the outcomes. Consequently, future studies should aim to address these limitations, potentially utilizing a longitudinal design and incorporating a broader range of variables to provide a more comprehensive understanding of the relationship between shift work and OCB.

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