

Perceived organizational support, self-efficacy and work engagement: testing for the interaction effects

Self-efficacy
and work
engagement

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Ibrahim Abaasi Musenze
Busitema University, Pallisa, Uganda

Thomas Sifuna Mayende
Information and Communication University, Yaounde, Cameroon, and
Abbey Kalenzi and Rehema Namono
Economics and Management, Busitema University, Pallisa, Uganda

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Abstract

Purpose – The purpose of this paper is to examine the relationship of the interaction effect of perceived organizational support (POS) and self-efficacy (SE) with work engagement (WE) within the primary education industry.

Design/methodology/approach – The paper relies on structural equation modeling (SEM) with AMOS (V.22) to test and resolve the conditional hypothesis that fusion of POS and SE is necessary for WE.

Findings – The scale of effect of POS on WE depends on SE; hence, the assumption of nonadditivity is achieved. Precisely, the interaction of POS and SE is necessary for WE.

Research limitations/implications – The study was based on a single research methodological approach, namely quantitative research methodology, which could have been affected the outcome of this investigation. Future studies could investigate WE interaction model through qualitative lens in order to provide a triangulation opportunity. Moreover, the findings from the current study are cross-sectional, and data were collected at a snapshot. Therefore, future research should consider the multiplicative effects studied in this paper across time.

Practical implications – Attempts to heighten WE levels, among government primary school teachers in Uganda, would require that management regularly ventures into finding a more practical and feasible fusion of POS with SE in order to provide significant levels of WE among employees of primary education industry.

Originality/value – This is the first study that tests the interactive effects of POS and SE on WE in Uganda's primary education industry.

Keywords Perceived organization support, Work engagement, Self-efficacy

Paper type Research paper

Introduction

Of recent, organizations globally are tussling with new and unforeseen challenges as they struggle to remain competitive (Burke and El-Kot, 2010). Among these challenges include performance management, rising financial turmoil, new technology and innovation, uncertainty in the global marketplace, management of an increasingly diverse workforce and the clientele, increased regulations and policy and the globalization of business enterprises (Bucăța, 2018; Sharma, 2018; Burke and El-Kot, 2010). As all other sources of competitive advantage available to organizations such as technology, capital, products and services can easily be duplicated, there is a universal consensus among renowned organizational practitioner that securing inimitable and distinctive competitive advantage requires an organization to assemble a pool of knowledgeable, talented and quality workforce (Burke and Cooper, 2005; Burke and El-Kot, 2010). The unprecedented complexity of the operational business environment demands that organizations unleash a highly talented,



quality, motivated and engaged workforce that is able to navigate the complex environmental challenges and achieve superior performance (Gallardo-Gallardo *et al.*, 2019; García-Chas *et al.*, 2016; Reiche *et al.*, 2019). This is because talents are considered distinctive strategic resources that are essential for the achievement of sustained competitive advantage hence peak performance (Gallardo-Gallardo *et al.*, 2019; Sparrow and Makram, 2015).

Recent evidence however suggests that organizations have failed to leverage on existing talent in order to achieve both competitive edge and realize superior organizational (Burke and Cooper, 2008; Hongal and Kinange, 2020; Najm and Manasrah, 2017). While in the past decades, organizational behavioral scholars placed a great emphasis on negative features of work-related well-being (burnout and psychological agony, job dissatisfaction and employee turnover), recent efforts to perk up and enhance organizational performance have started to highlight positive organizational behavioral concepts and positive feelings (Bakker and Albrecht, 2018; Bakker and Demerouti, 2008; Bano *et al.*, 2015). This incorporates a raft of concepts, for example, trust, optimism and engagement. Work engagement (WE) has emerged as the most well-known positive organizational concept, specifically among organizational scholars and practitioners (Bakker *et al.*, 2008; Listan *et al.*, 2017). Defined as “a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication and absorption” (Schaufeli and Bakker, 2004, p. 295), there is obvious kinship between WE with a range of positive organizational antecedents and outcomes, such as employee performance (Christensen *et al.*, 2015; Listan *et al.*, 2017), customer satisfaction, firm status and shareholder value (Demerouti and Cropanzano, 2010), organizational commitment (Hakanen *et al.*, 2008), and organizational well-being (Schaufeli *et al.*, 2008).

While WE has been described as a business pillar, global studies by Deloitte (2015) and Gallup (2013) on WE status reveal that merely 13.6% of employees worldwide are engaged at work and 61.7% are disengaged with 23.3% actively disengaged. By implication, these statistics show that only one in eight workers exercise psychological commitment to their work and probably exhibiting positive contributions to their organizations. In the USA alone, Towers Watson Survey revealed that disengagement costs up to \$550 bn per year in lost productivity despite huge investments in engagement efforts (Galagan, 2015). The regional engagement statistics as well reveal that only 10% of employees in Africa are engaged and 33% are actively disengaged in sub-Saharan Africa. Uganda presents relatively a similar picture as the bulk of its workers are disengaged at work. According to the Federation of Uganda Employers (FUE), only 49% of the employees are highly engaged, 6% are disengaged and 45% are moderately engaged.

The existing literature reveals that perceived organizational support (POS) significantly facilitates WE in organizations because when employees perceive organizational support, they are likely to reciprocate by exhibiting higher WE levels (Kurtessis *et al.*, 2015). Also, research by Seggelen-Damen and Dam (2016) finds support for significant association between SE and work engagement. Therefore, belief in one self is a fundamental source of perception and action (Bandura, 2012). Within the occupational literature, employees with high levels of self-belief are increasingly expected to exhibit high commitment and engagement to their work (Bandura, 1997; Yakın and Erdil, 2012). As POS is fundamental for improving WE (Kurtessis *et al.*, 2015), alongside SE better explain the unique variances in WE among primary school teachers within the education industry. Based on this argument, two postulations are suggested here to support this assumption.

First, the unprecedented complexity of the business environment demands recent and inventive approaches to performance improvement, which can be achieved by appropriately managing frontline employees to ensure they are high in self-belief (Bandura, 2012) rather than only relying on POS (Eisenberger and Stinglhamber, 2011). This implies that a balance can be achieved between POS and self-efficacy (SE) in a complementary approach to promote increased WE practices. This approach to WE can lead to evolution of “self-efficacy” theory

in practice and effective SE management. Besides, studies by Kurtessis *et al.* (2015) and Baran *et al.* (2011) provide testimony for overemphasis of the organizational support theory's (OST) role that employees form a generalized perception regarding the degree to which the organization values their contributions and cares about their well-being (POS). This generalized perception might not necessarily translate into high WE (Baran *et al.*, 2011). Proponents of social exchange theory (SET) theory argue that resources received from organizations are greatly valued and treasured if they are based on discretionary choice rather than circumstances beyond the organization's control. Such voluntary resources are welcomed as a signal that the organization genuinely values and respects the employees (Blau, 1964; Gouldner, 1960). However, in Uganda's primary education industry, quite often organizational rewards as well as favorable job conditions such as pay, promotions and fairness have been largely induced by external constraints such as trade union negotiations, state policy and regulations (Eisenberger *et al.*, 1986) and not resultant from the organization's voluntary actions. From the foregoing discussion, the interaction between POS and SE can provide a legitimate direction toward systems' improvements for enhanced work engagement. Second, it is probable that the application of the OST of POS and the social cognitive theory (SCT) (Bandura, 1986) of SE can provide a relevant and robust framework for understanding the unique variance in work engagement. According to SCT, building psychosocial resources such as SE generates a resource stockpile that determines employees' perceptions and interpretations of their work. On the other hand, POS plays an integral role in employee–organization kinship and has fundamental implications for enhancing employee well-being and favorable direction toward work (Kurtessis *et al.*, 2015). POS instigates a social exchange process in which employees feel duty-bound to help the organization realize its goals and objectives and anticipate that improved efforts on the enterprises' behalf will yield better outcome. As well, POS also fulfills psychological needs, resulting in organization commitment, an augmented desire to assist the organization succeed and greater emotional well-being. Since POS is perceived as a vital resource (Kurtessis *et al.*, 2015), just as SE, the investigation of the complementary role of POS and SE in explaining resultant changes in WE is necessary.

The uniqueness of this study resides in the fact that POS–SE–WE studies have not received adequate attention in Uganda. Given that this investigation involved two exogenous variables (POS and SE), it was necessary to test the complementary effect of these constructs on work engagement. According to Friedrich (1982), a research design that provides for two or more predictor variables call for a reflection beyond merely testing the “main effects” of each of the independent variables on the dependent variable (WE). Finally, a great deal of existing stream of literature on POS–SE–WE has concentrated on the developed world (Kurtessis *et al.*, 2015; Seggelen-Damen and Dam, 2016), yet WE phenomenon and how it is predicted by POS and SE has an international appeal (Bakker *et al.*, 2008). The purpose of this study is to examine the relationship between the multiplicative effect of POS and SE with WE using a sample of primary school teachers in Uganda.

Literature review and hypothesis development

Theoretical background

In this research, the framework linking POS and SE on WE is investigated through the organization support theory (OST) (Eisenberger *et al.*, 1986), SET (Blau, 1964) and social cognitive theory (SCT) (Bandura, 1986). OST suggests that employees develop personal obligation to reciprocate the positive and supportive organizational behavior in the form of better treatment acquired from their respective organizations by developing favorable and complementary attitudes toward the organization, which in turn aids the organization realize its goals (Eisenberger *et al.*, 1986). OST also holds that POS enables employees realize

personal needs such as self-esteem, a practice that might lead to favorable feelings and behaviors toward the organization and improved subjective well-being (Kurtessis *et al.*, 2015, 2017). For that reason, POS is essential for WE because an employee, who feels valued, would in effect reciprocate by contributing positively to organizational efficiency and effectiveness. Equally, SET (Blau, 1964) suggests that obligations are generated through a sequence of interactions between the employee and the employer. Viewed from this angle, fair social exchanges might lead to strong relationships that induce effective work behaviors leading to high WE (Xanthopoulou *et al.*, 2009). Employees thus feel obliged to respond in kind and repay the organization when they receive organization support that may be in the form of economic and socioemotional resources from their organization (Cropanzano and Mitchell, 2005). In this milieu, Saks has argued that, "One way for individuals to repay their organization is through their level of engagement". As well, SCT suggests that improvements in WE are a basic function of SE across organizations (Bandura, 1986). SE is indicative of an employee's enthusiasm and readiness to expend effort in line with his/her capability (Bandura, 1986). SCT suggests that building psychosocial resources such as SE generates a resource stockpile that determines employees' perceptions and interpretations of their work, which in turn help them to cope with their diverse role demands. Employees frequently have to cope with numerous social and work demands; a strong sense of SE may facilitate the achievement of appropriate balance among various social and work-related demands. Additionally, SE is indicative of an employee's enthusiasm and readiness to expend effort in line with his/her capability (Bandura, 1986). SE is considered an important control center that drives employees' level of actions, motivation and emotional state. As well, individual's motivation, belief, feelings and behaviors depend upon their SE, thus belief in one self is a fundamental source of perception and action (Bandura, 2012), and this is expected to heighten employee commitment leading to high WE (Bandura, 2012; Yakın and Erdil, 2012).

The OST assumes that perception of organizational support induces an obligation to positively contribute to organizational effectiveness and efficiency; this could be reflected through high work engagement. In turn, POS initiates a social exchange process where employees develop a reciprocal feeling and obligation to help the organization achieve its goals and objectives and anticipate that improved efforts on the organization's behalf might generate greater rewards in this context of high engagement. POS leads to the realization of psychological needs, resulting in increased identification and commitment to the organization, and enhances desire to help the organization thrive and greater psychological well-being. POS is thus considered an important psychological resource for organization's fulfillment of its purpose. Also, SCT suggests that building psychosocial resources such as SE generates a resource stockpile that determines employees' perceptions and interpretations of their work, which in turn help them to cope with their diverse role demands. Therefore, integration of OST (Eisenberger *et al.*, 1986) and SCT (Bandura, 1986) may be important in providing a better explanation for WE variances considering their complementary focus on psychological resources. Drawing from the OST theory and SCT theory, insights can be derived to inform WE improvement through appropriate management of psychological resources (POS and SE) in organizations. Accordingly, this study adopts a multi-theoretic approach (OST, SET and SCT) to provide a comprehensive explanation of work engagement. It is assumed that the integrative effect of POS and SE might bring about satisfactory WE in organizations.

Perceived organizational support and work engagement

According to Kurtessis *et al.* (2015), POS is defined as the employees' perceptions about how the organization values their contributions and cares about their welfare. Since POS construct was pioneered in the organizational literature, a plethora of studies have

indicated a positive association of POS with several positive outcomes (2012; Kurtessis *et al.*, 2015; Shoss *et al.*, 2013; Bano and Gupta, 2015). Exclusively, Eisenberger and Stinglhamber (2011) have suggested that POS outcomes can be classified in three major groups, namely (1) constructive or favorable attitudes toward organization and the job, which might be defined by affective commitment and work engagement, (2) beneficial behavioral outcomes, for instance improved performance and (3) worker's subjective/individual well-being, for example job satisfaction and self-efficacy. Organizational support theorists (Eisenberger *et al.*, 1986; Eisenberger and Stinglhamber, 2011; Kurtessis *et al.*, 2015) have suggested a theoretical structure to best explain how POS functions create each of its three fundamental groups of positive outcomes. As summarized by Eisenberger and Stinglhamber (2011) and Kurtessis *et al.* (2017), the three foremost processes have been recognized to account for the basic relationship between POS and its outcomes. Originally rooted in the SET (Blau, 1964), OST asserts that since POS provides tangible and intangible resources to organizational staff, the norm of reciprocity (Gouldner, 1960) generates a felt duty among organizational employees to care about organizational welfare and facilitates the enterprise to achieve its goals (Eisenberger *et al.*, 1986). This primary mechanism largely provides an account of how POS induces positive-related workers' attitudes and behaviors. Second, according to OST, perceptions have considerable influence on worker's outcome (Eisenberger *et al.*, 1986; Eisenberger and Stinglhamber, 2011). Therefore, POS provides a guarantee that investments that employees put into their organization will be reciprocated and consequently rewarded (Eisenberger and Stinglhamber, 2011; Kurtessis *et al.*, 2017), leading to enhanced employees' attitudes and behaviors toward the organization.

Consistent with this, Saks has argued that, "One way for employees to repay their organization is through their level of engagement. That is, employees will decide to engage themselves to varying degrees and in response to the resources they receive from their organization" (Saks, 2006, p. 603). Employees tend to exchange their engagement at work for resources such as POS and benefits offered by their employer (Saks, 2006). Lastly, in the workplace environment, POS is presumed to fulfill numerous psychological needs such as self-esteem, affiliation, emotional support and approval (Eisenberger *et al.*, 1986; Eisenberger and Stinglhamber, 2011). Attainment of such psychological needs contributes to a self-improvement process, hence positive attitudes and enhanced employees' subjective well-being (Kurtessis *et al.*, 2015).

Consequently, a range of preliminary empirical evidence suggests positive influence of high levels of POS for organizations such as increased employees commitment, rising WE levels and reduced employee stress (Eisenberger and Stinglhamber, 2011; Karatepe and Mehmet, 2016) as well as job performance (Shoss *et al.*, 2013). POS was also found to be positively associated with numerous indicators of employees' well-being, for example job satisfaction (Caesens and Stinglhamber, 2014) and general health (Bradley and Cartwright, 2002). While a plethora of research suggests empirical links of POS with WE (Karatepe and Mehmet, 2016; Kurtessis *et al.*, 2015), the study by (Nusantria, 2012) provides conflicting findings, as it indicated POS has a positive, albeit insignificant relationship with work engagement. The mixed findings confirm inconsistencies in literature regarding the effect of POS on work engagement. Also, no study has empirically investigated the relationship between POS and work engagement, within the setting primary school industry in Uganda. Thus, we can expect that to the extent, an employee perceives organizational support, WE would be enhanced. Accordingly, we hypothesize that

H1. POS is positively related to work engagement.

Self efficacy and work engagement

According to Albert Bandura, SE is defined as the beliefs in one's capabilities to organize and execute courses of action required to produce given attainments (1997, p. 3). Viewed from the social cognitive (SCT) perspective (Bandura, 1986), SE refers to the individual's belief in the ability needed to realize his/her behavioral goals in a particular sector. In total, three salient features underlie the concept of SE: (1) SE is regarded as an employee's ability to execute a defined or specific task, (2) SE is considered a dynamic element since it varies over time and (3) mobilization of efficacy beliefs impacts employee and subsequently organizational performance (Bandura, 1997). More broadly, SE describes how confident employees believe they are or how much control they believe they have in their ability to realize a defined goal or accomplish a task. This sense of control is of significant importance in employees' daily lives because, theoretically, employees who lack the control in their lives to create a desired effect normally have little motivation to put forth any reasonable effort toward achievement (Bandura, 1997, 2012). SE, also referred to as personal beliefs of competence, is therefore regarded as a fundamental feature of schema. Gradual acquisition of complex cognitive as well as social skills by experience has the potential to breed SE, and employees' behaviors are regulated as a result. It is therefore important to note that SE is not concerned with employees' skills but rather with the perception of what they can execute with their skills. Consequently, it is for this reason that employees of similar skill level might posit diverse performance results.

In the occupational literature/context, employees' beliefs in their personal efficacy to control their own performance processes and outcomes, and to become proficient in challenging occupational situations, is likely to have great impact on their engagement impetus, interest and achievement. SE therefore determines the individual's behavior choice and promotes positive commitment in actions arising from positive SE, which later determines how much effort an individual will make and how long he/she will persist in challenging situations (Sosan and Siamak, 2016; Sum *et al.*, 2018). Relying on the SCT, it can be argued that people are able to execute the actions required to manage complex tasks and to cope with the hardship associated with the challenging work situations (Bandura, 1997). This is because SE is regarded as an important control center that guides employees' level of actions, motivation and emotional state necessary for work related outcomes such as engagements. As well, individual's motivation, belief, feelings and behaviors depend upon their SE. Therefore, belief in one self is a fundamental source of perception and action (Bandura, 2012).

Accordingly, it can be argued that employees with high levels of self-belief are increasingly expected to be more committed to their work, embrace challenging tasks, raise performance levels, which might lead to high WE (Bandura, 1997; Yakin and Erdil, 2012). Preliminary evidence suggests that SE has a positive significant influence on a number of outcome variables. For instance, SE improves employees' decision-making quality, lowers depression, stress, anxiety and burnout (Chiesa *et al.*, 2016; Seggelen-Damen and Dam, 2016). Besides, SE is positively linked to job performance and satisfaction (Ren and Chadee, 2017). However, limited studies have empirically investigated the affinity between SE and WE within the setting of primary school industry in Uganda, yet reliance on other contextual studies (Bandura, 2012; Chan *et al.*, 2015) to explain WE in Uganda is inapt. Thus, we can expect that to the extent an employee perceives SE, WE would be improved. Also, empirical examination of the relationship between SE and WE is limited (Chan *et al.*, 2015; Del Libano *et al.*, 2012). In a recent study, Chan *et al.* (2015) argued that SE improves WE through a self-fulfilling cycle in which employees attain what they believe they can achieve, and in the process, build additional skills and personal resources to manage work-related challenges. In this way, SE is expected to positively predict being in a positive state of mind, for example being happy, which may lead to high WE among employees. Given these empirical links between SE and work engagement, we hypothesize that

Interaction of perceived organizational support and self-efficacy on work engagement

POS is defined as individuals' beliefs that their organization values their contributions and cares about their well-being (Eisenberger *et al.*, 1986). To this effect, POS has significant influence on organizations and has been linked to number of positive outcomes, namely affective organizational commitment, job satisfaction, job performance and WE (Shoss *et al.*, 2013; Kurtessis *et al.*, 2015; Karatepe and Mehmet, 2016). This study proposes that POS interacts with SE in predicting work engagement. As noted by Speritzer (1995), the way employees view their own capabilities in the workplace is a result of perceived organization support. The POS as well impact the level of competence employees feel in shaping their behaviors at work. Logically, a mutually dependent workplace relationship between employees and the organization supervisors creates a supportive environment that, in turn, positively impact SE and employees' performance (Vogt and Murrell, 1990) and WE (Karatepe and Mehmet, 2016; Kurtessis *et al.*, 2017). High POS in an organization induces a feeling on part of the employees to reciprocate due to the norms of reciprocity (Gouldner, 1960). Employees might feel more obliged to care in an extra ordinary way about their organization's objectives and be more devoted to the organization's well-being by becoming more engaged in their work. POS too helps to meet employees' socioemotional needs. These socioemotional needs constitute receiving emotional support, affiliation and self-esteem (Eisenberger *et al.*, 1986). Research by van Woerkom *et al.* (2016) reveal that employees who perceive organizational support often become more self efficacious and register success in terms of achievement of work related goals. Second, a person's physiological state as induced by POS determines SE (Bandura, 1986). In this study's context, this linkage is argued to be the complementary effect of POS and SE in influencing work engagement. This is because, besides feeling valued and cared for by the organization (POS), SE allows people to execute necessary actions needed to manage complex tasks and to cope with the hardship associated with the challenging work situations (Bandura, 2012). For this reason, POS increases employees' beliefs that their efforts on behalf of the organization will be recognized and rewarded (Eisenberger *et al.*, 1986), leading to higher WE levels (Kurtessis *et al.*, 2017). This argument implies that POS and SE have to interlock for improved work engagement.

To predict work engagement, the SCT (Bandura, 1986) and the conservation of resource (COR) model (Hobfoll, 1989) help in explaining how POS and SE interact. The COR model suggests that employees strive to retain, protect and build job and personal resources in order to reduce strains from job demands (Park *et al.*, 2014). It is thus expected that POS, being a job resource, interacts with SE to predict work engagement. More specifically, highly self-efficacious employees are believed to display a strong positive relationship with POS leading to high work engagement. According to the COR model, employees who exhibit low SE would be expected to require more resources in order to be engaged in their work, and POS is one such resource that can be accumulated. Hobfoll (1989) argues that when an employee develops resource surpluses, he/she might experience positive well-being. This means that individuals, low in self-esteem; with high POS may experience a surplus of resources, allowing them to experience positive well-being, which could lead to more positive outcomes such as work engagement. POS gives those employees with low self-efficacy a support structure where they feel that any challenge that arises can be tackled and resolved with organization's help (POS), which eventually increases their level of work engagement.

Consistent with SCT, it can be argued that, employees develop their beliefs by their perception, such that as they perceive a supportive work environment, they become self efficacious, that is they start believing in themselves. Therefore, based on SCT and COR

theory, it is suggested that building psychosocial resources such as SE generates a resource stockpile that determines employees' perceptions and interpretations of their work, which in turn help them to cope with their diverse role demands. Employees frequently have to cope with numerous demands associated with their careers and social relationships; a strong sense of SE may facilitate the achievement of appropriate balance among various social and work-related demands since it is indicative of an employee's enthusiasm and readiness to expend effort in line with his/her capability (Bandura, 1986). In light of these theoretical arguments, it is expected that one would find a positive interaction between SE and POS in the research literature. However, no specific studies have empirically examined the interaction effect of POS and SE in work engagement. The few studies demonstrated the interaction effect of core self-evaluation and POS with other job-related outcomes. For instance, McNall *et al.* (2011) examined whether core self-evaluations interacted with POS in predicting work-to-family enrichment. Based on McNall's *et al.* (2011) study, it is anticipated that POS and SE interact in such a manner to raise work engagement. Arguably, it is difficult to see how either POS or SE on their individual accord can offer better and significant influence on work engagement other than when based on their complementary effect. Therefore,

- H3. The interaction of POS and SE offers a better explanation of the variance in overall WE than the direct influence of POS or SE individually.

Methodology

Participants and procedure

The target samples were full-time employees working in 142 government-aided primary schools of Mayuge district, local government, in Uganda. Regarding the sampling procedure, initial contact with the leadership in the directorate of human resources (HR) of Mayuge district local government was made physically and a follow up by both email and phone calls to explain the purpose of the study and to secure their permission to undertake the survey within their schools. Afterward, the questionnaires were sent to the HR leadership in the district which then distributed them to potential participants through established research assistants. Based on Yamane (1967) guidelines for sample size determination, the questionnaires were distributed to a total of 321 primary school teachers, drawn from a total population of 1,619 permanent paid primary school teachers (Staff list obtained from the directorate of human resource management, Mayuge district local government as on 30th November, 2019). We used simple random, an unbiased approach to garner 321 responses from a large group (population –1619) of permanent paid primary school teachers. As participants were selected at random, each individual in the large population set had the same probability of being selected to participate in the study (Sharma, 2017). The data were collected using a questionnaire-based survey method. The questionnaire was segmented into two parts. The first part was about the respondents' demographic profile whilst the second sought information on the study constructs of POS, SE and work engagement. Out of the 321 distributed questionnaires, 298 were retrieved and subsequently used in the final analysis. Ethical issues in this research were also assured through ensuring respondents' confidentiality, anonymity and ethical conduct of the researchers. Majority of the respondents were men (i.e. 61.5%, $N = 298$), age of 26–36 years (52.1%, $N = 298$) and holding a minimum of grade III teaching certificate (i.e. 65%, $N = 298$). Also, only 30% of the respondents were married.

Variables and measures

Work engagement

In total, three aspects of WE (vigor, dedication and absorption) were measured using the seventeen-item version of the Utrecht Work Engagement Scale (Schaufeli *et al.*, 2002). Vigor

was measured by six items that describe high levels of energy and resilience, readiness to invest effort, not being easily fatigued and perseverance in the face of challenges. The sample item for vigor is “*At my job, I feel strong and vigorous*”. Dedication was assessed by five items pertaining to drawing a sense of importance from one’s work, feeling enthusiastic and proud as regards one’s job and feeling motivated and challenged by it. The sample item for dedication is “*My job inspires me*”. Absorption was measured by six items that refer to being fully and gladly engrossed in one’s work and having difficulties detaching individual self from it, so that time passes quickly and one does not remember everything that is around. The sample item for absorption is “*I am immersed in my work*”. Participants indicated their level of agreement with each item, as anchored on a five-point Likert scale (1 – strongly disagree, 2 – disagree, 3 – Not sure, 4 – Agree and 5 – strongly agree). The Cronbach’s alpha for this WE scale was ($\alpha = 0.89$).

Self-efficacy

SE was evaluated using an adapted and specific version for the work context of the generalized SE scale (Schwarzer and Jerusalem, 1995). The reported internal reliabilities of this scale are in the range of 0.76 and 0.90. The items were modified to suit work specific circumstances. Item example: “My job is well within the scope of my abilities”. Participants indicated their level of agreement with each item, as anchored on a five-point Likert scale (1 – strongly disagree, 2 – disagree, 3 – Not sure, 4 – Agree and 5 – strongly agree). The Cronbach’s alpha for this WE scale was ($\alpha = 0.87$).

Perceived organizational support

POS was measured using a shortened six-item scale of Eisenberger *et al.* (1986) comprising model items such as “My organization cares about my opinions”. All items were scored on a five-point rating scale ranging from 1 (“strongly disagree”) to 5 (“strongly agree”). This scale is considered useful for this study because previous studies allude to its high internal consistency (i.e. $\alpha = 0.76$), which is greater than 0.70 (Islam *et al.*, 2015). The Cronbach’s alpha for this scale was 0.85.

Data quality management and analysis

Common method bias (CMB) was equally dealt with. In order to establish the presence of CMB/CMV (common methods variance), the common latent factor test was conducted using confirmatory factor analysis (CFA). The test presupposes that a single factor will account for all of the covariance among the variables of interest if CMV is present (Podsakoff and Organ, 1986). The test results did not indicate any threat of CMV. Further, data were collected from multiple sources such as from education assistants, senior education assistants, deputy head teachers and head teachers, moreover working from different schools. This approach is supported by Podsakoff *et al.* (2003). Possible effects of response pattern biases were managed through integration of negatively worded items in the survey instrument (Hinkin, 1995; Idaszak and Dragow, 1987). The underlying reason for inclusion of the negatively worded items was that they act as cognitive “speed bumps” that necessitate participants to engage in a more controlled rather than in an automatically cognitive processing (Hinken, 1995). These questions were reversed at the analysis stage. Data were checked and cleaned for completeness (Field, 2006). Completed questionnaires were as well inspected for missing values and discrepancies regarding responses given by the study participants. Simple frequency runs were made to screen the data so as to identify missing values. The missing value analysis test posited results that were less than 2% for all variables, signifying

tolerable threat as responses were not deemed redundant and ineffectual. Besides, the identified values were found to be a consequence of omissions by participants, thus considered insignificant (Little and Rubin, 2002) and negligible to suppress the SD (Field, 2006). As the missing values were a consequence of omissions and not related to other values or variables, this meant that data were missing completely at random (MCAR) (Little and Rubin, 2002). Based on suggestions of (Sekaran, 2003), variables with missing values that are less than 5% do not require redress before inclusion in the subsequent analysis. Also, in order to test for data normality, we used the skewness (standard value of 6.1) and kurtosis (standard value of 6.3) test, and the findings revealed that, all the data were normal (Byrne, 2010). The outliers of the study were checked using the Mahalanobis distance at $p < 0.000$ (Kline, 2005), and 1 response was identified and corrected before the final analysis. In addition, multicollinearity was examined using the values of correlation analysis among the study variables. Results indicated that all correlations among the three study variables of POS, SE and WE were less than 0.90, signifying tolerable threat of multicollinearity (Tabachnick and Fidell, 2007).

Statistical modeling

Demographic profile analysis, CFA, correlation analysis and structural equation modeling (SEM) were conducted using SPSS (version 22.0) and AMOS (version 22.0). We performed SEM in order to establish whether the theorized model was in line with the data collected. The consistency between the hypothesized interaction model and the collected data was examined through model-data fit, which signified the degree to which the theorized relationships among the study constructs of POS, SE and WE were reasonable. Besides the chi-square statistic, the following fit indices are reported: standardized root mean square residual (SRMR), goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), Tucker–Lewis index (TLI), comparative fit index (CFI) as well as root mean square error of approximation (RMSEA). Values for the GFI, AGFI, TLI and CFI are between 0 and 1, with values closer to 1 signifying a better-fitting model. Specifically, TLI values of 0.95 and above (Hu and Bentler, 1999); GFI > 90; AGFI > 0.85 (Yang, 2006) are indicated as satisfactory goodness-of-fit indices. The chi-square statistic test requires a better fitting model that posits a p -value > 0.05 (Hu and Bentler, 1999). A value of 0.08 or less for RMSEA is also indicative of a good-fitting model (Hu and Bentler, 1999). For model plausibility and comparison, we relied on the criteria suggested by the study of (Morgan and Hunt, 1994).

Results

Means and standard deviations (SDs) were computed in order to bring out a summary of the data collected. Means embody a summary of the data while SDs show how spread out a dataset is (Field, 2009). The major aim for performing this descriptive statistical analysis was to establish whether the statistical means represent a good fit of the observed data (Field, 2009). The means, standard errors, SDs and the correlations of all the study constructs are summarized in Table 1. Table 1 tells that all mean scores of the study constructs were within the range of 3.2693 and 3.5517 on a five-point Likert scale, whilst the SDs were within the range of 0.60885–0.78973. These statistics indicate small SDs compared to the mean, which means that the data points are close to the means and therefore a representation of a reasonable replica of reality (Field, 2009). Also, the correlation among all the observed variables was positive, significant and below 0.90, indicating tolerable threats of multicollinearity.

Consistent with the recommendations of Hair *et al.* (2010) and Kline (2005), prior to the testing of study hypotheses, the model fit for the three measurement models of (POS, SE and

work engagement) was examined using CFI; NFI; TLI; RMSEA, GFI; AGFI and χ^2/df values. As well, the convergent validity was examined. Observed factor loadings, also referred to as the loading estimates, should be significant ($p < 0.05$) and above 0.50; and the values of average variance extracted (AVE) should be greater than 0.50 (Fornell and Larcker, 1981; Hair *et al.*, 2010). The models were later examined for CFA, as the measures used in this study were adapted from the previous studies (Byrne, 2010). The item loadings as well as the value of AVE were all above the standardized value of 0.50 (Table 2). Additionally, the statistical values of the model fit for the CFA of all the three variables in this study were found to be good, as indicated in (Table 3) below.

Measurement models

Before the estimation of the hypothesized WE interaction model, that is the complementary effect of POS and SE on work engagement, it was essential to estimate the measurement models for POS, SE and work engagement. We used AMOS (version 22) to perform a CFA) test in order to come up with a measurement model for all the variables. This procedure helped to confirm the dimensions and test the fit of the theoretically grounded model (Anderson and Gerbing, 1988); thus, the effectiveness of the measures was determined. The CFA results for the measurement model conform to satisfactory guidelines: Fit statistics, convergent validity and average variance extracted (Kline, 2011). Below are the results of the measurement models.

POS measurement model

The POS in Figure 1 shows an NFI of 0.996, which is a demonstration of strong convergent validity. The χ^2 statistic of 2.509 was not significant at the 0.05 level: its p -value was 0.285 and degrees of freedom (2), suggesting that the model adequately fitted the data. This was validated by other fit indices: RMSEA (0.029), NFI (0.996), TLI (0.996), CFI (0.999), GFI (0.968) and AGFI (0.974). According to Fornell and Larcker (1981), the average variance extracted (AVE) as a measure for discriminant validity should be above 0.5. In our current study, the AVE was 0.62. Analysis of the observed factor loadings in comparison with their standard errors illustrated evidence of a relationship between POS and its respective constructs or item factors (Hair *et al.*, 2010; Schreiber *et al.*, 2006). Assessment of item reliability was based on the multiple regressions (R^2). Save for POS 3, all the other regression weights (R^2) values were above 0.5, which is an indication of satisfactory reliability for each item (Kline, 2005). Consequently, each item was a reliable factor for POS.

Self efficacy measurement model

The self-efficacy model in Figure 2 shows an NFI of 0.996, which is a demonstration of strong convergent validity. The χ^2 statistic of 2.985 was not significant at the 0.05 level: its p -value

Variables	Mean	SD	1	2	3	4	5	6
Respondent category (1)	–	–	1					
Education (2)	–	–	0.014	1				
Work exp (3)	–	–	0.382**	–0.028	1			
WK (4)	3.4178	0.78238	0.137	0.070	0.042	1		
PS (5)	3.5517	0.60885	0.114*	0.053	0.045	0.776**	1	
SE (6)	3.2693	0.78973	0.173	0.033	0.034	0.805**	0.656**	1

Note(s): PS = perceived organizational support, SE = self-efficacy, WK = work engagement and Work Exp = working experience; * $p < 0.05$ and ** $p < 0.01$

Table 1.
Descriptive statistics
and correlation results

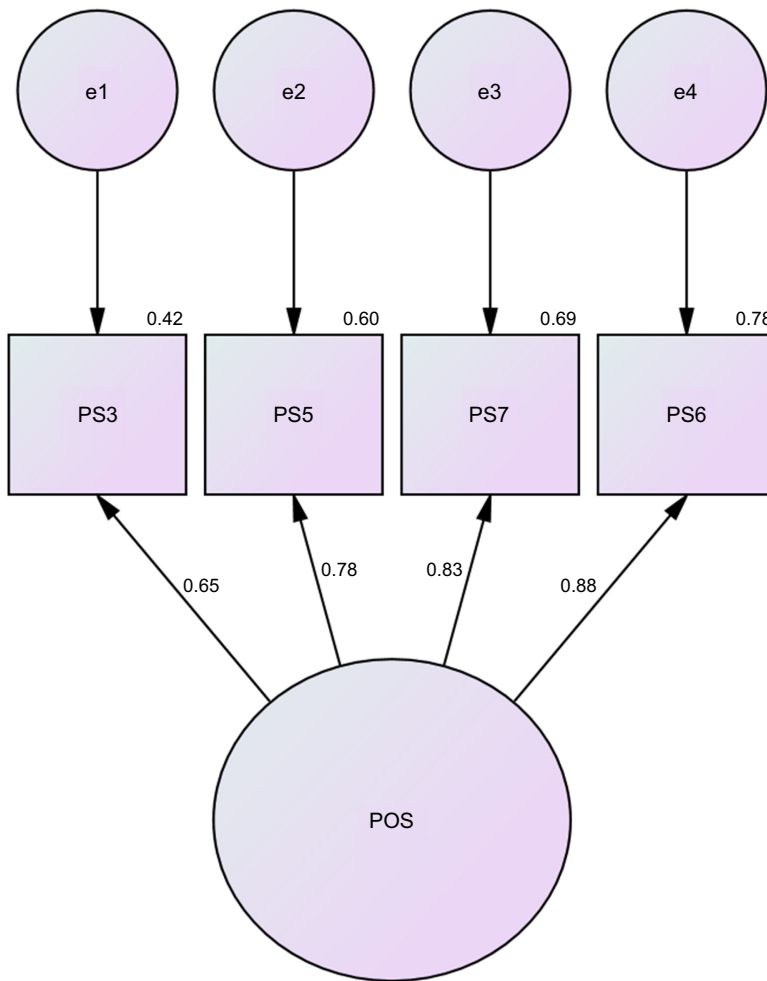
Variable	Item code	Items	Values of factor loadings	Values of factor loadings	Values of factor loadings	AVE	Cronbach alpha
POS	PS3	Help is available from my organization when I have a problem	0.42**			0.62	0.85
	PS5	My organization cares about my general satisfaction at work	0.60**				
	PS6	My organization cares about my opinions	0.69**				
	PS7	My organization takes pride in my accomplishments at work	0.78**				
SE	SE2	If someone opposes me, I can find the means and ways to get what I want		0.27**		0.53	0.87
	SE3	It is easy for me to stick to my aims and accomplish my goals		0.81**			
	SE4	I am confident that I could deal efficiently with unexpected events		0.78**			
	SE7	I can remain calm when facing difficulties because I can rely on my coping abilities		0.64**			
WK	SE1	I can usually handle whatever comes my way		0.17		0.50	0.89
	VG2	At my job, I feel strong and vigorous			0.57***		
	VG4	I can continue working for very long periods at a time			0.54***		
	VG5	At my job, I am very resilient, mentally			0.53***		
	AB2	When I am working, I forget everything else around me			0.53***		
	AB6	It is difficult to detach myself from my job			0.25*		
	DE1	I find the work that I do full of meaning and purpose			0.52**		
	DE4	I am proud on the work that I do			0.54**		

Table 2.
CFA factor item loadings and average variance extracted (AVE)

Note(s): POS = perceived organizational support, SE = self-efficacy and WK = work engagement

Table 3.
Results of confirmatory factor analysis

Model	df	χ^2	<i>p</i> value	NFI	TLI	CFI	GFI	AGFI	RMSEA
POS	2	2.509	0.285	0.996	0.996	0.999	0.968	0.974	0.029
Self-efficacy	5	2.985	0.702	0.996	1.000	1.002	0.950	0.982	0.000
Work engagement	4	2.895	0.479	0.976	0.958	1.000	0.950	0.973	0.049



Goodness of Fit Indices

$\chi^2 = 2.509$; p - value = 0.285, $d/f = 2$; RMSEA (0.029); TLI (0.996); IFI (0.976); CFI (0.999); NFI (0.996); GFI (0.968) and AGFI (0.974).

Key

POS = Perceived Organization Support

Figure 1.
Perceived
organizational support
measurement model

was 0.702 and degrees of freedom (5), indicating that the model adequately fitted the data. This was validated by other fit indices: RMSEA (0.000), TLI (1.009), IFI (1.003), CFI (1.002), NFI (0.995), GFI (0.950) and AGFI (0.982). According to (Fornell and Larcker, 1981), the average variance extracted (AVE) as a measure for discriminant validity should be above 0.5. In our current study, the AVE was 0.53. Analysis of the observed factor loadings in comparison with their standard errors illustrated evidence of a relationship between self-efficacy and its respective item factors (Hair *et al.*, 2010). Assessment of item reliability was

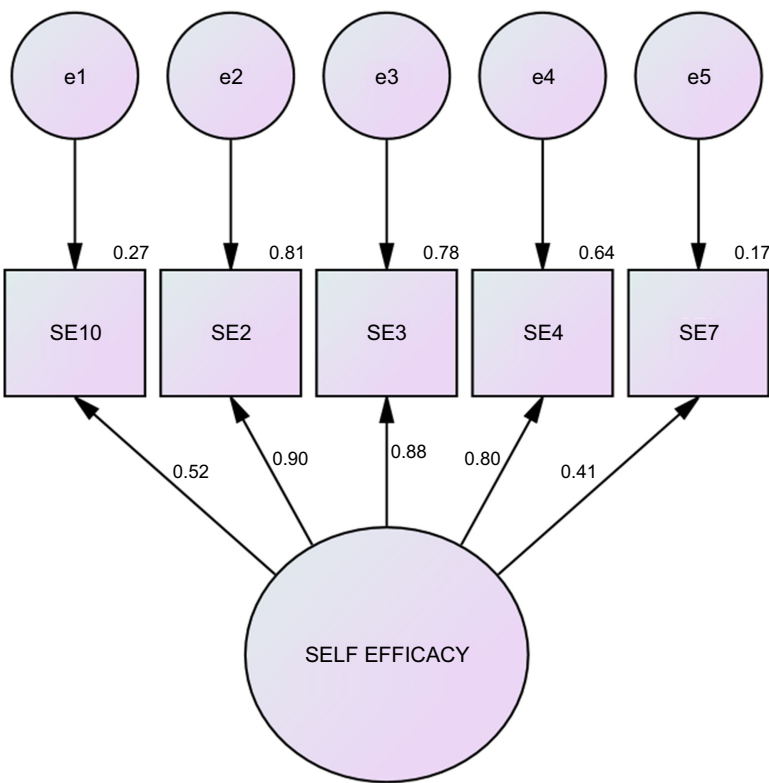


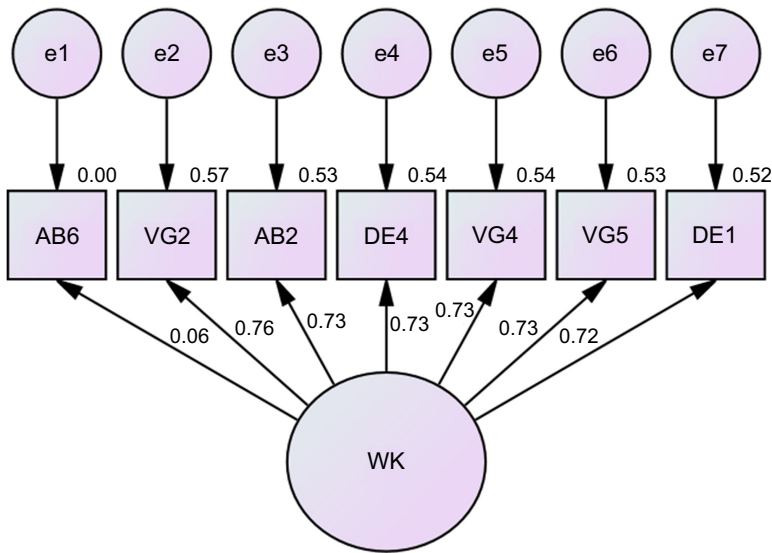
Figure 2.
Self-efficacy
measurement model

Goodness of Fit Indices
 $\chi^2 = 2.985$; p - value = 0. 702, $d/f = 5$; RMSEA (0.000); TLI (1.009); IFI (0.999); CFI (1.002); NFI (0.995); GFI (0.950) and AGFI (0.982)

based on the multiple regressions (R^2). Save for SE1 and SE2, all the other regression weight (R^2) values were above 0.5, which is a demonstration of satisfactory reliability for each item (Kline, 2005). Accordingly, each item was a reliable factor for self efficacy.

Work engagement measurement model

The WE model in Figure 3 shows an NFI of 0.976, which is a demonstration of strong convergent validity. The χ^2 statistic of 2.895 was not significant at the 0.05 level: its p -value was 0.479 and degrees of freedom (4), indicating that the model adequately fitted the data. This was validated by other fit indices: RMSEA (0.049), TLI (0.958), NFI (0.976), CFI (1.000) IFI (0.983), GFI (0.956) and AGFI (0.973). According to (Fornell and Larcker, 1981), the average variance extracted (AVE) as a measure for discriminant validity should be above 0.5. In our current study, the AVE was 0.50. Analysis of the observed factor loadings in comparison with their standard errors illustrated evidence of a relationship between WE and its respective constructs or item factors (Schreiber *et al.*, 2006). Assessment of item reliability was based on the multiple regressions (R^2). Save for Ab 6, all the other regression weight (R^2) values were

**Goodness of Fit Indices**

$\chi^2 = 2.895$; p - value = 0.479, $d/f = 4$; RMSEA (0.049); TLI (0.958); IFI (0.983); CFI (1.000); NFI (0.976); GFI (0.956) and AGFI (0.973)

Key

WK = Work Engagement

Figure 3.
Work engagement
measurement model

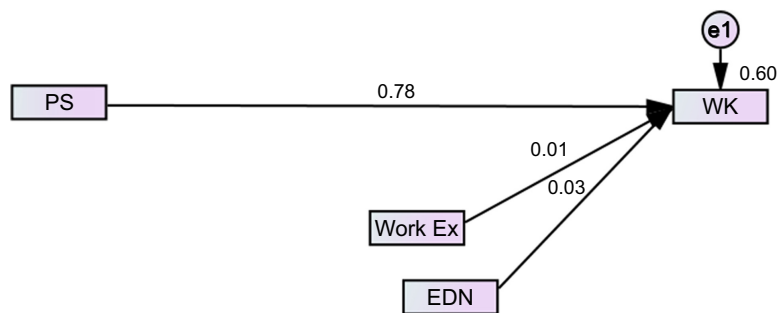
above 0.5, which is a manifestation of satisfactory reliability for each item (Kline, 2005). Accordingly, each item was a reliable factor for work engagement. Therefore, results from CFA indicate that, in the primary education sector, WE is a three dimensional construct comprising of vigor, dedication and absorption.

Structural model and hypothesis testing*Perceived organizational support and work engagement*

The variance in WE was tested as a result of POS. The results displayed in Figure 4 reveal a significant positive association between POS and WE ($p < 0.001$). Figure 4 indicates a significant regression between POS and work engagement. One unit increase in POS leads to 0.60 positive unique changes in WE. All the unconstrained parameter estimates were significant at $p < 0.001$, as seen in Table 4. These results provide support for hypothesis H1: POS positively and significantly affects work engagement.

Self efficacy (SE) and work engagement

The changes in WE as a result of SE were equally tested for. The results shown in Figure 5 indicate a positive and significant relationship between SE and WE ($p < 0.001$). Figure 5 reveals a significant regression between SE and work engagement. One unit increase in SE leads to 0.82 positive variances in work engagement. All the unconstrained parameter



Model of perceived organizational support explaining work engagement

Goodness of Fit Indices

$\chi^2 = 1.675$; p - value = 0. 623, $d/f = 3$; RMSEA (0.000); TLI (1.009); IFI (1.004); CFI (0.987); NFI (0.994); RMR (0.009); GFI (0.997) and AGFI (0.991)

Key

WK = Work Engagement

PS =Perceived Organization Support

EDN = Educational Level

WORK EX = Working Experience

Figure 4.
Perceived
organizational support
and work engagement

Table 4.
Path coefficients for
explanation of work
engagement using
perceived
organizational support

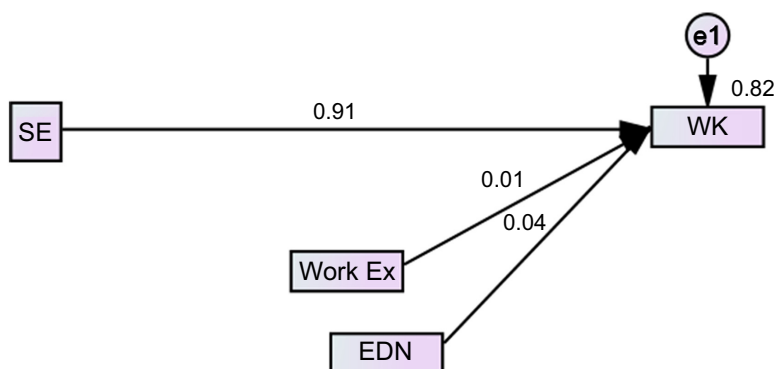
	Unstandardized path coefficients	SE	CR	p	Standardized path coefficients
WK $\leftarrow$ PS	0.995	0.047	21.355	***	0.776
WK $\leftarrow$ WE	0.010	0.048	0.204	0.567	0.007
WK $\leftarrow$ ED	0.070	0.087	0.807	0.095	0.029

Note(s): PS – perceived organizational support; WK – work engagement; WE – working experience and ED – education level

estimates were significant at $p < 0.001$, as seen in Table 5. These results provide support for hypothesis H2: SE positively and influence WE (see Table 6).

Interaction effect of perceived organization support and self-efficacy on work engagement

This study sought to determine the combinatory effect of POS and SE on work engagement. In resolving this objective, it was necessary to test the conditional hypothesis that POS interacts with SE in order to bring about changes in work engagement; this was done using SEM with analysis of moment of structures (AMOS). This approach generated an interaction WE model that visibly differentiated the true variance (variance of factor) and the error variance, also referred to as residual variance (Kline, 2011). The model as depicted in Figure 7 indicates that the complementary effect of POS and SE has a significant influence on work engagement, and all the unconstrained parameter estimates are significant at $p < 0.001$ (refer to Table 7).



Self-efficacy
and work
engagement

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Model of Self Efficacy explaining work engagement

Goodness of Fit Indices

$\chi^2 = 0.926$; p - value = 0.819, $d/f = 3$; RMSEA (0.000); TLI (1.008); IFI (1.004); CFI (0.999); NFI (0.995); RMR (0.008); GFI (0.999) and AGFI (0.995)

Key

WK = Work Engagement

SE = Self Efficacy

EDN = Educational Level

WORK EX = Working Experience

Figure 5.
Self-efficacy and work
engagement

	Unstandardized path coefficients	SE	CR	p	Standardized path coefficients
WK $\leftarrow$ WE	0.016	0.032	0.517	0.605	0.013
WK $\leftarrow$ ED	0.098	0.058	1.688	0.091	0.041
WK $\leftarrow$ SE	0.896	0.024	37.339	***	0.906

Note(s): PS – perceived organizational support; SE – self-efficacy; WK – work engagement; WE – working experience and ED – education level

Table 5.
Path coefficients for
explanation of work
engagement using self-
efficacy

	Unstandardized path coefficients	SE	CR	p	Standardized path coefficients
WK $\leftarrow$ SE	0.866	0.025	34.198	***	0.786
WK $\leftarrow$ WE	0.013	0.031	0.412	0.680	0.010
WK $\leftarrow$ ED	0.102	0.057	1.795	0.073	0.043
WK $\leftarrow$ PS	0.105	0.033	3.200	0.001	0.082

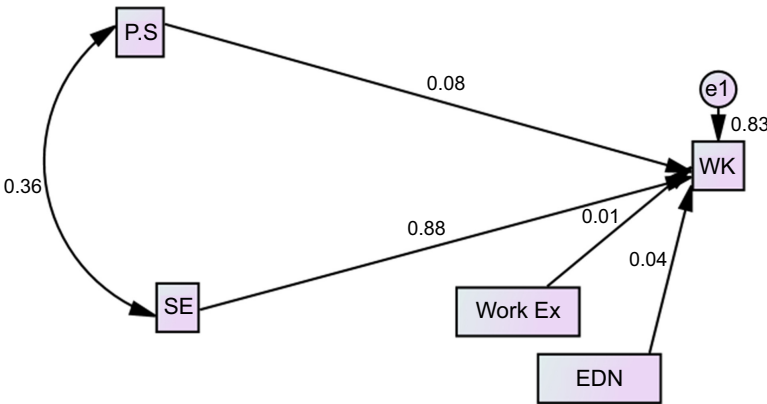
Note(s): PS – perceived organization support; SE – self-efficacy; WK – work engagement; WE – working experience and ED – education level

Table 6.
Path coefficients for
explanation of work
engagement using self-
efficacy

By and large, the model predictors account for approximately 89% of the unique variance in work engagement. This finding validates hypothesis H3: The combination (synergistic effect) of POS and SE accounts for more of the variance in overall WE than the direct influence of model constructs of POS or SE individually, and the relationship was established to be positive

and significant at p (two-tailed) < 0.001 . Nonetheless, in order to sustain support for hypothesis H3, further validation was required. In subsequent validation analysis, five models are examined. In Figures 4 and 5, the test results for hypotheses 1 and 2 correspondingly are illustrated as well as the validation findings or results for H3. Additionally, as POS and SE have repeatedly been alluded to in the literature as conceivable variables that explain variances in work engagement, we examine a model to explore this likelihood and then enter them together (POS & SE) in the same model, as illustrated in Figure 6. As well, we investigated the model as displayed in Figure 8 consistent with the same arguments. This model tested the combinatory effects without controlling for the main effects of POS and SE.

Consistent with the recommendations of Morgan and Hunt (1994), the five models were compared using SEM to determine the better model. This was done so as to establish the best fitting model for hypothesis testing. As suggested by Morgan and Hunt (1994), during SEM model comparison, we evaluated the models guided by the following criterion: (1) overall model fit as assessed by confirmatory factor index CFI; (2) the percentage of theorized significant paths ($p < 0.05$); (3) the amount of variance explained as measured by squared multiple correlations (SMC) also called adjusted R^2 and (4) model parsimony measured by the parsimonious normed fit index (NFI). All the path coefficients for the compared models posited positive and significant results at 0.05. The results of relying on POS to independently predict work engagement, as seen in Figure 4, show squared multiple correlations (SMC) = 0.60,



Model of Perceived organizational support (POS) and Self Efficacy (SE) in explaining work engagement

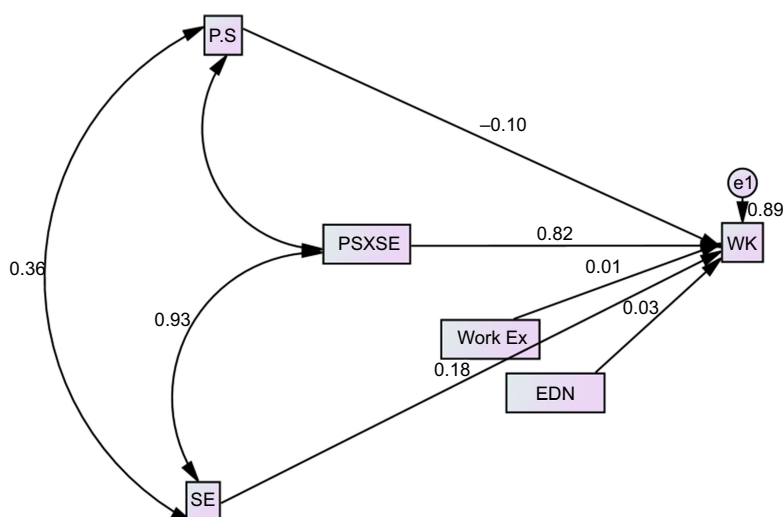
Goodness of Fit Indices

$\chi^2 = 1.514$; p - value = 0.911, $df = 5$; RMSEA (0.000); TLI (1.012); IFI (1.006); CFI (0.998); NFI (0.997); RMR (0.008); GFI (0.998) and AGFI (0.994)

Key

- WK** = Work Engagement
- SE** = Self Efficacy
- PS** = Perceived organizational support
- EDN** = Educational Level
- WORK EX** = Working Experience

Figure 6.
Perceived
organizational support,
self-efficacy and work
engagement



Interaction Term and the Main effects of Perceived organizational support (POS) and Self Efficacy (SE) in explaining work engagement)

Goodness of Fit Indices

$\chi^2 = 3.501$; p -value = 0.880, $d/f = 7$; RMSEA (0.000); TLI (1.006); IFI (1.003); CFI (1.000); NFI (0.998); RMR (0.008); GFI (0.997) and AGFI (0.990)

Key- WK = Work Engagement; SE = Self Efficacy;

PS = Perceived organizational support;

PSXSE- Interaction between POS & SE; EDN = Educational Level;

WORK EX = Working Experience

Figure 7.
Interaction model
(Controlling for the
main effects of
perceived
organizational support,
self-efficacy and work
engagement)

	Unstandardized path coefficients	SE	CR	p	Standardized path coefficients
WK ← SE	0.179	0.059	3.017	0.003	0.181
WK ← WE	0.008	0.025	0.328	0.743	0.006
WK ← ED	0.062	0.047	1.330	0.183	0.026
WK ← PS	-0.130	0.033	-3.943	***	-0.101
WK ← PSXSE	1.001	0.081	12.355	***	0.817

Note(s): PS – perceived organization support; SE – self-efficacy; WK – work engagement; WE – working experience and ED – education level

Table 7.
Path coefficients for
explanation of work
engagement model
(controlling for the
main effects of
perceived
organizational support
and self-efficacy)

NFI = 0.994 and CFI = 987. As well, using SE to explain changes in WE (Figure 5) posits $SMC/R^2 = 0.82$, NFI = 0.995 and CFI = 999. POS and SE when entered together in one model (Figure 6) to account for the variation in WE posited the following results: $SMC/R^2 = 0.83$, NFI = 0.997 and CFI = 998. When the interaction term (combinatory effect of POS and SE) was entered into the same model while controlling for the main effects of POS and SE (Figure 7), the analysis revealed $SMC/R^2 = 0.89$, NFI = 0.998 and CFI = 1.000. The last model, as illustrated in (Figure 8), produces $SMC/R^2 = 0.87$, NFI = 0.996 and CFI = 1.000. Whilst model V, VI and

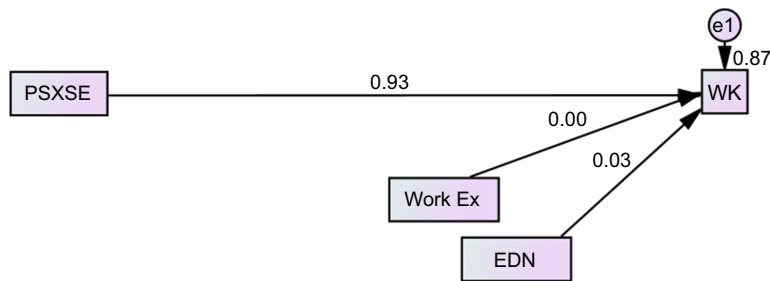


Figure 8.
Interaction/
combinatory model of
perceived
organizational support
and self-efficacy in
predicting work
engagement

Interaction Term and the Main effects of Perceived organizational support (POS) and Self Efficacy (SE) in explaining work engagement)
Goodness of Fit Indices

$\chi^2 = 1.454$; p - value = 0.693, $d/f = 3$; RMSEA (0.000);
TLI (1.005); IFI (1.003); CFI (1.000); NFI (0.996); RMR (0.008);
GFI 0.998 and AGFI (0.992)

Key- WK = Work Engagement; PSXSE- Interaction between POS & SE;
EDN = Educational Level; **WORK EX** = Working Experience

model VIII equally reveal high predictive power for work engagement, and their NFI as well as CFI are relatively small compared to the interaction model, when controlling for the main effects of POS and SE, as seen in Figure 7. Therefore, using Morgan and Hunt (1994) criteria, the results of model comparison suggests that the interaction model (Controlling for the main effects of POS and SE on Work engagement) in Figure 7 is the better model, with the highest SMC ($R^2 = 0.89$). On account of this, the interaction of POS and SE accounts for more variance in WE than the direct account of POS or SE individually.

Accordingly, the complementary effect of POS and SE accounts for more variance in overall work engagement, compared to the individual influence of either POS or SE. This finding is in addition validated in by the model in Figure 7, which returns the highest predictive power ($SMC/R^2 = 0.89$). The model in Figure 7 holds that the combinatory effects explain a momentous proportion of this variance in work engagement. As a result, the outcome of model VII, as illustrated in (Figure 7), augments our understanding of work engagement; it provides a deeper understanding of WE leveraging on the understanding of POS and SE. The inclusion of interactive term (PSXSE) in model in Figure 7 enhances the explanatory power of POS and SE from 83% in the model in Figure 6 to 89% in the model VII, as illustrated in Figure 7. The findings demonstrate that the interactive term reinforces the main effects (POS and SE) to account for a significant variance in work engagement. On the account of the significant interaction term as indicated in (Table 7), it is concluded that H3 is confirmed (see Table 8).

Table 8.
Path coefficients for
explanation of work
engagement model
using the interaction of
perceived
organizational support
and self- efficacy only

	Unstandardized path coefficients	SE	CR	p	Standardized path coefficients
WK $\leftarrow$ WE	0.004	0.027	0.144	0.886	.003
WK $\leftarrow$ ED	0.066	0.050	1.334	0.182	0.028
WK $\leftarrow$ PSXSE	1.142	0.026	44.771	***	0.932

Note(s): PS –perceived organization support; SE – self-efficacy; WK – work engagement; WE – working experience and ED – education level

Discussion

This research examined the interactive effect of POS and SE on WE based on a large sample of primary school teachers in Ugandan primary education industry. More precisely, the purpose of this study is to explore whether the complementary role of POS and SE would boost perceived work engagement. A rising number of organizations are in universal agreement about the need to unleash the untapped potential, including engagement of all their workers if they are to compete productively in an ever demanding global market place (Burke and Cooper, 2008). First, the results revealed that both POS and SE were consistent and strong positive predictors of all the WE factors, namely vigor, dedication and absorption. POS was positively and significantly found to be associated with WE in primary education industry. This signifies that an improvement in POS augments its kinship with work engagement. The consistent significant positive relationship of POS and WE as established is in alignment with previous studies (Karatepe and Mehmet, 2016; Kurtessis *et al.*, 2015, 2017). Drawing from the OST (Eisenberger *et al.*, 1986) and the norm of reciprocity (Gouldner, 1960), POS would therefore induce an obligation and commitment to contribute to the general efficiency of the organization because employees who feel supported by their respective organizations, would feel obliged to reciprocate the positive organizational behavior and treatment they received, which might be indicated through high engagement at work.

The findings of this research corroborate the finding that SE is positively and significantly associated with WE just as (Sosan and Siamak, 2016; Sum *et al.*, 2018) have lately confirmed a positive significant relationship between SE and work engagement. Relying on SCT, it can be argued that people high in SE are able to execute the actions required to manage complex tasks and to cope with the hardship associated with the challenging work situations leading to high WE (Bandura, 1997). This is because SE is regarded as an important control center that guides employees' level of actions, motivation and emotional state necessary for work-related outcomes such as engagements. This study finds SE comprising of the belief inherent in peoples' ability to perform in a particular way or engage in a specific behavior so as to realize their preferred goals, as a fundamental factor that drives work engagement. This research in addition sustains the conclusions of Bandura (1997) and Yakim and Erdil (2012) that employees with high levels of self-belief are expected to be more committed to their work, embrace challenging tasks and raise performance levels leading to high work engagement. In light of these arguments, this study suggests that employees develop their beliefs by perception, and as they perceive a supportive work environment (POS), they become self-efficacious, that is they start believing in themselves (SE) (Bandura, 1986). This implies that employees' individual beliefs thrive where there is a supportive work environment. Therefore, SE requires POS in order to induce a significant positive change in perceived work engagement; hence, this study argues that the interaction of POS and SE accounts for a significant variance in WE model than the singular predictive power of the research constructs (POS and SE) embedded in this study. Fortunately, the interaction effect of POS and SE on WE has been found. This established significant multiplicative effect of POS and SE on WE demonstrates that the scale of effect of one predictor variable depends on the intensity of the other predictor variable. This connotes that the two must mutually coexist to impact work engagement, and this forms the bedrock of this study.

This finding suggests that the combination of POS and SE rather than their singular effect is fundamental for WE among organizations, and this forms the bedrock of this study. This finding corroborates Hobfoll (1989)'s observations that when an employee develops resource surpluses, he/she might experience positive well-being. This means that individuals, low in self-belief, with high POS may experience a surplus of resources, allowing them to experience positive well-being, which could lead to more positive outcomes such as work engagement. POS thus gives those employees with low SE a support structure where they feel that any

challenge that arises can be tackled and solved with the help of the organization (POS), which eventually increases their level of engagement at work. Other scholars such as Eisenberger *et al.* (1986) and Kurtessis *et al.* (2017) argue that POS increases employees' beliefs (SE) that their efforts on behalf of the organization will be recognized and rewarded leading to higher WE levels. This argument implies that POS and SE have to interlock for improved WE in the primary education industry. The present results sustain (Friedrich, 1982)'s assertions that any research plan involving more than one predictor variable ought to consider not only testing for the main effects of each of the predictor variables (Friedrich, 1982) but also the combinatory effects. POS will significantly facilitate WE given SE's support, just as SE will significantly influence WE given the intensity of POS. These results reveal that POS and SE synergistically cause a significant effect on work engagement; accordingly, the assumption of nonadditivity is met (Friedrich, 1982). It implies that the two must coexist to enable WE in the Ugandan education sector. Therefore, improvement in WE will require that POS and SE are enhanced, which is telling that the multiplicative effect of POS and SE is significant in Ugandan primary education industry. Interaction of the two variables heightens WE of employees among the primary education sector than what one of the construct would have independently achieved.

Implications for management and researchers

Theoretical implications

Overall, our study has implications to theory, especially regarding the literature on POS, SE and work engagement. First, our results broaden the findings from (Friedrich, 1982)'s study by showing that any research plan involving more than one predictor variable ought to consider not only testing for the main effects of each of the predictor variables but also the interaction effects. Consistent with this call, this study provides support for the complementary role of POS and SE on WE within the education sector. Findings on the interaction effect of POS and SE on perceived WE in the primary education sector have provided support for need for fusion of POS and SE and for WE enhancement; thus, improvement in WE among primary school teachers necessitates a combination of POS and SE. With regard to the WE literature, our research accentuates with other empirical studies that researchers should consider the combinatory effect of POS and SE as an antecedent for work engagement. This was undeniably an unexplored topic so far on the WE literature in Uganda's primary education sector. Second, this study has revealed that the interaction effect of POS and SE on WE can be examined using diverse theoretical perspectives or lenses – the OST, SET and SCT theory. From these theories, theoretical insights have been drawn to facilitate improvement in WE model through the multiplicative effect of POS and SE. Put simply, the study provides empirical evidence to support theories (OST, SET and SCT) significant for the explanation of work engagement.

Practical implications

This study has significant implications for managers since it identifies approaches to manage work engagement. As the interaction of POS and SE was found to significantly impact work engagement, interventions in that regard should be aimed at increasing work engagement. Therefore, primary schools' management efforts to improve WE must focus on appropriate management of supportive organizational aspects such as fairness and better working conditions as these inevitably raise employees' self-belief and enable them tackle challenging work situations leading to high work engagement. One way to achieve this supportive organization climate is through developing trust, sharing information with employees and providing employee access to learning and development opportunities.

Thus, management can deepen initiatives to promote better understanding and recognition that the combination of POS and SE boosts WE in the Ugandan primary education sector. Further, the findings of this study allow determining the most appropriate combination of POS and SE factors necessary for WE improvement. The confirmed factors of POS and SE in this study provide an opportunity for primary schools to examine how valuable POS and SE are in their respective enterprises. POS for example obligates an employee to reciprocate the positive treatment by contributing toward achievement of organizational purpose. POS consequently reinforces employees' self-belief (SE), which may buffer the negative effects of work demands such as stress leading to numerous work outcomes. This mirrors earlier studies of [Caesens and Stinglhamber \(2014\)](#) and [Kurtessis *et al.* \(2015\)](#), who argued that POS boosts SE among employees, which makes employees execute their tasks with more devotion.

Limitations and future research directions

The findings of this research are subjected to few limitations that provide suggestions for future research. First, though the research constructs included in our WE interaction model have been defined based on the existing literature and validated by practitioners, the measurements used might not absolutely represent or tap all the dimensions. Additionally, as the data were collected using self-report questionnaires, the study might suffer from monomethod bias. While control efforts were designed and applied to control for these CMB or render the danger paused by CMB implausible, it could not have completely solved the issue. Further, this research was undertaken within a sample of primary school teachers from government-aided schools rendering generalizability problematic. Research in this area needs to be carried out to examine the interaction effect of POS and SE on WE in other perspectives, taking into account the effect of different organizations and environments. Specifically, larger samples from different businesses and occupations may provide a basis for more robust outcome that helps management supportive practices such as leadership, fairness and working conditions to spur improvements in work engagement. Finally, through the cross-sectional research design, the data were collected at one point in time making it difficult to establish causality. Despite possible limitations, the results of the present study provide valuable insights into the multiplicative effects of POS and SE toward WE among primary education employees.

Conclusion

Within the occupational literature, WE is undeniably important for both organizations and individuals. Therefore, understanding the significance of the interaction effect of POS and SE toward engagement is a relevant issue both in the field of academia as well as in the field of practice world over. Given little knowledge about the complementary role of POS and SE in improving work engagement, this study has presented a meaningful contribution to fulfill this gap in the WE literature. This study provides a more comprehensive understanding of what drives WE among the employees, specifically in the primary education industry. Overall, the findings highlighted the important influence of the fusion of POS and SE in promoting high WE among employees. Consequently, the findings offer essential insight into managers and employers in the primary education industry to implement policies that focus on an appropriate mix of POS and SE to enhance work engagement.

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Corresponding author

Ibrahim Abaasi Musenze can be contacted at: ibramusenze@yahoo.com