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NOWHERE TO GO BUT UP: INVESTIGATING PSYCHOLOGICAL OWNERSHIP

AS A MEDIATOR BETWEEN UPWARD COMMUNICATION AND WORK

ENGAGEMENT ACROSS SECTORS

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MASTER OF ARTS IN ORGANIZATIONAL DYNAMICS

BY THE COMMITTEE CONSISTING OF

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Abstract

Although communication is a necessary and inherent aspect of organizational life, organizations often fail to create climates that support the flow of both supportive and constructive communication between employees and their supervisors. Upward communication promotes autonomy and trust in leadership and allows employees to be engaged in their work. Previous research suggests that when employees are satisfied with the upward communication, they are better able to develop promotive psychological ownership. Research also suggests, however, that satisfaction with upward communication differs across the private, public, and nonprofit sectors. Results from 205 private, public, and nonprofit sector employees showed that psychological ownership partially mediated the relationship between upward communication and work engagement. Results also showed no differences among the sectors in terms of satisfaction with upward communication, psychological ownership, or engagement. In the private and public sector samples, however, psychological ownership fully mediated the relationship between upward communication and engagement, whereas in the nonprofit sector sample, only partial mediation was found. This study represents one of the few investigations into upward communication as a driver of these constructs. Future research should focus on validating methods to measure upward communication and identify aspects of organizational culture that encourage or hinder a satisfactory upward communication climate.

Nowhere to Go but Up: Investigating Psychological Ownership as a Mediator

Between Upward Communication and Work Engagement across Sectors

While communication is inherent to and the foundation of organizational life and culture, organizations often fail to create climates that support the flow of communication upward from employees to higher management (Tourish & Robson, 2006). This creates a critical issue: Even though organizations often encourage employees to communicate their ideas or problems upward in the organizational hierarchy, they often become defensive when employees try to communicate upward, as their comments or suggestions might be critical of organizational processes or signal a greater need for change (Tourish & Robson, 2006). While this process can create stressful work environments (Ivancevich, 1986), upward communication can actually have opposite effects, acting as a buffer from stress by reducing role ambiguity, promoting autonomy and trust in leadership, and allowing employees to be engaged in their work (Jiang & Men, 2017; Kim & Lee, 2009; Rich, Lepine, & Crawford, 2010; Suh, Harrington, & Goodman, 2018). Encouraging a climate that is open towards upward communication has also been shown to have tangible positive business outcomes, predicting organizational growth and profitability (Kato, Numagami, Karube, & Sasaki, 2013).

Previous research suggests that when employees are satisfied with the upward communication available to them, they are better able to develop promotive psychological ownership, which occurs when employees seek to encourage development in the organization because they feel a sense of self-efficacy, identity, accountability, and belongingness within their role in the organization (Avey, Avolio, Crossley, & Luthans, 2009). Thus, when they feel a sense of psychological ownership towards their job or

organization, they may be better able to be engaged in the work (Ramos, Man, Mustafa, & Ng, 2014; Steinheider & Pircher Verdorfer, 2017). Research also indicates, however, that the effects of upward communication differ across the private, public, and nonprofit sectors (Garnett, Marlowe, & Pandey, 2008; Suh et al., 2018). For example, upward communication has been found to be predictive of innovation in the private sector, but not in the nonprofit or public sectors (Suh et al., 2018).

Therefore, this study seeks to investigate a model of work engagement that incorporates upward communication and psychological ownership, specifically hypothesizing that psychological ownership mediates the relationship between upward communication and work engagement. Because previous research has suggested that this relationship may not be universal across industry sectors (e.g., Garnett et al., 2008; Suh et al., 2018), the differences in these variables will also be tested across the sectors.

From Communication to Engagement

Every organizational setting has its own unique set of demands, whether physical, mental, or structural (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). At the same time, organizations also offer unique resources to adequately respond to those demands, such as supervisor support, role clarity, feedback, or fair pay (Demerouti et al., 2001). The levels of these demands and resources can lead to both positive and negative outcomes for the employee, *work engagement* being on the positive end of the continuum and *burnout* on the other (Maslach & Leiter, 1997; Maslach, Schaufeli, & Leiter, 2001). Work engagement is a state where employees feel vigor, dedication, and absorption at work (Schaufeli, Salanova, González-Romá, & Bakker, 2002), while burnout is a psychological syndrome characterized by exhaustion, detachment, and sense of ineffectiveness due to chronic job stress (Maslach, 1982). An attentive and proactive organization will seek to match the level of demands and resources so that employees stay engaged in the job, but also reduce the risk of burnout due to chronic challenges.

Work Engagement

According to the job demands-resources (JD-R; Demerouti et al., 2001) model, work engagement and burnout are products of the interaction between job demands and available resources. *Job demands* have been described as the "physical, social or organizational aspects of the job that require sustained physical or mental effort and are therefore associated with certain physiological and psychological costs" (Demerouti et al., 2001, p. 501). Job demands are often considered to include work pressure, a difficult physical environment, or draining human interactions, and they can become stressful when employees repeatedly expend effort to meet the demands without adequate time to

recover (Bakker & Demerouti, 2007). When job demands are high, employees are at risk of exhaustion, and when job resources are low, employees are likely to withdraw, eventually leading to disengagement from work (Demerouti et al., 2001). Thus, burnout is considered to have three dimensions: (1) *emotional exhaustion*, where employees feel overexerted and depleted of resources, (2) *depersonalization*, where employees exhibit a cynical and detached response to job demands, and (3) *a reduced sense of personal effectiveness* (Maslach et al., 2001). Burnout has been associated with a number of negative organizational and personal outcomes such as increased turnover intention (Kim & Lee, 2009), reduced organizational commitment (Lee & Ashforth, 1996), physical and mental health issues (Schaufeli & Bakker, 2004), and lower productivity (Maslach et al., 2001).

On the other hand, *job resources* serve as buffers from strain and allow the employee to achieve work goals or personal growth and reduce the psychological or physiological costs of job demands (Bakker & Demerouti, 2008; Demerouti et al., 2001; Schaufeli & Bakker, 2004). It is thought that job resources are both intrinsically and extrinsically motivating for the employee, in that job resources fulfill the basic psychological needs of autonomy and competence, as well as allow employees to accomplish extrinsic goals in their organization (Schaufeli & Bakker, 2004). While high levels of job demands are predictive of burnout, high levels of job resources are predictive of psychological attachment to the organization, low turnover intention, and work engagement (Bakker & Demerouti, 2008; Schaufeli & Bakker, 2004).

Originally defined by Kahn (1990) as the expression of an employee's physical, cognitive, and emotional self at work, the concept of *work engagement* has been

expanded to be "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" (Schaufeli et al., 2002, p. 74). *Vigor* is characterized by high energy and investment in one's job, with the ability to bounce back after challenges. *Dedication* refers to the sense of pride, inspiration, and meaningfulness one has towards their job and its challenges. *Absorption* is the state of being entirely concentrated and immersed in the job, perhaps losing track of time while working. Taken together, work engagement is thought to be an outcome of high levels of available job or personal resources, where employees, in turn, have their basic psychological needs met and are driven by intrinsic motivation for their work (Schaufeli et al., 2002).

In their review of the work engagement literature, Bakker and Demerouti (2008) explain that work engagement predicts job performance factors such as extra-role behavior and creativity, perhaps because when employees are engaged, they have both the strength and the motivation to perform outside of their expected roles. Bakker and Demerouti (2008) particularly identify job resources, such as autonomy, feedback, coaching, and supervisor support, and personal resources, such as self-efficacy, resilience, and self-esteem, as predictive of work engagement, even when job demands are high.

Upward Communication

Early conceptualizations of engagement identify patterns of communication as predictive of engagement, particularly in the way that supervisors respond to their employees and how employees learn to make sense of their role and identity at work (Kahn, 1992). Historically, communication has been thought to function both as an organizational resource and a demand (e.g., De Nobile, McCormick, & Hoekman, 2013;

Johnson & Indvik, 1990; Miller, Ellis, Zook, & Lyles, 1990). In early research, Johnson and Indvik (1990) stated that organizational communication often presents as a job stressor defined as a "daily hassle" (p. 5) that could have a stronger impact on burnout than major life events (Ivancevich, 1986).

Organizational communication has also been found to be a job resource related to reduced role ambiguity and conflict (Kim & Lee, 2009; Miller et al., 1990), it can promote competence, autonomy, and trust (Suh et al., 2018), and it has been found to predict innovation, growth, and profitability in the private and nonprofit sectors (Kato et al., 2013; Suh et al., 2018). Employee's satisfaction with organizational communication in particular has been found to be related to autonomy, social support, job satisfaction, affective commitment, and trust in leadership (ter Hoeven, de Jong, & Peper, 2006), as well as positively correlated with participation in decision-making processes and negatively related to hierarchical organizational structures (Kato et al., 2013).

If organizational communication can be considered both a demand and a resource, research needs to identify the conditions that determine when it is helpful versus when it is draining. Welch (2011) argued that employees must be able to derive meaning from their role in the organization, and the way that they do this is through having open communication channels with their supervisors. Using both Kahn's (1990) and Schaufeli et al.'s (2002) models, Welch (2011) proposed an integrated model that explains communication as a predictor of emotional, cognitive, and physical aspects of work engagement through the promotion of meaningfulness, safety, and availability. The model predicts that employees will be dedicated and absorbed in their work if they are able to derive meaningfulness from and identify with their organizational communication

patterns. Once they feel dedication and absorption, they will feel a sense of safety and availability, and will exhibit vigor in their behaviors, leading to organizational outcomes like innovation, competitiveness, and overall organizational effectiveness (Welch, 2011).

ter Hoeven, de Jong, and Peper (2006) distinguish between two perspectives to evaluate organizational communication. The *functional perspective* views organizational communication as simply information being exchanged throughout the organization (which can be characterized through information overload or underload), while the *interpretative perspective* views organizational communication through the lens of the employee's subjective perspective of the quality of the interactions (which is characterized by concepts such as communication climate and communication satisfaction). ter Hoeven et al. (2006) argue that a lack of communication satisfaction can indicate a dissatisfaction with the overall work environment, an antecedent of burnout. Further, results showed that communication satisfaction and communication climate were significantly correlated with burnout, such that lower satisfaction and climate were related to higher levels of burnout. Regression analysis also confirmed these findings, with climate and satisfaction as the most predictive communication factors for burnout (ter Hoeven et al., 2006).

Tourish and Robson (2006) further posit that of utmost importance to organizational effectiveness is *upward communication*, defined as the exchange of information upward in the organizational hierarchy (Kim & Lee, 2009; Roberts & O'Reilly, 1974;). Although closely related to employee voice, there is a distinction between the two constructs. Employee voice is an individual's behavior of voicing a complaint or idea, whereas upward communication is an interactive process that

encompasses the broader flow of information upward in an organization (Kamal Kumar & Kumar Mishra, 2017). Thus, measurement of upward communication takes the interpretative perspective of organizational communication and focuses on assessing a culture that encourages or discourages the flow of communication upward (e.g., De Nobile et al., 2013; Garnett et al., 2008; Jiang & Men, 2017; Kamal Kumar & Kumar Mishra, 2017; ter Hoeven et al., 2006), as well as employee's satisfaction with the response to upward communication (e.g., Downs & Hazen, 1977; Saunders, Sheppard, Knight, & Roth, 1992; ter Hoeven et al., 2006).

The information intended to flow upward can consist of two types of content: strategic ideas and organizational problems (Kato et al., 2013). Kato et al. (2013) found that a free flow of upward communication about strategic ideas was positively correlated with growth and profitability for the organization, while a free flow of upward communication about organizational problems was positively correlated with profitability. Similarly, Suh et al. (2018) found that upward communication predicted employee-driven innovation in the private-sector, as it "delivers a cultural message to employees that organizations are paying attention" (p. 238).

Satisfaction with upward communication has been shown to buffer the effects of role stress on employees, contributing to a positive communication climate at the organization which further shelters them from burnout (Kim & Lee, 2009). Previous research has also shown that quality communication is necessary for employee engagement, as communication allows employees to take part in the process of sense-making, decreasing role conflict and ambiguity, and thus, decreasing stress (Miller et al.,

1990; Tourish & Robson, 2006; Welch, 2011). Therefore, the following hypothesis is proposed:

> *Hypothesis 1: Satisfaction with upward communication predicts work engagement.*

Psychological Ownership

In addition to the tangible business outcomes of satisfaction with upward communication, research has suggested that employees who have access to open channels that allow them to communicate upward in their organization are more likely to strongly identify with their organization (Bartels, Pryn, de Jong, & Joustra, 2007), suggesting a relationship between upward communication and psychological ownership. *Psychological ownership* is defined as the state in which individuals consider the whole or part of the target of ownership (e.g., the organization) to be theirs, reflecting both a sense of possession and a connection between the target of ownership and the individual's self-concept (Pierce, Kostova, & Dirks, 2003). It is thought that psychological ownership is motivated by a sense of self-efficacy, self-identity, and belongingness and develops in an organizational context when employees impose their self-identity onto some aspect of the organization or job (Pierce, Kostova, & Dirks, 2001). Pierce et al. (2001) also suggested that psychological ownership in employees leads to a fundamental responsibility to remain informed and help in developing the organization.

Avey et al. (2009) argued that psychological ownership encompasses both promotive and preventative dimensions. Thus, employees who exhibit promotive psychological ownership will be motivated by self-efficacy, accountability, self-identity,

and belongingness, while employees exhibiting preventative ownership will be motivated by feelings of territoriality. Promotion-focused psychological ownership was found to be positively correlated with promotion-oriented organizational commitment, job satisfaction, and intentions to stay and negatively correlated with workplace deviance (Avey et al., 2009). Dawkins, Tian, Newman, and Martin (2017) suggest that these findings have communication-related implications, in that employees with promotion-focused psychological ownership may be more inclined to share information within the organization, while those with preventative-focused ownership may be motivated to withhold information in order to avoid change.

Further research has found psychological ownership and upward communication to have similar antecedents, such as autonomy (e.g., Mayhew, Ashkanasy, Bramble, & Gardner, 2007; Suh et al., 2018; ter Hoeven et al., 2006) and procedural justice (e.g., Chi & Han, 2008; Suh et al., 2018), as well as similar outcomes, such as work engagement (e.g., Ramos et al., 2014; Steinheider & Pircher Verdorfer, 2017), participation in decision-making (e.g., Han, Chiang, & Chang, 2010; Kato et al., 2013), and job satisfaction (e.g., Bernhard & O'Driscoll, 2011; Van Dyne & Pierce, 2004; Kato et al., 2013; ter Hoeven et al., 2006). Therefore, the following hypothesis is proposed:

Hypothesis 2: Satisfaction with upward communication predicts psychological ownership.

Further research has shown that engaged employees also display high levels of psychological ownership, suggesting that feelings of ownership predict work engagement (Dawkins et al., 2017; Ramos et al., 2014). Additionally, research has shown that psychological ownership is negatively related to burnout (Kaur, Sambasivan, & Kumar,

2013) and positively correlated with engagement (Steinheider & Pircher Verdorfer, 2017). Work engagement and psychological ownership have both been found to lead to outcomes such as organizational commitment, low turnover intention, high performance, and extra-role behaviors (Dawkins et al., 2017; Schaufeli, 2017).

Psychological ownership has also been shown to mediate the relationship between individual- and organization-level factors. For example, Bernhard and O'Driscoll (2011) found that psychological ownership fully mediated the relationship between transformational leadership and extra-role behaviors, as well as partially mediated the relationship between leadership style and organizational commitment, job satisfaction, and turnover intention. Similarly, Steinheider and Pircher Verdorfer (2017) found that psychological ownership fully mediated the relationship between organizational socio-moral climate and work engagement. Therefore:

Hypothesis 3: The relationship between satisfaction with upward communication and work engagement is mediated by psychological ownership.

Differences Across the Sectors

While the literature suggests a relationship between upward communication, psychological ownership, and work engagement, this relationship may not be universal across the private, public, and nonprofit sectors (Garnett et al., 2008; Suh et al., 2018). In an investigation of for-profit, public, and nonprofit organizations, Suh et al. (2018) found that open communication with upper management predicts employee-driven innovation in the private sector and marginally predicts innovation in the nonprofit sector, but does not predict innovation in the public sector, despite the public sector having the most internal communication channels available to the employees. Suh et al. (2018) attributed

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these findings to a lack of autonomy in public organizations and posited that because of legal and structural constraints present in nonprofit and public agencies, these organizations are more likely to develop rigid cultures that do not allow for the open communication patterns necessary for innovation to develop. Therefore, this study will investigate the levels of upward communication, psychological ownership, and engagement in each sector to examine differences in these relationships. Specifically, it is hypothesized that:

> *Hypothesis 4: There will be a difference in satisfaction with upward communication, psychological ownership, and engagement among the sectors.*

Current Study

This study aimed to examine and confirm a cross-sector model of work engagement that incorporates upward communication as a predictor variable and hypothesizing that this relationship is mediated by psychological ownership (see Figure 1). Additionally, because previous research has suggested that this relationship may not be universal across industry sectors due to satisfaction with upward communication (e.g., Garnett et al., 2008; Suh et al., 2018), this study also investigated the differences in the satisfaction of upward communication, psychological ownership, and engagement across sectors.
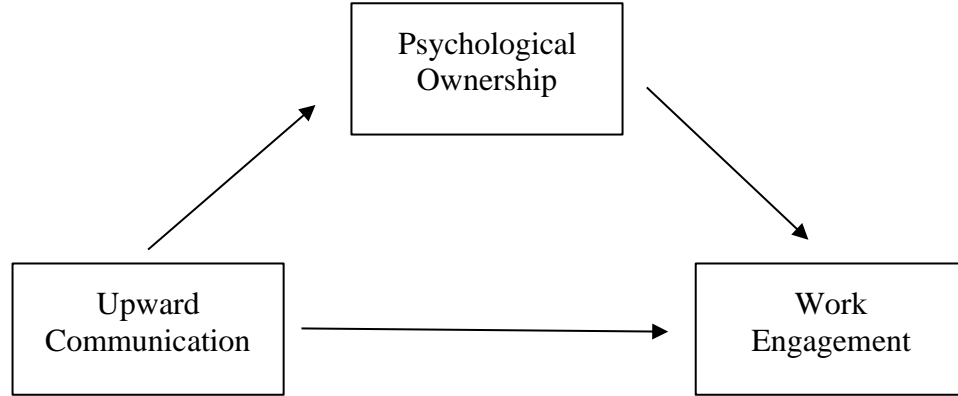
Figure 1. *Proposed model of the effect of upward communication on work engagement.*

<center>**Methods**</center>

Sample and Procedures

After getting approval from the Institutional Review Board (see Appendix A), the survey was created in Qualtrics and administered to a network sample via online recruiting on social media sites (e.g., Facebook, LinkedIn), as well as specific invitations via email. A sample of 243 currently working adults over the age of 18 served as participants. Data from participants missing more than 30% of responses were eliminated, yielding 205 usable responses. The ages of the respondents ranged from 21 to 72 years old ($M = 34.27$, $SD = 11.59$). Respondents were predominantly white (87.9%), female (76.7%), and held either a Bachelor's degree or a graduate or professional degree (90.3%). Private sector employees were represented the most ($n = 92$, 44.7%), followed by nonprofit sector employees ($n = 68$, 33%), and public sector employees ($n = 45$, 21.8%). The majority of the sample consisted of entry level or intermediate level employees (65%), with 23.8% of the sample consisting of mid-management employees and 11.2% of the sample consisting of top or executive level employees.

There were no statistically significant differences among sector in terms of race ($\chi_2 = .274$, *ns*) and gender ($\chi_2 = .136$, *ns*). A one-way analysis of variance did show a significant difference in level in organization, [$F(2, 202) = 3.17$, $p < .05$] and size of organization among the sectors [$F(2, 202) = 10.70$, $p < .001$], such that the nonprofit sector respondents tended to be in higher management positions while the private and public sector organizations sampled were larger than the nonprofit organizations represented.

Measures

The survey measured upward communication, work engagement, and psychological ownership. Scales were built or adapted from previous research (all scales can be seen in Appendix B), with the published Cronbach's alphas and current sample alphas reported below.

Upward communication. Upward communication was measured using an adapted inventory based on two existing scales. Five items were taken from the *communication climate* dimension of the Communication Satisfaction Questionnaire (published $\alpha = .94$, Downs & Hazen, 1977) to measure the extent to which the organizational communication patterns motivate employees to achieve organizational goals through helping employees identify with the organization and satisfaction with the organizational communication in general. The scale asked participants to rate the extent to which they are satisfied with the level or amount of communication at their current organization on a 7-point Likert-type scale (1 = *very dissatisfied*, 7 = *very satisfied*). Higher scores indicated higher levels of satisfaction. A sample item includes, "Extent to which the organization's communication makes me identify with it or feel a vital part of it." This dimension was selected because, according to the original scale, it was shown to explain the most variance in the questionnaire (Downs & Hazen, 1977; Okay & Okay, 2009) and because of the importance of the communication climate construct in the upward communication literature (e.g., De Nobile et al., 2013; Kamal Kumar & Kumar Mishra, 2017; Jiang & Men, 2017; ter Hoeven et al., 2006). Confirmatory factor analysis (CFA) has been conducted on the scale (Crino & White, 1981).

Additionally, participants completed the responsiveness dimension (published $\alpha = .86$) of the Supervisor as Voice Manager Scale (SVMS; Saunders et al., 1992). Saunders

et al. (1992) established concurrent, discriminant, and predictive validity of the scale, as well as internal consistency and test-retest reliability. Participants were asked to rate their level of agreement with seven statements assessing their supervisor's responsiveness to employee concerns (e.g., "My boss gives high priority to handling employee concerns") on a 7-point Likert scale (1 = *strongly disagree*, 7 = *strongly agree*). In addition, these seven items were adapted to represent responsiveness to employee ideas (e.g., "My boss gives high priority to responding to employee's ideas") in order to address both kinds of topics that research suggests can be upwardly communicated (e.g., Kato et al., 2013; Tourish & Robson, 2006). Taken together, all three scales used to measure upward communication in this sample produced a Cronbach's alpha of .97.

Work engagement. Participants completed the shortened version of the Utrecht Work Engagement Scale (UWES-9; Schaufeli, Bakker, & Salanova, 2006). Participants were asked to evaluate how often they feel vigor (3 items; e.g., "At my work, I feel bursting with energy"), dedication (3 items; e.g., "My job inspires me"), and absorption (3 items; e.g., "I am immersed in my work") on their job on a 7-point scale (0 = *never*, 6 = *every day*). Published Cronbach's alphas of the scale are strong, with $\alpha = .92$ for the entire scale, and $\alpha = .77$, $\alpha = .85$, and $\alpha = .78$ for the vigor, dedication, and absorption subscales, respectively; CFA has previously been conducted on the scale (Schaufeli et al., 2006). This sample produced a Cronbach's alpha of .91 for the overall scale.

Psychological ownership. Participants completed the Psychological Ownership Questionnaire (POQ; Avey et al., 2009), which measures both promotion- and prevention-focused psychological ownership. The 16-item scale is comprised of four promotion-focused subscales with 3 items each, self-efficacy, accountability, sense of

belongingness, and self-identity, and one prevention-focused subscale with 4 items, territoriality. Given that previous research states that organizational communication is inherently more related to promotional behaviors (e.g., Dawkins et al., 2017; Welch, 2011), only the promotion-focused ownership dimension of psychological ownership was included in data analysis. Participants were asked to rate their level of agreement on a 6-point Likert-type scale (1 = *strongly disagree*, 6 = *strongly agree*). Published Cronbach's alphas for the promotion-focused dimension are strong ($\alpha = .91$), and CFA has been conducted on the scale (Avey et al., 2009). This sample produced a Cronbach's alpha of .92 for the promotive dimension of psychological ownership.

Demographic variables. Demographic information such as gender, age, race, level of education, country, and status in company were used as control variables and covariates in the analyses (see Appendix A). Race and gender were coded into two groups: Non-Caucasian and Caucasian and male and female, respectively. Participants were also asked to indicate in which sector they currently work.

Data Analysis

Descriptive statistics and correlations were examined using SPSS. The data were analyzed using exploratory factor analysis to investigate the construct validity of the scales created to measure upward communication. Baron and Kenny's (1986) method was used to test for mediation between engagement, psychological ownership, and satisfaction with upward communication in the overall sample using regression analysis. This method involves four steps in which full mediation is found when (1) the independent variable significantly predicts the dependent variable, as well as the mediator variable, (2) the mediator variable significantly predicts the dependent variable, and when

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the independent variable and mediator variable are entered into the equation, (3) the mediator variable remains a significant predictor and (4) the independent variable no longer predicts the dependent variable in the presence of the mediator variable. Partial mediation occurs when the independent variable still predicts the dependent variable, but it is a weaker relationship in the presence of the mediator variable (Baron & Kenny, 1986). A Sobel test was also used to measure indirect mediation effects. In order to investigate differences in the variables' relationships between the sectors, a multivariate analysis of covariance (MANCOVA) test was conducted using sector as the independent variable and engagement, upward communication, and ownership as the dependent variables and significantly related demographic variables as covariates. Additionally, the Baron and Kenny (1986) mediation method was used to investigate the relationships in each sample independently, both with demographic variables entered into the model and without.

<center>**Results**</center>

Exploratory Factor Analysis

EFA was conducted with a principal axis factoring extraction and direct oblimin rotation on the items used to measure upward communication to determine the factor structure of the two dimensions of the SVMS (i.e., responsiveness to ideas and concerns; Saunders et al., 1992), as Kato et al. (2013) suggested that they might be two separate constructs. The results showed one factor having an eigenvalue above 1.00, which explained 76% of the variance. The factor loadings were high and ranged between .83 and .89 (see Table 1). The Cronbach's alpha of this scale was also high ($\alpha = .98$).

Descriptive Statistics, Reliabilities and Correlations

Table 2 shows the descriptive statistics as well as the correlations and reliabilities for upward communication, psychological ownership, and engagement. Engagement was positively correlated with psychological ownership ($r = .56$, $p < .001$), upward communication ($r = .47$, $p < .001$), race ($r = -.15$, $p < .05$) and level of employment ($r = .16$, $p < .05$). This indicates that higher levels of engagement were associated with higher levels of ownership, higher levels of satisfaction with upward communication, with being in higher management positions at their organization, and that identifying as white is associated with lower engagement scores. Higher levels of psychological ownership were also associated with higher levels of satisfaction with upward communication ($r = .58$, $p < .001$), being in higher management positions at the organization ($r = .23$, $p < .001$), as well as with smaller organizations ($r = -.22$, $p < .01$). Identifying as white was also found to be negatively associated with satisfaction with upward communication ($r = -.17$, $p < .05$).

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Hypothesis Testing

To test the first hypothesis, a linear regression analysis was conducted with satisfaction with upward communication entered as the independent variable and work engagement entered as the dependent variable. Satisfaction with upward communication significantly predicted work engagement ($\beta = .50$, $t = 7.38$, $p < .001$) and explained 25% of the variance (adjusted $R_2 = .25$), supporting the first hypothesis. In the next step, the relationship between upward communication and psychological ownership was investigated. Psychological ownership was significantly predicted by upward communication ($\beta = .61$, $t = 9.51$, $p < .001$), supporting hypothesis 2, and explained 37% of the variance (adjusted $R_2 = .37$).

To investigate the third hypothesis, which stated that psychological ownership acts as a mediator between upward communication and engagement, a third linear regression was conducted which found that psychological ownership significantly predicted work engagement ($\beta = .61$, $t = 9.56$, $p < .001$) and explained 36% of the variance (adjusted $R_2 = .36$). In the last step, engagement was entered as the dependent variable and upward communication and psychological ownership as predictor variables. Results showed that ownership and communication both significantly predicted engagement (psychological ownership: $\beta = .48$, $t = 6.08$, $p < .001$; upward communication: $\beta = .22$, $t = 2.72$, $p = .007$) and together explained 40% of the variance (adjusted $R_2 = .40$). Although still significant, the effect of upward communication on engagement was reduced when psychological ownership was included in the model, from $\beta = .50$ to $\beta = .22$. Therefore, a Sobel test was conducted to determine the indirect effect of psychological ownership as the mediator variable, and partial mediation was found (z

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= 6.87, $p < .001$), confirming hypothesis 3. Additionally, results remained consistent when controlling for race, gender, age, level in organization, size of organization, and education level (see Table 3).

Figure 2. *Test of the hypothesized model across all sectors; standardized betas depicted. Notes: ***p<.001; **p<.01*

A MANCOVA test was conducted to test hypothesis 4, which investigates the difference in levels of engagement, upward communication, and psychological ownership between the sectors, as well as investigating race, gender, level in organization, and size of organization as potential covariates. Mean scores of engagement, psychological ownership, and upward communication were relatively stable across all sectors (see Table 2). Therefore, no differences in engagement, psychological ownership, or upward communication were found between the sectors [$F(6, 392) = .648$, $p = .692$, Wilk's $\Lambda = .980$, partial $\eta_2 = .01$].

To further investigate possible differences in the relationships between the variables in each sector, however, mediation analyses were conducted on the private,

nonprofit, and public sector samples separately (see Table 3). For the private sector respondents, upward communication was found to significantly predict engagement (β = .38, t = 3.31, p < .01) and explained 13% of the variance (adjusted R_2 = .13), as well as psychological ownership (β = .50, t = 4.60, p < .001), which explained 23% of the variance (adjusted R_2 = .23). Additionally, psychological ownership was found to significantly predict engagement (β = .62, t = 6.43, p < .001; adjusted R_2 = .38), and, when controlling for ownership, upward communication was no longer a significant predictor (β = .13, t = 1.12, ns), while psychological ownership still was (β = .55, t = 4.89, p < .001), indicating full mediation (see Figure 3). The model explained 37% of the variance. Results also remained consistent when controlling for race, gender, age, level in organization, size of organization, and education level (see Table 4).
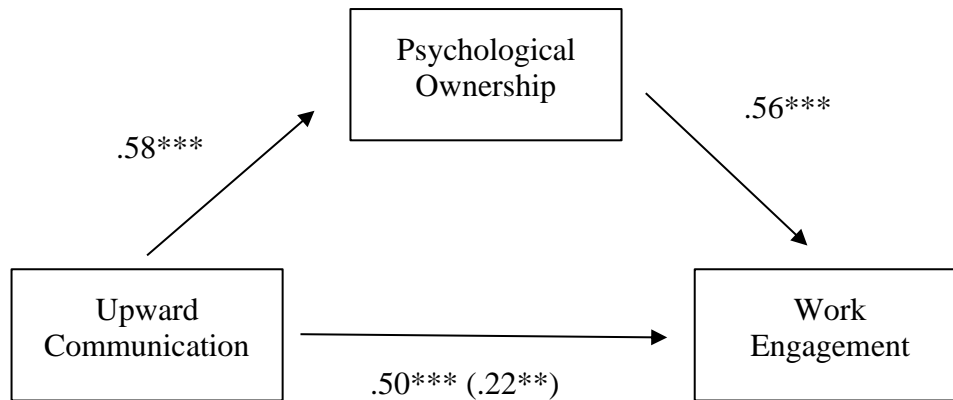
Upward Communication		Psychological Ownership		Work Engagement
	.50*** →		.55*** →	

Figure 3. *Test of the hypothesized model in the private sector; standardized betas depicted. Notes: *** p < .001*

In the public sector sample, upward communication was found to significantly predict engagement (β = .58, t = 4.12, p < .001), explaining 32% of the variance, as well as psychological ownership (β = .76, t = 6.18, p < .001), explaining 56% of the variance (adjusted R_2 = .56). Additionally, psychological ownership was found to significantly predict engagement (β = .68, t = 5.04, p < .001; adjusted R_2 = .45), and, when controlling for ownership, upward communication was no longer a significant predictor (β = .21, t = .968, ns), while psychological ownership still was (β = .53, t = 2.48, p < .05), again

indicating full mediation (see Figure 4) and explaining 45% of the variance. Results also remained consistent when controlling for race, gender, age, level in organization, size of organization, and education level (see Table 4).
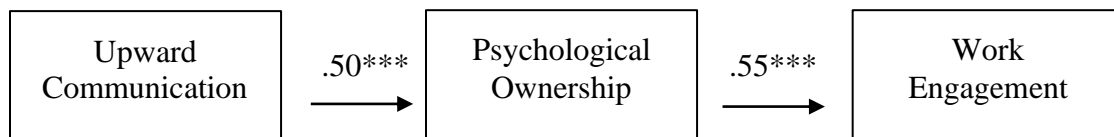
| Upward Communication | .76*** → | Psychological Ownership | .53* → | Work Engagement |
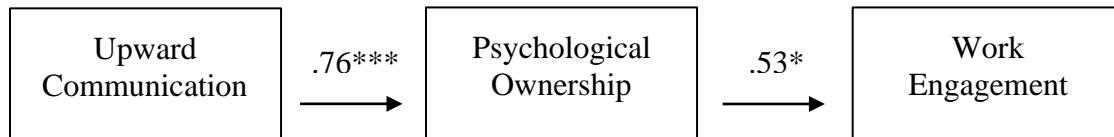
Figure 4. *Test of the hypothesized model in the public sector; standardized betas depicted. Note: ***p< .001; *p< .05*

Finally, in the nonprofit sector sample, upward communication was found to significantly predict engagement ($\beta = .60$, $t = 5.72$, $p < .001$), explaining 35% of the variance, as well as psychological ownership ($\beta = .62$, $t = 5.86$, $p < .001$), explaining 37% of the variance. Additionally, psychological ownership was found to significantly predict engagement ($\beta = .55$, $t = 5.00$, $p < .001$), explaining 29% of the variance. When controlling for ownership, upward communication and psychological ownership remained significant predictors of engagement (upward communication: $\beta = .40$, $t = 3.01$, $p < .01$; ownership: $\beta = .33$, $t = 2.48$, $p < .05$). This step explained 40% of the variance. A Sobel test confirmed partial mediation in the nonprofit sector sample ($z = 3.79$, $p < .001$).
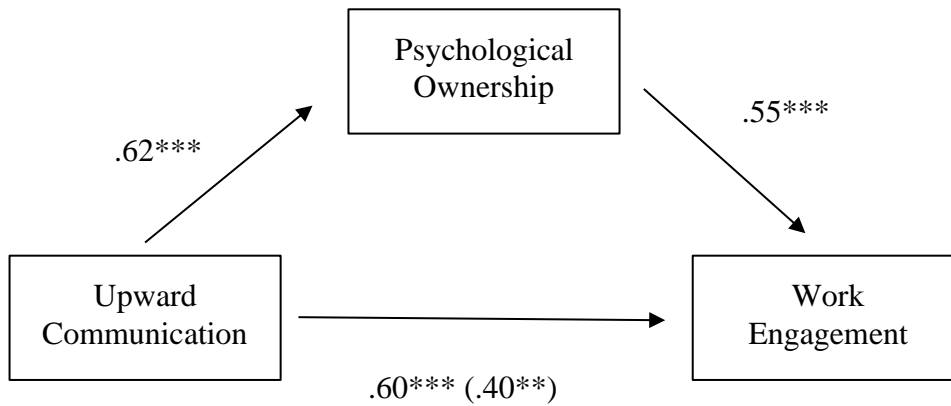
Figure 5. *Test of the hypothesized model in the nonprofit sector; standardized betas depicted. Notes: ***p < .001,*

**p < .01

When controlling for demographic variables, however, psychological ownership was not found to significantly predict engagement in the last step (β = .21, t = 1.48, *ns*), but upward communication did (β = .41, t = 3.16, p < .01), meaning that in the presence of the demographic variables, ownership does not mediate the relationship between upward communication and engagement in the nonprofit sector employees (see Table 4). In this model, no demographic variables significantly predicted engagement, but level in the organization and education level had a marginal effect (β = .25, t = 1.95, p = .06 and β = -.21, t = -1.93, p = .06, respectively).

Discussion

This study investigated the relationships between work engagement, psychological ownership, and upward communication across the public, private, and nonprofit sectors, specifically hypothesizing that satisfaction with upward communication predicts work engagement (H1) and psychological ownership (H2), psychological ownership mediates thee communication-engagement relationship (H3), and that the levels of these variables may differ across sectors (H4). Overall results confirmed the first three hypotheses, showing that psychological ownership partially mediated the relationship between upward communication and work engagement. This is supported by previous research, as satisfaction with upward communication is thought to predict higher work engagement through a variety of mechanisms in addition to psychological ownership (Jiang & Men, 2017; Kim & Lee, 2009; Miller et al., 1990; Rich et al., 2010; Suh et al., 2018; Tourish & Robson, 2006; Welch, 2011).

This study also investigated the differences in the satisfaction of upward communication across sectors and, in turn, the differences in resulting psychological ownership and work engagement present in those employees. No differences were found between the sectors in terms of psychological ownership, satisfaction with upward communication, or engagement, lending no support to hypothesis 4. While previous research has suggested that public sector employees have a lower sense of self-efficacy, accountability, and engagement than their private counterparts (Lavigna, 2017; Mahsud & Hao, 2017), as well as unique communication and culture challenges (Garnett et al., 2008; Suh et al., 2018), this sample was not significantly less engaged nor had lower psychological ownership or satisfaction with upward communication.

These results could be a function of the sampling strategy. Because network sampling was used, it is likely that respondents primarily reside in Tulsa. This is meaningful, as the city of Tulsa has seen a new mayoral administration in the last three years, which has made an effort to respond to the community's longtime concerns, especially in terms of historic racial inequities in certain parts of Tulsa. For example, in partial response to the vast life expectancy disparity between North and South Tulsa (Averill, 2015), the mayoral administration has invested in developing and resourcing an Office of Resilience and recently allocated a portion of the city's budget to investigate graves left after the 1921 Tulsa Race Massacre (Canfield, 2019). These advancements suggest a "real world" upward communication scenario, in that an organizational problem (Kato et al., 2013) was communicated to the local government, leading the mayor's office to invest considerable time and money in investigating and addressing. This sign of upward communication perhaps leads employees to feel that they are doing important and innovative work, and therefore supported their satisfaction with upward communication and ability to develop psychological ownership and engagement.

There were differences, however, in the mediation analysis among each sector. While full mediation was found in the private and public sector sample, in the nonprofit sector, only partial mediation was found. When the relationships between engagement, psychological ownership, and upward communication were investigated for each sector separately, upward communication's β was reduced each time psychological ownership was added to the equation, indicating at least partial mediation by ownership in that relationship. In the private and the public sector sample, psychological ownership was found to fully mediate the relationship between upward communication and engagement,

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indicating that an employee's satisfaction with upward communication at their organization allows them to develop a sense of belonging, self-esteem, self-identity, and accountability over their work, which leads to higher engagement.

In the nonprofit sector sample, however, only partial mediation was found, suggesting that upward communication still had a direct effect on engagement after controlling for psychological ownership and that other variables may additionally mediate that relationship. This was further confirmed when psychological ownership was not found to mediate the relationship once the demographic variables were added to the model, likely because of diminished power when more variables were added. The nonprofit sector sample did see respondents in significantly higher management positions and in smaller organizations than private and public sector organizations. Thus, it may be that when working in a higher position and with a smaller group of people, the employee then has more influence over the upward communication patterns present at the organization and is more likely to be satisfied with the communication climate.

While little research has directly investigated the relationships between communication and engagement in the nonprofit sector, several studies have concluded that nonprofit organizations differ from public and private organizations in terms of the flexibility of their culture (e.g., Chen, 2012; Garnett et al., 2008; Ott & Dicke, 2001). Ott and Dicke (2001) suggest that the culture of nonprofit organizations generally reflects a mission-driven orientation, meaning they are less hierarchical in organizational structure than public or private organizations. Previous literature also suggests, however, that nonprofit sector employees may also experience a different sense of autonomy in comparison to other sectors, with Suh et al. (2018) suggesting that nonprofit organization

employees may not experience as much autonomy as their private sector counterparts due to natural constraints that are present in nonprofit organizations, mainly budget constraints. Autonomy is also a shared antecedent of upward communication and psychological ownership (Mayhew et al., 2007; Suh et al., 2018; ter Hoeven et al., 2006), indicating that it could account for some additional variance in this relationship if measured in the future. An investigation of the organizational structure and hierarchy, then, may provide additional explanation into how employees are able to develop psychological ownership and engagement.

Implications for Theory and Practice

So far, only a few studies have investigated the effects of upward communication on engagement for several reasons. First, communication in general is difficult to measure and varies from study to study, making it difficult to generalize the variables across domains. For example, ter Hoeven et al. (2006) identified two perspectives on measuring organizational communication, one being the functional perspective (i.e., quantity) and the other the interpretative perspective (i.e., quality). ter Hoeven et al. (2006), along with this study, used the interpretative perspective to measure organizational communication, as the employee's perception of the quality of the communication interaction seemed to be most conducive to the research question. Kato et al. (2013), however, asked respondents to rate the percentage of information about problems and strategic ideas they believe their manager receives on a scale of 1 to 100, while Kamal Kumar and Kumar Mishra (2017) used a combination of a Willingness to Communicate and a Likelihood to Voice scale to measure upward communication.

Similarly, previous research is divided on what kind of upward communication messages to measure in the first place. Earlier research identified the concept of "issue selling," where employees voice strategic ideas up the chain of command (e.g., Dutton, Ashford, Lawrence, & Miner-Rubino, 2002), while other studies only focused on upward communication as a method of voicing concerns (e.g., Garnett et al., 2008; Kamal Kumar & Kumar Mishra, 2017) or as simply the act of voicing at all (e.g., Suh et al., 2018). Kato et al. (2013) summarize these differences in measurement by hypothesizing that the type of message being communicated is inherently different; they found upward communication about ideas or problems to have different business outcomes. This study, however, found that items centered on responsiveness to ideas loaded on the same factor as items addressing responsiveness to concerns, indicating there is not a large difference psychometrically. This suggests that the subject of the upward communication message may be irrelevant, but the response to the communication is what forms the employee's subjective meaning. This supports the theory behind upward communication and distinguishes it from employee voice, in that upward communication is an interactive process, while employee voice is a singular behavior (Tourish & Robson, 2006).

Additionally, previous research has stated the importance of upward communication in creating a positive communication climate in the organization (e.g., De Nobile et al., 2013; ter Hoeven et al., 2006), but very few studies of upward communication have taken climate into account (e.g., Kato et al., 2013; Kumal Kumar & Kumar Mishra, 2017; Garnett et al., 2008). The integration of satisfaction with communication climate and responsiveness to ideas and concerns in this study represents one of the first efforts to measure upward communication holistically.

Similarly, little research has focused on directly investigating the relationship between upward communication and engagement or ownership in the literature, likely because of the difficulties of measuring communication. Rather, upward communication has been linked to organizational outcomes like innovation (e.g., Suh et al., 2018), growth and profitability (e.g., Kato et al., 2013), and culture (e.g., Garnett et al., 2008), as well as some antecedents of ownership and engagement, like role ambiguity (e.g., Welch, 2011) and autonomy (e.g., Suh et al., 2018). The current study shows, however, that upward communication contributes to work engagement and is partially mediated by employees being able to develop psychological ownership over their work. Additionally, this model showed that upward communication significantly predicts a sense of belonging, self-efficacy, accountability, and self-identity with the organization.

A focus on upward communication as an influence on psychological ownership and engagement also places an increased responsibility on the leaders of an organization to respond to and support ideas or concerns, and thus, these findings have implications for organizational practice. For example, focusing on the quality and employees' satisfaction with how their managers respond to ideas and problems can be a meaningful strategy for creating an engaged organization. Because no significant differences were found among private, public, and nonprofit sector employees, these findings also suggest that all organizations are able to maintain quality upward communication climates, instead of satisfaction with communication being a function of the sector of the organization. This gives organizations greater agency to develop the type of culture that responds to concerns and strategic ideas meaningfully, regardless of structural constraints

that have been thought to impact organizational culture (e.g., Garnett et al., 2008; Suh et al., 2018).

Limitations and Directions for Future Research

While this study found meaningful results, it is not without limitations. The convenience sample in this study was largely white, female, and educated, and this may not accurately represent the broader workforce in each sector. Future research should increase the diversity of the sample and make it more representative of the community. This study was cross-sectional in nature, which limits the causal inferences made in this study. A longitudinal design may assist with better defining the time course of changes in ownership and engagement, which may influence upward communication over time. This design could also incorporate a measure of shared perception of the communication climate at the organization to further substantiate the data. Additionally, when demographic variables were added as predictors of the relationship between upward communication and engagement in the nonprofit sample, psychological ownership was not found to mediate that relationship, indicating additional variables that are mediating the relationship in addition to ownership, or a lack of power when additional variables were added to the model. Future studies should investigate more equal and increased sample sizes for each group of respondents (i.e., private, public, and nonprofit) in order to strengthen the analyses and implications.

As stated before, measuring organizational communication is difficult and approaches are varied. Because this study took an interpretative approach to measuring upward communication, the perception of upward communication at the respondents' organizations is a subjective measure, and it would be impossible to control for all of the

extraneous factors that lead to an employee's perception of the quality of communication. It would be interesting, however, for future research to further define the factors that contribute to an employee's satisfaction with upward communication, perhaps by analyzing demographic factors and communication styles of the supervisor-employee dyad.

Additionally, the organizational communication literature largely hypothesizes that communication is influenced by organizational culture, theorizing that communication develops because of the culture and vice versa. This study did not explicitly measure organizational culture, however, because most studies found were not consistent in how they operationalized or measured the concept of organizational culture across sectors. For example, some studies measured culture as a function of the perceived vertical differentiation of decision-making (e.g., Kato et al., 2013), while others measured the perception of political power present in the organization (e.g., Kamal Kumar & Kumar Mishra, 2017), the difference between rules-oriented and mission-oriented cultures, and culture as a function of goal clarity (e.g., Garnett et al., 2008). This study theorized more generally that there may be differences among sectors, as previous research suggested that organizations in different sectors range in terms of flexibility of culture (e.g., Garnett et al., 2008). Future organizational psychology research should aim to standardize and validate a measurement for organizational culture, specifically centered on the hierarchy, bureaucracy, and rigidity of the organization. In the future, this measure of organizational culture or structure could be investigated as a moderator of these relationships.

Lastly, this study presents an interesting opportunity for research to investigate

Tulsa's nonprofit, public, and private sector culture. While anecdotal evidence suggests

that Tulsa may be a unique case study for cross-sector collaborations and employee

retention, no research has substantiated these observations. Perhaps future research could

investigate the correlation between changes in local government administration changes

development with employee engagement, innovation, or communication climates in

organizations.

Conclusion

Although communication is a necessary and inherent aspect of organizational life, organizations often fail to create climates that support the flow of both supportive and constructive communication. Previous research suggests that when employees are satisfied with upward communication, they are better able to develop promotive psychological ownership in their organization. Research also indicates, however, that the effects of upward communication differ across the private, public, and nonprofit sectors. This study investigated the relationship between work engagement, psychological ownership, and upward communication, specifically hypothesizing that this relationship is mediated by psychological ownership. Overall results showed that psychological ownership partially mediated the relationship between upward communication and work engagement. Additionally, no differences were found between the sectors in terms of psychological ownership, satisfaction with upward communication, and engagement. In the private and public sector samples, psychological ownership was found to fully mediate the relationship between upward communication and engagement, whereas in the nonprofit sector employees, only partial mediation was found. Future research should focus on validating methods to measuring upward communication, as well as identifying aspects of organizational culture that encourage or hinder a satisfactory upward communication climate.

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Appendix A: IRB Approval

The UNIVERSITY of OKLAHOMA

Institutional Review Board for the Protection of Human Subjects

Approval of Initial Submission – Exempt from IRB Review – AP01

Date:	January 31, 2019	**IRB#:** 10296

Principal Investigator: Vivian Edmunson Hoffmeister

Approval Date: 01/31/2019

Exempt Category: 2

Study Title: Nowhere to Go but Up: Investigating a Model of Work Engagement that Includes Upward Communication and Psychological Ownership across Sectors

On behalf of the Institutional Review Board (IRB), I have reviewed the above-referenced research study and determined that it meets the criteria for exemption from IRB review. To view the documents approved for this submission, open this study from the *My Studies* option, go to *Submission History*, go to *Completed Submissions* tab and then click the *Details* icon.

As principal investigator of this research study, you are responsible to:
- Conduct the research study in a manner consistent with the requirements of the IRB and federal regulations 45 CFR 46.
- Request approval from the IRB prior to implementing any/all modifications as changes could affect the exempt status determination.
- Maintain accurate and complete study records for evaluation by the HRPP Quality Improvement Program and, if applicable, inspection by regulatory agencies and/or the study sponsor.
- Notify the IRB at the completion of the project.

If you have questions about this notification or using iRIS, contact the IRB @ 405-325-8110 or irb@ou.edu.

Cordially,

Fred Beard, Ph.D.
Vice Chair, Institutional Review Board

Appendix B: Measures

1. Age
2. Race
   a. White
   b. Black or African American
   c. American Indian or Alaska Native
   d. Asian
   e. Native Hawaiian or Pacific Islander
   f. Mixed
   g. Other
3. Gender
   a. Male
   b. Female
   c. Other
4. Level of education achieved
   a. Some high school, no diploma
   b. High school diploma/GED
   c. Associates/applied
   d. Some Bachelor's
   e. Bachelor's degree
   f. Graduate/professional degree
5. Country of residence
6. Status in organization
   a. Entry-level
   b. Intermediate level
   c. Mid-management
   d. Top or executive management
7. Sector
   a. Private sector (for-profit business)
   b. Public sector (state or government agency)
   c. Nonprofit sector
8. Employment
   a. Part-time
   b. Full-time
   c. Other

9. Size of the organization (employees)
    a. 1
    b. 2-9
    c. 10-24
    d. 25-99
    e. 100-499
    f. 500-999
    g. 1000-4999
    h. 5000+

Utrecht Work Engagement Scale-9

The following 9 statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, choose "0" (zero). If you have had this feeling, indicate how often you have felt it by choosing the number (from 1 to 6) that best describes how frequently you feel that way.

0	1	2	3	4	5	6
Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

1. At my work, I feel bursting with energy.
2. At my job, I feel strong and vigorous.
3. I am enthusiastic about my job.
4. My job inspires me.
5. When I get up in the morning, I feel like going to work.
6. I feel happy when I am working intensely.
7. I am proud of the work I do.
8. I am immersed in my work.
9. I get carried away when I am working.

Vigor: items 1, 2, 5
Dedication: items 3, 4, 7
Absorption: items 6, 8, 9
Source: Schaufeli, Bakker, & Salanova, 2006

Communication Satisfaction Questionnaire (communication climate subscale)

Listed below are several kinds of information often associated with a person's job. Please indicate how satisfied you are with the amount and/or quality of each kind of information by selecting the appropriate response.

1	2	3	4	5	6	7
Very dissatisfied	Dissatisfied	Somewhat dissatisfied	Indifferent	Somewhat satisfied	Satisfied	Very satisfied

Please indicate your satisfaction with the:
1. Extent to which the organization's communication motivates and stimulates an enthusiasm for meeting its goals.
2. Extent to which the people in my organization have great ability as communicators.
3. Extent to which the organization's communication makes me identify with it or feel a vital part of it.
4. Extent to which the attitudes toward communication in the organization are basically healthy.
5. Extent to which the amount of communication in the organization is about right.

Source: Downs & Hazen, 1977

Supervisors as Voice Managers Scale (responsiveness dimension)

Please rate the extent to which you agree with the following statements.

1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree

1. My boss gives high priority to handling employee concerns.
2. My boss is fair when I take a concern to them.
3. I take concerns to my boss because they deal with the concern effectively.
4. My boss takes action to correct the concerns that I speak to them about.
5. My boss handles my concerns promptly.
6. My boss is willing to support me if my concern is valid.
7. My boss listens carefully to what I say when I bring in a concern.

8. My boss gives high priority to responding to employee ideas.
9. My boss is fair when I take a new idea to them.
10. I take new ideas to my boss because I trust that they evaluate the idea effectively.
11. My boss takes action to evaluate or implement the new ideas that I speak to them about.
12. My boss responds to my ideas promptly.
13. My boss is willing to support me if my idea is valid.
14. My boss listens carefully to what I say when I bring in an idea.

Items 1-7: responsiveness to organizational concerns
Items 8-14: responsiveness to ideas
Source: Saunders, Sheppard, Knight, & Roth, 1992

Psychological Ownership Questionnaire

Below are statements that describe how you may think about yourself right now. Use the following scales to indicate your level of agreement or disagreement with each statement.

1	2	3	4	5	6
Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree

1. I feel I need to protect my ideas from being used by others in my organization.
2. I feel that people I work with in my organization should not invade my workspace.
3. I feel I need to protect my property from being used by others in this organization.
4. I feel I have to tell people in my organization to 'back off' from projects that are mine.
5. I am confident in my ability to contribute to my organization's success.
6. I am confident I can make a positive difference in this organization.
7. I am confident setting high performance goals in my organization.
8. I would challenge anyone in my organization if I thought something was done wrong.
9. I would not hesitate to tell my organization if I saw something that was done wrong.
10. I would challenge the direction of my organization to assure it's correct.
11. I feel I belong in this organization.
12. This place is home for me.
13. I am totally comfortable being in this organization.
14. I feel this organization's success is my success.
15. I feel being a member in this organization helps define who I am.
16. I feel the need to defend my organization when it is criticized.

Items 1-4: territoriality (not used in analyses)
Items 5-7: self-efficacy
Items 8-10: accountability
Items 11-13: sense of belongingness
Items 14-16: self-identity
Source: Avey, Avolio, Crossley, & Luthans, 2009

Table 1. *Factor loadings for responsiveness dimension of the upward communication scale.*

Item	Responsiveness
My boss gives high priority to responding to employee ideas.	.85
My boss is fair when I take a new idea to them.	.83
I take new ideas to my boss because I trust that they evaluate the idea effectively.	.86
My boss takes action to evaluate or implement the new ideas that I speak to them about.	.89
My boss responds to my ideas promptly.	.85
My boss is willing to support me if my idea is valid.	.86
My boss gives high priority to responding to employee ideas.	.87
My boss is fair when I take a new idea to them.	.89
I take new ideas to my boss because I trust that they evaluate the idea effectively.	.84
My boss takes action to evaluate or implement the new ideas that I speak to them about.	.88
My boss responds to my ideas promptly.	.86
My boss is willing to support me if my idea is valid.	.87
My boss gives high priority to responding to employee ideas.	.83
My boss is fair when I take a new idea to them.	.89
Eigenvalue	10.64
Percentage of variance explained	75.99

Table 2. *Descriptive statistics, correlations, and reliabilities for overall sample.*

	Variable	*M*	*SD*	Range	1	2	3	4	5	6	7	8
1	Engagement	50.01	8.93	0-54	(.91)							
2	POQ	52.98	9.67	12-72	.56**	(.92)						
3	Upward Comm.	100.94	22.28	19-133	.47**	.58**	(.97)					
4	Race	--	--	0-1	-.15*	.02	-.17*	--				
5	Gender	--	--	0-1	.10	-.04	.03	-.02	--			
6	Age	34.27	11.59	0-100	.05	.08	-.03	-.00	.15*	--		
7	Education	5.20	.911	1-6	.01	-.02	-.03	.07	.15*	.14*	--	
8	Level	2.13	1.00	1-4	.16*	.23**	.00	.06	.14*	.50**	.27**	--
9	Size	5.02	2.08	1-8	-.08	-.22**	-.09	-.18**	.07	.00	.10	-.25**

*p < .05; **p < .001.

Cronbach's alphas in parentheses.

Race: 0 = nonwhite, 1 = white; *Gender*: 0 = female, 1 = male; *Education*: 1 = Some high school, no diploma, 2 = High school diploma/GED, 3 = Associates/applied, 4 = Some Bachelor's, 5 = Bachelor's degree, 6 = Graduate/professional degree; *Level*: 1 = Entry-level, 2 = Intermediate level, 3 = Mid-management, 4 = Top or executive management; *Size*: 1= 1 employee, 2 = 2-9 employees, 3 = 10-24 employees, 4 = 25-99 employees, 5 = 100-499 employees, 6 = 500-999 employees, 7 = 1000-4999 employees, 8 = 5000+ employees.

Table 3. *Mediation analyses in each sample.*

Step and Predictor		β	*SE*	*β*	*t*	*p*	Adj. R^2
Overall Sample							
1	**UC**	.19	.03	.50	7.38	.000	.25
2	**POQ**	.53	.06	.61	9.56	.000	.36
3	**UC**	.08	.03	.22	2.72	.007	.40
	POQ	.42	.07	.48	6.08	.000	
Private Sector							
1	**UC**	.18	.05	.38	3.31	.002	.13
2	**POQ**	.60	.09	.62	6.43	.000	.38
3	**UC**	.06	.05	.13	1.12	.267	.37
	POQ	.54	.11	.55	4.89	.000	
Public Sector							
1	**UC**	.23	.06	.58	4.12	.000	.32
2	**POQ**	.63	.12	.68	5.04	.000	.45
3	**UC**	.08	.08	.21	.968	.342	.45
	POQ	.48	.20	.53	2.48	.020	
Nonprofit Sample							
1	**UC**	.18	.03	.60	5.72	.000	.35
2	**POQ**	.40	.08	.55	5.00	.000	.29
3	**UC**	.12	.04	.40	3.01	.004	.40
	POQ	.24	.10	.33	2.48	.017	

Dependent variable: Engagement

Table 4. *Mediation analyses in each sample, controlling for demographic variables.*

Step and Predictor		β	SE	β	t	p	Adj. R^2
Overall Sample							
1	UC	.19	.03	.47	7.42	.000	.24
2	POQ	.51	.06	.56	9.13	.000	.32
3	UC	.09	.03	.22	2.98	.003	.35
	POQ	.39	.07	.42	5.64	.000	
Private Sector							
1	UC	.16	.05	.38	3.31	.002	.13
2	POQ	.53	.09	.53	5.73	.000	.32
3	UC	.06	.05	.12	1.12	.265	.32
	POQ	.48	.10	.48	4.63	.000	
Public Sector							
1	UC	.24	.06	.58	4.12	.000	.32
2	POQ	.62	.13	.59	4.99	.000	.49
3	UC	.06	.09	.15	.658	.515	.48
	POQ	.52	.21	.49	2.52	.017	
Nonprofit Sample							
1	UC	.17	.03	.60	5.72	.000	.37
2	POQ	.36	.09	.48	4.16	.000	.29
3	UC	.13	.04	.41	3.16	.003	.39
	POQ	.15	.10	.21	1.48	.145	

Dependent variable: Engagement