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LEADERS' VIRTUAL & IN-PERSON COMMUNICATION: THE IMPACT OF EMPLOYEE
PREFERENCE ON JOB SATISFACTION

A Thesis submitted in partial fulfillment of the requirements for the degree
Master of Science

Department of Psychological Sciences
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May 2023

Leaders' Virtual and In-Person Communication: The Impact of Employee Preference on Job Satisfaction

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ABSTRACT

LEADERS' VIRTUAL & IN-PERSON COMMUNICATION: THE IMPACT OF EMPLOYEE PREFERENCE ON JOB SATISFACTION

Communication between supervisors and subordinates has consistently been viewed as a primary element of leadership, and a factor that is important in the leader-subordinate relationship via Leader-Member Exchange (LMX) theory. Recently, with the massive shift to virtual working, leadership communication has gained greater prominence in research and practical settings. Therefore, examining the role that virtual leadership communication plays in employee job satisfaction is an important first step in beginning to understand the shift to predominant work settings from home. I examined the influence of employee perceptions and preferences of leadership communication on job satisfaction via a panel design in which employees took a two-time point survey with a one-month lag. Data was analyzed via regression in order to examine how perceptions of communication influence subsequent job satisfaction. Participants (N = 123), who completed both the Time 1 and Time 2 surveys were recruited through Prolific Academic. Results using ordinary least squares regression indicated no support for the hypothesis which predicted the discrepancy between preferred versus received communication formats (i.e., virtual, face-to-face) on job satisfaction. Implications for practice and research are discussed.

Keywords: leadership communication, job satisfaction, organizations, virtual work environment, in-person work environment

I dedicate this thesis to my parents, Lee Ann and Rob McDaniel.

ACKNOWLEDGEMENTS

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Introduction

Leadership communication is closely linked with subordinate behaviors and outcomes in the workplace. Historical literature has viewed such communication as one of the most important aspects of successful employee satisfaction (Shockley et al., 2021). Leadership communication is defined as “the controlled, purposeful transfer of meaning by which leaders influence a single person, a group, an organization, or a community;” in other words, leadership communication refers to any form of communication leaders use in order to convey information to subordinates (Barret, 2006). Positive outcomes associated with leadership communication include enhancing employee satisfaction, engagement, and performance (Vogelgesang et al., 2013).

Leadership communication research has increased in recent years as a result of the impact that the COVID-19 pandemic has made on workplace environments (Avlani et al., 2021), along with how rapidly organizations are currently implementing planned changes in workplace environments (Onyeneke et al., 2021). With organizations shifting to virtual and hybrid work environments, concerns for how these changes have impacted employee satisfaction and performance have risen (Kohntopp et al., 2020). Although effective communication has been recognized as a key element to worker success (Avlani et al., 2021; Ean, 2010), there has been little research on the specific impacts of virtual communication. Specifically, there is a dearth of research on communication quality, frequency, and supervisor expectations in virtual work environments (Shockley et al., 2021) as well as little research that investigates the impact of employee perceptions of electronic communication on job satisfaction (Mills, 2019).

I aim to address these prior gaps in research by examining the discrepancy in preferred versus received leadership communication in both virtual and in-person contexts, and how this discrepancy between preferred versus received communication may exhibit differential impacts

on job satisfaction. With the COVID-19 pandemic completely changing how often communication between a superior and subordinate is exchanged by means of virtual mediums including virtual meetings, email, text, and phone calls, the preferences an individual has on what type of communication they prefer has expanded to a larger list of options. From a research perspective, understanding how virtual work may contribute to better or worse leader-member communication is important. From a practical perspective, understanding whether dissatisfaction in leader-member communication may be contributing to pandemic phenomena, such as the great resignation, through impacts on job satisfaction is important.

Leadership Communication

The notion that leadership communication influences employee behaviors, such as job satisfaction, is grounded in leader-member exchange (LMX) theory. LMX suggests that superiors and subordinates develop relationships based on their social exchanges, and the quality of these exchanges within an organization can influence employee outcomes such as organizational commitment and job satisfaction (Liden et al., 1998). Although the quality of superior-subordinate relationships has been linked to outcomes such as organizational commitment, improved rates of turnover intentions, decreased reports of burnout, and increased productivity (Shockley et al., 2021; Golden & Veiga 2008), there has been little research on leader-member relationships in virtual work settings and current in-person work due to a primary focus of past research on the comparison of virtual and nonvirtual employees themselves (Golden & Veiga, 2008). In addition to LMX theory, quality of leadership communication has been examined via authentic leadership theories, which suggests that communication openness influences employee engagement and performance (Shockley et al., 2021; Vogelgesang et al., 2013).

For example, workplace performance amongst employees has shown to improve when leaders consistently exhibit a sense of openness while communicating (O'Reilly, 1977; Vogelsang et al., 2013). Employees who received frequent feedback that is presented in a clear and direct manner tend to have increased levels of trust in their supervisor (Ouedraogo et al., 2018). In turn, employees who have trust in workplace leadership have higher levels of job satisfaction with lower rates turnover and intention (Yang et al., 2020).

Previous research has also demonstrated how employees perceive leadership communication has important implications with the capacity for employees to embrace change. For example, Onyeneke et al. (2021) demonstrated that employees who have a positive perception of leadership communication feel more supported and are more likely to embrace organizational change (Onyeneke et al., 2021). In addition, experiencing increased feelings of support has been shown to ease the process of implementing new facets of operations to companies such as new technology, policies/procedures, and systems (Ouedraogo et al., 2018). What's more, supportive and trust-oriented leader-member relations have been positively associated with subordinates' affective commitment to change (Luo et al., 2016). On the other hand, when employees perceive poor leadership communication, this is associated with employee dissatisfaction and low levels of leadership trust (Yang et al., 2020).

The aforementioned evidence suggests that leadership communication perceptions and quality are important antecedents to understanding employee outcomes in the workplace. Research further indicates that the perception of strong and positive leadership communication influences employee stability, productivity, and reduced turnover (Ruben & Gigliotti, 2016). Given that quality of leader communication influences employee perceptions of organizational change, organizational commitment, turnover, and productivity, examining leader-member

communication perceptions and its association with job satisfaction for employees is imperative. For the purpose of my research, leadership communication will be defined as employee perceptions of both supervisors' frequency of communication followed by platforms used to communicate (i.e., face-to-face, phone calls, Zoom).

Job Satisfaction

Job satisfaction is defined as the positive attitude an individual has resulting from the appraisal of a job experience or a job itself (Locke, 1976, as cited in Judge et al., 2020). The two most frequently studied job attitudes are job satisfaction and organizational commitment (Luo et al., 2016). Within an organization, an employees' job satisfaction may be derived from various factors, including relationships with supervisors, communication with co-workers and the work itself. Research suggests that employee job satisfaction may be indicative of both positive and negative outcomes for both an individual and an organization (Mills, 2019). For example, better job satisfaction is strongly associated with better job performance, lower turnover rates as well as lower turnover intentions, and willingness to accept workplace change (Onyeneke et al., 2021). Therefore, ensuring employees are satisfied with their jobs and places of employment is of great interest to organizations.

Research indicates that the supervisor-subordinate relationship serves as a gateway to both high levels of job satisfaction and performance (Mills, 2019). For example, positive perceptions of communication with one's supervisor is associated with employee trust in their supervisor and better job satisfaction (Golder & Veiga, 2008). Similar findings exist for virtual work as well, where research suggests employees with high quality exchange relationships with their supervisors are more likely to be satisfied with their organization, while those with low quality exchange relationships with supervisors experience less job satisfaction (Golden &

Veiga, 2008). For in person communication, research supports that communication frequency and communication that pertains to emotional support and career development are the best predictors of satisfaction (Mills, 2019).

Researchers have yet to examine whether the discrepancy in what communication employees prefer versus what they receive from their supervisors influences job satisfaction. Given the aforementioned research and LMX theory, I hypothesized the following:

Hypothesis 1: Employees who prefer virtual communication and receive mostly virtual communication will be more satisfied than those who prefer virtual communication and receive mostly face-to-face communication.

Hypothesis 2: Employees who prefer virtual communication and receive mostly face- to face communication will be less satisfied than those who prefer virtual communication and receive mostly face-to-face communication.

The Current Study

For my thesis, I will examine employee's preferred leader communication and employees' received leader communication, and whether the discrepancy between what is preferred versus what is received influences employee job satisfaction. Looking into how leadership communication can affect job satisfaction is important to current and future research because improving the rates of job satisfaction can influence lower turnover intentions for employees while positively influence quality work (Kohntopp et al., 2020).

Method

Participants

Participants were recruited through an online crowdsourcing platform, Prolific Academic, in order to ensure the collection of sample size needed via power analyses. Participants were

contacted solely through Prolific Academic and were not contacted via personal means. No personal identifying information was collected. Participants were pre-screened to assess participant eligibility for the study's criteria, which included that they had to be working full-time (35+ hours per week) and work at least part of the week virtually (2+ days per week). It was also required that participants have at least one supervisor and must not be self-employed.

Participants were an average 38.61 years old ($SD = 9.97$), White (77%), and were predominantly male (69%). Additionally, most participants had a bachelor's degree or more (74%). Participants worked an average of 20 hours per week in a physical work location, and an average of 21 hours per week remotely. Participants indicated an average job tenure of 7.2 years ($SD = 5.92$). A total of $N = 135$ participants completed the Time 1 survey with $N = 123$ completing the Time 2 survey, indicating a retention rate of 91%.

Measures

Through the web based software system, Qualtrics, participants who successfully screen into the study completed both a baseline and follow-up survey separated by a one-month lag. Both surveys are comprised of prior validated and reliable measures. All measures have been previously validated and were adapted to fit the study context. Work and personal demographics were collected in the baseline survey. For the purpose of this research, I measured the following:

The Time 1 Survey contains the following measure and information:

Communication preference was assessed with the eight-item preference for electronic communication scale created by Telford et al. (2017). An example item is "I would rather communicate with my coworkers electronically." Items were assessed by a 6-point response scale from strongly disagree to strongly agree. Items were be coded such that higher scores are more indicative of favoring electronic communication. Cronbach's $\alpha = 0.94$.

Job satisfaction was assessed using single item scales pertaining to the satisfaction employees have with their supervisor developed by Matthews et al. (in press). Supervisor competences were assessed with the item “my supervisor is highly competent at his/her job.” The supervisor warmth item was “my supervisor is good-natured, warm, and sincere.” Items were assessed with a 5-point response scale ranging from disagree to agree. Overall job satisfaction used the item “Overall how satisfied are you with your job?” Items were assessed with a 5-point response scale ranging from extremely dissatisfied to extremely satisfied. Items were be coded such that higher scores are more indicative of more positive job satisfaction. Cronbach’s $\alpha = 0.86$.

Communication openness was assessed with O’Reilly et al.’s (1977) communication openness five-item scale. An example item is, “I find it enjoyable to talk to my supervisor.” Items were assessed with a six-point response scale ranging from strongly disagree to strongly agree. Items were coded such that higher scores are more indicative of more positive communication openness. Cronbach’s $\alpha = 0.97$.

Relationship-oriented communication was assessed with the 5-item Frequency of relationship-oriented communication scale (Mills, 2019). All items contained the stem “how frequently does your supervisor communicate about the listed relationship-oriented activities?” An example item is, “building commitment to the team or company.” Items were assessed with a 5-point response scale ranging from not at all to almost every day. Items were be coded such that higher scores are more indicative of more positive relationship-oriented communication. Cronbach’s $\alpha = 0.76$.

Virtual work climate was assessed with a three-item scale (Adamovic et al., 2022). All items contained the adapted stem, “please indicate the extent to which each of the following

statements describes your organization.” An example item is, “my organization provides adequate training to use telecommunication technology to work outside of the office.” Items will be assessed with a 5-point response from strongly disagree to strongly agree. Items will be coded such that higher scores are more indicative of a greater virtual work climate. Cronbach’s $\alpha = 0.79$.

Burnout was assessed with a 15-item scale developed by Kristensen et al. (2005). All items will contain the stem “please indicate the extent to which each of the following statements describes your job.” An example item is, “when I work, I usually feel energized.” Items were assessed with a 5-point response strongly disagree to strongly agree. Items were coded such that higher scores are more indicative of lesser job burnout. Cronbach’s $\alpha = 0.92$.

The Time 2 Survey contains the same measures as the baseline for job satisfaction, burnout, and frequency of relationship-oriented communication. The additional information presented in the follow-up survey measured the following:

Communication frequency was assessed with the 5-item Supervisor Electronic Communication Questionnaire (Mills, 2019). All items contained the adapted stem, “please report the percentage of communication in the past 30 days from your supervisor about relationship oriented activities that occur via the following.” An example item is, “instant message or text message.” Items were assessed with a percent sliding scale that make the total of the response to all five items add up to 100 percent. Items were coded such that higher scores are more indicative of the type of communication platform most frequently used. Cronbach’s $\alpha = 0.76$.

Procedure

After the pre-screening, eligible participants followed the provided Qualtrics link to access the Time 1 survey that has a duration of 15 minutes to complete. After agreeing to the provided consent form, participants began by answering a set of work and personal demographic items detailing age, gender, sexual orientation, education, work tenure, and occupation, followed by questions pertaining to communication preference, job satisfaction, burnout, and supervisor behaviors such as openness, relationship strength, and virtual climate. After a 30 day time span, participants followed the second provided Qualtrics link to access the Time 2 survey that had a duration of 10 minutes to complete. Following the agreement to the provided consent form, participants answered the allotted amount of communication they had within the past 30 days with their supervisor via video call, phone call, instant messaging, e-mail, and face-to-face as well as question pertaining to burnout and job satisfaction.

Analysis

The reported raw scores of both job satisfaction and leadership communication (i.e., communication preference and amount of each communication provided) were analyzed using the statistical software SPSS. I performed a hierarchal regression by regressing job satisfaction at Time 2 onto communication discrepancy, which is referred to as the difference between employee's preferred type of communication and the amount of each communication they receive, while controlling for job satisfaction at Time 1 and employee-leader relationship quality to assess if communication discrepancy influences job satisfaction. I also examined whether other personal and work demographics with the with the results of job satisfaction at Time 2 to evaluate where additional control may need to be included in the regression model. I examined

the zero-order bivariate correlations of work and personal demographics with outcome variables of interest in order to determine the appropriate statistical controls.

Results

All descriptive analyses were conducted in SPSS version 22. Initially, data were examined for quality to ensure the assumptions of linear regression. A difference score was computed for virtual communication by subtracting employees' received virtual communication measured in the follow-up survey (Time 2) from employees' preference of virtual communication measured in the baseline survey (Time 1). A higher difference score indicates a greater discrepancy between what was preferred versus what was received. First, I examined the correlation analysis for all study variables of interest, as well as for climate and burnout variables but were additionally collected during the Time 1 survey (see Table for means, standard deviation, and correlations). Correlation analyses indicated job satisfaction is significantly correlated with communication openness ($r = 0.82, p < 0.01$) and virtual work climate ($r = 0.39, p < 0.01$). There were also significant negative correlations between burnout and communication openness ($r = -0.54, p < 0.01$), along with burnout and virtual work climate ($r = -0.45, p < 0.01$).

Hypothesis Testing

Regressing job satisfaction at Time 2 onto job satisfaction at Time 1 showed that job satisfaction at Time 1 is highly predictive of job satisfaction at Time 2 ($\beta = .773, p < .001$, Adjusted $R^2 = .594$). After controlling for job satisfaction at Time 1, virtual communication discrepancy scores were regressed on job satisfaction scores at Time 2 ($\beta = -.094, p = .107, R^2$ change = .006). The results show that greater virtual communication discrepancy is associated with lower job satisfaction at Time 2 after controlling for job satisfaction at Time 1, though the effect was not significant.

I also controlled for job satisfaction at Time 1 when regressing face-to-face communication discrepancy scores on job satisfaction scores at Time 2 ($\beta = .041, p = .483, R^2 \text{ change} = .002$), however this effect was also not significant. Contrary to both of my hypotheses, there were no significant predictive relationships between virtual communication discrepancy and job satisfaction.

Supplemental Analyses

Correlational analyses indicated that the communication openness, collected during the time one survey, was associated with job satisfaction at both time 1 ($r = .82, p < .001$) and Time 2 ($r = .67, p < .001$). Therefore, I further examined the predictive relationship of communication openness with one's supervisor on job satisfaction. Although regression analysis indicated a significant predictive relationship of communication openness with job satisfaction at Time 1 ($\beta = .82, p < .001$), when controlling for job satisfaction at Time 1 and regressing job satisfaction at Time 2 on communication openness, no relationship was found ($\beta = .13, p = .21$).

Discussion

I examined employee's preferred leader communication and employees' received leader communication, and whether the discrepancy between what is preferred versus what is received influenced employee job satisfaction. Contrary to the hypothesized relationships, no relationships were found. For Hypothesis 1, I hypothesized that employees who prefer virtual communication and receive mostly virtual communication would be more satisfied than those who prefer virtual communication and receive mostly face-to-face communication, but significance was not found. I also hypothesized that those who prefer virtual communication and receive mostly face-to-face communication, would be less satisfied than those who prefer virtual communication and receive mostly face-to-face communication. Significance was also not found for this prediction.

However, when examining communication preferences, I found that communication openness was significantly correlated with virtual work climate ($p < .05$). This relationship could mean that virtual work climates provide more of a transparent relationship between subordinates and their superiors than in-person work environments.

Correlation analyses indicated that job satisfaction is significantly correlated with frequency of relationship oriented communication, communication openness, and virtual work climate. This shows that not just communication is important for job satisfaction, but the environment in which it is given in. If an employee's supervisor does not provide virtual training and guidance, the rate of job satisfaction may suffer. Regarding communication openness and frequency of relationship oriented communication, other affects can arise if a supervisor does not provide frequent feedback on areas such as conflict and support and does not have the pattern of being understanding and open to their team, employee's job satisfaction may suffer. Correlation analyses also indicated that burnout negatively correlates with variables such as frequency of relationship oriented communication, communication openness, virtual work climate, and job satisfaction. This shows that burnout is negatively associated significantly with multiple positive-motivated variables and suggest that employees who acquire high levels of burnout most likely have a negative relationship with their supervisor and work environment.

Theoretical Implications

The lack of significant findings could be due to a number of factors. Importantly, it could be that under the central tenets of LMX theory, communication preference and communication discrepancy are not salient enough factors in assessing effects of job satisfaction. Following to what the Leader-Member Exchange Theory (LMX) suggests, the complexity of what is being measured for social exchanges may been to have more salient factors to adequately measure the

development of superior subordinate relationship, because the quality of superior and subordinate social exchanges within an organization can influence job satisfaction outcomes of employees (Liden et al., 1998). Although communication discrepancy should be related to job satisfaction, there potentially are other salient relationship aspects that supersede communication.

Practical Implications

The LMX theory suggest when analyzing job satisfaction, other variables that the LMX can influence such as organizational trust and loyalty may have a direct influence on the outcomes of job satisfaction (Liden et al., 1998). With that being said, employees who have little loyalty or trust within their organization or with their supervisor have a difficult time having significant levels of job satisfaction no matter the quality of the leader-member relationship. According to LMX, it is because loyal members acquire high levels of task autonomy and job satisfaction, whereas members who are less loyal have less job satisfaction and task autonomy (Liden et al., 1998). Organizations must foster trust and loyalty between leaders and subordinates through effective communication in order to achieve high levels of job satisfaction.

Strengths, Limitations, and Future Directions

A strength of the present study was the temporal separation of predictors and outcome. In addition, my design included two time-points, and retention between the first and second surveys was high (approximately 95%), so the power to detect effects was strong. However, my study also had a number of limitations. First, generalizability is comprised due to the notion that the sample was a convenience sample recruited via Prolific Academic. In addition, the demographics of the sample do not reflect the working population as a whole. For example, my sample was primarily white men who indicated a household income of greater than \$100,000. It could very

well be that there may be gender or other demographic effects in communication preferences and discrepancies on job satisfaction.

In addition, although job tenure was assessed, I did not assess whether folks considered themselves to be in early-, mid-, or late-career stages. This omission is potentially important because it could be that employees at mid- and late- career stages communicate less with supervisors given their perceived higher skill level. Furthermore, I did not include any measures getting at employees desire for growth or development, which could influence the outcomes achieved. Future research should seek to understand how employees' desire for growth and development influences the priority of communication, which may make the association between communication discrepancy and job satisfaction more salient. Self-report data also limits the range of perspectives, future research should consider supervisor preference as well to better examine communication discrepancy.

Conclusion

While prior research emphasizes the importance of communication in supervisor-subordinate relationships, I found no significant results for the hypothesized relationships between communication discrepancy and job satisfaction. Although my results were not significant, this result could be due to a number of factors; importantly results should not be interpreted as if communication in supervisor-subordinate relationships is not important. Indeed, years of theory development and research in organizational spaces indicate that the interactions and exchanges supervisors have with their followers influence values such as trust and acceptance within teams. Increasing these values within organizations is important and of value to researchers and practitioners alike.

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Table 1*Descriptive Statistics and Correlations for Study Variables*

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Age	38.61	9.97	–														
2. Sex	–	–	-0.06	–													
3. Tenure	7.19	5.92	0.52**	-0.18*	–												
4. IPWH	20.44	12.74	0.21*	-0.01	0.18*	–											
5. RWH	21.47	10.43	-0.12	0.03	0.01	0.05	–										
6. Burnout	2.61	0.73	-0.12	0.12	-0.05	-0.02	0.04	–									
7. Burnout T2	2.62	0.75	-0.12	0.12	-0.08	-0.01	0.04	0.87**	–								
8. FRC	2.41	0.64	0.01	-0.11	0.07	0.05	-0.03	-0.20*	-0.18	–							
9. FRC T2	2.32	0.68	0.00	-0.10	0.03	0.06	-0.06	-0.33**	-0.25**	0.64**	–						
10. COO	4.82	1.15	0.07	-0.03	0.08	0.01	0.06	-0.53**	-0.54**	0.36**	0.43**	–					
11. VWC	5.70	1.11	0.12	-0.13	0.16	0.03	0.05	-0.42**	-0.45**	0.13	0.20*	0.41**	–				
12. VCD	46.92	20.69	-0.10	0.00	-0.07	-0.09	0.01	0.11	0.12	0.04	-0.15	-0.07	-0.16	–			
13. F2CD	5.83	25.82	0.13	0.02	0.08	0.00	0.28**	-0.04	-0.07	-0.14	-0.07	0.01	0.10	-0.75**	–		
14. JS	4.34	0.91	0.06	-0.04	0.12	-0.02	0.02	-0.49**	-0.47**	0.27**	0.33**	0.82**	0.39**	-0.05	0.00	–	
15. JS T2	4.37	0.88	0.09	-0.06	0.11	-0.07	-0.02	-0.45**	-0.52**	0.29**	0.36**	0.67**	0.38**	-0.13	0.04	0.77**	–

Note. Note. In-Person Work Hours (IPWH) Remote Work Hours (RWH) Frequency of Relationship Oriented Communication (FRC) Time 2 (T2) Communication Openness (COO) Virtual Work Climate (VWC) Virtual Communication discrepancy (VCD) Face-to-face Communication Discrepancy (F2CD) Job Satisfaction (JS) *p < .05 **p < .01

Appendix A: Baseline Survey

Preference for Electronic Communication Scale			
REFERENCE: Telford, B.N., Ramsay, P.S., Frick, S.E., Bedwell, W.L. (April, 2017). To Meet or Not to Meet: Preference for Electronic Communication. Presented at the 2017 Society for Industrial and Organizational Psychology conference, Orlando, FL.			
STEM:			
Q#	Var. Name		Response Scale
1		I prefer to collaborate with others online.	1 - strongly disagree
2		I would rather communicate with my co-workers electronically.	2 - disagree
3		My favorite work experiences have involved electronic communication.	3 - slightly disagree
4		I prefer to plan with others electronically.	4 - slightly agree
5		I like completing work with others electronically.	5 - agree
6		I prefer to brainstorm with others electronically.	6 - strongly agree
7		Email, texting, and online chats are my preferred methods of coworker communication.	
8		My coworkers and friends would describe me as someone who prefers communicating electronically.	

Frequency of Relationship Oriented Communication			
REFERENCE: Mills, B. T. (2019). <i>Identifying Employees Who Fit with Electronic Communication Styles</i> (Doctoral dissertation, University of South Florida).			
STEM: How frequently does your supervisor communicate about the listed relationship-oriented activities?			
Q#	Var. Name	Relationship Oriented Electronic Communication	Response Scale
1		Conflicts with co-workers	1 Not at all
2		Performance feedback	2 Once or twice a month
3		Development	3 About once a week
4		Building commitment to the team or company	4 A couple times a week
5		Encouraging or supporting you	5 Almost every day

Communication Openness			
REFERENCE: O'Reilly, C.A., & Roberts, K., H. (1977) Task group structure, communication, and effectiveness in three organizations. <i>Journal of Applied Psychology</i> , 62(6), 674-681			
STEM:			
Q#	Var. Name		Response Scale
1		It is easy to communicate openly to my supervisor.	1 Strongly disagree
2		Communication with my supervisor is very open.	2 Moderately
3		I find it enjoyable to talk to my supervisor.	Disagree
4		When I communicate to my supervisor, there is a great deal of understanding.	3 Slightly Disagree
5		It is easy to ask advice from my supervisor.	4 Slightly Agree
			5 Moderately Agree
			6 Strongly Agree

Job Burnout: Exhaustion and Disengagement (15)			
REFERENCE: Demerouti, E., Bakker, A. B., Nachreiner, F., & Shaufeli, W. B. (2001). The job demands-resources model of burnout. <i>Journal of Applied Psychology</i> , 86, 499-512.			
Stem: Please indicate the extent to which each of the following statements describes your job...			
Q#	Var. Name		Response Scale
		I always find new and interesting aspects in my work.	1 = strongly disagree
		More and more often I talk about my work in a negative way.	2 = disagree
		After work, I tend to need more time than in the past in order to relax and feel better.	3 = neutral
		Lately, I tend to think less at work and do my job almost mechanically.	4 = agree
		I find my work to be a positive challenge.	5 = strongly agree
		At work, I often feel emotionally drained.	
		Over time, one can become disconnected from this type of work.	
		After work, I have enough energy for leisure activities.	
		After work, I usually feel worn out and weary.	
	Burnout10	This is the only type of work that I can imagine myself doing.	
	Burnout11	There are days when I feel tired before I arrive at work.	
	Burnout12	I can tolerate the pressure of my work very well.	
	Burnout13	I feel more and more engaged in my work.	
	Burnout14	When I work, I usually feel energized.	
	Burnout15	Sometimes I feel really disgusted with my work.	

Personal Demographic Questions (9)			
Q#	Var. Name		Response Scale
	Age	What is your age?	Numeric Open
	Sex	What is your biological sex?	1 = male 2 = female 3 = intersex
	Sexual Orientation	What of these best describes your current sexual orientation?	1=Heterosexual/Straight 2=Gay/Lesbian 3=Asexual 4=Bisexual 5=Queer 6=A sexual orientation not listed here
	Race	What is your racial background?	1 = White, European decent 2 = Black, African American, African 3 = American Indian, Alaska Native 4 = Asian, Asian American 5 = Hispanic, Latino/a
	Education	What is the highest level of education you've completed?	1 = Some high school 2 = High school graduate (or GED) 3 = Some college (or technical vocational school) 4 = Two-year college degree (Associate's) 5 = Four-year college degree (Bachelor's) 6 = Graduate degree or beyond (Master's, M.B.A., Ph.D., M.D., Lawyer)
	Marital	What is your marital status?	1 = Single (never married)

			2 = Living with partner (opposite-sex or same-sex) 3 = Married 4 = Divorced, Separated, or Widowed
	Time with partner	How long have you and your spouse/partner been in a relationship (in years)?	[numeric open]
	ZipCode_Home	What is the 5-digit zip code where you live?	Numeric Open
	Children	How many children 18 and under live in your home. (If none, please type '0')?	Numeric Open
	Elderly	Do you provide care to an elderly or disabled family member?	0 = no 1 = yes
	Income	What is your household's total annual income?	1 = Under \$25,000 2 = From \$25,000 to less than \$50,000 3 = From \$50,000 to less than \$75,000 4 = From \$75,000 to less than \$100,000 5 = \$100,000 or more

Work Demographic Questions			
Q#	Var. Name		Response Scale
	Occupation	Please select the occupation division that best describes yours:	1 = Management & business & financial operations 2 = Sales & related occupations 3 = Construction trades & related work 4 = Production occupation 5 = Professional & related occupations 6 = Office & administrative support 7 = Installation, maintenance, & repair occupations

			8 = Transportation & material moving occupation 9 = Service occupations 10 = Farming, fishing, forestry 11 = Educator 12 = Student
	ZipCode_Work	What is the 5-digit zip code where you work?	Numeric Open
	WorkDays	How many days do you work in a typical week?	Numeric Open
	VirtualHours	How many hours do you work remote in a typical week (include only time spent at work or "on the clock" for all currently held jobs)?	Numeric Open
	WorkHours	How many hours do you work in a typical week (include only time spent at work or "on the clock" for all currently held jobs)?	Numeric Open
	Tenure	How many years have you been with your current employer (in years)?	Numeric Open
	JobTitle	What is your current job title?	Open
	Supervise	Do you supervise others as part of your job?	1 = yes 2 = no
	Schedule	Which of the following best describes your work schedule	1 = A regular daytime schedule 2 = A regular evening shift 3 = A regular night shift 4 = A rotating shift -- one that changes periodically from day to evening or night 5 = A split shift consisting of two distinct period each workday 6 = A flexible or variable schedule with no set hours 7 = Some other schedule

Filler (1)			
STEM:			
Q#	Var. Name	Perceived technology training and available support	Response Scale
1		The sky is yellow	1 = yes 2 = no

Virtual Work Climate Survey Instrument			
REFERENCE: Adamovic, M., Gahan, P., Olsen, J., Gulyas, A., Shallcross, D., & Mendoza, A. (2022). Exploring the adoption of virtual work: the role of virtual work self-efficacy and virtual work climate. <i>The International Journal of Human Resource Management</i> , 33(17), 3492-3525.			
STEM:			
Q#	Var. Name	Perceived technology training and available support	Response Scale
1		My organization provides the equipment and materials necessary to work outside of the office (e.g., computer, teleconferencing equipment, software, etc.).	1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree
2		My organization provides adequate training to use telecommunications technology (e.g., teleconferencing, e-mail, etc.) to work outside of the office.	
3		My organization provides the technical support necessary to help employees work outside of the office (e.g., help line, dispatched technicians, etc.).	

Job Satisfaction Questions			
REFERENCE: Matthews, R. A., Pineault, L., & Hong, Y. H. (in press). Normalizing the Use of Single-item Measures: Validation of the Single-item Compendium for Organizational Psychology. <i>Journal of Business & Psychology</i> .			
STEM:			
Q#	Var. Name	Perceived technology training and available support	Response Scale
1		My supervisor is highly competent at his/her job	1 = disagree 2 = slightly disagree 3 = neutral
2		My supervisor is good natured, warm, and sincere	

			4 = slightly agree 5 = agree
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Overall Job Satisfaction

STEM:

Q#	Var. Name	Perceived technology training and available support	Response Scale
1		Overall, how satisfied are you with your job?	1 = extremely dissatisfied 2 = somewhat dissatisfied 3 = neither satisfied nor dissatisfied 4 = somewhat satisfied 5 = extremely satisfied

Appendix B: Follow-up Survey

Job Satisfaction Questions			
REFERENCE: Matthews, R. A., Pineault, L., & Hong, Y. H. (in press). Normalizing the Use of Single-item Measures: Validation of the Single-item Compendium for Organizational Psychology. <i>Journal of Business & Psychology</i> .			
STEM:			
Q#	Var. Name	Perceived technology training and available support	Response Scale
1		My supervisor is highly competent at his/her job	1 = disagree 2 = slightly disagree 3 = neutral 4 = slightly agree 5 = agree
2		My supervisor is good natured, warm, and sincere	

Overall Job Satisfaction			
STEM:			
Q#	Var. Name	Perceived technology training and available support	Response Scale
1		Overall, how satisfied are you with your job?	1 = extremely dissatisfied 2 = somewhat dissatisfied 3 = neither satisfied nor dissatisfied 4 = somewhat satisfied 5 = extremely satisfied

Supervisor Electronic Communication			
REFERENCE: Mills, B. T. (2019). <i>Identifying Employees Who Fit with Electronic Communication Styles</i> (Doctoral dissertation, University of South Florida).			
STEM: Supervisors communicate with their employees about different things. Sometimes supervisor communicate with you about relationship-oriented activities such as: Conflicts with co-workers, Performance feedback, Development, Building commitment to the team or company, Encouraging or supporting			

Q#	Var. Name	Relationship Oriented Electronic Communication	Response Scale
1	Supecom 1	Face-to-face	Please report the percentage of communication (in the past 30 days) from your supervisor about relationship-oriented activities that occurs via the following communication options. Totals should add to 100%.
2	Supecom2	Video Conference	
3		Telephone	
4		Instant message or text message	
5		E-mail	

Job Burnout: Exhaustion and Disengagement (15)

REFERENCE: Demerouti, E., Bakker, A. B., Nachreiner, F., & Shaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, 86, 499-512.

Stem: Please indicate the extent to which each of the following statements describes your job...

Q#	Var. Name		Response Scale
	Burnout1	I always find new and interesting aspects in my work.	1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree
	Burnout2	More and more often I talk about my work in a negative way.	
	Burnout3	After work, I tend to need more time than in the past in order to relax and feel better.	
	Burnout4	Lately, I tend to think less at work and do my job almost mechanically.	
	Burnout5	I find my work to be a positive challenge.	
	Burnout6	At work, I often feel emotionally drained.	
	Burnout7	Over time, one can become disconnected from this type of work.	
	Burnout8	After work, I have enough energy for leisure activities.	
	Burnout9	After work, I usually feel worn out and weary.	
	Burnout10	This is the only type of work that I can imagine myself doing.	
	Burnout11	There are days when I feel tired before I arrive at work.	
	Burnout12	I can tolerate the pressure of my work very well.	
	Burnout13	I feel more and more engaged in my work.	
	Burnout14	When I work, I usually feel energized.	
	Burnout15	Sometimes I feel really disgusted with my work.	

Frequency of Relationship Oriented Communication			
REFERENCE: Mills, B. T. (2019). <i>Identifying Employees Who Fit with Electronic Communication Styles</i> (Doctoral dissertation, University of South Florida).			
STEM: How frequently does your supervisor communicate about the listed relationship-oriented activities?			
Q#	Var. Name	Relationship Oriented Electronic Communication	Response Scale
1		Conflicts with co-workers	1 Not at all 2 Once or twice a month 3 About once a week 4 A couple times a week 5 Almost every day
2		Performance feedback	
3		Development	
4		Building commitment to the team or company	
5		Encouraging or supporting you	

Appendix C: IRB Approval Form



INSTITUTIONAL REVIEW BOARD
OFFICE OF RESEARCH INTEGRITY

DATE: November 16, 2022

TO: Adalin McDaniel, 1
FROM: Western Kentucky University (WKU) IRB

PROJECT TITLE: [1987187-1] Leadership Communication and Job Satisfaction
REFERENCE #: IRB# 23-137
SUBMISSION TYPE: New Project

ACTION: APPROVED
APPROVAL DATE: November 16, 2022

REVIEW TYPE: Exempt Review

Thank you for your submission of New Project materials for this project. The Western Kentucky University (WKU) IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Exempt Review based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding followed by an *implied* consent form. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the consent document.

Please note that any revision to previously approved materials must be approved by this office prior to initiation. Please use the appropriate revision forms for this procedure.

All UNANTICIPATED PROBLEMS involving risks to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

This project has been determined to be a MINIMAL RISK project.

Please note that all research records must be retained for a minimum of three years after the completion of the project.

If you have any questions, please contact Robin Pyles at (270) 745-3360 or Robin.Pyles@wku.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Western Kentucky University (WKU) IRB's records.

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Type of document: ['Thesis']

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Keywords (3-5 keywords not included in the title that uniquely describe content): leadership communication, job satisfaction, organizations, virtual work environment, in-person work environment

Committee Chair: Katrina Burch

Additional Committee Members: Reagan Brown, Gordon Baylis

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