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EMPLOYEE RELATED OUTCOMES USING SUPPORT AS A BUFFER
AND MODERATED BY TRANSFORMATIONAL AND
TRANSACTIONAL LEADERSHIP**

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THE RELATIONSHIP BETWEEN AUTOMATION THREAT AND EMPLOYEE
RELATED OUTCOMES USING SUPPORT AS A BUFFER AND MODERATED
BY TRANSFORMATIONAL AND TRANSACTIONAL LEADERSHIP

A Thesis
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Science
in
Psychology:
Industrial and Organizational

by
Monica Araceli Garcia
December 2020

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ABSTRACT

The introduction of automation in the workforce has negative effects that go beyond technological job displacement. The process of introducing automated systems creates stress in employees, which may relate to lower performance. The purpose of this study was to examine the relationship between automation threat and employee-related outcomes such as self-efficacy, means efficacy, and employability and how social support, organizational support, and instrumental support can help buffer against this type of threat. Furthermore, transformational and transactional leadership styles of the manager/supervisor were examined, as they related to the various types of support. Two hundred sixty-nine working adults completed the study survey. This study contributed to research on the introduction of automation and how different forms of support (social, instrumental, organizational) can mediate stress resulting from perceived automation threat. Findings demonstrated that social, instrumental, and organizational support mediated the relationship between leadership styles and employee outcomes. During high automation threat, transactional leaders demonstrated higher levels of social support and instrumental support, and transformational leaders provided higher organizational support. Overall, this study demonstrates that organizational leaders can influence the levels of stress that results from the introduction of automation by providing support through lower-level leaders such as supervisors or managers.

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CHAPTER ONE

LITERATURE REVIEW

The Relationship Between Automation Threat and Employee Outcomes

The recent surge in the use of automated systems in the workplace has created benefits and issues (Kristal, 2013; Sorells, 2018). For employees, the issue may come in the form of perceived threat, such as technological job displacement (Vermeulen et al., 2018). For organizations, employee responses to automation are crucial to understand as they relate to technology adaptation and organizational performance (Schraeder et al., 2006). The process of introducing automated systems or technological change has far more consequences to employee-related outcomes than what has been studied thus far. This study's central question is to understand how automation threat impacts employees' self-efficacy, means efficacy, and employability perceptions. Simultaneously, equally important is the role of the immediate supervisor or manager of these employees through this process and how different support types can be used to buffer against automation threat.

The integration of automation into organizations has been primarily studied related to organizational outcomes (Parasuraman & Riley, 1997; Parasuraman et al., 2000; Sheridan, 2002.) Automation can be defined as systems or machines capable of performing functions previously performed by

humans (Parasuraman et al., 2000). A majority of researchers consider the automation movement the Fourth Industrial Revolution with specific technological advances in areas like artificial intelligence, robotics, data science, and quantum computing (Morrar et al., 2017; Peters, 2017; Sorells, 2018; Vermeulen et al., 2018). Automation is often considered a competitive advantage for organizations seeking to increase productivity by shifting repetitive or routinized work activities to automated systems or machines. Undoubtedly one of the most expensive costs that companies incur is labor costs. Automation as a cost-effective approach is a very appealing and convenient business move (Engle & Barnes, 2000; Ivanov & Webster, 2017). Maximizing profits may be a key driver for organizations to introduce automated systems. Also noteworthy is that various factors should be considered with the introduction of an automated system.

Most of the research on automation has focused on organizational related factors or outcomes (Brunner, 1992; Parasuraman & Riley, 1997; Seaberg et al., 1999; Zetka, 1991, Onnasch et al., 2014, Sanchez et al., 2014). Brunner (1992) detailed the importance of introducing automation into an organization and suggested that management's attention should be drawn to factors such as selecting quality equipment and reputable vendors. Brunner suggested that accommodating the automated system is critical, and personnel factors such as work schedules should be centered on making the most efficient use of the automated systems (1992). Aside from using personnel to accommodate the automated system, human factors were not deemed important. Also important for

many is maintaining an automated system's viability by ensuring it is producing at capacity. The importance of maximizing the use of automated systems and minimizing human error was examined to mitigate the effects of automation complacency and automation bias (Parasuraman & Manzey, 2010).

Parasuraman and Manzey suggested that omission errors and commission errors lead to costly performance consequences (2010). In this case, support is recommended in decision support systems to maximize performance again, attention is placed on the automated system, not the individual. Although the integration of automation may bring financial benefits to an organization if properly introduced and managed, other consequences are simultaneously impacting the existing workforce. Research on automated systems related to employee outcomes such as trust have also been examined (Lee & See, 2004; Steinfeld et al., 2006). Trust research related to automation is centered on the relationship between the employee and the automated system and employees' adaptability. The purpose of examining trust is to ensure that automation systems are trustworthy, which is needed to minimize the misuse or disuse of the automated system (Lee & See, 2004).

Automated systems are often valued by organizational decision-makers as a tool, and research is focused on maximizing the potential from automation systems (Säfsten et al., 2007). The introduction of automation can be perceived as a threat to the employees who may have an unmatched skillset for the automated system's operation, foresee job displacement, or be faced with actual

job displacement. Independent of the organizational or employee-related outcomes, the introduction of automated systems always involves change. Planned organizational change, in general, has its own set of consequences to acknowledge.

Technological Change / Planned Organizational Change

Technological change has garnered increased attention in the literature as it relates to the adaptation to technology and its link to performance (Clamann et al., 2002; Schraeder et al., 2006; Onnasch et al., 2014). Regarding employee perceptions, the implementation of technological change implies that the adoption of technology is due to employee perceptions of how the technological system will impact their job (Schraeder et al., 2006). In their study, Schraeder, Swamidass, and Morrison found that individuals with high levels of involvement reacted more positively to technology and that role ambiguity was predictive of adverse reactions to technological change (2006). The interaction between an employee and new technological systems is not void of leader influence. Leaders are directly involved in the technological change process (Schraeder et al., 2006). In general, the introduction of automated systems is made after careful consideration from upper management, who often do not involve employees at different levels in discussing such organizational decisions. Technological changes are expected to yield benefits on a variety of organizational outcomes. Equally as important if not more so, is that employees are impacted in many ways that can be negatively perceived, such as job elimination, job restructuring,

relocation of resources, changes in performance appraisals and rewards, changes in the relationship with coworkers, supervisor, or departments (Markus, 2004).

The impact of planned organizational change has mostly been studied to understand employee-related dynamics and facilitate the change. The ultimate goal of planned organizational change is to achieve favorable organizational outcomes through a holistic organizational change approach. An emphasis on employee behavioral changes has been widely proposed to achieve improved organizational outcomes during planned organizational change (Robertson et al., 1993). Robertson, Roberts, and Porras (1993) recommended that organizational leaders can wait for negative behavioral changes to subside to the extent that organizational outcomes are not influenced. There is importance in creating an inclusive environment of trust in the communication process, especially during change. Trust in management can reduce feelings of uncertainty regarding organizational change (Weber & Weber, 2001).

Additionally, employees who receive supervisory support are more likely to be involved in the successful implementation of change efforts (Weber & Weber, 2001). If automated systems' successful implementation is an organizational goal, attention to employees should be of great importance. Weber and Weber found that goal clarity, management efforts, and employee participation in change efforts positively impact trust in management and perceptions of supervisory support (2001). The role of individual perceptions of

the employee have consequences to the organization. As such, there is a need to understand the appraisal process. Threat appraisals give insight into an individual's perceptions of specific situations and serve to predict potential reactions to threat (Fugate et al., 2012).

Lazarus and Folkman Transactional Model of Stress and Coping: Automation Threat

The Lazarus and Folkman transactional model of stress and coping can help understand technological change and the work stress from that planned change process. Lazarus and Folkman's perspective on stress is that it is a cognitive-phenomenological process, and they refer to stress as relational and process-oriented (Stanton et al., 2001). Stress is defined as a specific relationship between a person and their environment, and that the person has appraised as taxing or exceeding of their resources and which threatens their well-being (Lazarus & Folkman, 1984). What is salient in this stress model is that the individual is responsible for evaluating the situation at hand as either threatening or non-threatening. Lazarus and Folkman (1987) stated that humans are continually evaluating what is occurring in their environment and use that information to decipher what this implies for their well-being. An individual can categorize stressors as either negative or positive, and individual differences play a crucial role in this identification. Two different cognitive activities occur during the emotional process: information that we know or think we know and appraisal, which are the implications of that information for the individual's well-being (Lazarus & Folkman, 1987). An individual can use their cognitive resources to

focus their energy on the stressor itself or on how to respond to the stressor, also known as coping.

It is essential to consider the three processes that makeup stress: primary appraisal, secondary appraisal, and coping. Primary appraisal is concerned with the perception of threat. Secondary appraisal is the process concerned with the probable response to such threat, and coping is how the response is dealt with (Carver et al., 1989). Primary appraisal of stress includes the following three types: the harm experienced, the threat that is anticipated, and the challenge that may have the potential for mastery (Lazarus & Folkman, 1987). This means that it is how an individual recognizes a stressor as stressful (Stanton et al., 2001). Secondary appraisal complements primary appraisal because it relates to the control that an individual feels they can put forth. For example, coping thoughts and actions are dependent on the secondary appraisal in which an individual decides whether anything can and should be done to cope with the stressor (Lazarus & Folkman, 1987). Coping has two primary functions: to regulate emotions or distress and to manage the event that causes the distress (Folkman, 1984). The introduction of automated systems can be perceived as a stressor during the primary appraisal, which then leads employees to cope with the newly added stressor.

For employees who have limited knowledge of the planned change by introducing an automated system, coping with uncertainty is an important dynamic to understand. Undoubtedly, employment uncertainty affects both the

employed people that believe their job is at stake and those who are unemployed and in transition (Mantler et al., 2005). Mantler, Matejcek, Matheson, and Anisman found that those who faced long term employment uncertainty eventually experienced wear down to their mental and physical health, which led to unhealthy coping (2005). Employees who face employment uncertainty should benefit from training in effective coping strategies such as problem-solving and realistic evaluation (Mantler et al., 2005).

Employees' threat appraisals in response to organizational change are critical psychological mechanisms to understand. Threat appraisals are the catalysts for the way employees will react to the change process. Anticipated knowledge of how an employee reacts to change-related matters allows managers the opportunity to impact subsequent employee reactions (Fugate et al., 2012). Since employees have limited control of the introduction of automated systems, managers are likely to facilitate the change via communication and support. Fugate, Prussia and Kinicki suggest that communication can impact attitudes while changing efficacy and perceived control for employees (2012). For managers who are tasked with planned organizational change, it is vital for them to consider the jobs within their departments that are likely to be automated. Awareness of trades, careers, or jobs that are susceptible to automation allows immediate managers or supervisors to be aware and provide different support forms to mitigate the situation.

Specific Trades, Careers, or Jobs that are Affected

Some jobs are more likely to be impacted by the introduction of automation. There are a wide variety of jobs, careers, or fields subject to the effects of automation's introduction. For example, most manufacturing jobs that previously required manual labor to do repetitive activities such as to screw on the lid or manually count items are now being replaced by routinized machines that do not need breaks or time off and instead need minimal operation or maintenance.

There is an argument that computerization is the main reason for the decline in organized labor by downsizing unionized manufacturing jobs, increased anti-union actions from management, and differences in skill level for the workforce (Kristal, 2013). Union jobs are often comprised of blue-collar workers, and although technology is sometimes introduced to facilitate or maximize productivity, the long-term effects of the introduction of advanced technology are usually unknown or unpredictable. Initially, unions may be aware and in agreement with the introduction of technological change. Still, workers are often at a disadvantage with downsizing efforts occurring well after resources are evaluated, and an excess of employees are no longer necessary (Kristal, 2013).

Differences in skill level may also be a salient distinction between those who may eventually feel threatened with the introduction of automation and those who do not. In general, low skilled workers are more likely to face insecure employment (Ribar, 2005). Since work sectors are primarily differentiated by the

skills required, specific sectors are more susceptible to the adverse effects that come with the introduction of automated systems and the potential for technological job displacement. Concerning automation, this immediately puts high skilled workers at an advantage over low skilled workers. Technology increases the demand for individuals with higher skill levels while at the same time decreasing the demand for lower-skilled workers (Manning, 2004).

Occupations that are subject to be easily replaced by automation include jobs in manufacturing, production, office, or those that involve repetitive administrative duties (Vermeulen et al., 2018). Regardless of the job or field that is being impacted by the introduction of automation, it is important to capture employee perceptions regarding technology implementation. In addition to understanding the role of appraisal and perception, it is equally important to consider the organization's role.

Institutional Support / Organizational Support

Organizational support, also known as institutional support, is defined as the beliefs that employees generate regarding their organization values and cares about their contributions and well-being (Eisenberger et al., 1986).

Levinson (1965) supported the idea that over time an employee engages in an organization's personification. An employee then views actions by associates of the organization as actions of the organization. This personification is amplified through the following: the organization has responsibility legal or financial for the actions of its members, organizational norms influence the continuation of

behaviors that align to those norms, and the organization through its members elicits power over individual employees (Levinson, 1965). If an individual associates its members' actions as actions of the organization itself, then the individual will turn to those members in times of distress. For example, if this technological change eliminates an individual's job, and if the organization decides to retain the individual, the organization is recognized as supportive. It helps the individual cope with the change and provides a type of job security (Levinson, 1965). It is this affiliation with an organization that has a meaningful impact on the employee. People are often introduced at work by name, followed by title and organization name. Affiliations are merged with people's professional identities, and simultaneously employees generate beliefs about the extent to which their organization cares about them and values their inputs (Eisenberger et al., 1986). In many ways, perceived organizational support has an impact on many employee behaviors and subsequent organizational outcomes. Perceived organizational support can come from material and symbolic rewards such as pay, rank, and job enrichment (Eisenberger et al., 1986). Upon receiving perceived organizational support, it was found that employees reciprocated that support by adjusting their efforts to meet organizational goals (Eisenberger et al., 1986). This reciprocity has been further examined, and findings suggest that perceived organizational support was positively related to employee's perceived obligation to care and help the organization reach its goals (Eisenberger et al., 2001).

Social Support

The role of social support relating to stress in the workplace has been widely examined. Stress typically results in adverse mental and physical outcomes (Fisher, 1985). Once appraised, the introduction of automated systems may be determined to be a source of stress by an employee. Social support has been defined as the availability or number and quality of helping relationships (Levy, 1983). Researchers often refer to social support as a "buffer" when studying it as a moderator, mediator, or suppressor effect (Viswesvaran et al., 1999). In the context of organizational stress, social support has been shown to mitigate the effects of stress on a range of organizational outcomes. Stress directly impacts important organizational outcomes, such as satisfaction, commitment, turnover, and performance (Fisher, 1985). Fisher's social support findings demonstrated that both colleagues and immediate supervisors' support were positively related to satisfaction, performance, commitment, and negatively related to turnover intentions and turnover (Fisher, 1985). Similarly, Dalia Etzion found that work stress was moderated by work social support provided by supervisors and coworkers, in this case, for a sample of male managers and social service professionals (1984). From the employee perspective, the availability of social support may influence their perception of the stress source. A threat to job security undoubtedly heightens levels of stress for any employee. A different study found that support from colleagues and supervisors was found to buffer the effects of job insecurity related stress (Lim, 1996). During times of

threat to job security, colleagues, and supervisors' support at work is very important. A meta-analysis on the effects of social support on the process of work stress suggests that social support works in a threefold manner. Social support's role is to reduce strains, reduce the stressor's strength, and eases the effects of stress on strains (Viswesvaran et al., 1999).

Instrumental Support

Instrumental support is broadly defined as task instruction and task assistance (Deelstra et al., 2003). Task or work-related assistance or resources can come from knowledge and competency developments for an individual (Mathieu et al., 2019). Task-oriented support is most often provided through a supervisor. Some of the ways a supervisor provides instrumental support are related to getting the job done, role and responsibility clarification, project planning, and managing resources such as time (Amabile et al., 2004). Additional instrumental support includes the opportunities to develop specialized skills, advice or tangible assistance, and information about position advancement opportunities (Kraimer et al., 2011; Bamberger et al., 2017; Weng et al., 2010). Employees can create perceptions about themselves and their supervisors' resources through their supervisors' interactions with their immediate supervisors. Amabile et al. (2004) found that leaders who displayed support in recognizing good work, appropriate task assignments, and appropriate feedback had better outcomes. Overall findings suggest that leaders innately enact task-oriented support and relationship management, resulting in all leader behaviors

even if task-oriented as consequential for the subordinate-leader relationship and subsequent employee perceptions of support (Amabile et al., 2004). Deelstra et al. found that for instrumental support, a supervisor must gauge the extent to which the support is needed (2003). Deelstra et al., 2003, found that instrumental support can be stress-inducing rather than stress minimizing if the support is restrictive to the employee. Given that the social environment and support from other people are essential, it is critical to examine leadership's role for support sources.

Transactional and Transformational Leadership

Differences between both transformational and transactional supervisors during technological change are important to consider. Differences in a supervisor's leadership style can impact the way an employee interacts with technological change or planned change in general. Transactional and transformational leadership both emerged from the path-goal theory of leadership. As such, both transactional and transformational leadership styles are relationship-oriented in which the leader can be a strong motivational force for their subordinates in the achievement of overarching goals, whether for an organization or a team. Both transactional and transformational leaders can be equally effective in accomplishing their goals. Additionally, a single leader can enact behaviors that can constitute themselves as either transactional or transformational.

Transactional leadership constitutes clarifying subordinates' responsibilities, then providing rewards for meeting goals, and correcting failed objectives if necessary (Eagly et al., 2003). Transactional leaders establish an exchange relationship, which brings the most benefits to the leader or organization. Transactional leaders are likely to flourish in stable and predictable environments, and whose primary goal is efficiency (Lowe et al., 1996).

Transformational leadership is focused on establishing an exchange relationship in which the leader is focused on gaining the trust and confidence of their followers and establishing themselves as a role model (Eagly et al., 2003). Transformational leaders typically have a growth mindset and are likely to engage in innovation. Transformational leaders may seek changes in approaches to meet goals, engage in risk, and prefer effectiveness over efficiency (Lowe et al., 1996). Additionally, transformational leaders are likely to foster relationships with subordinates in which they help frame opportunities and help them find meaning in what they do. Transformational leaders also help shift subordinates out of their comfort zone to help them further grow and develop. Regarding the environment, transformational leaders likely shape or create it instead of merely reacting or adapting to the environment. During radical change, transformational leaders can influence innovative group behavior through the group vision, improvement of work processes, and innovation capabilities (Feng et al., 2016). Commitment to change is strongly related to transformational

leadership versus other leadership styles, mainly when the change occurring has a personal impact on the followers (Herold et al., 2008).

Transactional leadership can be regarded as outcome-focused, whereas transformational leadership can be regarded as individual focused. Transactional leaders are focused on providing clear standards to achieve productive outcomes. If an undesired outcome is achieved, a transactional leader provides feedback to make changes and achieve the goal. As previously mentioned, both transactional leadership and transformational leadership can be effective leadership styles. Leadership styles relate to perceptions of support, as suggested through organizational embodiment theory. Organizational embodiment theory refers to how employees identify their respective managers or supervisors with the organization (Eisenberger et al., 2010). This theory highlights the important role leaders play in organizations, as they are regarded as part of an employee's organization.

Hypothesis 1a: Transformational leadership will be positively related to social support. High transformational leadership will relate to higher reports of social support.

Hypothesis 1b: Transactional leadership will be negatively related to social support. High transactional leadership will relate to lower reports of social support.

Hypothesis 1c: Transformational leadership will moderate the relationship between Automation threat and social support, such that the relationship between social support and automation threat will be weaker when a manager is low in transactional leadership and stronger when a manager is high on transformational leadership see Figure 1.

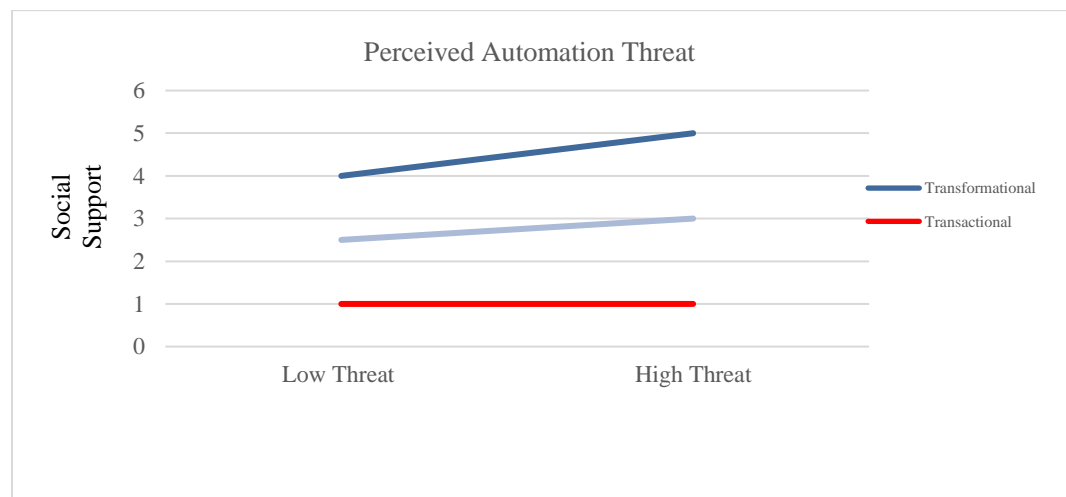


Figure 1. Hypothesized Perceptions of Social Support with High Levels of Transformational Leadership and Low Levels of Transactional Leadership.

Hypothesis 2a: Transformational leadership will be positively related to instrumental support. High transformational leadership will relate to higher reports of instrumental support.

Hypothesis 2b: Transactional leadership will be positively related to instrumental support. High transactional leadership will relate to lower reports of instrumental support.

Hypothesis 2c: Transformational leadership will moderate the relationship between automation threat and instrumental support, such that the relationship between instrumental support and automation threat will be weaker when a manager is low in transactional leadership and stronger when a manager is high on transformational leadership see Figure 2.

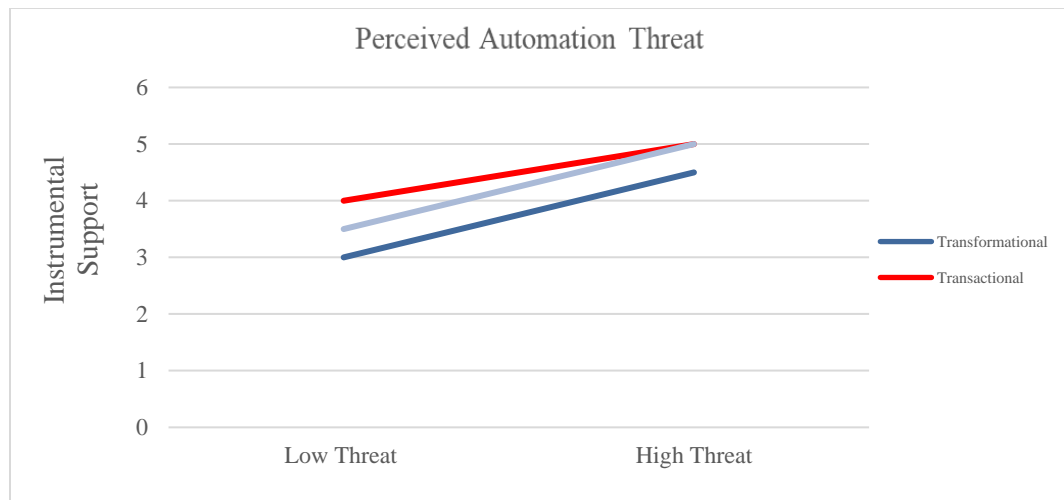


Figure 2. Hypothesized Perceptions of Instrumental Support with High Levels of Transformational Leadership and Low Levels of Transactional Leadership.

Hypothesis 3a: Transformational leadership will be positively related to organizational support. High transformational leadership will relate to higher reports of organizational support.

Hypothesis 3b: Transactional leadership will be positively related to organizational support. High transactional leadership will relate to higher reports of organizational support.

Hypothesis 3c: Transformational leadership will moderate the relationship between automation threat and organizational support such that the relationship will be stronger when transformational leadership is present see Figure 3.

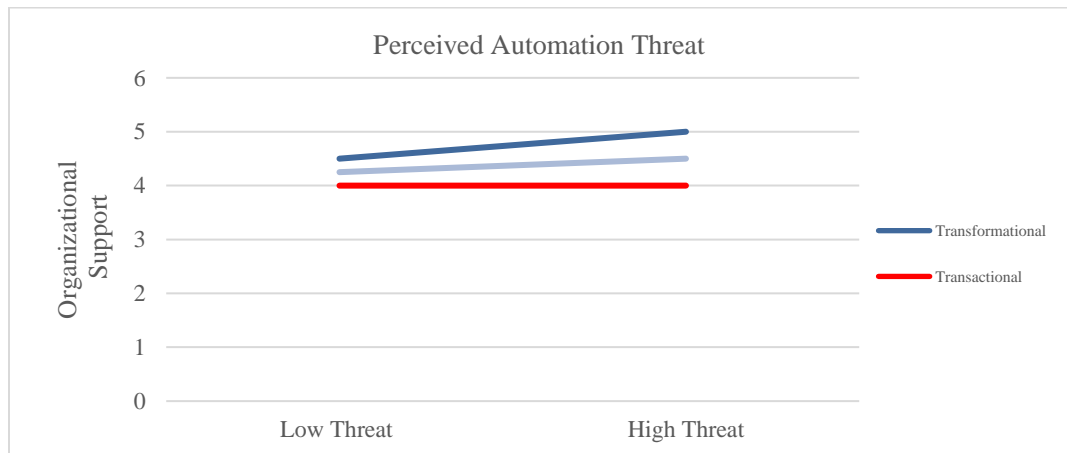


Figure 3. Hypothesized Perceptions of Organizational Support with High Levels of Transformational Leadership and Low Levels of Transactional Leadership.

Self- Efficacy

Leaders typically make the most impact on employees' self-efficacy via mastery experience, the potential for vicarious experience, and verbal persuasion (Schyns, 2004). When a leader provides different types of support, they are likely impacting an employee's self-efficacy. Bandura defines self-efficacy as an individual's perception of how well they think they can perform tasks within a specific situation (1997). Self-efficacy is comprised of three dimensions that include magnitude, strength, and generality. Magnitude refers to the level of task difficulty, strength refers to whether the magnitude is strong or weak, and generality refers to whether the expectation is generalized across situations (Bandura, 1977). Depending on how individuals perceive their ability, this dictates how people think, feel, and behave. Self-efficacy has been widely studied because of its strong relationship to work performance (Stajkovic & Luthans, 1998). Additionally, Stajkovic and Luthans, strongly suggest that various situational factors in an organization likely weaken the relationship between self-efficacy and performance (1998). When ambiguity or perceived loss of control coexists, self-efficacy may be impacted. For individuals with moderate to high self-efficacy, coping in response to challenges is characterized by persistence and engagement in tasks (Gist, 1987). This leads to a pattern of behaviors that lead to exposure to challenges and subsequently enhanced self-efficacy. For individuals with low levels of self-efficacy, they have a limited coping response, which leads to decreased performance (Gist, 1987). Also, important to note is

that resistance to change is often associated with low efficacy beliefs and fear of failure (Gist, 1987). Undoubtedly, self-efficacy during organizational change is an essential factor to consider. In the context of organizational change, an informed employee will anticipate some of the changes and how it may impact them.

Additionally, leadership styles influence self-efficacy in a variety of ways. A transactional leader may provide clear and detailed expectations for a task. Through challenging tasks, individuals can experience and overcome the difficulty, leading to increased mastery and self-efficacy. The path-goal theory framework is useful in understanding how leaders can provide impactful mastery experiences. The path-goal theory refers to the relationship between formal managers or supervisors and their subordinates and how supervisors can affect an employee's motivation and satisfaction (House, 1996). Since path-goal theory involves task and person-oriented supervisory behaviors, leader behaviors can directly relate to employee increased effort due to previous mastery experiences. Through vicarious experience, supervisors can set a precedent for potential task fulfillment, which is especially important when there is a strong leader-employee relationship (Schyns, 2004). Verbal persuasion can be achieved through supervisory encouragement during challenging tasks. Supportive leaders play an important role in employees' self-efficacy through all stages of change (Schyns, 2004).

Hypothesis 4a: Social support will positively predict occupational self-efficacy. Higher social support will relate to higher occupational self-efficacy. We make this prediction because of the idea that automation threat is perceived as a stressor, and social support may be offered in the face of a stressor.

Hypothesis 4b: Social support will mediate the relationship between automation threat perceptions and occupational self-efficacy.

Hypothesis 4c: Instrumental support will positively predict occupational self-efficacy. Higher instrumental support will relate to higher occupational self-efficacy.

Hypothesis 4d: Instrumental support will mediate the relationship between automation threat perceptions and occupational self-efficacy.

Hypothesis 4e: Organizational support will positively predict occupational self-efficacy. Higher organizational support will relate to higher occupational self-efficacy.

Hypothesis 4f: Organizational support will mediate the relationship between automation threat perceptions and occupational self-efficacy.

Means Efficacy

In the context of organizational efficacy, self-efficacy coexists with means efficacy. Means efficacy or external efficacy is defined as an individual's belief in the utility of the means available for executing a job (Eden, 2001). The availability and quality of external means can either help or hinder an individual's efficiency and effectiveness (Eden, 2001). Means efficacy is an individual's belief

concerning the efficacy of the means available to perform successfully (Walumbwa et al., 2008). Walumbwa, Avolio, and Zhu suggest that means efficacy allows for self-regulation of behavior regarding themselves and the sufficiency of resources to complete their work (2008). In their study on transformational leadership and job performance with means efficacy as a moderator, individuals who reported higher levels of means efficacy positively reacted with identification with their work unit versus those whose means efficacy levels were lower (Walumbwa et al., 2008). This demonstrates the importance of means efficacy because the higher the level of means efficacy and identity with the work unit, the more motivated an individual is to perform.

*Hypothesis 5a: Social support will positively predict organizational means-
efficacy. Higher social support will relate to higher organizational means-
efficacy.*

*Hypothesis 5b: Social support will mediate the relationship between
automation threat perceptions and organizational means-
efficacy.*

*Hypothesis 5c: Instrumental support will positively predict organizational
means-
efficacy. Higher instrumental support will relate to higher organizational
means-
efficacy.*

*Hypothesis 5d: Instrumental support will mediate the relationship between
automation threat perceptions and organizational means-
efficacy.*

Hypothesis 5e: Organizational support will positively predict organizational means-efficacy. Higher organizational support will relate to higher organizational means-efficacy.

Hypothesis 5f: Organizational support will mediate the relationship between automation threat perceptions and organizational means-efficacy.

Employability

Employability is the capacity to gain and retain employment or find new employment if warranted (Hillage & Pollard, 1998). Cuyper et al. investigated the relationship between employability and work engagement and life satisfaction and employability during high job insecurity and found that work engagement and life satisfaction were highly related to employability (2008). They agree that employability leads to undesirable experiences because beliefs about employment prospects can positively influence an employee's perception of their present job and future ability to gain employment (Cuyper et al., 2008). During a time of job insecurity, perceptions of employability can help or hinder the situation. For example, regarding employee well-being, employability perceptions can translate into a secure job (Cuyper et al., 2008). Employability was also examined in organizational change and utilizing Lazarus and Folkman's (1984) appraisal theory of stress (Wittekind et al., 2009). If an employee trusts their current employability view, they will perceive less threat and in turn, experience less stress (Wittekind et al., 2009). Wittekind et al. found support that current job

skills, education level, development of competencies, and willingness to switch employment all influence employee's employability perceptions (Wittekind et al., 2009).

Hypothesis 6a: Social support will positively predict perceived employability. Higher social support will relate to higher employability.

Hypothesis 6b: Social support will mediate the relationship between automation threat perceptions and perceived employability.

Hypothesis 6c: Instrumental support will positively predict perceived employability. Higher instrumental support will relate to higher employability.

Hypothesis 6d: Instrumental support will mediate the relationship between automation threat perceptions and perceived employability.

Hypothesis 6e: Organizational support will positively predict perceived employability. Higher organizational support will relate to higher employability.

Hypothesis 6f: Organizational support will mediate the relationship between automation threat perceptions and perceived employability.

Hypothesis 7: Automation threat will negatively predict all outcomes: self-efficacy, means efficacy, and employability.

Automation threat is predicted to negatively impact self-efficacy because during a time of ambiguity, self-efficacy has been shown to be negatively impacted. Automation threat is predicted to negatively influence means-efficacy because an individual's belief in the utility of the means available for executing a job may be limited during the introduction of automation. Automation threat is

predicted to negatively impact employability because beliefs about employment prospects can positively influence an employee's perception of their present job, perceptions of a present job will be influenced if automation is perceived as a threat.

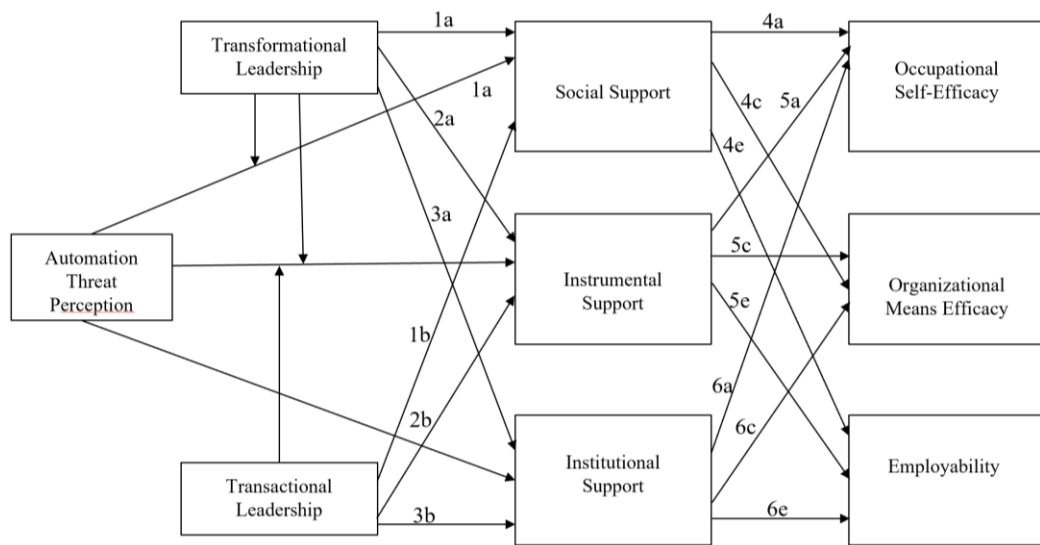


Figure 4. Hypothesized Analytical Model.

CHAPTER TWO

METHOD

Participants

Participants were recruited via snowball sampling and Amazon's Mechanical Turk (MTurk) survey system. The 243 participants who took the survey on MTurk were compensated monetarily. The survey was open to adults who were employed when they took the survey. A total of 358 participants responded to the survey. Survey participants that did not pass at least two of three of the attention checks were removed ($N=89$), leaving a sample of ($N=269$).

The frequencies for demographic variables are listed in Table 1 see Appendix I. Participants' ages ranged from 18-75 years old ($M = 35.1$). Out of the 269 participants, 165 were female, 102 male, 1 non-binary. The racial and ethnic background for participants were as follows: White/Caucasian (71.7%), Asian (11.9%), Hispanic/Latinx(11.5%), Black/African American (6.3%), Native American/American Indian (1.9%), and Middle Eastern American (1.1%). Most participants were employed full time (76.2%), and the majority considered themselves white-collar workers (62.1%).

Measures

Stress Appraisal Measure (SAM)

To study stress appraisals, Peacock and Wong (1989) developed the Stress Appraisal Measure. This measure was created to capture both primary and secondary appraisals. The measure is comprised of six appraisal dimensions, which include: threat, challenge, centrality, controllable-by-self, controllable-by-others, and controllable-by-anyone (Peacock & Wong, 1989). The measure consists of 28 items. Responses range on a 5-point scale from 1 (not at all) to 5 (extremely). For this study, all items were used as they were initially developed, but all items were introduced with the following “Thinking about your understanding of automation,” and followed with the item. The internal consistency alphas ranged from 0.74 to 0.90 for all of the six appraisal dimensions. The alpha reliability coefficient for this study was .95. For a complete list of items, see Appendix D.

Leader Behavior Questionnaire

To compare vertical and shared leadership, Pearce Sims (2002) developed a leader behavior questionnaire. The questionnaire was initially developed using previous work by Cox (1994) and Cox and Sims (1996). The leader behavior questionnaire was designed to measure transformational, directive, transactional, aversive, and empowering leadership. For this study, only the items pertaining to transformational and transactional leadership were utilized. The transformational subscale consists of 15 items, with an alpha = .81.

The transactional subscale consists of 7 items, with an alpha = .87. Responses range on a 5-point scale from 1 (definitely not true) to 5 (definitely true). The alpha reliability coefficient for the transformational leadership subscale for this study was .84. The alpha reliability coefficient for the transactional leadership subscale for this study was .93. For a complete list of items, see Appendix E.

Support Appraisal for Work Stressors Inventory (SAWS)

Lawrence, Gardner, and Callan (2007) developed the Support Appraisal for Work Stressors inventory (SAWS). This multidimensional measure was developed to study the role of perceived available support as a buffer against workplace stressors. Four types of support were included in the original measure, which includes, emotional/social support, instrumental support, and appraisal support. For this study, only emotional/social support and instrumental support subscales were utilized. Both the emotional support and instrumental support sub-scales consist of three items each. The emotional support alpha = .87 and the instrumental support alpha = .88. Responses range on a 5-point scale from 1 (never) to 5 (always). The alpha reliability coefficient for the social support subscale for this study was .90. The alpha reliability coefficient for the instrumental support subscale for this study was .91. For a complete list of items, see Appendix D.

Perceived Organizational Support (POS)

Perceived organizational support refers to employee beliefs relating to the value given to them by their organization. Perceived organizational support also

includes the assurance that there is support from the organization if needed (Rhoades & Eisenberger, 2002). Eisenberger, Huntington, Hutchison, and Sowa (1986) developed a 36-item measure. Since this measure has continuously demonstrated high internal reliability, eight items that load highly out of the original 36 items for the POS will be used, $\alpha = .97$. Responses range on a 7-point scale from 1 (strongly disagree) to 7 (strongly agree). The alpha reliability coefficient for this study was .88. For a complete list of items, see Appendix G.

Occupational Self-Efficacy Scale

Since Bandura first introduced the concept of self-efficacy, a variety of measures have been developed. To capture self-efficacy in the work domain, researchers Schyns and von Collani (2002) developed the Occupational Self-Efficacy Scale. The original instrument consisted of 20 items; a short form of the scale was subsequently introduced by Rigotti, Schyns, and Mohr (2008). The short form consists of 6 items with $\alpha = .85$. Responses range on a 5-point scale from 1 (not at all true) to 5 (completely true). The alpha reliability coefficient for this study was .84. For a complete list of items, see Appendix A.

Measurement Scale for General Organizational Means-efficacy (GMES)

To further analyze motivational theory related outcomes, a means efficacy measure will be utilized. Agars and Kottke (2020) developed the Measurement Scale for General Organizational Means-efficacy (GMES) to capture one's perception of available organizational resources. The measure consists of 19 items, $\alpha = .90$. Responses range on a 6-point scale from 1 (strongly agree) to

5 (strongly disagree). The alpha reliability coefficient for this study was .89. For a complete list of items, see Appendix B.

Self-Perceived Employability

Perceived employability was assessed using the Self-Perceived Employability Scale developed by Rothwell and Arnold (2007). The scale consists of 11 items, $\alpha = .83$. Responses range on a 5-point scale from 1 (strongly disagree) to 5 (strongly agree). The alpha reliability coefficient for this study was .90. For a complete list of items, see Appendix C.

Procedure

Using a Qualtrics survey, convenience and snowball sampling were used to target an adult working sample. Screening methods were utilized on Qualtrics to ensure that the participants were at least 18 years old and employed. Since the survey was administered via Qualtrics, only participants with access to a computer or mobile device with internet took the survey. The MTurk sample was given an hour to complete the survey. Upon receiving their completed response, participants were rejected or approved for compensation for participating.

Upon initiating the survey, participants were presented with an informed consent form. After they accepted the informed consent and met the age and job status criteria, they began the study questionnaire. Each section of the questionnaire began with instructions. The variable scales were presented in the following order: occupational self-efficacy, organizational means efficacy, self-perceived employability, stress appraisal measure, leader behavior questionnaire

(transformation and transactional), support appraisal for work stress inventory (social support and instrumental support), and perceived organizational support. Following all of the scale items, demographics were presented. Upon completion of the survey, participants were presented with a debriefing statement. The entire survey was expected to take 15 minutes to complete.

CHAPTER THREE

RESULTS

Data Screening

The initial data set ($N=358$) was retrieved from Qualtrics. Survey participants that did not pass at least two of three of the attention checks were removed ($N=89$), leaving a sample of ($N=269$). IBM's SPSS version 26 was used to compute descriptive statistics of all variables (see Table 2 in Appendix J). The following were tested: univariate and multivariate outliers, skewness and kurtosis, and normality. A missing data analysis was also conducted. Subsequently, the hypothesized model was tested through LISREL 9.1 (Jöreskog and Sörbom, 2012) with all variables as z-score standardized measures.

Outliers

Univariate outliers were tested using the standard of $z > \pm 3.33$ ($p < .001$). Three potential univariate outliers for employability were detected in the dataset. The cases were not excluded as their scores were not deemed to be true outliers, raw score 1.00 ($z=-3.83$), raw score 1.00 ($z=-3.70$), and raw score 1.00 ($z=-3.57$).

Using Mahalanobis criteria $\chi^2(8) = 26.125$ ($p < .001$) multivariate outliers were tested. Three potential multivariate outliers were detected with a Mahalanobis distance score of 36.31, 37.26, and 37.62. There was not a

significant gap in the Mahalanobis distance scores. The three cases were retained and not regarded as true multivariate outliers. Normality of the distribution for all variables was examined using the standard of $z > \pm 3.33$ ($p < .001$). Of the nine variables in the study, skewness was present in five variables, kurtosis was present in three variables. Transformations were not deemed necessary. Instead, variables were centered using z-scores in LISREL.

Model Estimation and Evaluation

LISREL 9.1 (Jöreskog & Sörbom, 2012) was utilized to test the hypothesized model via maximum likelihood estimation procedures. Zero-order and partial correlations for all nine study variables were computed. Correlations for all variables are listed in Table 3 (see Appendix K). The resulting correlation matrix was utilized for syntax in LISREL. Using the average number of responses, pairwise deletion was used for the analyses. The total number of observations was $N=316$.

The hypothesized model demonstrated perfect fit, with a non-significant chi-square $\chi^2(8) = 0$ ($p = 1.00$). Figure 5 depicts the analyzed model with beta coefficients that represent direct effects. Standardized direct, indirect, and total effects are listed in Table 4 (see Appendix L). Some of the coefficients in this model were greater than 1.00, which is possible in any LISREL model (Joreskog, 1999).

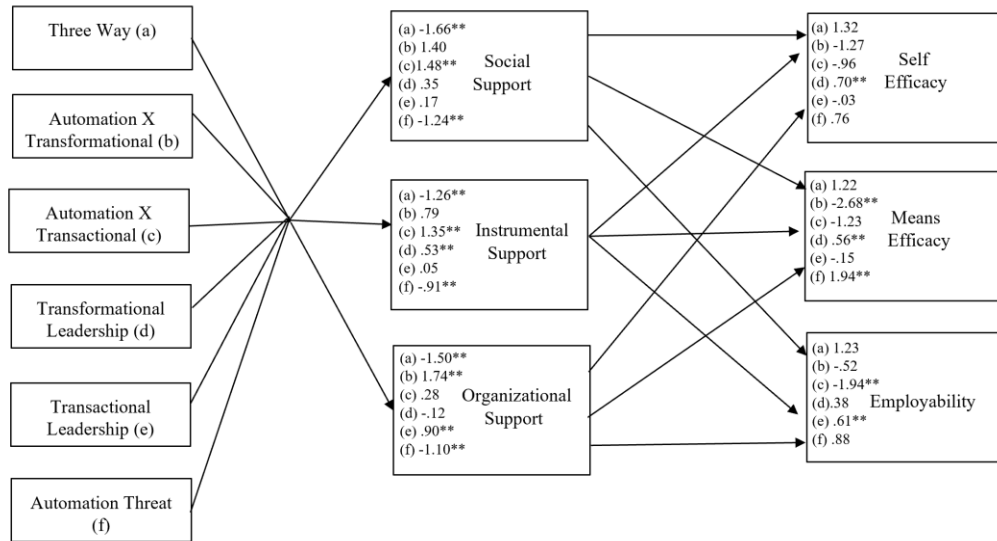


Figure 5. Computational Model with Coefficients. All coefficients represent direct effects (β).

Automation Threat, Transformational Leadership, Transactional Leadership, and Social Support

Automation threat negatively predicted social support ($\beta = -1.24, p < .001$).

It was hypothesized that transformational leadership would positively predict social support (Hypothesis 1a), and transactional leadership would negatively predict social support (Hypothesis 1b). Hypothesis 1a and Hypothesis 1b were not supported, transformational leadership did not predict social support ($\beta = .35, p > .05$) and transactional leadership did not predict social support ($\beta = .17, p > .05$).

It was hypothesized that there would be an interaction of automation threat and leadership, (1) greater automation threat and higher transformational leadership would predict higher social support and that (2) lower transactional leadership would predict lower social support. The main effect of automation threat and transformational leadership was not significant. However, there was a significant interaction between automation threat and transactional leadership ($\beta = 1.48, p < .001$). High levels of automation threat and lower transactional leadership behaviors predicted higher levels of social support. Higher automation threat perceptions and higher transformational leadership behaviors predicted lower levels of social support (see Figure 7). Therefore, Hypothesis 1c was not supported.

In addition, there was a significant three-way interaction between automation threat, transformational leadership, and transactional leadership on social support ($\beta = -1.66, p < .001$). This finding shows that during a time of high

automation threat, moderate levels of social support will most likely come from a leader who is either low on transactional leadership and high on transformational leadership or high on transactional and low on transformational leadership (see Figure 8).

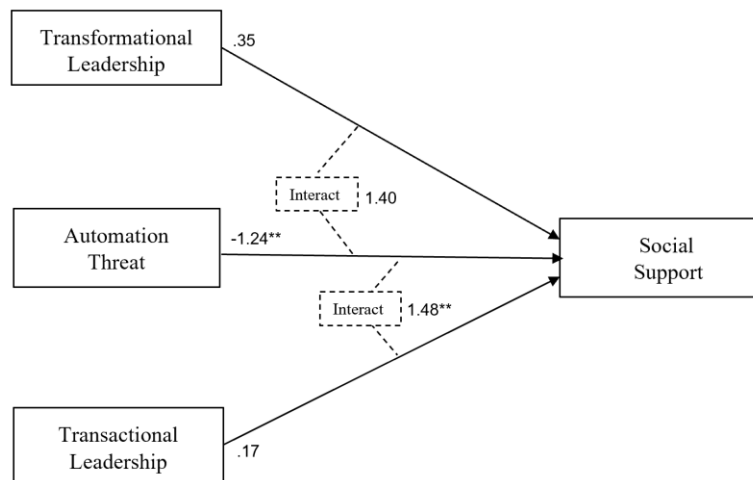


Figure 6. The Effects of Automation Threat, Transformational Leadership, and Transactional Leadership on Social Support. All coefficients represent standardized regression estimates (β).

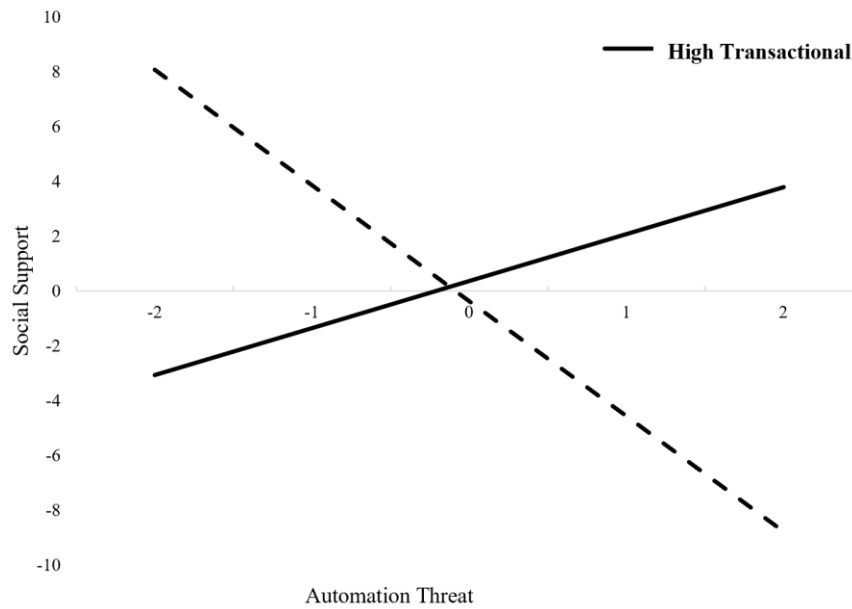


Figure 7. The Interaction Effect between Automation Threat and Transactional Leadership on Social Support. Values are z-scores.

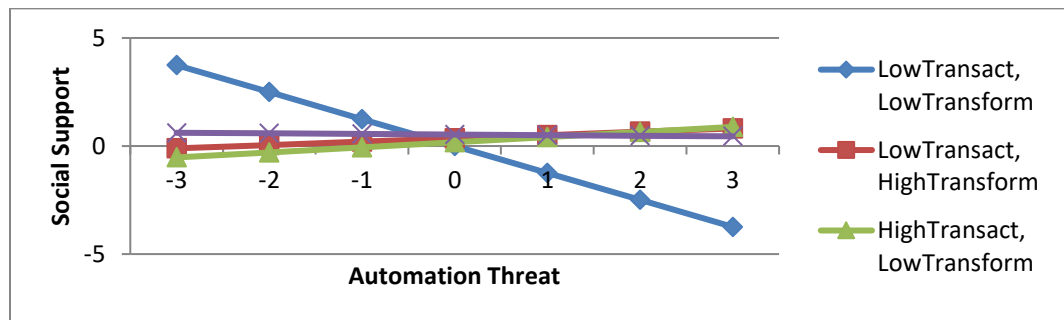


Figure 8. The Three-Way Interaction Effect between Automation Threat, Transformational Leadership, and Transactional Leadership on Social Support. Values are z-scores.

Automation Threat, Transformational Leadership, Transactional Leadership, and Instrumental Support

Automation threat negatively predicted instrumental support ($\beta = -.91$, $p < .001$). It was hypothesized that transformational leadership would positively predict instrumental support (Hypothesis 2a), and transactional leadership would positively predict instrumental support (Hypothesis 2b). Hypothesis 2a was supported, as transformational leadership predicted instrumental support ($\beta = .53$, $p < .001$). Hypothesis 2b was not supported, as transactional leadership did not predict instrumental support ($\beta = .05$, $p > .05$).

It was hypothesized that there would be an interaction of automation threat and leadership, (1) greater automation threat and lower transformational leadership would predict lower instrumental support, and that (2) higher transactional leadership would predict higher instrumental support. The effect between automation threat and transformational leadership was not significant. However, there was a significant interaction effect for automation threat and transactional leadership ($\beta = 1.35$, $p < .001$). High levels of automation threat and lower transactional leadership behaviors predicted lower levels of instrumental support. Higher automation threat perceptions and higher transformational leadership behaviors predicted higher levels of instrumental support (see Figure 10). Therefore, Hypothesis 2c was partially supported.

Also, there was a significant three-way interaction between automation threat, transformational leadership, and transactional leadership on instrumental support ($\beta = -1.26$, $p < .001$). This finding further demonstrates that during a time

of high automation threat perceptions, the highest instrumental support will come from a leader who is high on transactional leadership traits and low on transformational leadership (see Figure 11).

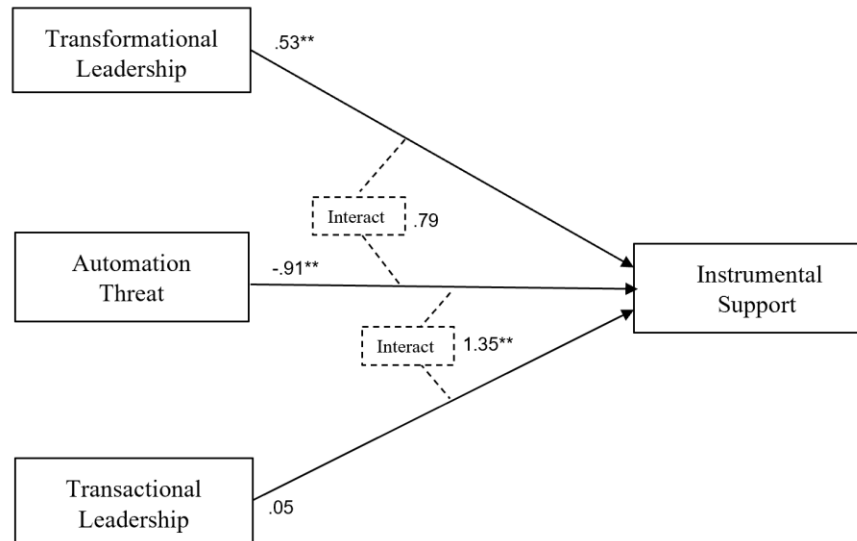


Figure 9. The Effects of Automation Threat, Transformational Leadership, and Transactional Leadership on Instrumental Support. All coefficients represent standardized regression estimates (β).

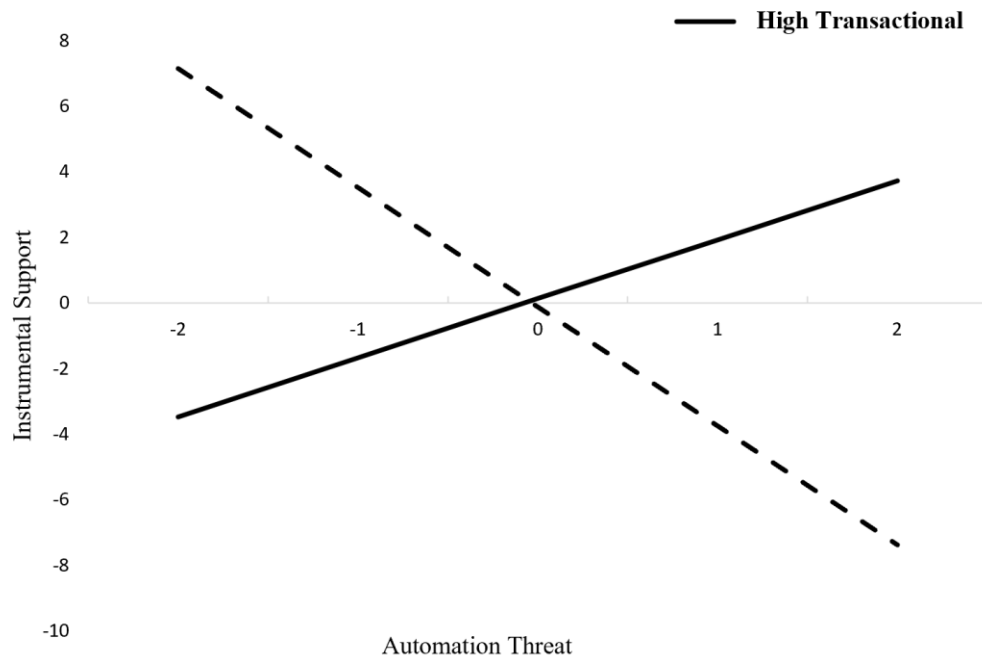


Figure 10. The Interaction Effect between Automation Threat and Transactional Leadership on Instrumental Support. Values are z-scores.

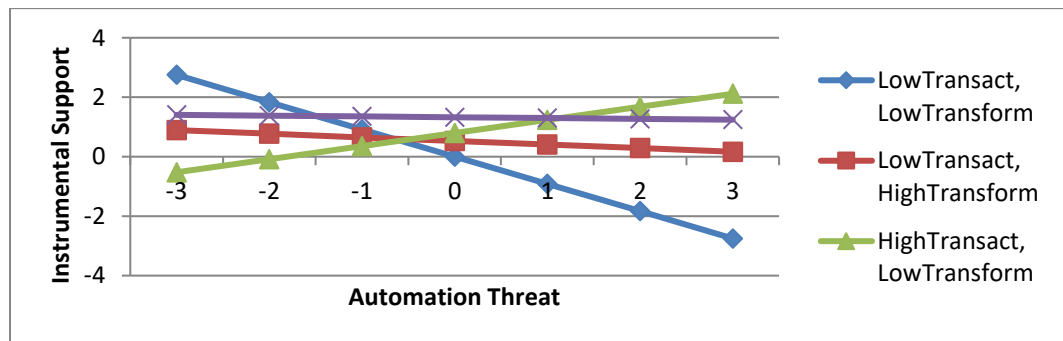


Figure 11. The Three-Way Interaction Effect between Automation Threat, Transformational Leadership, and Transactional Leadership on Instrumental Support. Values are z-scores.

Automation Threat, Transformational Leadership, Transactional Leadership and Organizational Support

Automation threat negatively predicted organizational support ($\beta = -1.10$, $p < .001$). It was hypothesized that transformational leadership would positively predict organizational support (Hypothesis 3a), and transactional leadership would negatively predict organizational support (Hypothesis 3b). Hypothesis 3a was not supported, as transformational leadership did not predict organizational support ($\beta = -.12$, $p > .05$). Hypothesis 3b was not supported, as transformational leadership positively predicted organizational support ($\beta = .90$, $p < .001$).

It was hypothesized that there would be an interaction of automation threat and leadership, (1) greater automation threat and higher transformational leadership would predict higher organizational support and that (2) lower transactional leadership would predict lower organizational support. The effect between automation threat and transactional leadership was not supported. However, there was a significant interaction effect for automation threat and transformational leadership ($\beta = 1.74$, $p < .001$). High levels of automation threat and lower transformational leadership behaviors predicted higher levels of organizational support. Higher automation threat perceptions and higher transformational leadership behaviors predicted higher levels of organizational support (see Figure 13). Therefore, Hypothesis 3c was partially supported.

In addition, there was a significant three-way interaction between automation threat, transformational leadership, and transactional leadership on instrumental support ($\beta = -1.50$, $p < .001$). This finding further suggests that during

high automation threat stress, the highest organizational support will come from a leader who is high on transformational leadership and low on transactional leadership (see Figure 14).

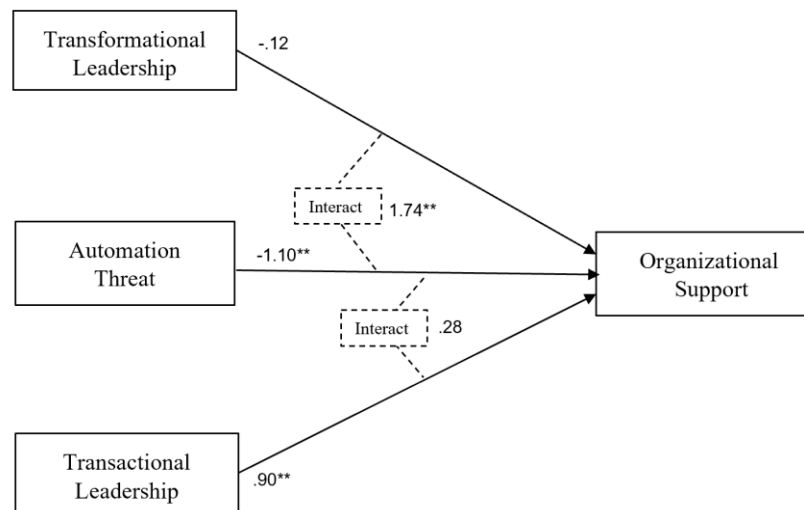


Figure 12. The Effects of Automation Threat, Transformational Leadership, and Transactional Leadership on Instrumental Support. All coefficients represent standardized regression estimates (β).

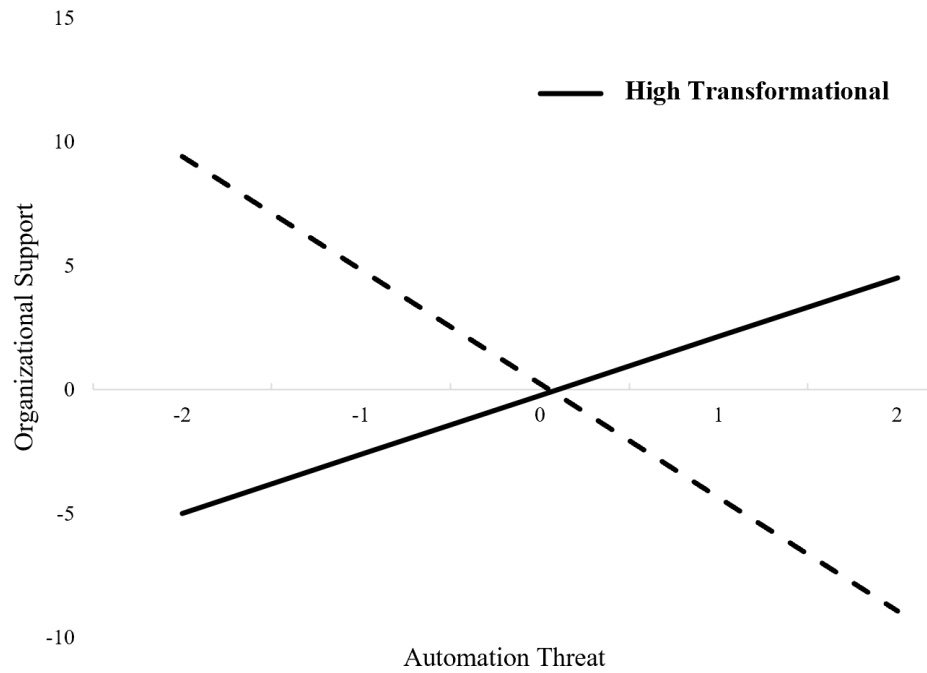


Figure 13. The Effect of Automation Threat, Transformational Leadership on Organizational Support. Values are z-scores.

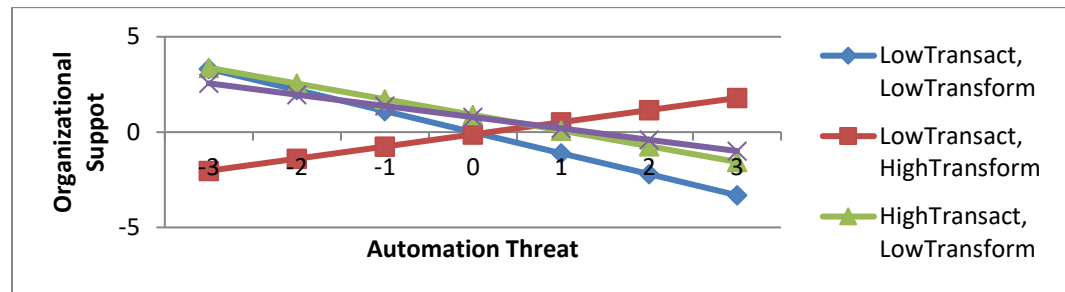


Figure 14. The Three-Way Interaction Effect between Automation Threat, Transformational Leadership, and Transactional Leadership on Organizational Support. Values are z-scores.

Self-Efficacy

Automation threat did not significantly predict self-efficacy ($\beta = .76, p > .05$). Transformational leadership predicted self-efficacy ($\beta = .70, p < .001$). Lastly, transactional leadership did not significantly predict self-efficacy ($\beta = -.31, p > .05$).

Social support, instrumental support, and organizational support were all hypothesized to positively predict occupational self-efficacy (Hypothesis 4a, 4c, 4e). Hypothesis 4a was supported, social support positively predicted self-efficacy ($\beta = .27, p < .001$). However, hypothesis 4c ($\beta = -.01, p > .05$), and hypothesis 4e ($\beta = .05, p > .05$) were not supported (see Figure 15).

Social support, instrumental support, and organizational support were hypothesized to mediate the relationship between Automation threat perceptions and occupational self-efficacy (Hypothesis 4b, 4d, 4f). Social support, instrumental support, and organizational support mediated the relationship between automation threat perceptions and occupational self-efficacy ($\beta = -.38, p < .001$).

In addition, there was a significant three-way interaction between automation threat, transformational leadership, and transactional leadership on instrumental support with social support, instrumental support, and organizational support as mediators ($\beta = -.51, p < .001$).

Means Efficacy

Automation threat significantly predicted means-efficacy ($\beta = 1.94, p > .05$). The only employee level outcome that automation threat predicted was means

efficacy, therefore hypothesis 7 was partially supported. Transformational leadership significantly predicted means-efficacy ($\beta = .56, p < .001$). Lastly, transactional leadership did not significantly predict means-efficacy ($\beta = -.15, p > .05$).

Also depicted in Figure 15 are the effects between social support, instrumental support, and organizational support, and means-efficacy. Social support, instrumental support, and organizational support were all hypothesized to positively predict occupational means-efficacy (Hypothesis 5a, 5c, 5e). Hypothesis 5a and 5c were not supported, as instrumental support did not predict means efficacy ($\beta = -.10, p > .05$) and instrumental support did not predict means efficacy ($\beta = -.01, p > .05$). Hypothesis 5e was supported, organizational support positively predicted means efficacy ($\beta = -.19, p < .001$).

Social support, instrumental support, and organizational support were predicted to mediate the relationship between Automation threat perceptions and organizational means-efficacy (Hypothesis 5b, 5d, 5f). Social support, instrumental support, and organizational support mediated the relationship between automation threat perceptions and organizational means-efficacy ($\beta = .35, p < .001$).

Employability

Automation threat did not significantly predict employability ($\beta = .88, p > .05$). Transformational leadership did not significantly predict employability (β

= .38, $p < .001$). Lastly, transactional leadership significantly predicted employability ($\beta = .61$, $p < .001$).

Lastly, Figure 15 demonstrates the effects between social support, instrumental support, and organizational support, and employability. Social support, instrumental support, and organizational support were hypothesized to positively predict employability (Hypothesis 6a, 6c, 6e). Hypothesis 6a and 6c were not supported, instrumental support did not predict employability ($\beta = -.00$, $p > .05$) and instrumental support did not predict employability ($\beta = -.00$, $p > .05$). Hypothesis 6e was supported, organizational support positively predicted employability ($\beta = .13$, $p < .001$).

Social support, instrumental support, and organizational support were expected to mediate the relationship between automation threat perceptions and perceived employability (Hypothesis 6b, 6d, 6f). Social support, instrumental support, and organizational support partially mediated the relationship between automation threat perceptions and perceived employability ($\beta = .35$, $p < .001$). In addition, social support, instrumental support, and organizational support significantly mediated the relationship between transactional leadership and perceived employability ($\beta = -.19$, $p < .001$). Social support, instrumental support, and organizational support mediated the relationship between the interaction of automation threat perceptions and transformational leadership on perceived employability ($\beta = -.49$, $p < .001$). Social support, instrumental support, and organizational support mediated the relationship between the three-way

interaction of automation threat perceptions, transformational leadership, and transactional leadership on perceived employability ($\beta = .48$ $p < .001$).

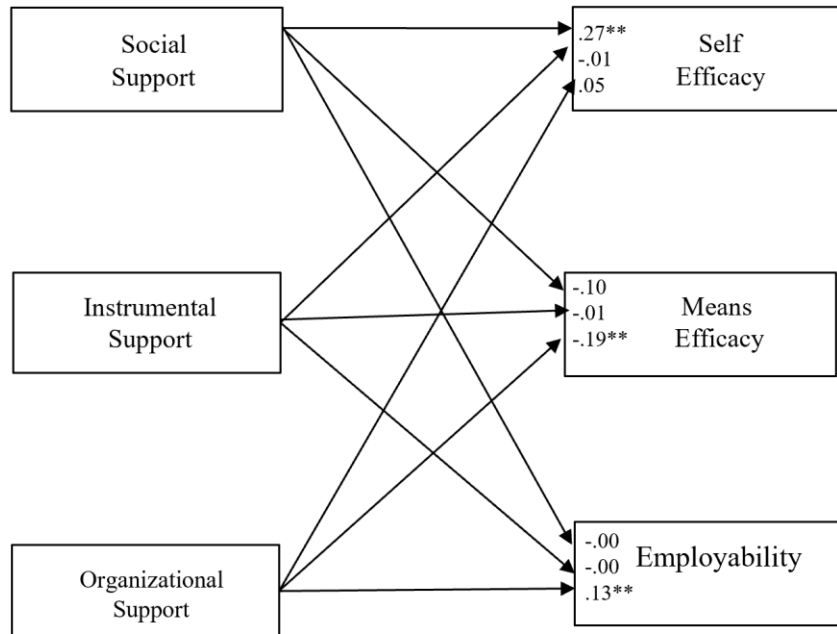


Figure 15. The Effects of Social Support, Instrumental Support, and Organizational Support on Employee Outcomes. All coefficients represent direct effects (β).

CHAPTER FOUR

DISCUSSION

General Discussion

The purpose of this study was to examine a model of automation threat that predicted self-efficacy, means efficacy, and employability through transformational and transactional leadership and different sources of support in a sample of people who are currently employed. Results suggested that different leadership styles related to different displays of support in the face of automation threats when used as mediators.

Research on factors that can mitigate the effects of automation threat to employees are minimal, and instead are focused on organizational outcomes such as trust or performance (Brunner, 1992; Parasuraman & Riley, 1997; Seaberg et al., 1999; Zetka, 1991; Onnasch et al., 2014; Sanchez et al., 2014). The process of introducing automated systems or technological change has far more consequences to employee-related outcomes than what has been studied thus far. For employees who are confronted with automation change, threat appraisals mean a challenging mental evaluation of potential harm or loss in the process (Peacock & Wong, 1990). As such, factors such as different leadership styles and support from said leaders are essential factors to study to be used proactively through automation change processes.

Transactional and transformational leadership were included in this study, as they are relationship-oriented leadership styles. Through meaningful interactions, a leader can be a strong motivational force for subordinates to achieve overarching goals, whether for an organization or a group. Although findings in this study were not consistent with general leader behaviors that are typical of transformation and transactional leaders, they were significant, nonetheless. Transactional leadership is transactional in nature where subordinates are tasked with responsibilities and are rewarded for meeting goals and corrected on failed objectives when necessary (Eagly et al., 2003). Transformational leaders may seek changes in approaches to meet goals, engage in risk, and prefer effectiveness over efficiency (Lowe et al., 1996). Additionally, transformational leaders are likely to foster relationships with subordinates through various forms of support, in which they help frame opportunities and help them find meaning in what they do.

The combination of social, instrumental, and organizational support mediated the relationship between leadership styles and employee outcomes. As previously mentioned, social support, instrumental support, and organizational support mediated the relationship between automation threat and self-efficacy. The availability of support from a leader is important for employee's self-efficacy during times of high stress. Social support has demonstrated to increase self-efficacy through positive experiences (Kerksieck et al., 2019). Morelli, Lee, Arnn and Zaki (2015) found that the inclusion of social support and instrumental

support led to increases in overall well-being for individuals. Hannah et al. noted that for employees, their perceptions of the quality of their means are especially important when introducing new technology (2012). The provision of various types of support will enhance means efficacy perceptions and in turn, be beneficial during technological change. The three types of support partially mediated the relationship between automation threat and employability. Wittekind, Raeder and Grote found that during general organizational change, organizational support related to the development of skills led to positive perceptions of employability (2010). The ways in which support can buffer negative experiences during high stress can help employees cope with the stress in a beneficial manner.

The model demonstrated significant relationships of various leadership styles and support on automation threat perceptions. The findings in this study contribute to the automation literature by including how different leadership styles and different types of support can be used to mitigate the effects of automation threat on employees.

Theoretical Implications

This thesis contributes to the understanding of automation threat that impacts employees across various fields. Differences in leadership were key predictors of employee threat perceptions. Different support types were also linked to specific leadership styles that may be useful tools in times of high automation stress.

Transformational leadership is often regarded as the ideal type of leadership, especially in contrast to transactional leadership. Research has demonstrated the many benefits that transformational leaders bring to an organization, such as employees report higher satisfaction, receive higher ratings in performance evaluations and achieve greater performance (Den et al., 1997; Yammarino and Bass, 1990). Both transformational and transactional leadership stem from path-goal theory. Path goal theory refers to the use of leadership to enhance employee's motivation to perform, job satisfaction, and leader acceptance (House & Mitchell, 1975). The vast amount of leadership typically supports that adopting a specific leadership style is not the answer, but instead a basis for understanding the need for flexibility and the importance of a meaningful relationship between a leader and follower. This study suggests that the presence of either a transformational or transactional leader can be beneficial in times of high automation threat. Findings suggested that higher social support can be expected from a transactional leader who is typically less employee focused. An exemplary transactional leader is not expected to provide social support daily, but certainly can recognize its importance and necessity in a time of high stress.

Regarding instrumental support, higher transactional leadership behaviors predicted higher levels of instrumental support. This was expected because instrumental support relates to technical developments that lead to task completion. Findings suggested that transformational leadership positively

predicted organizational support. Perceived organizational support allows employees to feel valued and may be reciprocated with felt obligation from the employee's part (Rhoades & Eisenberger, 2002).

Findings demonstrated that automation threat did not directly influence outcomes such as employee's self-efficacy and employability perceptions. Different outcomes may be more important for individuals at different stages of a technological change process. Support has been found in individual differences impacting both the perception of the change event (stressor) and in the causal relationship between perceived change events and stress level (Vakola & Nikolaou, 2005). Automation threat had an impact on employee's means efficacy. This is an important outcome to consider since it may be related to other important outcomes, such as job attitudes and turnover intentions (Agars & Kottke, 2020).

Practical Implications

This study highlights the importance of the employee and their unique experiences with automation in organizations. It demonstrates that organizational leaders can influence the stress that results from the introduction of automation by providing support through lower-level leaders such as supervisors or managers. The findings presented in this study are relevant to leaders who seek to create a supportive environment for their employees if automation is introduced to their organization. Leaders are often the face of the organization, and trust between employees and supervisors is fundamental in many employee-

related outcomes. As such, leaders have an ethical responsibility for the well-being of their employees because of the trust that exists. In the same respect, organizations are successful because of the collaborative effort of all the organizational members across all levels. If equal attention is given to employees and other facets of a technological change plan, then a typically stressful event can be buffered against using different types of support through leaders.

This project contributes to the importance of selecting flexible leaders for organizations. Adaptable leaders are often the most influential leaders (Barling et al., 1996). Organizations should continue to seek leaders who do not identify with a specific leadership style but instead, a leader that can shift among a variety of leadership styles or behaviors to adapt to a specific person or project.

Organizations should be prepared with a variety of resources, both tangible and not. Examples of non-tangible resources were examined in this project as the different forms of support, such as social support, instrumental support, and organizational support. These resources should be readily available for employees across all levels of an organization when technological change is implemented. Knowledge of these types of support should be presented along with other important aspects of the automation introduction plan to both supervisors and managers.

Different employees from various job levels can benefit from different types of support. For example, an employee who is going to be displaced may benefit from social support. Instrumental support may be useful in networking so

that an employee can seek other opportunities if their job is threatened. An employee whose job is threatened because it may be fully automated may benefit from organizational support in the form of training to gain new skills for a potential new role within the same organization.

Aside from supervisor training, employee trainings can be developed to help employees cope with the stressor. For this study, automation threat demonstrated to have an impact on employees' means efficacy. Means efficacy that is impacted by automation can be altered through training. A comprehensive training on how to utilize new technology or automated tools, can be the initial step in acceptance and establishment of trust with the automated system. In the event that a decrease in self-efficacy occurs due to automation, employers may conduct trainings to teach employees new skillsets. These skills can be utilized by an employee for the current job role or for a higher-level role in the same organization. The availability of trainings targeted to improve employee related outcomes have the potential to be a way to help employees through the process.

Limitations

A potential limitation of this study was that data were collected during the COVID-19 pandemic. During this time, Safer at Home orders were mandated across the nation. A large number of people shifted office work to telecommuting. Working from home disrupted the day to day interactions with coworkers and especially between managers and subordinates. It is also unknown how many of the participants had limited access to their immediate managers/ supervisors.

Unfortunately, the pandemic also resulted in job displacement, which may have led to the exclusion of participants from this study. This study was only open to people who were employed when they agreed to take the survey. The perspective and input from people displaced through automation or other reasons were not explored in this study.

Another limitation may be the use of convenience sampling via MTURK. The sample was predominately Caucasian (71%), which may limit the generalizability of the findings. Also, most of the sample consisted of white-collar workers (62%). Research on automation has shown to affect blue-collar workers with lower skill levels most often (Manning, 2004).

Future Research

Automated systems will continue to be an integral part of many organizations. This study focused on leaders and what they can provide during perceived automation threat. Individual differences among employees were not an initial focus of this study but should be further explored. Chien, Sycara and Kumru (2016) found that individuals with higher agreeableness and conscientiousness had a smoother experience with automation and higher trust with the system itself. Personality differences also exist in experiences of general stress, in which individuals who are higher on neuroticism experience higher stress when confronted with stress-inducing situations (Oswald et al., 2006).

Future research into the specific sectors or jobs most impacted by automation displacement may also be useful. Such data may lead to

disseminating information on specific jobs or careers that are likely to be automated and thus identified as fast-declining occupations and shared on national databases. This may help shape career choices for future generations who are preparing to enter the workforce.

Lastly, future research on different leadership styles may be necessary because of the different ways they relate to important organizational outcomes. For example, the leader-member exchange theory (LMX) was associated with greater self-efficacy and means efficacy (Walumbwa et al., 2011). More specifically, high-quality supervisor and employee relationships lead to higher performing teams. A different type of leadership style that may be important to consider is authentic leadership. Behaviors associated with authentic leadership such as transparency positively related to trust in the leader, which led to the experience of less negative emotions during organizational change for employees (Agote et al., 2016). The identification of various leadership styles or more specifically, leadership behaviors would be beneficial to examine. For example, training objectives may be developed to include various leadership styles that would be most beneficial for organizations who seek to introduce automated systems to their organizations. If training programs tailored to specific leadership styles are not feasible for training, then the most salient leadership behaviors from various leadership styles may be explored. In a way, the best behaviors from various leadership styles may better prepare leaders for a range

of circumstances, such as technological change, through the introduction of automated systems.

Conclusion

This study contributed to the research on the introduction of automation and how different support (social, instrumental, organizational) can mediate stress resulting from perceived automation threat. The importance of having a flexible leader, such as transformational or transactional, was a focal point in this study. In addition, this study included some important employee-related outcomes such as self-efficacy, means efficacy, and employability. Automation is rapidly introduced as time progresses, and the reaction and ways in which it is handled can have life-changing impacts on employees and managers or supervisors alike. It may not matter what leadership style managers or supervisors identify with. Still, it is undeniable that a leader who remains flexible and attuned to their employees by providing different kinds of support are needed through a stressful event, such as automation change.

APPENDIX A
OCCUPATIONAL SELF EFFICACY MEASURE

OCCUPATIONAL SELF EFFICACY

Please indicate whether you agree or disagree with the following statements about yourself and your work.

1. I can remain calm when facing difficulties in my job because I can rely on my abilities.
2. When I am confronted with a problem in my job, I can usually find several solutions.
3. Whatever comes my way in my job, I can usually handle it.
4. My past experiences in my job have prepared me well for my occupational future.
5. I meet the goals that I set for myself in my job.
6. I feel prepared for most of the demands in my job.

5-point scale:

1= Not at all true and 5= Completely true

Rigotti, T., Schyns, B., & Mohr, G. (2008). A short version of the occupational self-efficacy scale: Structural and construct validity across five countries. *Journal of Career Assessment*, 16(2), 238-255.

APPENDIX B

GENERAL ORGANIZATIONAL MEANS EFFICACY MEASURE

GENERAL ORGANIZATIONAL MEANS EFFICACY

The following are several statements about the resources available to employees to help them do their job. Please indicate the extent to which you agree or disagree with each statement as it describes your experiences in your organization.

1. In this organization, up-to-date computer equipment is a rare commodity.
2. Much of the computer software that I use in my job is out of date.
3. The tools and technology in this organization are state-of-the-art.
4. Work is often given to me with unreasonably quick deadlines.
5. My supervisor provides me with enough time to complete the tasks I am required to do.
6. I have adequate time to do my job.
7. Current information is often difficult to get at the time I need it to do my job.
8. I frequently find myself without the proper instructions or necessary direction I need to do my job.
9. Supervisors in this organization take the time to let employees know when they are doing a good job.
10. Information about how well I do my job is readily available.
11. I receive informational feedback about my performance.
12. This organization provides adequate training for its employees.
13. This organization has many training opportunities for its employees.
14. I can count on my team members to pull their weight whenever we are working on a team project.
15. My team pulls together.
16. I have confidence in my coworkers' abilities.
17. Managers are accessible when problems arise.
18. My supervisor has an open-door policy and sticks to it.
19. If employees need to report a problem, management is there to listen.

6-point scale:

1=Strongly Agree and 6=Strongly Disagree

Agars, M., & Kottke, J. (2020). Development of a theoretical framework and measurement scale for general organizational means efficacy. Unpublished Article. California State University, San Bernardino.

APPENDIX C
SELF-PERCEIVED EMPLOYABILITY MEASURE

SELF-PERCEIVED EMPLOYABILITY

Please indicate whether you agree or disagree with the following statements about you and your work.

1. Even if there was downsizing in this organization, I am confident that I would be retained.
2. My personal networks in this organization help me in my career.
3. I am aware of the opportunities arising in this organization even if they are different to what I do now.
4. The skills I have gained in my present job are transferable to other occupations outside this organization.
5. I could easily retrain to make myself more employable elsewhere.
6. I have a good knowledge of opportunities for me outside of this organization even if they are quite different to what I do now.
7. Among the people who do the same job as me, I am well respected in this organization.
8. If I needed to, I could easily get another job like mine in a similar organization.
9. I could easily get a similar job to mine in almost any organization.
10. Anyone with my level of skills and knowledge, and similar job and organizational experience, will be highly sought after by employers.
11. I could get any job, anywhere, so long as my skills and experience were reasonably relevant.

5-point scale:

1=Strongly Disagree and 5= Strongly Agree

Rothwell, A., & Arnold, J. (2007). Self-perceived employability: Development and validation of a scale. *Personnel review*.

APPENDIX D
STRESS APPRAISAL MEASURE

STRESS APPRAISAL MEASURE

Below is a list of statements concerned with your thoughts about various aspects in regard to your understanding of automation. Please respond according to how you view this situation right NOW.

1. Thinking about your understanding of automation, is this a totally hopeless situation?
2. Thinking about your understanding of automation, does this situation create tension in me?
3. Thinking about your understanding of automation, is the outcome of this situation uncontrollable by anyone?
4. Thinking about your understanding of automation, is there someone or some agency I can turn to for help if I need it?
5. Thinking about your understanding of automation, does this situation make me feel anxious?
6. Thinking about your understanding of automation, does this situation have important consequences for me?
7. Thinking about your understanding of automation, is this going to have a positive impact on me?
8. Thinking about your understanding of automation, how eager am I to tackle this problem?
9. Thinking about your understanding of automation, how much will I be affected by the outcome of this situation?
10. Thinking about your understanding of automation, to what extent can I become a stronger person because of this problem?
11. Thinking about your understanding of automation, will the outcome of this situation be negative?
12. Thinking about your understanding of automation, do I have the ability to do well in this situation?
13. Thinking about your understanding of automation, does this situation have serious implications for me?
14. Thinking about your understanding of automation, do I have what it takes to do well in this situation?
15. Thinking about your understanding of automation, is there help available to me for dealing with this problem?
16. Thinking about your understanding of automation, does this situation tax or exceed my coping resources?
17. Thinking about your understanding of automation, are there sufficient resources available to help me in dealing with this situation?
18. Thinking about your understanding of automation, is it beyond anyone's power to do anything about this situation?
19. Thinking about your understanding of automation, to what extent am I excited thinking about the outcome of this situation?

20. Thinking about your understanding of automation, how threatening is this situation?
21. Thinking about your understanding of automation, is the problem unresolvable by anyone?
22. Thinking about your understanding of automation, will I be able to overcome the problem?
23. Thinking about your understanding of automation, is there anyone who can help me to manage this problem?
24. Thinking about your understanding of automation, to what extent do I perceive this situation as stressful?
25. Thinking about your understanding of automation, do I have the skills necessary to achieve a successful outcome to this situation?
26. Thinking about your understanding of automation, to what extent does this event require coping efforts on my part?
27. Thinking about your understanding of automation, does this situation have long-term consequences for me?
28. Thinking about your understanding of automation, is this going to have a negative impact on me?

5-point scale:

1= Not at All and 5=Extremely

Peacock, E. J., & Wong, P. T. (1990). The stress appraisal measure (SAM): A multidimensional approach to cognitive appraisal. *Stress medicine*, 6(3), 227-236.

APPENDIX E
LEADER BEHAVIOR QUESTIONNAIRE

LEADER BEHAVIOR QUESTIONNAIRE

For the following items indicate whether or not your manager/supervisor displays the behaviors.

My Manager/Supervisor...

Transformational Leadership

1. My team leader provides a clear vision of where our team is going.
2. My team leader isn't afraid to "break the mold" to find different ways of doing things.
3. My team leader isn't afraid to "buck the system" if he or she thinks it is necessary.
4. Because of my team leader, I have a clear vision of our team's purpose.
5. My team leader allows performance to fall below minimum standards before trying to make improvements.
6. My team leader delays taking action until problems become serious.
7. My team leader approaches a new project or task in an enthusiastic way.
8. My team leader provides a clear vision of who and what our team is.
9. My team leader has a strong personal dedication to higher purposes or ideals.
10. My team leader waits until things have gone wrong before taking action.
11. My team leader is a nontraditional type who "shakes up the system" when necessary.
12. My team leader strives toward higher purposes or ideals.
13. My team leader stresses the importance of our team to the larger organization.
14. My team leader expects me to perform at my highest level.
15. My team leader encourages me to go above and beyond what is normally expected of one (e.g., extra effort).

Transactional Leadership

1. If I perform well, my team leader will recommend more compensation.
2. My team leader will recommend that I am compensated more if I perform well.
3. My team leader urges me to reward myself with something I like when I have successfully completed a major task.
4. My team leader will recommend that I am compensated well if I perform well.
5. My team leader encourages me to treat myself to something I enjoy when I do a task especially well.
6. My team leader gives me special recognition when my work performance is especially good. (11)

7. My team leader encourages me to give myself a pat on the back when I meet a new challenge.

5-point scale:

1=Definitely not true and 5=Definitely true

Pearce, C. L., & Sims Jr, H. P. (2002). Vertical versus shared leadership as predictors of the effectiveness of change management teams: An examination of aversive, directive, transactional, transformational, and empowering leader behaviors. *Group dynamics: Theory, research, and practice*, 6(2), 172.

APPENDIX F

THE SUPPORT APPRAISAL FOR WORK STRESSORS INVENTORY

THE SUPPORT APPRAISAL FOR WORK STRESSORS INVENTORY

The following questions ask about the reliability of your manager/supervisor in providing you with support when you experience problems at work. Please respond to each question from the rating scale below.

Social Support

How much can you rely on your Manager/Supervisor...

- to help you feel better when you experience work-related problems?
- to listen to you when you need to talk about work-related problems?
- to be sympathetic and understanding about your work-related problems?

Instrumental Support

How much can you rely on your Manager/Supervisor...

- to give you practical assistance when you experience work related problems?
- to spend time helping you resolve your work-related problems?
- to help when things get tough at work?

5-point scale:

1= Never and 5= Always

Lawrence, S., Gardner, J., & Callan, V. (2007). The support appraisal for work stressors inventory: Construction and initial validation. *Journal of Vocational Behavior*, 70(1), 172–204.

APPENDIX G
PERCEIVED ORGANIZATIONAL SUPPORT

PERCEIVED ORGANIZATIONAL SUPPORT

Listed below are statements that represent possible opinions that you may have about working at your organization. Please indicate the degree of your agreement or disagreement with each statement.

1. The organization values my contribution to its well-being.
2. The organization fails to appreciate any extra effort from me. (R)
3. The organization would ignore any complaint from me. (R)
4. The organization really cares about my well-being.
5. Even if I did the best job possible, the organization would fail to notice. (R)
6. The organization cares about my general satisfaction at work.
7. The organization shows very little concern for me. (R)
8. The organization takes pride in my accomplishments at work.

7-point scale:

1= Strongly Disagree and 7= Strongly Agree

Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived organizational support. *Journal of Applied Psychology*, 71, 500-507.

APPENDIX H
IRB APPROVAL

July 24, 2020

CSUSB INSTITUTIONAL REVIEW BOARD
Administrative/Exempt Review Determination
Status: Determined Exempt
IRB-FY2020-363

Ismael Diaz Monica Araceli Garcia
CSBS - Psychology
California State University, San Bernardino
5500 University Parkway
San Bernardino, California 92407

Dear Ismael Diaz Monica Araceli Garcia :

Your application to use human subjects, titled "Automation Threat " has been reviewed and approved by the Chair of the Institutional Review Board (IRB) of California State University, San Bernardino has determined that your application meets the requirements for exemption from IRB review Federal requirements under 45 CFR 46. As the researcher under the exempt category you do not have to follow the requirements under 45 CFR 46 which requires annual renewal and documentation of written informed consent which are not required for the exempt category. However, exempt status still requires you to attain consent from participants before conducting your research as needed. Please ensure your CITI Human Subjects Training is kept up-to-date and current throughout the study.

Your IRB proposal is approved. You are permitted to collect information from **[350]** participants for **[No Compensation]**from **[social media]**. This approval is valid from **[7/24/2020]**.

The CSUSB IRB has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval notice does not replace any departmental or additional approvals which may be required.

Your responsibilities as the researcher/investigator include reporting to the IRB Committee the following three requirements highlighted below. Please note failure of the investigator to notify the IRB of the below requirements may result in disciplinary action.

- Submit a protocol modification (change) form if any changes (no matter how minor) are proposed in your study for review and approval by the IRB before implemented in your study to ensure the risk level to participants has not increased,
- If any unanticipated/adverse events are experienced by subjects during your research, and
- Submit a study closure through the Cayuse IRB submission system when your study has ended.

The protocol modification, adverse/unanticipated event, and closure forms are located in the Cayuse IRB System. If you have any questions regarding the IRB decision, please contact Michael Gillespie, the Research Compliance Officer. Mr. Michael Gillespie can be reached by phone at (909) 537-7588, by fax at (909) 537-7028, or by email at mgillesp@csusb.edu. Please include your application approval identification number (listed at the top) in all correspondence.

If you have any questions regarding the IRB decision, please contact Dr. Jacob Jones, Assistant Professor of Psychology. Dr. Jones can be reached by email at Jacob.Jones@csusb.edu. Please include your application approval identification number (listed at the top) in all correspondence.

Best of luck with your research.
Sincerely,
Nicole Dabbs
Nicole Dabbs, Ph.D., IRB Chair
CSUSB Institutional Review Board

APPENDIX I
DEMOGRAPHIC VARIABLES TABLE

Table 1. Demographic Variables

| | Variable | N (%) | Missing (%) |
|-------------------|---------------------------------|-------------|-------------|
| Gender | | | 1 (.4%) |
| | Female | 165 (61.3%) | |
| | Male | 102 (37.9%) | |
| | Non-Binary | 1 (.4%) | |
| | Not Listed | 1 (.4%) | |
| Race/Ethnicity | | | 0 (0%) |
| | White/Caucasian | 193 (71.7%) | |
| | Asian | 32 (11.9%) | |
| | Hispanic/Latinx | 31 (11.5%) | |
| | Black/African American | 17 (6.3%) | |
| | Native American/American Indian | 5 (1.9%) | |
| | Middle Eastern American | 3 (1.1%) | |
| | Not Listed | 3 (1.1%) | |
| Age | | | 0 (0%) |
| | 18-25 | 44 (16.4%) | |
| | 26-35 | 89 (33.2%) | |
| | 36-45 | 62 (23.1%) | |
| | 46-55 | 27 (10.0%) | |
| | 56-65 | 25 (9.3%) | |
| | 66-75 | 21 (7.8%) | |
| Job Level | | | 1 (.4%) |
| | Entry-Level | 51 (19%) | |
| | Intermediate/Experienced Level | 99 (36.8) | |
| | Middle-Level Management | 73 (27.1%) | |
| | Senior/Executive Management | 41 (15.2%) | |
| | Self-Employed | 4 (1.5%) | |
| Blue/White Collar | | | 0 (0%) |
| | Blue Collar | 101 (37.5%) | |
| | White Collar | 167 (62.1%) | |
| Full/Part Time | | | 1 (.4%) |
| | Full Time | 205 (76.2) | |
| | Part Time | 63 (23.4%) | |

APPENDIX J
DESCRIPTIVE STATISTICS TABLE

Table 2. Descriptive Statistics

| | Mean | Standard Deviation | Variance | Skewnes | Kurtosis | Minimum | Maximum |
|-----------------------------|-------|-----------------------|----------|---------|----------|---------|---------|
| Self Efficacy | 4.098 | 0.568 | 0.323 | -0.642* | 1.328* | 1.500 | 5.000 |
| Means Efficacy | 2.998 | 0.827 | 0.684 | -0.016 | -0.141 | 1.000 | 5.580 |
| Employability | 3.702 | 0.704 | 0.496 | -0.963* | 2.071* | 1.000 | 5.000 |
| Automation Threat | 2.776 | 0.850 | 0.722 | 0.384 | -0.111 | 1.000 | 5.000 |
| Transformational Leadership | 3.576 | 0.597 | 0.356 | -0.240 | 0.456 | 1.470 | 5.000 |
| Transactional Leadership | 3.329 | 1.005 | 1.011 | -0.512 | -0.281 | 1.000 | 5.000 |
| Social Support | 3.643 | 0.983 | 0.965 | -0.568* | -0.107 | 1.000 | 5.000 |
| Instrumental Support | 3.643 | 1.024 | 1.049 | -0.502 | -0.308 | 1.000 | 5.000 |
| Organizational Support | 4.338 | 0.849 | 0.721 | 1.029* | 1.36* | 1.880 | 7.000 |

*Note: * Skewness and Kurtosis Z scores <3.3.*

APPENDIX K
VARIABLE CORRELATION TABLE

Table 3. Correlation Table

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|--------------------------------|---------|---------|--------|--------|--------|--------|--------|--------|---|
| 1. Self Efficacy | — | | | | | | | | |
| 2. Means Efficacy | -.323** | — | | | | | | | |
| 3. Employability | .331** | -.357** | — | | | | | | |
| 4. Automation Threat | 0.071 | -.498** | .121* | — | | | | | |
| 5. Transformational Leadership | .398** | -.639** | .420** | .461** | — | | | | |
| 6. Transactional Leadership | .297** | -.634** | .360** | .456** | .747** | — | | | |
| 7. Social Support | .380** | -.520** | .320** | .175** | .649** | .616** | — | | |
| 8. Instrumental Support | .372** | -.511** | .308** | .200** | .658** | .602** | .852** | — | |
| 9. Organizational Support | .272** | -.351** | .333** | -0.101 | .406** | .465** | .537** | .517** | — |

Note: * $p < .05$ ** $p < .001$

APPENDIX L

STANDARDIZED DIRECT, INDIRECT, AND TOTAL EFFECTS TABLE

Table 4. The Standardized Direct, Indirect, and Total Effects

| Predictor Variable | Outcome Variable | Direct Effect | Indirect Effect | Total Effect |
|-----------------------------|------------------------|---------------|-----------------|--------------|
| Automation Threat | Social Support | -1.247* | — | -1.247 |
| Automation Threat | Instrumental Support | -0.917* | — | -0.917 |
| Automation Threat | Organizational Support | -1.104* | — | -1.104 |
| Automation Threat | Self Efficacy | 0.768 | -0.387* | 0.381 |
| Automation Threat | Means Efficacy | 1.945* | 0.359* | 2.304 |
| Automation Threat | Employability | 0.881 | -0.155 | 0.726 |
| Transformational Leadership | Social Support | 0.352 | — | 0.352 |
| Transformational Leadership | Instrumental Support | 0.531* | — | 0.531 |
| Transformational Leadership | Organizational Support | -0.12 | — | -0.12 |
| Transformational Leadership | Self Efficacy | 0.702* | 0.081 | 0.783 |
| Transformational Leadership | Means Efficacy | 0.562* | -0.019 | 0.543 |
| Transformational Leadership | Employability | 0.382 | -0.012 | 0.37 |
| Transactional Leadership | Social Support | 0.179 | — | 0.179 |
| Transactional Leadership | Instrumental Support | 0.059 | — | 0.059 |
| Transactional Leadership | Organizational Support | 0.904* | — | 0.904 |
| Transactional Leadership | Self Efficacy | -0.031 | -0.098 | -0.129 |
| Transactional Leadership | Means Efficacy | -0.15 | -0.197* | -0.347 |
| Transactional Leadership | Employability | 0.616* | 0.121 | 0.737 |

*Note: * p < .001*

REFERENCES

- Agars, M., & Kottke, J. (2020). Development of a theoretical framework and measurement scale for general organizational means efficacy. Unpublished Article. California State University, San Bernardino.
- Agote, L., Aramburu, N., & Lines, R. (2016). Authentic leadership perception, trust in the leader, and followers' emotions in organizational change processes. *The Journal of Applied Behavioral Science*, 52(1), 35-63.
- Appelbaum, S. H., Degbe, M. C., MacDonald, O., & Nguyen-Quang, T. S. (2015). Organizational outcomes of leadership style and resistance to change (Part Two). *Industrial and Commercial Training*.
- Amabile, T. M., Schatzel, E. A., Moneta, G. B., & Kramer, S. J. (2004). Leader behaviors and the work environment for creativity: Perceived leader support. *The Leadership Quarterly*, 15(1), 5-32.
- Avolio, B. J., Bass, B. M., & Jung, D. I. (1999). Re-examining the components of transformational and transactional leadership using the Multifactor Leadership. *Journal of Occupational and Organizational Psychology*, 72(4), 441-462.
- Bass, B. M., & Avolio, B. J. (1996). Multifactor leadership questionnaire. *European Journal of Psychological Assessment*.
- Bamberger, P. A., Geller, D., & Doveh, E. (2017). Assisting upon entry: Helping type and approach as moderators of how role conflict affects newcomer resource drain. *Journal of Applied Psychology*, 102, 1719– 1732.

- Bandura, A. (1977). *Social Learning Theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1997). *Self-efficacy: The Exercise of Control*. New York: Freeman.
- Brunner, L. A. (1992). The laboratory of the 1990s—Planning for total automation. *Journal of Analytical Methods in Chemistry*, 14(2), 43-45.
- Barling, J., Weber, T., & Kelloway, E. K. (1996). Effects of transformational leadership training on attitudinal and financial outcomes: A field experiment. *Journal of Applied Psychology*, 81(6), 827.
- Carless, S. A., Wearing, A. J., & Mann, L. (2000). A short measure of transformational leadership. *Journal of Business and Psychology*, 14(3), 389-405.
- Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: a theoretically based approach. *Journal of Personality and Social Psychology*, 56(2), 267.
- Chien, S. Y., Sycara, K., Liu, J. S., & Kumru, A. (2016, September). Relation between trust attitudes toward automation, Hofstede's cultural dimensions, and big five personality traits. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting* (Vol. 60, No. 1, pp. 841-845). Sage CA: Los Angeles, CA: SAGE Publications.
- Clamann, M. P., Wright, M. C., & Kaber, D. B. (2002, September). Comparison of performance effects of adaptive automation applied to various stages of human-machine system information processing. In *Proceedings of the*

- Human Factors and Ergonomics Society Annual Meeting* (Vol. 46, No. 3, pp. 342-346). Sage CA: Los Angeles, CA: SAGE Publications.
- Cox, J. F. (1994). The effects of super leadership training on leader behavior, subordinate self-leadership behavior, and subordinate citizenship (Doctoral dissertation). University of Maryland, College Park.
- Cox, J. F., & Sims Jr, H. P. (1996). Leadership and team citizenship behavior: A model and measures. *Advances in Interdisciplinary Studies of Work Teams*, 3(1), 41.
- Cuyper, N. D., Bernhard-Oettel, C., Berntson, E., Witte, H. D., & Alarco, B. (2008). Employability and employees' well-being: Mediation by job insecurity. *Journal of Applied Psychology*, 57(3), 488-509.
- Deelstra, J. T., Peeters, M. C., Schaufeli, W. B., Stroebe, W., Zijlstra, F. R., & Van Doornen, L. P. (2003). Receiving instrumental support at work: when help is not welcome. *Journal of Applied Psychology*, 88(2), 324.
- Den Hartog, D. N., Van Muijen, J. J., & Koopman, P. L. (1997). Transactional versus transformational leadership: An analysis of the MLQ. *Journal of Occupational and Organizational Psychology*, 70(1), 19-34.
- Eagly, A. H., Johannesen-Schmidt, M. C., & Van Engen, M. L. (2003). Transformational, transactional, and laissez-faire leadership styles: a meta-analysis comparing women and laissez-faire leadership styles: a meta-analysis comparing women and men. *Psychological Bulletin*, 129(4), 569.

- Eden, D., Ganzach, Y., Flumin-Granat, R., & Zigman, T. (2010). Augmenting means efficacy to boost performance: Two field experiments. *Journal of Management*, 36(3), 687-713.
- Engle, R. L., & Barnes, M. L. (2000). Sales force automation usage, effectiveness, and cost-benefit in Germany, England and the United States. *Journal of Business & Industrial Marketing*.
- Eisenberger R, Armeli S, Rexwinkel B, Lynch PD, Rhoades L. (2001). Reciprocation of perceived organizational support. *Journal of Applied Psychology*, 86, 42–51.
- Eisenberger, R., Cummings, J., Armeli, S., & Lynch, P. (1997). Perceived organizational support, discretionary treatment, and job satisfaction. *Journal of Applied Psychology*, 82(5), 812.
- Eisenberger R, Huntington R, Hutchison S, Sowa D. (1986). Perceived Organizational support. *Journal of Applied Psychology*, 71, 500–507.
- Eisenberger, R., Karagonlar, G., Stinglhamber, F., Neves, P., Becker, T. E., Gonzalez-Morales, M. G., & Steiger-Mueller, M. (2010). Leader–member exchange and affective organizational commitment: The contribution of supervisor's organizational embodiment. *Journal of Applied Psychology*, 95(6), 1085.
- Etzion, D. (1984). Moderating effect of social support on the stress–burnout relationship. *Journal of Applied Psychology*, 69(4), 615.
- Feng, C., Huang, X., & Zhang, L. (2016). A multilevel study of transformational

leadership, dual organizational change and innovative behavior in groups. *Journal of Organizational Change Management*.

Fisher, C. D. (1985). Social support and adjustment to work: A longitudinal study. *Journal of Management*, 11(3), 39-53.

Folkman, S. (1984). Personal control and stress and coping processes: a theoretical analysis. *Journal of Personality and Social Psychology*, 46(4), 839.

Fugate, M., Prussia, G. E., & Kinicki, A. J. (2012). Managing employee withdrawal during organizational change: The role of threat appraisal. *Journal of Management*, 38(3), 890-914.

Gist, M. E. (1987). Self-efficacy: Implications for organizational behavior and human resource management. *Academy of Management Review*, 12(3), 472-485.

Hannah, S. T., Avolio, B. J., Walumbwa, F. O., & Chan, A. (2012). Leader self and means efficacy: A multi-component approach. *Organizational Behavior and Human Decision Processes*, 118(2), 143-161.

Herold, D. M., Fedor, D. B., Caldwell, S., & Liu, Y. (2008). The effects of transformational and change leadership on employees' commitment to a change: A multilevel study. *Journal of Applied Psychology*, 93(2), 346.

Hillage, J., & Pollard, E. (1998). *Employability: developing a framework for policy analysis* (Vol. 107). London: DfEE.

Hogan, R., Chamorro-Premuzic, T., & Kaiser, R. B. (2013). Employability and

- career success: Bridging the gap between theory and reality. *Industrial and Organizational Psychology: Perspectives on Science and Practice*, 6, 3–16.
- House, R. J. (1996). Path-goal theory of leadership: Lessons, legacy, and a reformulated theory. *The leadership quarterly*, 7(3), 323-352.
- House, R. J., & Mitchell, T. R. (1975). Path-goal theory of leadership (No. TR-75-67). Washington Univ Seattle Dept Of Psychology.
- Ilies, R., Morgeson, F. P., & Nahrgang, J. D. (2005). Authentic leadership and eudaemonic well-being: Understanding leader–follower outcomes. *The Leadership Quarterly*, 16, 373-394.
- Ivanov, S. H., & Webster, C. (2017). Adoption of robots, artificial intelligence and service automation by travel, tourism and hospitality companies—a cost-benefit analysis. *Artificial Intelligence and Service Automation by Travel, Tourism and Hospitality Companies—A Cost-Benefit Analysis*.
- Jensen, S. M., & Luthans, F. (2006). Entrepreneurs as authentic leaders: Impact On employees' attitudes. *Leadership Organization Development Journal*, 27, 646-666.
- Jöreskog, K. G. (1999). How large can a standardized coefficient be.
- Joreskog, K. G., and D. Sorbom. "LISREL 9.1 [computer software]."
Lincolnwood, IL: Scientific Software International (2012).
- Kerksieck, P., Bauer, G. F., & Brauchli, R. (2019). Personal and Social Resources at Work: Reciprocal Relations Between Crafting for Social Job

Resources, Social Support at Work and Psychological Capital. *Frontiers in Psychology*, 10.

Kraimer, M. L., Seibert, S. E., Wayne, S. J., Liden, R. C., & Bravo, J. (2011). Antecedents and outcomes of organizational support for development: The critical role of career opportunities. *Journal of Applied Psychology*, 96, 485–500.

Kristal, T. (2013). The Capitalist Machine: Computerization, Workers' Power, and the Decline in Labor's Share within U.S. Industries. *American Sociological Review*, 78(3), 361-389.

Lawrence, S., Gardner, J., & Callan, V. (2007). The support appraisal for work Stressors inventory: Construction and initial validation. *Journal of Vocational Behavior*, 70(1), 172–204.

Levinson, H. (1965). Reciprocation: The Relationship between Man and Organization. *Administrative Science Quarterly*, 9(4), 370-390.

Lee, J. D., & See, K. A. (2004). Trust in automation: Designing for appropriate reliance. *Human Factors*, 46(1), 50-80.

Levy, R. L. (1983). Social support and compliance: a selective review and critique of treatment integrity and outcome measurement. *Social Science Medicine*, 17(18), 1329-1338.

Lim, V. K. (1996). Job insecurity and its outcomes: Moderating effects of work-based and nonwork-based social support. *Human Relations*, 49(2), 171-194.

- Lowe, K. B., Galen Kroeck, K., & Sivasubramaniam, N. (1996). Effectiveness correlates of transformational and transactional leadership: A meta-analytic. *Leadership Quarterly*, 7(3), 385.
- Manning, A. (2004). We can work it out: the impact of technological change on the demand for low-skill workers. *Scottish Journal of Political Economy*, 51(5), 581-608.
- Mantler, J., Matejicek, A., Matheson, K., & Anisman, H. (2005). Coping with employment uncertainty: a comparison of employed and unemployed workers. *Journal of Occupational Health Psychology*, 10(3), 200
- Markus, M. L. (2004). Technochange management: using IT to drive organizational change. *Journal of Information Technology*, 19(1), 4-20.
- Mathieu, M., Eschleman, K. J., & Cheng, D. (2019). Meta-analytic and multiwave comparison of emotional support and instrumental support in the workplace. *Journal of Occupational Health Psychology*, 24(3), 387.
- Morelli, S. A., Lee, I. A., Arnn, M. E., & Zaki, J. (2015). Emotional and instrumental support provision interact to predict well-being. *Emotion*, 15(4), 484.
- Morrar, R., Arman, H., & Mousa, S. (2017). The fourth industrial revolution (Industry 4.0): A social innovation perspective. *Technology Innovation Management Review*, 7(11), 12-20.
- Naswall, K., Sverke, M., & Hellgren, J. (2005). The moderating effects of work-

- based and non-work-based support on the relation between job insecurity and subsequent strain. *SA Journal of Industrial Psychology*, 31(4), 57-64.
- Novacek, J. (1987). Age differences in stress and coping processes. *Psychology and Aging*, 2(2), 171.
- Onnasch, L., Wickens, C. D., Li, H., & Manzey, D. (2014). Human performance consequences of stages and levels of automation: An integrated meta-analysis. *Human Factors*, 56(3), 476-488.
- Oswald, L. M., Zandi, P., Nestadt, G., Potash, J. B., Kalaydjian, A. E., & Wand, G. S. (2006). Relationship between cortisol responses to stress and personality. *Neuropsychopharmacology*, 31(7), 1583-1591.
- Parasuraman, R., & Manzey, D. H. (2010). Complacency and bias in human use of automation: An attentional integration. *Human Factors*, 52(3), 381-410.
- Parasuraman, R., & Riley, V. (1997). Humans and automation: Use, misuse, disuse, abuse. *Human Factors*, 39(2), 230-253.
- Parasuraman, R., Sheridan, T. B., & Wickens, C. D. (2000). A model for types and levels of human interaction with automation. *IEEE Transactions on systems, man, and cybernetics-Part A: Systems and Humans*, 30(3), 286-297.
- Peacock, E. J., & Wong, P. T. (1990). The stress appraisal measure (SAM): A multidimensional approach to cognitive appraisal. *Stress Medicine*, 6(3), 227-236.
- Pearce, C. L., & Sims Jr, H. P. (2002). Vertical versus shared leadership as

- predictors of the effectiveness of change management teams: An examination of aversive, directive, transactional, transformational, and empowering leader behaviors. *Group Dynamics: Theory, Research, and Practice*, 6(2), 172.
- Peters, M. A. (2017). Technological Unemployment: Educating for The Fourth Industrial Revolution. *Journal of Self-Governance and Management Economics*, 5(1), 25-33.
- Rhoades, L., & Eisenberger, R. (2002). Perceived organizational support: a review of the literature. *Journal of Applied Psychology*, 87(4), 698.
- Ribar, D. C. (2005). Transitions from welfare and the employment prospects of low skill workers. *Southern Economic Journal*, 514-533.
- Rigotti, T., Schyns, B., & Mohr, G. (2008). A short version of the occupational Self-efficacy scale: Structural and construct validity across five countries. *Journal of Career Assessment*, 16(2), 238-255.
- Robertson, P., Roberts, D., & Porras, J. (1993). Dynamics of Planned Organizational Change: Assessing Empirical Support for a Theoretical Model. *The Academy of Management Journal*, 36(3), 619-634.
- Rothwell, A., & Arnold, J. (2007). Self-perceived employability: Development and validation of a scale. *Personnel Review*.
- Säfsten, K., Winroth, M., & Stahre, J. (2007). The content and process of automation strategies. *International Journal of Production Economics*, 110(1-2), 25-38.

- Sanchez, J., Rogers, W. A., Fisk, A. D., & Rovira, E. (2014). Understanding reliance on automation: effects of error type, error distribution, age and experience. *Theoretical Issues in Ergonomics Science*, 15(2), 134-160.
- Schraeder, M., Swamidass, P. M., & Morrison, R. (2006). Employee involvement, attitudes and reactions to technology changes. *Journal of Leadership & Organizational Studies*, 12(3), 85-100.
- Schriesheim, C., & Glinow, M. A. V. (1977). The path-goal theory of leadership: A theoretical and empirical analysis. *Academy of Management Journal*, 20(3), 398-405.
- Schyns, B. (2004). The influence of occupational self-efficacy on the relationship of leadership behavior and preparedness for occupational change. *Journal of Career Development*, 30(4), 247-261.
- Seaberg, R. C., Statland, B. E., & Stallone, R. O. (1999). Planning and implementing total laboratory automation at the North Shore-Long Island Jewish Health System Laboratories. *MLO: Medical Laboratory Observer*, 31(6), 46-8.
- Sorells, B. (2018). Will Robotization Really Cause Technological Unemployment? The Rate and Extent of Potential Job Displacement Caused by Workplace Automation. *Psych Sociological Issues in Human Resource Management*, 6(2), 68.
- Stajkovic, A. D., & Luthans, F. (1998). Self-efficacy and work-related performance: A meta-analysis. *Psychological Bulletin*, 124(2), 240.

- Stanton, J. M., Balzer, W. K., Smith, P. C., Parra, L. F., & Ironson, G. (2001). A general measure of work stress: The stress in general scale. *Educational and Psychological Measurement, 61*(5), 866-888.
- Steinfeld, A., Fong, T., Kaber, D., Lewis, M., Scholtz, J., Schultz, A., & Goodrich, M. (2006, March). Common metrics for human-robot interaction. In *Proceedings of the 1st ACM SIGCHI/SIGART conference on Human-robot interaction* (pp. 33-40).
- Vakola, M., & Nikolaou, I. (2005). Attitudes towards organizational change. *Employee Relations.*
- Vermeulen, B., Kesselhut, J., Pyka, A., & Saviotti, P. (2018). The Impact of Automation on Employment: Just the Usual Structural Change? *Sustainability, 10*(5), 1661.
- Viswesvaran, C., Sanchez, J. I., & Fisher, J. (1999). The role of social support in The process of work stress: A meta-analysis. *Journal of vocational behavior, 54*(2), 314-334.
- Walumbwa, F. O., Avolio, B. J., & Zhu, W. (2008). How transformational leadership weaves its influence on individual job performance: The role of identification and efficacy beliefs. *Personnel Psychology, 61*(4), 793-825.
- Walumbwa, F. O., Cropanzano, R., & Goldman, B. M. (2011). How leader-member exchange influences effective work behaviors: Social exchange and internal-external efficacy perspectives. *Personnel Psychology, 64*(3), 739-770.

- Wang, X. H. F., & Howell, J. M. (2012). A multilevel study of transformational leadership, identification, and follower outcomes. *The Leadership Quarterly*, 23(5), 775-790.
- Weber, P. S., & Weber, J. E. (2001). Changes in employee perceptions during organizational change. *Leadership & Organization Development Journal*.
- Weng, R. H., Huang, C. Y., Tsai, W. C., Chang, L. Y., Lin, S. E., & Lee, M. Y. (2010). Exploring the impact of mentoring functions on job satisfaction and organizational commitment of new staff nurses. *BMC Health Services Research*, 10, 240–249.
- Wittekind, A., Raeder, S., & Grote, G. (2010). A longitudinal study of determinants of perceived employability. *Journal of Organizational Behavior*, 31(4), 566-586.
- Yammarino, F. J., & Bass, B. M. (1990). Transformational leadership and multiple levels of analysis. *Human Relations*, 43(10), 975-995.
- Zetka Jr, J. R. (1991). Automated technologies, institutional environments, and skilled labor processes: Toward an institutional theory of automation outcomes. *Sociological Quarterly*, 32(4), 557-574.