

**THE ROLE OF THE PERCEIVED ORGANIZATIONAL SUPPORT AND  
LEADER-MEMBER EXCHANGE IN DEVELOPING  
THE INTENTION TO ENGAGE IN SCHOLARLY ACTIVITIES**

by

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## ABSTRACT

Academic medical centers maintain their competitive advantage by offering innovative clinical treatments to patients and by sustaining a high level of scientific productivity from faculty members at their affiliated medical schools. In such centers, scientific productivity is measured by the number and quality of scientific articles published, conference presentations given, research grants awarded, and patents granted. These contributions are important not only to the institution but also to the individual faculty members for career advancement and progression of the field of study in which they specialize. Given the importance of faculty members' scholarly contributions, it is imperative to better understand what factors influence their scientific productivity. One such factor is the social exchange between employee, leadership, and the organization at large; therefore, this study reviewed how faculty members' perception of organizational support (POS) and leader-member exchange (LMX) would influence their attitude about scientific productivity through the lens of the theory of planned behavior (TPB). I also examined perceived organizational support and leader-member exchange influence on the relationship between perceived behavioral control (PBC) and behavioral intention by surveying faculty members from academic medical centers across the US that host NCI-designated cancer centers. The results indicated that the perception of high-quality LMX was positively related to greater PBC and stronger intention to engage in scholarly activities. On the other hand, POS did not influence faculty members' attitudes or intent to engage in scholarly activities. Lastly, neither POS nor LMX enhanced or diminished faculty members' intention to engage in scholarly activities once their attitude had been formed. This research contributes to the expansion of the application of theory of planned behavior and to the POS and LMX literature by demonstrating that among faculty members at academic medical centers, the



relationship with their leader is more influential to their productivity than organizational support. For managers, these results suggest that the quality of the relationship with the department chair is an important variable in the development of faculty members' attitude toward and intent to engage in scholarly activities; therefore, department chairs should develop an environment of mutual trust, respect, and loyalty.

**Keywords:** Theory of planned behavior; perceived behavioral control; perceived organizational support; leader-member exchange; academic medicine; faculty

## CHAPTER 1

### INTRODUCTION

#### 1.1 Research Motivation

Academic medical centers (AMCs) maintain their competitive advantage by offering innovative clinical treatments to patients and by sustaining a high level of scientific productivity from faculty members at their affiliated medical schools. In such centers, scientific productivity is measured by the number and quality of scientific articles published, conference presentations given, research grants awarded, and patents granted. These contributions are important not only to the institution, but also to the individual faculty members for career advancement and progression of the field of study in which they specialize.

For the individual faculty member, intellectual contributions are used to justify their tenure and promotion. Specifically, faculty members are evaluated on the number of their publications (book chapters and articles) and the quality of those publications, as demonstrated by the impact factor of the peer-reviewed journals in which they are published. Faculty members' tenure and promotions are also based on the number of conference presentations they make, their roles in national and international committees and organizations, and the total research grant dollars they are awarded. Grant awards support not only the individual faculty member's research, but also the organization's infrastructure through direct and indirect dollars received from research funding. Grants also contribute to the reputation of the institution by demonstrating research excellence. One of the impacts of research excellence is advancement of the faculty member's field of study. In academic medicine, faculty members' scholarly contributions have brought about effective treatments for various diseases, including cures and disease management strategies, which have decreased morbidity, improved the quality of life for

patients, and reduced mortality (Carpenter et al., 2014; Nguyen et al., 2018; Sanberg et al., 2014; Tchetchik et al., 2015; Valsangkar et al., 2015).

Given the importance of faculty members' scholarly contributions for their own professional development, for the institution's reputation, and to advance their field of study, it is imperative to better understand what factors influence faculty members' scientific productivity. Previous studies have identified individual, institutional, and leadership attributes as predictors of faculty productivity. At the individual level, more productivity has been associated with 1) having a research focus, 2) having at least one third of professional time allotted to research, 3) holding a PhD as the highest degree, and 4) maintaining an active history of publications (Bland et al., 2002; Dundar & Lewis, 1998). In addition, being motivated, older, male, or tenured, holding a professor rank, having a professional network, and having a mentor were also identified as factors that correlated positively with faculty productivity (Bland et al., 2005; Bland et al., 2002; Dundar & Lewis, 1998; Finkelstein, 1984; Teodorescu, 2000).

Bland et al. (2002) also identified leadership characteristics as variables that could predict faculty productivity. These characteristics include the leaders' own research, teaching, or clinical orientation, as well as their success and reputation. In addition, the leaders' ability to communicate clear goals to the department, use of a participative leadership style, and facilitation of opportunities for faculty also have influenced faculty productivity.

Besides faculty leadership traits, key institutional predictors of faculty productivity include university size and reputation, department size and culture, and whether rewards or resources are available to the faculty (Bland et al., 2002; Brocato & Mavis, 2005; Creswell, 1985; Dundar & Lewis, 1998; Hesli & Lee, 2011). Specifically, being part of a department that is highly productive influenced individual faculty productivity (Bland et al., 2005; Ramsden,

1994). However, Teufel et al. (2012) clarify that expectations to be highly productive should be accompanied by support; otherwise, such expectations hinder productivity. The availability of institutional resources, such as protected research time, research facilities, funding, and support staff, are indicators of the level of organizational support that AMCs provide, and faculty productivity increases in environments with high levels of support (Bland, 1992; Bland et al., 2005; Hesli & Lee, 2011; Teufel et al., 2012).

Improving employee productivity is a priority not only for AMCs, but also for many other business environments, and one variable that has been shown to impact productivity is how much employees believe the organization values their contribution and cares about them (Rhoades & Eisenberger, 2002). This perception of organizational support (POS) aligns with the results of a global survey from McKinsey & Company, which demonstrated that nonfinancial incentives, such as commending employees' work and demonstrating trust by providing opportunities to lead projects, were more effective motivators than financial incentives (Dewhurst, Guthridge, & Mohr, 2009). Similarly, how faculty members perceive their environment and their own abilities influences their productivity. In fact, Bland (1992) found that perceived access to resources correlated with productivity more than actual access to resources, while Blackburn et al. (1991) similarly showed that the perception of a supportive environment was a predictor of productive behaviors among faculty. In addition, the perceptions of autonomy and competence had direct effects on perceived and expected success in research and teaching (Stansky et al., 2017).

## 1.2 Research Question

Hewlett et al. (2017) stated that employees' beliefs about their experience at work is the reality for the organization, which led to the research question for this study: *how do perceptions of support in their work environment affect faculty members' attitude toward scientific productivity?* One approach to addressing this research question was to review how faculty members' perceptions of their work environment affected their scientific productivity through the lens of the theory of planned behavior (TPB) (Ajzen, 1991). According to TPB, behavior is predicted by intention, while intention is predicted by attitude toward a behavior, social norms and perceived behavioral control, all of which are predicted by the belief that carrying out a specific behavior will lead to a particular outcome; these beliefs are developed from a point of view, perspective, or assumptions about the environment. By using the TPB framework to assess the impact of factors in the work environment on faculty members' scientific productivity, this study examined whether beliefs developed from faculty members' perceived organizational support (POS) (Eisenberger et al., 1986) and the quality of their relationship with their leader predicted their perception of control and self-confidence when engaging in scientific activities. Examining whether the work environment predicted faculty intention to engage in scientific behaviors established the specific factors relevant to scientific productivity. In addition, the influence of organizational support on the relationship between control beliefs and faculty intention to engage in scientific activities was examined.

## 1.3 Expected Contribution

This study contributes to the existing body of literature by examining the role of perceived organizational support and leader-member exchange as antecedents to PBC. An

additional contribution is to examine POS and LMX as contextual variables that influence the relationship between PBC and behavioral intention in the academic medical setting. To our knowledge, this is one of the initial studies to use a contextual approach to examine the relationship between perceived behavioral control and behavioral intention. In addition, this study used an attitudinal approach and thus expands our understanding of the process involved in faculty members' engagement in scholarly activities through the theory of planned behavior.

#### **1.4 Proposal Structure**

In the following chapters, I review the theoretical frameworks of planned behavior and organizational support, as well as the extant literature on perceived behavioral control, perceived organizational support, and leader-member exchange. Then I present a field study conducted at select National Cancer Institute's (NCI) Comprehensive Cancer Centers, where a sample of faculty members across several institutions were surveyed about their perceptions of their work environment, their perceptions of self-confidence and self-control, as well as their intentions to engage in scholarly activities. Finally, I report the results, implications, and conclusion of the findings.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 Overview**

In this chapter, I review the theoretical frameworks that structure how to address the research question along with the previous research that has been performed on each construct. Specifically, the theory of planned behavior (TPB) and organizational support theory (OST) are used to frame how perceived organizational support and leader-member exchange shape their self-confidence and self-control, and how these attitudes influence behavioral intention.

#### **2.2 Background**

Research on organizational behavior has demonstrated that both perceived and objective characteristics of the work environment influence employees' motivations, attitudes, and behaviors (Oldham & Fried, 2016). For example, jobs that are high on skill variety, task identity, task significance, autonomy, and feedback have a strong positive relationship with internal motivation and job satisfaction and also have a positive relationship with attendance and performance (Humphrey et al., 2007; Oldham & Fried, 2016). These job characteristics influence perceived organizational support, which leads to increased affective organizational commitment, job satisfaction, organizational citizenship behavior and reduced withdrawal behavior and intention to turnover (Kurtessis et al., 2017).

To evaluate the research question of “how do perceptions of the work environment affect faculty members' scientific productivity?” previous studies on research faculty have focused on the individual and institutional variables, as well as motivations and rewards for productive activities (Blackburn et al. 1991; Bland et al., 2002; Brocato & Mavis, 2005; Dundar & Lewis,

1998; Hesli & Lee, 2011; Stupinsky et al., 2018; Tien, 2000). These variables were assessed using several theories, including cognitive motivational theory, which suggests that how individuals assess their abilities and interests relates to their perceptions of what the organization supports, which ultimately results in employees engaging in some activities more extensively than others (Blackburn et al., 1991). Using cognitive motivational theory, Blackburn et al. (1991) found that self-valuation and perception of the environment predicted faculty behavior. Another theory used to assess faculty performance is the expectancy theory, which states that the amount of effort that an individual decides to exert when performing a behavior is dependent on a combination of valence, expectancy, and instrumentality (Tien, 2000). Valence is preference for a reward. Instrumentality is the perception that a particular action will lead to that reward. Lastly, expectancy is the belief that an individual will be able to perform with a certain amount of effort (Tien, 2000). Based on expectancy theory, faculty members who need or value promotion will be motivated to engage in scholarly activities that influence that outcome (Tien, 2000). Stupniksy et al. (2018) used the self-determination theory to assess whether balance, expectation, and collegiality predicted motivation and success in teaching and research. The self-determination theory suggests that human motivation is on a continuum and intrinsic motivation is the ideal state where there is satisfaction in performing a task (Stupniksy et al., 2018). The researchers found that pre-tenure faculty who believed that their basic psychological needs were being met had higher intrinsic motivation, which influenced their productivity.

The previous theories focused on psychological processes in work motivation by examining the effects of supervision, incentives, and working conditions on job performance. However, the correlation between these motivational factors and job performance is low (Ajzen, 2011; Kinicki et al., 2002). In fact, one of Locke and Latham's (2004) recommendations for



advancing motivational theory in the 21<sup>st</sup> century was to review employee attitudes to understand their effects on performance. These researchers suggested that “[s]uch a process might have enabled us to avoid decades of torturous efforts to resolve the satisfaction-performance issue” (p. 398). Ajzen (2011) suggested moving away from the use of job satisfaction to predict job performance because its broad approach has limited relevance to specific behaviors and thus contributes to the low correlation between the two variables. Ajzen (2011) instead proposed to examine factors that influence the behaviors that are relevant to performance by using theory of planned behavior (TPB). According to TPB, identifying accessible beliefs establishes the psychological determinants of intentions to employ effort toward a behavior and consequently influences actual effort and job performance. Consistent with Ajzen’s (2011) approach, the current study addressed the research question using an attitudinal approach within the framework of the theory of planned behavior.

### **2.3 Theory of Planned Behavior (TPB)**

The theory of planned behavior (TPB) is an extension of the theory of reasoned action, which proposes that when behavior is under an individual’s volitional control, it can be predicted by behavioral intention (Ajzen, 1991). Behavioral intention refers to an individual’s willingness and effort to perform a behavior and is a function of the belief that carrying out a specific behavior will lead to a particular outcome. However, the theory of reasoned action does not address behavior that is not under the individual’s complete volitional control, so Ajzen (1991) introduced perceived behavioral control to capture the individual’s beliefs about the ease or difficulty of performing a particular behavior in a specific context. According to the theory of planned behavior, perceived behavioral control, along with attitude toward a behavior and

subjective norms, predicts behavioral intention. In addition, the theory proposes that both behavioral intention and perceived behavioral control will predict behavioral performance.

### 2.3.1 Beliefs

According to the theory of planned behavior, human behavior is a function of accessible beliefs relevant to that behavior. There are three types of beliefs – behavioral beliefs, normative beliefs, and control beliefs. Each type of belief affects an individual's attitude toward a behavior, subjective norms, and perceived behavioral control, which predicts behavioral intentions (Ajzen, 1991).

Ajzen (1991) recognized that various factors influence how experiences are evaluated and how experiences impact an individual's point of view, perspective, and assumptions about their environment. These factors include individual characteristics (personality, general attitude, and values), demographic variables (age, gender, race, and ethnicity), and societal norms (culture, experience, and knowledge). Background factors have an indirect influence on behavior as they influence behavioral, normative and control beliefs, which in turn affect attitudes, subjective norms, and perceived behavioral control (Ajzen & Albarracin, 2007; Ajzen & Klobas, 2013).

Behavioral beliefs refer to the subjective values and evaluations linked to a particular outcome associated with a behavior. The attributes that are associated with a particular behavior combined with our assessment of the outcome lead to *attitude toward a behavior*, which can be either favorable or unfavorable. If we believe that a behavior will result in a desirable consequence, then our attitude toward that behavior will be favorable. On the other hand, if we believe that a behavior is undesirable, then we will have an unfavorable attitude toward that

behavior (Ajzen, 1991). A more favorable attitude will lead to a stronger intention to perform that behavior (Ajzen, 1991; Armitage & Conner, 2001).

Normative beliefs refer to perception of the approval or disapproval of the behavior from important others. Normative beliefs influence *subjective norms*, the perceived social pressures to perform or not perform a behavior. If the referent individual or group approves of a behavior, then it is more likely that the individual will intend to perform that behavior. On the other hand, if the referent group disapproves of a behavior, then the individual will be less likely to intend to perform that behavior (Ajzen, 1991; Armitage & Conner, 2001).

Control beliefs refer to the perception of power to facilitate or prevent performance of a particular behavior based on the resources and opportunities individuals believe they have and impediments they expect. Control beliefs affect the individual's *perceived behavioral control*, which is the ease or difficulty of performing a particular behavior based on past experiences and anticipated obstacles. The greater the perceived behavioral control, the stronger the individual intention to perform that behavior (Ajzen, 1991; Armitage & Conner, 2001).

According to the theory of planned behavior, accessible beliefs that lead to a favorable attitude, approving subjective norms, and greater perceived behavior control will lead to stronger intention to perform a particular behavior (Ajzen, 2010). In addition, the TPB principle of compatibility suggests that there is a stronger correlation between beliefs, attitude, subjective norms, perceived behavioral control, and behavioral intention when the behavior involves a specific action, a specific context, and is in a specific timeframe (Ajzen, 2005). When there is some actual control and opportunity, intent will transition to behavior, making behavioral intention a direct antecedent to actual behavior (Ajzen, 1999, 2010; Ajzen & Klobas, 2013).

### 2.3.2 Attitude, Subjective Norms and Perceived Behavioral Control

The theory of planned behavior has been applied to many settings, including health behaviors, technology adoption, and consumer purchasing behavior. However, there has been limited application of the theory of planned behavior to examine research faculty members' scholarly behaviors. Applying TPB to the academic research setting can add to our understanding of the process involved in faculty members' engagement in scholarly activities.

One of the two original components of the theory of reasoned action that predicts intention is *attitude*. A person's attitude represents their evaluation of the behavior in question (Ajzen & Fishbein, 1977). Their evaluation can either be affective or instrumental (Ajzen & Driver, 1991; Bagozzi et al., 2001; Rhodes et al., 2006; Trafimow & Sheeran, 1998). The *affective component of attitude* refers to emotions and motivations created by the possibility of performing a behavior (e.g., pleasant/unpleasant, nice/nasty, enjoyable/unenjoyable, gratifying/revolting). On the other hand, the *instrumental component of attitude* refers to a more cognitive process where performing a behavior would be beneficial (harmful/beneficial, wise/foolish, safe/unsafe).

As defined earlier, *subjective norms* refer to the perception of social pressure to engage in a behavior (Ajzen, 1991). These social norms can either be injunctive or descriptive (Bagozzi, et al., 2001; Rhodes, et al., 2006; Rivas & Sheeran, 2003). *Injunctive* perceptions of what significant others think determine whether one should engage in a behavior. Social norms can also be *descriptive* where it is one's perception of what is normal behavior in that situation influences whether or not to engage in a given behavior. Essentially, subjective norms are concerned with what one ought to do vs. what is.

*Perceived behavioral control (PBC)* was introduced to the theory of reasoned action to act as a substitute for the actual measure of the how much voluntary control an individual has over a behavior when it is not completely under his or her control. Perceived behavioral control refers to the individual's perception of control over the performance of a behavior based on accessible internal or external control beliefs (Ajzen, 2002). Control beliefs refer to the perception of power to facilitate or prevent performance of a particular behavior based on the resources and opportunities individuals believe they have and impediments they expect (Ajzen, 2002). These beliefs are developed from past experiences and observation of other individuals' experiences.

While examining the operationalization of PBC, several studies found that perceived behavioral control is comprised of two latent variables: perceived self-efficacy and perceived controllability (Armitage & Conner, 1999; Ajzen, 2002; Kidwell & Jewell, 2003; Trafimow et al., 2002). Perceived self-efficacy refers to "the ease or difficulty in conducting a task or confidence in one's ability to perform it" (Ajzen, 2002, p. 671). This assessment is based on the individual's internally-oriented perception and demonstrates control over personal resources such as required skills, confidence, and ability. Ajzen (2002) explained that while perceived self-efficacy is similar to Bandura (1993) self-efficacy, they differ in that perceived self-efficacy's focus is on the performance of a behavior rather than the outcome produced by the behavior.

The second variable, perceived controllability, refers to "one's control over the behavior or the extent to which the performance is up to the actor" (Ajzen, 2002, p. 671). Here the individual's perception is externally oriented and influenced by potential barriers in the environment. Ajzen (2002) distinguishes perceived controllability from perceived locus of control. Locus of control refers to the extent to which an individual believes he or she has control

over his or her own fate and views rewards and punishment as a result of his or her actions or factors out of his or her control (Rotter, 1966). However, according to Ajzen (2002), perceived controllability is independent of internal or external control, but is concerned with the belief that resources or obstacles are present and can either facilitate or hinder the behavior.

While there has been extensive research on the factors that influence academic faculty research productivity, only one recent article used PBC to predict research productivity by examining research attitude, research intentions, and perceived barriers (Khalil, 2018). The results showed that while faculty members had a positive attitude toward research and intended to engage in scholarly behaviors, actual productivity was low. Given the limited application of PBC in the academic setting, this current study will expand our understanding of how academic faculty experiences influence their intentions and behaviors, which, according to Ajzen (1991), are a function of beliefs. Employees' beliefs about the work environment are developed from their experiences with agents of the organization, which, according to the organizational support theory, influence both attitudinal and behavioral outcomes. I specifically examined how faculty members' perception of self-confidence and control impact their behaviors using the perceived behavioral control construct.

## **2.4 Organizational Support Theory**

The organizational support theory (OST) proposes that employees form a general perception regarding how much the organization values their contributions and cares about their well-being, i.e., perceived organizational support, based on the actions of agents of the organization, such as the supervisor (Eisenberger et al., 1986). According to this theory, employees view favorable or unfavorable treatment via organizational policies, norms, and

culture as an indication that the organization favors or disfavors them, which influences their perception of support. In addition, discretionary actions such as pay, promotion, and influence over organizational policies increase employees' perception of how much they are valued (Eisenberger et al., 1986).

According to OST, employees' perception of organizational support produces the reciprocity norm (Eisenberger et al., 2001). Reciprocity norm refers to the return of favorable treatment: when one person treats another well and an increase in support is given, that exchange increases how much the giver is liked and how much support is reciprocated, which strengthens the relationship (Gouldner, 1960 as cited in Eisenberger et al., 2001). Applied to an organizational setting, employees who believe that the organization cares for and values them feel responsible to care for the organization's welfare. In addition, there is an expectation by the employee that they should receive recognition and reward for performance.

Organizational support theory also proposes that perceived organizational support satisfies socioemotional needs, such as approval, esteem, affiliation, and emotional support, which influences employees' social identity and commitment to the organization (Armeli et al., 1998; Eisenberger et al., 1986; Kurtessis et al., 2017).

## **2.5 Perceived organizational support**

### ***2.5.1 Antecedents of Perceived Organizational Support***

Perceived organizational support (POS) concerns employees' belief that the organization values their contributions and cares about their well-being (Eisenberger et al., 1986). These beliefs are influenced by several factors, including employees' perception of the equitable distribution of resources (Rhoades et al., 2001) and being treated with respect and dignity

(Moorman et al., 1998; Rhoades & Eisenberger, 2002; Wayne et al., 2002). The perception of fair treatment is primarily driven by the actions of supervisors, and those actions have a direct effect on employees' evaluation of support from the organization because supervisors are seen as agents of the organization (Eisenberger et al., 2002; Rhoades et al., 2001). According to organizational support theory, employees generally expect rewards for performance, which indicate that their contributions are valued, which thus leads to increased POS (Eisenberger et al., 1999; Rhoades & Eisenberger, 2002). Employees' perception of work conditions that are under the organization's discretionary control also affects their level of POS (Eisenberger et al., 1997). Specifically, job conditions that are viewed as being under low-discretionary control of the organization, such as those conditions regulated by the government, have a weaker relationship with POS than those that are under high-discretionary control of the organization.

Working conditions such as autonomy and job security are strong predictors of POS (Kurtessis, et al., 2017; Rhoades & Eisenberger, 2001). On the other hand, demands related to the character of the job or role stressors, such as role overload, conflict, and ambiguity, are not (Kurtessis, et al., 2017; Rhoades et al., 1997). Role stressors are environmental demands that employees feel they are unable to manage. Role ambiguity, role conflict, and work overload were identified as particular stressors to employees' role that decreased POS (Eisenberger et al., 1997; Kurtessis, et al., 2017; Rhoades & Eisenberger, 2001).

### **2.5.2 Outcomes of Perceived Organizational Support**

Perceived organizational support has been shown to directly affect attitudinal and behavioral outcomes. POS leads to increased levels of commitment and obligation to the



organization, job satisfaction, job self-efficacy, organization-based self-esteem, and ultimately is negatively related to job stress and burnout (Eisenberger et al., 2001).

One attitudinal outcome of POS is organizational commitment, which consists of three components - affective, normative, and continuance commitment (Meyer & Allen, 1990). Of the three components of organizational commitment, affective commitment has the strongest relationship with perceived organizational support (Meyer et al., 2002). The direct relationship between POS and affective commitment is associated with socioemotional needs of the employee (Armeli et al., 1998; Kurtessis et al., 2017), as their membership with the organization and role status increases their social identity with the organization. In addition, employees develop emotional bonds with the organization because their needs around esteem, approval, support, and affiliation are met (Armeli et al., 1998; Eisenberger et al., 2001).

According to organizational support theory, when employees believe that the organization cares for and values them, the norm of reciprocity is invoked, which causes them to feel obligated to help the organization reach its goals (Eisenberger et al., 2001). POS increases the feelings of obligation, which in turn increases the normative commitment the employee has to the organization.

Another attitudinal outcome of POS is job satisfaction, which refers to the positive feelings related to employees' job or work experiences. Job satisfaction has been examined as either an overall global measure (Scarpello & Campbell, 1983) or facet satisfaction, where satisfaction with pay, work, promotions, coworkers, and supervision are examined separately (Smith et al., 1969). Previous studies have shown that there is a strong positive relationship with perceived organizational support and job satisfaction (Bowling & Hammond, 2007; Eisenberger et al., 1997; Rhoades & Eisenberger, 2002).

Perceived organizational support also has a direct effect on self-efficacy (Caesens & Stinglhamber, 2014). Self-efficacy concerns an individual's belief that they can perform at a level that will influence the events in their lives, which also affects how they feel, think, and behave (Bandura, 1994). According to Caesens and Stinglhamber (2014), POS impacts self-efficacy through the experiences from which self-efficacy is developed, including overcoming obstacles through perseverance, social modeling, social persuasion, and mood.

As for behavioral outcomes, POS increases in-role performance and organizational citizenship behavior and reduces withdrawal behaviors. (Kurtessis et al., 2017; Rhoades et al., 2001). When the relationship between in-role performance and organizational citizenship and POS were assessed, the results showed that while these behaviors are directly impacted by POS, the relationships are weak. However, when attitudinal outcomes such as commitment and self-efficacy were introduced, the results enhanced relationships between POS and behavioral outcomes (Kurtessis et al., 2017). When both affective commitment and normative commitment were introduced, they partially mediated the relationship between POS and organizational citizenship behavior; however, that relationship was stronger for affective commitment. In addition, only affective commitment contributed to the relationship between POS and in-role behavior. Consequently, employees with high POS have more affective commitment and feel obligated to organizations' welfare and are thus less likely to engage in withdrawal behaviors such as turnover intentions, absenteeism, job search behavior, and turnover (Kurtessis et al., 2017). Finally, job self-efficacy was found to be only weakly related to performance (Eisenberger et al., 1997; Armeli et. al, 1998; Kurtessis et al., 2017). When introduced to the relationship between POS and in-role performance, self-efficacy was revealed to partially mediate the relationships, but the effect size was small (Kurtessis et al., 2017).

Previous studies have demonstrated that POS has a positive relationship with performance, job satisfaction, attachment, and engagement among university faculty and staff (Fuller et al., 2006; Guan et al., 2014; Yadav, 2016). One particular study examined POS among university faculty, and the results showed that there was both a direct effect on job performance and an indirect effect through commitment and job satisfaction (Guan et al., 2014). However, job performance measured the individuals' overall performance level, task completion, and competency, but did not specifically examine research productivity.

### **2.5.3 Moderating Effect of Perceived Organizational Support**

Perceived organizational support has been shown to mitigate the impact of organizational stressors on both attitudinal and behavioral outcomes (Conway & Coyle-Shapiro, 2012; Duke et al., 2009; Jain et al., 2012; Wallace et al., 2009). These organizational stressors include, but are not limited to, work relationships, the job, work overload, and control. Wallace et al. (2009) demonstrated that POS helps employees meet the demand of challenge stressors that are perceived to be under the employee's control, which in turn leads to better performance. These stressors include high workload, time pressure, and high levels of responsibilities. On the other hand, POS did not impact hindrance stressors that employees perceive as not under their control, including organizational politics, red tape, and role ambiguity (Wallace et al., 2009).

Emotional labor, which is the experience of workers having to suppress negative emotions and express positive emotions in order to meet the demands of their jobs (Schaubroeck & Jones (2000) as cited in Duke et al., 2009), is also influenced by POS. In fact, POS has been shown to moderate the relationship between emotional labor and job satisfaction, and between

emotional labor and job performance (Duke et al., 2009). Specifically, increased POS mitigates the negative impact of emotional labor.

Perceived organizational support also moderates the relationship between employer behavior and employee performance by absorbing the impact of a breach in the psychological contract. However, the influence of POS gets weaker over time as performance delivery becomes more important in the employer-employee relationship (Conway & Coyle-Shapiro, 2012).

Perceived organizational support also moderated the relationship between self-efficacy and work engagement (Ott, Huan & Binnewies, 2019). In fact, high levels of POS compensated for low levels of self-efficacy to increase work engagement.

Finally, POS has a negative relationship between organizational stressors and organizational citizenship behaviors (OCBs) (Jain, Giga & Cooper, 2012). Specifically, POS allows employees to reduce effort in OCB if engaging in those activities becomes overwhelming.

Based on these reviews, POS provides the context in which the relationship between organizational stressors and the related outcomes unfold. Increased perceived organizational support mitigates the negative impact of organizational stressors, ultimately resulting in positive outcomes.

## **2.6 Leader-Member Exchange**

Recent leader-member exchange (LMX) research defines LMX as the measure of the quality of the working relationship between leaders and each member of their team (Blau, 1964; Graen & Uhl-Bien, 1995). Low-quality LMX is characterized by a basic economic exchange, such as an employment contract that centers on compensation for performance (Blau, 1964). The high-quality LMX relationships are social in nature and are characterized by loyalty,

commitment, support, and trust (Cropanzano & Mitchell, 2005; Graen & Uhl-Bien, 1995). Members with high quality LMX relationships have access to information and other resources that lead to better performance and other outcomes such as job satisfaction, organizational commitment, organizational citizenship behavior, and completion of favors for the supervisor (Masterson et al., 2000; van Breukelen et al., 2006; Wayne et al., 1997). In addition, because the quality of the relationship between leader and follower is different for each member of the team, work units develop “in-groups” and “out-groups” (van Breukelen et al., 2006). In-groups generally have a high-quality relationship with the leader and the out-group has a low-quality relationship.

Graen and Uhl-Bien (1995) suggested that LMX relationships develop at different phases. The first is the stranger phase, where the relationship is based on contractual agreement and is of low quality. Second, the acquaintance phase is marked by sharing resources, defining roles, and improving the quality of exchange. Third, the mature phase is more of a partnership, which is marked by high quality exchange with mutual trust.

In recent meta-analyses of the antecedents and consequences of the leader-member exchange, Dulebohn et al. (2012) and Martin et al. (2016) identified LMX antecedents as *follower characteristics*, including competence, agreeableness, extraversion, affectivity, and locus of control. *Leadership characteristics* include expectation, contingent reward behavior, transformational leadership, extraversion, and agreeableness. Finally, *interpersonal relationships* were defined by liking, ingratiation, perceived similarity, self-promotion, assertiveness, and leader trust. On the other hand, LMX had *attitudinal outcomes* that included commitment and satisfaction. *Behavioral outcomes* included performance, turnover, and citizenship behavior.

Lastly, *perceptual outcomes* included procedural and disruptive justice, empowerment, and perception of politics.

Leader-member exchange has been used to examine how the social relationship between new faculty and their former dissertation chairs influence their productivity (Ugrin et al., 2012). The study showed that a high quality LMX led to more publications in the first five years of the new faculty career. While Ugrin et al.'s study examined the relationship among accounting faculty, not biomedical researchers as in the current study, it demonstrates that the context of the social relationship impacts faculty scholarly productivity.

## **2.7 Hypothesis Development**

### ***2.7.1 Perceived Organizational Support and Perceived Behavioral Control***

Faculty members' accessible beliefs regarding whether it is favorable or unfavorable to engage in scholarly activities are based on their level of perceived organizational support. The formation of those beliefs is derived from the perception of access to resources such as protected research time, space, shared resources, and administrative support. Other factors that influence the formation of beliefs about their work environment via perceived organizational support include being rewarded or recognized for their accomplishments and the amount of autonomy given to develop research (Eisenberger et al., 1999; Kurtessis, et al., 2017; Rhoades & Eisenberger, 2001). One of the outcomes from increased levels of perceived organizational support is self-efficacy (Caesens & Stinglhamber, 2014; Kurtessis, et al., 2017). Increased levels of POS will enhance faculty members' confidence in their ability to engage in tasks such as designing research, analyzing data, writing manuscripts, obtaining grants, and presenting data, or their research self-efficacy.

Since POS positively influences both the faculty members' sense of control and the perception of research self-efficacy, which are both components of perceived behavioral control construct (Ajzen, 2002), increased levels of POS should positively influence PBC. Faculty members with high levels of perceived organizational support will have greater levels of perceived behavioral control, and thus a favorable attitude toward engaging in scholarly activities (Figure 2.1).

**H1a:** *Perceived organizational support will be positively related to perceived behavioral control.*

### **2.7.2 Leader-Member Exchange and Perceived Behavioral Control**

Bland et al. (2002) showed that faculty members' productivity is predicted by their leaders' ability to communicate clear goals to the department, using a participative leadership style, and facilitating opportunities for faculty. These actions are indicative of a high-quality LMX relationship. One outcome of high quality LMX is psychological empowerment, which has four dimensions: 1) meaning: how one values their work role or purpose based on their own beliefs; 2) competence: one's belief in their capacity to perform a specific work role with skill; 3) self-determination: one's sense of autonomy to initiate and continue work behaviors by making decisions about method, pace and effort; and 4) impact: the degree to which an individual can influence outcomes at work (Spreitzer, 1995a). The two latent variables of PBC are consistent with two of the dimensions of psychological empowerment, which is an outcome of high quality LMX. *Perceived self-efficacy* (belief in one's ability to perform a task) is consistent with *competence* (one's belief in their capacity to perform a specific work role with skill). *Perceived controllability* (the extent to which the performance is up to the actor) is consistent with *self-*

*determination* (one's sense of autonomy to initiate and continue work behavior by making decisions about method, pace, and effort).

According to Aryee & Chen (2006), followers with high-quality LMX feel more empowered as support from their leaders increases their feelings of competence. Therefore, faculty members who receive support from their leaders through access to resources, dedicated time for research, and expectations will exude confidence in their ability to engage in scholarly activities, i.e., competence. In addition, access to information and input in decision making using participative leadership increases the feelings of autonomy and influence on how to execute scholarly activities, which leads to faculty members believing that they will have control over scholarly behaviors.

Given that high-quality LMX leads to the belief in one's ability to complete tasks and more autonomy in how to execute such tasks, which are synonymous with having confidence and control, high quality LMX will predict perceived behavioral control.

**H1b:** *High-quality leader-member exchange will be positively related to perceived behavioral control.*

### **2.7.3 Perceived Behavioral Control and Behavioral Intention**

Behavioral intention (BI) is the motivation to perform a behavior, represented by how hard one is willing to try and how much effort one plans to exert in order to perform that behavior. Willingness and effort are influenced by perceived behavioral control. In fact, the strength of the relationship between PBC and BI is predicated on how much emphasis individuals put on the perception of the feasibility of performing that behavior (Trafimow et al., 2002). Feasibility is determined when the strongest decisive factors are based on an evaluation of the individual's

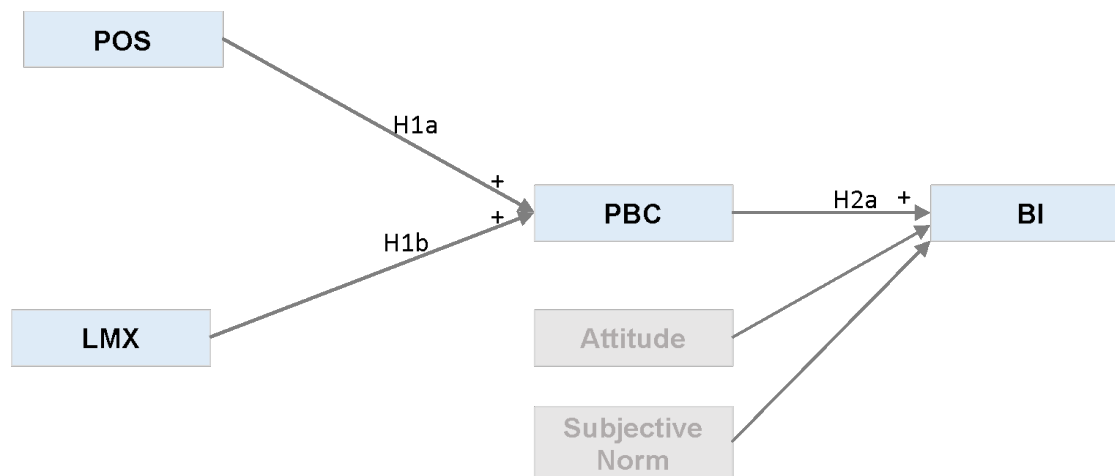


ability, which for faculty members is the belief in their ability to engage in tasks such as designing research, analyzing data, writing manuscripts, obtaining grants, and presenting data, as well as the perception of competence (Perry, et al., 2002; Stansky, et al., 2017). Other decisive factors for feasibility include available resources, opportunity, supportive environment, and/or unexpected circumstances, which can be referred to as control factors that have had an impact on expected success in research and teaching (Stansky et al., 2017). Given the assessment of feasibility and evaluation of confidence in ability and control factors, it can be determined that PBC will predict behavioral intention. If faculty members have confidence in their abilities to engage in scholarly behavior and have a strong perception of control, they will have positive intentions toward that behavior (Figure 2.1).

**H2a:** *Faculty members will have positive behavioral intentions towards engaging in scholarly activities when there is greater perceived behavioral control.*

**H2b:** *Perceived behavioral control will mediate the relationship between perceived organizational support and behavioral intention.*

**H2c:** *Perceived behavioral control will mediate the relationship between leader-member exchange and behavioral intention.*



**Figure 2.1 Theoretical Model**

#### **2.7.4 The Moderating Effect of POS and LMX on PBC and Behavior Intention**

Johns (2018) assessed the use of contextual variables in organizational research and identified the theory of interpersonal situations, which characterized context as a crucial element pertaining to work and organization. This theory postulates that people affect each other and outcomes from the dyad level to the larger organization level. The interactional nature of POS through the reciprocal relationship between employee and organization, and LMX through the reciprocal relationship between leader and follower, position both constructs to provide the context in which faculty members form behavioral intention in the relationship between PBC and BI. While I propose that perceived organizational support and leader-member exchange will both predict perceived behavioral control (PBC), the strength and direction of the relationship between PBC and behavioral intention may also be influenced by the organizational context that is created by the faculty members' perception of their work environment.

In fact, previous studies have shown that the strength of the relationship between PBC and BI is influenced by several factors, including the fact that for people who tend to view

behaviors as difficult and out of their control, PBC is a better predictor of intention when there are resources, opportunity and cooperation (Sheeran et al., 2002). These individuals' decision to perform a behavior is strongly determined by availability of resources, opportunity, and cooperation, which can be perceived as organizational support. These individuals also have more external locus of control (Sheeran et al., 2002), and according to Chiu et al. (2005), individuals who have an external locus of control are more responsive to organizational support. On the other hand, in a high-quality LMX relationship, the leader is more likely to allocate resources and facilitate opportunities, which increases the likelihood of these individuals engaging in behaviors that are seen as difficult or out of their control.

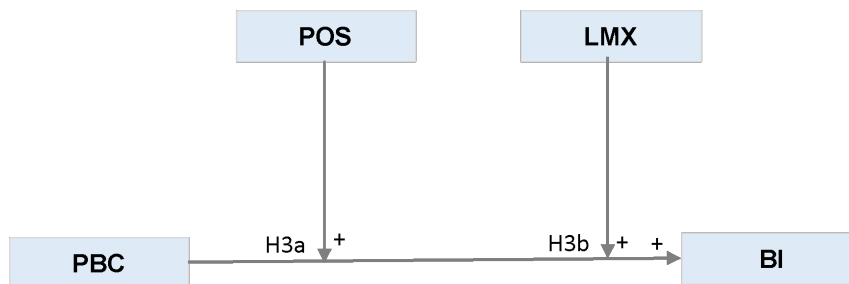
AMC faculty members' perception of the availability of institutional resources is used as an indicator of the level of organizational support (Bland, 1992; Bland et al., 2005; Hesli & Lee, 2011). Institutional resources include, but are not limited to, funding, support staff, as well as research facilities. Productivity of faculty members increases when there is the perception that there is a high level of support, while a lack of institutional resources has been shown to be a barrier to productivity (Sharobeam & Howard, 2002). The opportunity to engage in scholarly activities is reflected in the amount of protected time allotted to faculty members to perform research, which is often competing with clinical and/or teaching activities. Such protected research time is an important element in creating an environment conducive to research productivity (Bland, 1992; Bland et al., 2005; Hesli & Lee, 2011). Thus, faculty members' perception of institutional support creates the context in which their self-confidence and perception of control influence their willingness to engage in scholarly activities (Figure 2.2).

As leaders provide resources and facilitate opportunities for faculty members to engage in scholarly activities, faculty feel more capable of writing a grant, publishing a paper, and/or

submitting a proposal. Such resources and opportunities also promote feelings of autonomy. Therefore, LMX will also influence faculty members' willingness to engage in scholarly activities. (Figure 2.2).

**H3a:** *Perceived organizational support will moderate the relationship between perceived behavioral control and behavioral intention such that POS enhances the relationship between perceived behavioral control and behavioral intention.*

**H3b:** *Leader-member exchange will moderate the relationship between perceived behavioral control and behavioral intention such that LMX enhances the relationship between perceived behavioral control and behavioral intention.*



**Figure 2.2 Alternative Theoretical Model**

## CHAPTER 3

### RESEARCH METHODOLOGY

#### 3.1 Research Strategy

The purpose of this study is to examine the impact of faculty members' perception of support in their work environment on their perceived behavioral control and, subsequently, their intention to engage in scholarly activities in an academic medical setting. The most appropriate research strategy to accomplish this goal was a field study. A field study was suitable because it captured the data at academic medical centers to assess faculty perception of support in their environment while minimizing the effects of research procedures. The strength of utilizing a field study to measure the effects of leader-member exchange, perceived organizational support on perceived behavioral control, and behavioral intention is that it captures contextual realism.

#### 3.2 Research Sample

This study targeted faculty members who engage in research related activities in an academic medical setting. The sample was drawn from select National Cancer Institute (NCI) Comprehensive Cancer Centers from universities across the country. The NCI Cancer Centers Program was created as part of the National Cancer Act of 1971, which recognizes centers across the United States that meet rigorous standards for transdisciplinary, state-of-the-art research focused on developing new and improved approaches to preventing, diagnosing, and treating cancer ([www.cancer.gov](http://www.cancer.gov)). Faculty members at these centers conduct research studies ranging from basic laboratory research to clinical assessments of new treatments. The six essential characteristics of any NCI Cancer Center are: 1) physical space where shared resources are accessible to members; 2) organizational capabilities to develop and maintain a robust

programmatic structure; 3) formal scientific research programs that promote inter- and intra-programmatic collaborations; 4) having a cancer focus; 5) commitment of support from the parent institution; and 6) having a Center Director who is a highly qualified scientist and administrator with the leadership experience and expertise appropriate for establishing a vision for the Center, advancing scientific goals, and managing a complex organization ([www.cancer.gov](http://www.cancer.gov)).

There are 71 NCI designated cancer centers across the United States, most of which are affiliated with a university medical center, with a few engaged in research only. For the purposes of this study, a convenient sample was drawn from faculty affiliated with select university medical centers that have an NCI designation. The average number of full and affiliate members at each site was 260.

### **3.3 Power Analysis**

When determining sample size, researchers can employ two types of power analysis. One method involves calculating the required sample size or participant count for a specified power, known as *a priori* power analysis. The other option is to calculate the power when a specific sample size is given, known as post hoc power analysis. For the purposes of this study, the G\*Power software program was used to conduct *a priori* power analysis to determine the required participant sample size (see Table 3.1).

**Table 3.1***G\*Power Analysis Sample Size*

<b>Test family</b>	F tests		
<b>Statistical test</b>	Linear multiple regression: Fixed model, R <sup>2</sup> increase		
<b>Type of power analysis</b>	<i>A priori</i> compute required sample size - given $\alpha$ , power and effect size		
<b>Input parameters</b>			<b>Output parameters</b>
Effect size	0.15	Non-centrality parameter	8.2500000
$\alpha$ error prob	0.05	Critical F	4.0383926
Power (1- $\beta$ err prob.)	.80	Numerator <i>df</i>	1
Number of tested predictors	1	Denominator <i>df</i>	49
Total number of predictors	5	Total Sample Size	55
		Actual power	0.8038932

*Note.* G\* Power Analysis calculated via G Power Software Die Heinrich-Heine-Universität Düsseldorf.

### 3.4 Data Collection

Center Administrators of select Cancer Centers were contacted to obtain permission to recruit faculty members to participate in this study. A description of the study with the IRB approval from University of Dallas IRB, as well as a copy of the communication that was sent out to each faculty requesting their voluntary participation, and a request for this person to act as our champion in the organization. As an incentive for participating, each institution was provided an aggregated report on faculty members' perception of their work environment and how it has impacted their productivity. Once approval was obtained from the Center Administrator, I worked to identify faculty to participate in our research study.

An electronic communication was sent to the faculty members that described the study, described the risks and benefits of participating in the study, provided an alternative to participating in the study, informed participants that they could stop at any time, and reassured them that their participation was confidential. Within the target group, faculty had the opportunity to self-select. Faculty were asked if they would like to participate. If the faculty member selected “No,” I thanked them for their time and ended their participation. If the faculty member selected “Yes,” their name was forwarded to a portal to participate in the study. I requested some demographic information, such as gender, tenure with organization, rank, and Cancer Center membership. Electronic versions of Perceived Organizational Support, Leader-Member Exchange, and theory of planned behavior scales then launched, including an assessment of participants’ behavioral intention. The faculty identifying information was replaced with a study ID number, and the “key” was kept in a secure place separate from the research instruments.

To improve response rate, the faculty were informed that their responses would help in understanding how to improve their work environment to promote their productivity. In addition, a mobile friendly version of the questionnaire was made available so participants could respond on the go.

### **3.5 Measurement**

#### ***3.5.1 Perceived Organizational Support***

To measure the faculty members’ perception of their work environment, Eisengberg et. al. (1986) 9-item version of the Survey of Perceived Organizational Support (SPOS) was used. The SPOS was selected because the scale captures employees’ belief about how much the



organization values their contributions and cares about their well-being. POS was also used as the moderating variable to measure its impact on strength of the relationship between perceived behavioral control and behavioral intention. The reliability of this shortened version of SPOS was used by Wayne et al. (1997) and the  $\alpha = .93$ .

The faculty members were asked to indicate the degree of their agreement or disagreement with each statement that best represented their point of view about the Cancer Center. Each item was measured with a 6-point Likert Scale ranging from 0 (Strongly Disagree) to 6 (Strongly Agree). Statements included:

- \*4. The Cancer Center strongly considers my goals and values.
- \*8. Help is available from the Cancer Center when I have a problem.
- \*9. The Cancer Center really cares about my well-being.
- 10. The Cancer Center is willing to extend itself in order to help me perform my job to the best of my ability.
- \*17. Even if I did the best job possible, the Cancer Center would fail to notice. (R)
- \*21. The Cancer Center cares about my general satisfaction at work.
- \*23. The Cancer Center shows very little concern for me. (R)
- \*25. The Cancer Center cares about my opinions.
- \*27. The Cancer Center takes pride in my accomplishments at work.

(R) indicates the item is reverse scored.

\* indicates the item was retained for the short version of the survey.

### 3.5.2 Resources

To measure faculty members' perception of institutional support for research related activities, items that measured institutional characteristics that influence research productivity were adopted from Bland (2005). The faculty members were asked to indicate the degree of their agreement or disagreement with each statement that best represented their point of view about their department and the Cancer Center. Each item was measured with a 6-point Likert Scale ranging from 0 (Strongly Disagree) to 6 (Strongly Agree).

- 1) I have access to adequate shared resources in the Cancer Center to conduct my research projects.
- 2) I have adequate access to the Cancer Center clinical trials support team to conduct my clinical research.
- 3) I have adequate space to conduct my research.
- 4) I have space that is well equipped for me to conduct my research.
- 5) The skills, expertise, and experience of faculty in the Cancer Center Research Program and/ or Disease Oriented Program are appropriate to accomplish our research goals.
- 6) I have adequate time to conduct research projects.
- 7) I have a system that allows me to protect periods of uninterrupted time to address research activities.
- 8) I have a high degree of input into how I wish to spend my time within each of my faculty roles.

### 3.5.3 Perceived Behavioral Control

Perceived behavioral control was assessed using nine indicators specific to the behavior and population of interest. A 7-point Likert scale was used to measure the latent variables in PBC (Kraft et al., 2005; Sheeran et al., 2003) as a unidimensional construct. The study conducted by Kraft et al., 2005 was specifically looking at the PBC construct and its relationship to intention and behavior. The reliability coefficient for PBC as a unidimensional construct was .89 (Kraft et. al., 2005). To measure faculty members' perception of the *ease or difficulty* of engaging in scholarly activities, they were asked:

- 1) For me to submit a grant, a research paper or clinical protocol in the next 2 months it would be difficult (disagree completely/agree completely).
- 2) How easy or difficult would it be for you to submit a grant, a research paper or clinical protocol in the next 2 months (very difficult/very easy).

To measure how *confident* the faculty was that they would be able to successfully perform the behavior, they were asked:

- 1) If I wanted to, I would not have problems in succeeding to submit a grant, a research paper or clinical protocol in the next 2 months (disagree completely/agree completely).
- 2) How confident are you that you could submit a grant, a research paper or clinical protocol in the next 2 months (completely unconfident/ completely confident).
- 3) If you actually tried, how likely is it that you would succeed submit a grant, a research paper or clinical protocol in the next 2 months (very unlikely/very likely).

To reflect on their *perceived control*, faculty members were asked:

- 1) I have full control over submitting a grant over the next 2 months. (disagree completely/agree completely)

- 2) How much control do you feel over submitting a grant, a research paper or clinical protocol in the next 2 months? (no control at all/complete control)

#### **3.5.4 Subjective Norm**

To measure the injunctive and descriptive aspects of subjective norms, three questions were asked on a 7-point Likert Scale. Sample questions were adapted from Azjen (2002).

- 1) Most people who are important to me approve of me submitting a grant, a research paper or clinical protocol. (Agree/Disagree)
- 2) Other faculty members like me will submit a grant, an article, or a protocol in the next 2 months. (Likely/Unlikely)
- 3) The Cancer Center expects me to submit a grant, an article, or a protocol in the next 2 months. (Strongly disagree/strongly agree)

#### **3.5.5 Attitude Towards Behavior**

To measure the instrumental and experiential aspects of attitude towards behavior, three questions were asked on a 7-point Likert Scale. Sample questions were adapted from Azjen (2002).

- 1) Submitting a grant, an article or a protocol in the next 2 months would be (Bad/Good)
- 2) Submitting a grant, an article or a protocol in the next 2 months would be (Pleasant/Unpleasant)
- 3) When I submit a grant, an article, or a protocol, I feel better about myself (Strongly disagree/Strongly agree)

### 3.5.6 Behavioral Intention

There is no theory of planned behavior questionnaire; therefore, researchers must construct questionnaires suitable for the behavior and the population of interest (Kraft et. al., 2005). For this study, faculty members' *intentions* to engage in scholarly activities were measured based on their likeliness to engage in that activity. Each item was measured with a 7-point Likert Scale ranging from 0 (Very Unlikely) to 7 (Very likely). Sample questions were adapted from Azjen (2002).

- 1) I will try to submit a grant, research paper or clinical protocol in the next 2 months.
- 2) I intend to submit a grant, research paper or clinical protocol in the next 2 months.
- 3) I plan to submit a grant, research paper or clinical protocol in the next 2 months.

### 3.5.7 Leader Member Exchange (LMX)

Leader Member Exchange (LMX) was measured with a seven-item scale developed by Graen and Uhl-Bien (1995). This questionnaire describes the followers' relationship with their leader. For each of the items, the follower indicated the degree to which they think the item is true for them by selecting one of the responses. Each item was measured with a 5-point Likert Scale ranging from 1 to 5. The reliability for this scale is .87.

- 1) Do you know where you stand with your department chair and do you usually know how satisfied your department chair is with what you do? (Rarely to Very Often)
- 2) How well does your department chair understand your job problems and needs? (Not a bit to A great deal)
- 3) How well does your department chair recognize your potential? (Not at all to Fully)

- 4) Regardless of how much formal authority your department chair has built into his or her position, what are the chances that your department chair would use his or her power to help you solve problems in your work? (None to Very High)
- 5) Again, regardless of the amount of formal authority your department chair has, what are the chances that he or she would “bail you out” at his or her expense? (None to Very High)
- 6) I have enough confidence in my department chair that I would defend and justify his or her decision if he or she were not present to do so. (Strongly disagree to Strongly agree)
- 7) How would you characterize your working relationship with your department chair? (Extremely ineffective to Extremely effective)

### **3.5.8 Satisfaction with Life Scale**

Because both the dependent and independent variables were collected from the same source using self-reports, the study was susceptible to false internal consistency leading to common methods variance. To address this during data collection, a marker variable was introduced using an unrelated scale (Tehseen et al., 2017). For purposes of this study, the Satisfaction with Life Scale was administered. The SWLS is a short 5-item instrument designed to measure global cognitive judgments of satisfaction with one's life (Pavot & Diener, 2008); however, only three items were used for this study. Each item was measured with a 7-point Likert Scale ranging from 1 to 7 that measured the participant's level of agreement. The reliability for this scale is .79 to .89 (Pavot & Deiner, 2008).

- 1) In most ways my life is close to my ideal (Strongly disagree/Strongly agree).
- 2) I am satisfied with my life (Strongly disagree/Strongly agree).

- 3) If I could live my life over, I would change almost nothing (Strongly disagree/Strongly agree).

### **3.6 Control Variables**

Based on previous studies that have demonstrated various variables are related to more productivity among faculty (Bland, et al., 2005; Bland et al., 2002; Dundar & Lewis, 1998; Finkelstein, 1984; Teodorescu, 2000), I included variables that were correlated with the independent and dependent variables as control variables. Because the study is focusing only on perceived behavioral control, which is part of the larger framework of the theory of planned behavior that includes subjective norms and attitude as predictors of behavioral intention, both subjective norms and attitude towards behavior were included as control variables.

### **3.7 Data Analysis**

To examine the distribution of the sample, I calculated the mean and standard deviation for the measures. Percentages were calculated for gender, age, Cancer Center membership, and categorized tenure in organization.

The statistical data analysis and SEM was conducted using the IBM® SPSS® AMOS 28.0.0 software package. Maximum likelihood was used as the estimation technique based on a covariance matrix, which assumes multivariate normality (Kline 2016). Multivariate normality was assessed by computing Mardia's statistic (Kankainen et al., 2004). Before conducting SEM to test the hypothesized intervening model, a CFA was conducted to assess the goodness of fit of the model to the data (Kline, 2016; Schumacker & Lomax, 2016). In addition, pattern and structure coefficients were assessed to determine whether the construct variable correlated most

highly with its corresponding factor, as indicated by the structure coefficients (Graham et al., 2003). In addition, I tested for the effects of controls on the model.

Since all the variables in this study involved social reports that were obtained from faculty members, which creates concern of common source variance, a Harman Single-Factor Test was conducted to address this potential issue. Additional statistics that were evaluated include the factor loadings, the composite reliability (CR), the average variance extracted (AVE), and the square root of the AVE to assess convergent and discriminant validity.

To examine the moderating effect of perceived organizational support and leader-member exchange on the relationship between perceived behavioral control and behavioral intention, I also used IBM® SPSS® AMOS 28.0.0 software package. I assessed whether there is a significant change in the regression weights when POS and LMX are introduced into the relationship between PBC and BI, which would indicate that it has a moderating effect.



## CHAPTER 4

### RESULTS

#### 4.1 Demographics

Faculty members from 28 institutions across the United States that host NCI Designated Cancer Centers responded to the survey. Most of the institutions' NCI designation were "Comprehensive" Cancer Centers; only two did not have the "Comprehensive" designation and one was a Basic Laboratory. Almost all the Cancer Centers were affiliated with a university medical center. Sixty-five percent of the respondents were full members of the Cancer Center, and 82% have been at their institutions for over five years. There was almost an even distribution of male (55%) and female (45%) respondents and an even distribution among academic rank and age, except for the instructors who are generally junior faculty trainees (See Table 4.1).

**Table 4.1**

*Demographic Characteristics of the Participants*

<b>Sample Characteristics</b>	<b><i>n</i></b>	<b>%</b>
<b>Gender</b>		
Male	80	55
Female	66	45
<b>Age</b>		
25 - 35	6	4
36 - 45	56	38
46 - 55	35	24
Over 55	49	34
<b>Academic Rank</b>		
Instructor	5	3
Assistant Professor	36	25
Associate Professor	48	33
Professor	57	39
<b>Years at Institution</b>		
1 to 5 years	26	18
6 to 10 years	38	26
Over 10 years	82	56
<b>Cancer Center Membership</b>		
Non-member	51	35
Member	95	65

*n* = 146

Over 3,000 surveys were distributed across the institutions, and 278 responses were received. A listwise deletion was used to manage missing values from the dataset, and the final sample size used for the data analysis was 146.

## 4.2 Correlation

Table 4.2 presents the intercorrelation among the demographic variables - years at institution, academic title, age, gender, and cancer center membership – and the other variables in the model including leader-member exchange (LMX), perceived organizational support (POS), perceived behavioral control (PBC), attitude towards behavior (attitude), subjective norms (norm) and resources. The correlation showed that, in general, demographic variables were not correlated with the dependent or independent variables except for cancer center membership that was positively correlated with POS ( $r = .31, p = .00$ ) and gender that was negatively correlated with LMX ( $r = -.23, p < .01$ ), PBC ( $r = -.22, p = .00$ ) and resource ( $r = -.27, p < .01$ ). Consistent with our hypotheses, both perceived organizational support ( $r = .17, p = .04$ ) and leader-member exchange ( $r = .33, p = .00$ ) were positively related to perceived behavioral control; however, they were not correlated to behavioral intention (see Table 4.2). On the other hand, perceived behavioral control was positively related to behavioral intention ( $r = .47, p = .00$ ). Subjective norms and resource both had a significant positive relationship with LMX, POS, PBC and BI, however attitude had significant negative relationships with LMX, PBC, and BI and did not have a significant relationship with POS (see Table 4.2).

**Table 4.2***Correlation Matrix*

	1	2	3	4	5	6	7	8	9	10	11	12
<b>1. Years</b>												
<b>2. Title</b>	.61**											
<b>3. Age</b>	.56**	.78**										
<b>4. Gender</b>	-.08	-.27**	-.14									
<b>5. Membership</b>	-.01	.15	.11	-.03								
<b>6. LMX</b>	-.15	-.02	-.09	-.23**	.01	<b>(.92)</b>						
<b>7. POS</b>	-.08	.05	.01	-.05	.31**	.38**	<b>(.92)</b>					
<b>8. PBC</b>	.04	.14	.15	-.22**	.00	.33**	.17*	<b>(.93)</b>				
<b>9. BI</b>	-.03	.05	-.01	-.09	-.08	.13	.08	.47**	<b>(.95)</b>			
<b>10. Attitude</b>	-.05	.07	.01	.09	.10	-.24**	-.08	-.29**	-.25**	<b>(.47)</b>		
<b>11. Norm</b>	.03	.08	.15	.10	.15	.22**	.23**	.46**	.47**	-.16	<b>(.39)</b>	
<b>12. Resource</b>	-.03	.05	.15	-.25**	.14	.38**	.46**	.59**	.22**	-.11	.28**	<b>(.83)</b>

\*\*Correlation is significant at  $p$ -value  $< .01$

\* Correlation is significant at  $p$ -value  $< .05$

*Cronbach's Alpha reliabilities are presented on the diagonal*

### 4.3 Normality

Maximum likelihood was used as the SEM estimation technique based on a covariance matrix, which assumes multivariate normality (Kline 2016). The covariance data matrix of the raw data was positive. A significant result of the Mardia statistic and a critical ratio higher than 5.0 indicates a departure from multivariate normality (Byrne, 2010; Kankainen et al., 2004). Multivariate normality was not met for the raw data with a Mardia statistic of 106.08 and a critical ratio of 16.80 ( $p < .05$ ). Therefore, a 2,000-case bootstrapping procedure at the 95% confidence level was performed (Kline, 2016). The results indicated that non-bootstrapped estimates were not substantively different compared to bootstrapped estimates. Consequently, data were considered to be multivariate normal with no outliers, and non-bootstrapped estimates were reported (Kline, 2016) with the exception of the standardized indirect effects that are reported for the structural model.

### 4.4 Confirmatory Factor Analysis

Before conducting SEM to test the hypothesized intervening model, a CFA was conducted to assess the goodness of fit of the model to the data (Kline, 2016; Schumacker & Lomax, 2016). Four factors were allowed to correlate as part of the measurement model assessment. Commonly used fit indices were compared to evaluate the model fit of several measurement models. The goodness of fit for the measurement model was determined based on the following cut-off criteria: (a) the root mean squared error of approximation (RMSEA) = .081; (b) the standardized root mean square residuals (SRMRs)  $\leq .08$ ; (c) the comparative fit index (CFI)  $\geq .90$ ; (d) the smallest value of the Akaike information criterion (AIC); and (e) the Bayes information criterion (BIC) (Byrne, 2010; Kline, 2016; Schumacker & Lomax, 2016).

For the CFA, four measurement models were evaluated (see Table 4.3). The first measurement model tested was the theoretical four-factor CFA model with all items. Model 1 provided an adequate fit for the data (RMSEA = .08, SRMR = .06, CFI = .90). Model 2 was a five-factor CFA model that separated self-confidence and control, which are latent factors in PBC (RMSEA = .08, SRMR = .06, CFI = .91). Model 3 combined the self-confidence and control into one higher-order factor (RMSEA = .08, SRMR = .06, CFI = .91). An improved fit of Model 2 compared to Model 1 was found ( $\Delta\chi^2 [4] = 289, p < .00$ ). Model 3 was a five-factor CFA model with self-confidence and control loading on one factor, which also resulted in an improved fit compared to Model 1 ( $\Delta\chi^2 [2] = 291, p < .00$ ). There was no significant difference between Model 2 and Model 3 ( $\Delta\chi^2 [2] = 291, p = .86$ ). Model 3 provided a good fit for the data (RMSEA = .08, SRMR = .06, CFI = .91) and was chosen as the best fitting CFA model. The Harman single-factor test (Craighead et al., 2011; Podsakoff et al., 2012) was also performed, where all the indicators were loaded into one factor; however, model was not an acceptable fit (see Table 4.3), indicating that common method bias was not present in this study.

**Table 4.3***Measurement Model Fit Indices*

<b>Model (M)</b>	$\chi^2$	<i>df</i>	<b>RMSEA</b> (90% CI)	<b>SRMR</b>	<b>CFI</b>	<b>AIC</b>	<b>BIC</b>	$\Delta \chi^2$	$\Delta df$	<b>p-value</b>
<b>M1: 4-factors</b>	593.68	293	.08 (.07 - .09)	.06	.90	761.68	800.12			
<b>M2: 5-factors</b>	567.37	289	.08 (.07 - .09)	.06	.91	743.37	783.64	26.3	4	0.00
<b>M3: 5-factors and one 2<sup>nd</sup>-order factor</b>	567.72	291	.08 (.07 - .09)	.06	.91	739.72	779.08	26	2	0.00
<b>M4: Common Method Variance</b>	2294	299	.22 (.21 - .22)	.20	.33	2449.99	2485.69	1726.3	8	0.00

*Note.* *df* = degrees of freedom. RMSEA = root mean square error of approximation. SRMR = standardized root mean square residual.

CFI = comparative fit index. AIC = Akaike information criterion. BIC = Bayes Information Criterion.

#### 4.5 Reliability and Validity

As a further assessment of the measurement model fit of Model 3, the factor loadings of all items were evaluated. An indication of convergent validity was that the factor loadings of all items were above the minimum threshold of .5, with most even exceeding the more stringent threshold of .7; however, one BI variable and one PBC variable scored just above .95 (Bagozzi & Yi, 1988; Hair et al., 2018; Kline, 2016). Furthermore, the composite reliability scores (CR: .92 - .94) were above the recommended .6 threshold, demonstrating reliability (Bagozzi & Yi, 1988; see Table 4.4). In addition, all average variance extracted values (AVE: .58 - .87) met the recommended .5 threshold required to demonstrate convergent validity (Bagozzi & Yi, 1988; see Table 4.4). Lastly, all correlations between the factors were lower than the square root of the AVE for individual factors indicating evidence of discriminant validity. The means, standard deviations, reliability coefficients, and Pearson zero-order correlations between the variables are presented in Table 4.4.

**Table 4.4**

*Implied Correlations, Average Variance Extracted (AVE), and Composite Reliability (CR) for Measurement Model 3*

<b>Variable</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>1. BI</b>	.93			
<b>2. LMX</b>	.13	.80		
<b>3. POS</b>	.07	.41	.76	
<b>4. PBC</b>	.51	.35	.18	.83
<b>CR</b>	.93	.92	.93	.94
<b>AVE</b>	.87	.64	.58	.69

*Note.* Square root of AVE along the diagonal. BI = Behavioral Intention. LMX = Leader-Member Exchange. POS = Perceived Organizational Support  
PBC = Perceived Behavioral Control.

#### 4.6 Structural Model

Because there were no significant differences between the structural models as demonstrated in Table 6, Model 1 (Fully Intervening) was used as it represented the theoretical model that was to be tested.

**Table 4.5**

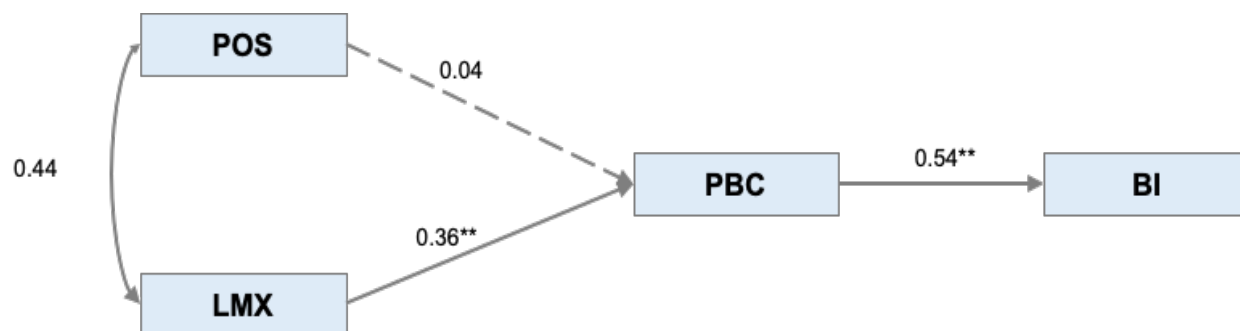
*Fit Indices for Structural Models*

Model	$\chi^2$	<i>df</i>	RMSEA (90% CI)	SRMR	CFI	AIC	BIC	$R^2(\text{BI})$	$R^2\text{m}$	$\Delta \chi^2$	$\Delta df$	p-value	Comp
<b>M1: Fully Intervening</b>	.925	2	.00 (.00 -.13)	.02	1.00	16.93	40.80	.29	0.39				
<b>M2: Partially Intervening (POS)</b>	.755	1	.00 (.00 -.21)	.02	1.00	18.76	45.61	.29	0.39	0.17	1	0.68	M1 to M2
<b>M3: Partially Intervening (LMX)</b>	.001	1	.00 (.00 -.00)	.00	1.00	18.00	49.84	.30	0.40	0.92	1	0.34	M1 to M3
<b>M4: Fully Saturated</b>	0	0		.00	1.00	20.00	49.84	.30	0.40	0.93	2	0.63	M1 to M4

*Note.* *df* = degrees of freedom. RMSEA = root mean square error of approximation. SRMR = standardized root mean square residual.

CFI = comparative fit index. AIC = Akaike information criterion. BIC = Bayes Information Criterion.



**Figure 4.1***Structural Model with Standardized Coefficients*

*Note.* \*\*Value is significant at  $p < .01$ . Standardized coefficients are reported.

The direct effects for Model 1 are illustrated in Figure 4.1, which provides support for Hypotheses 1b and 2a; however, it did not support Hypothesis 1a (see Table 4.6). To determine whether Hypothesis 2c was supported, effect decomposition analyses were conducted. The findings indicated a significant indirect effect of LMX (.19;  $SE = .05$ ,  $p = .00$ ) on behavioral intention, which supported full mediation (see Table 4.7). Hence the indirect effect of LMX on behavioral intention through perceived behavioral control was supported. On the other hand, there was no support for the indirect effect on POS in behavioral intention; therefore Hypothesis 2b was not supported (.02;  $SE = .06$ ,  $p = .73$ ) (see Table 4.7).

**Table 4.6***Bootstrapped Confidence Intervals of Direct Effect for Structural Model 1 (Fully Intervening)*

	<b>PBC</b>			<b>BI</b>		
	<b>Estimate (95% CI)</b>	<b>SE</b>	<b>p-value</b>	<b>Estimate (95% CI)</b>	<b>SE</b>	<b>p-value</b>
<b>PBC</b>	-	-	-	.54 (.42 - .65)	.06	.00
<b>LMX</b>	.36 (.16 - .54)	.10	.00	-	-	-
<b>POS</b>	.04 (-.16 - .24)	.10	.73	-	-	-

**Table 4.7***Bootstrapped Confidence Intervals of Indirect Effect for Structural Model 1 (Fully Intervening)*

<b>BI</b>			
	<b>Estimate (95% CI)</b>	<b>SE</b>	<b>p-value</b>
<b>LMX</b>	.19 (.09 - .30)	.05	.00
<b>POS</b>	.02 (-.09 - .13)	.06	.72

#### 4.7 Post Hoc Analysis

The initial analyses were repeated, controlling for resources, as well as the other two components of the theory of planned behavior model— attitude towards a behavior and subjective norms. The results confirmed the direct effect of LMX on PBC was significant and therefore supported Hypothesis 1b (.24,  $SE = .08$ ,  $p = .00$ ). The direct effect of PBC on BI was also significant and therefore supported Hypothesis 2a (.46,  $SE = .09$ ,  $p = .00$ ). The direct effect of POS on PBC was negative, but only approached significance (-.17,  $SE = .09$ ,  $p = .06$ ) and therefore did not support Hypothesis 1a (see Table 4.8). The examination of the indirect effect of

LMX and POS on BI indicated a significant indirect effect of LMX (.07,  $SE = .06$ ,  $p = .00$ ) and POS remained not significant (-.16,  $SE = .06$ ,  $p = .60$ ) on behavioral intention. Hence the indirect effect of LMX (Hypothesis 2b) on behavioral intention through perceived behavioral control was supported; however, the indirect effect of POS on behavioral intention through perceived behavioral control (Hypothesis 2c) was not supported (see Table 4.9).

**Table 4.8**

*Bootstrapped Confidence Intervals of Direct Effect for Structural Model 1 (Fully Intervening)  
Controlling for Resources, Attitude, Subjective Norms*

	PBC			BI		
	Estimate (95% CI)	SE	p-value	Estimate (95% CI)	SE	p-value
<b>PBC</b>	-	-	-	.46 (.26 - .63)	.09	.00
<b>LMX</b>	.24 (-.42 - -.06)	.08	.00	-	-	-
<b>POS</b>	-.17 (-.33 - .00)	.09	.06	-	-	-
<b>Resources</b>	.54 (.38 - .69)	.08	.00	-.14 (-.30 - .02)	.08	.08
<b>Subjective Norms</b>	-	-	-	.27 (.12 - .42)	.08	.00
<b>Attitude</b>	-	-	-	-.09 (-.22 - .03)	.06	.15

**Table 4.9**

*Bootstrapped Confidence Intervals of Indirect Effect for Structural Model 1 (Fully Intervening)  
Controlling for Resources, Attitude, Subjective Norms*

	BI		
	Estimate (95% CI)	SE	p-value
<b>LMX</b>	.07 (.07 - .28)	.06	.00
<b>POS</b>	-.16 (-.16 - .08)	.06	.60
<b>Resources</b>	.14 (.15 - .37)	.06	.00

#### 4.8 Alternate Hypothesis Analysis

The moderating effect of LMX and POS on the relationship between PBC and behavioral intention was tested, and the results did not support Hypothesis 3a ( $p = .08$ ) nor 3b ( $p = .22$ ) (see Tables 4.10 and 4.11). The findings demonstrated that neither LMX nor POS enhanced the relationship between perceived behavioral control and behavioral intention.

**Table 4.10**

*Leader-Member Exchange as Moderator Between Perceived Behavioral Control and Behavioral Intention*

	<b>Estimate (95% CI)</b>	<b>SE</b>	<b>p-value</b>
<b>BI - PBC</b>	.74	.10	.00
<b>BI - LMX</b>	-.16	.20	.41
<b>BI - Int_LMX</b>	.17	.10	.08

BI = Behavioral Intention. PBC = Perceived Behavioral Control.

LMX = Leader-Member Exchange. Int\_LMX = Interaction variable between PBC and LMX

**Table 4.11**

*Perceived Organizational Support as Moderator Between Perceived Behavioral Control and Behavioral Intention*

	<b>Estimate (95% CI)</b>	<b>SE</b>	<b>p-value</b>
<b>BI - PBC</b>	.72	.09	.00
<b>BI - POS</b>	-.04	.15	.77
<b>BI - Int_POS</b>	.12	.10	.22

BI = Behavioral Intention. PBC = Perceived Behavioral Control.

POS = Perceived Organizational Support. Int\_POS = Interaction variable between PBC and POS

## 4.9 Conclusion

Overall, the results supported Hypothesis 1b, which indicated that leader-member exchange is positively related to perceived behavioral control. The results also indicated that perceived behavioral control is positively related to behavioral intention (Hypothesis 2a). With regard to the mediating relationship among the variables, the results showed that perceived behavioral control mediates the relationship between leader-member exchange and behavioral intention (Hypothesis 2c). On the other hand, perceived behavioral control did not mediate the relationship between perceived organizational support and behavioral intention (Hypothesis 2b). Unexpectedly, the results did not support Hypothesis 1a and showed that perceived organizational support did not have a positive relationship with perceived behavioral control. Lastly, the moderating effect of perceived organizational support and leader-member exchange on the relationship between perceived behavioral control and behavioral intention was not supported (Hypotheses 3a and 3b).

## CHAPTER 5

### DISCUSSION

#### 5.1 Overview

The aim of the current study is to examine how perceived organizational support and leader-member exchange predict faculty members' intention to engage in scholarly activities. Scholarly contributions of faculty members at academic medical centers are important to the faculty as part of their professional development and expansion of their field of study, and to the institution for its reputation. The social exchange between employee, leadership, and the organization at large is central to employee productivity; therefore, I examined whether perceived organizational support (POS) and leader-member exchange (LMX) predicted intent to engage in scholarly activities, and whether those relationships are mediated by perceived behavioral control (PBC). Additionally, I examined an alternate hypothesis to determine whether POS and LMX act as moderators between PBC and the intent to engage in scholarly activities.

#### 5.2 Perceived Organizational Support (POS)

I first examined the role of *perceived organizational support* in the development of a positive attitude toward engaging in scholarly activities and whether that positive attitude led to greater intention to engage in scholarly activities. Surprisingly, both hypotheses were not supported. In fact, the post hoc analysis found a negative relationship between POS and perceived behavioral control. This inverse relationship where there is high POS and a negative outcome has been reported by only a few researchers (Armeli et al., 1998; Burnett et al., 2015; Harris & Kacmar, 2018; Pierce & Aguinis, 2013) and is a departure from the popular perspective that high POS will lead to positive outcomes (Eisenberger et al., 2020). The studies that

identified a negative outcome with high POS focused on the nonlinear relationship where there is an inflection point, and positive outcomes either plateau or become negative as POS increases. The other perspective is that employees with low socioemotional needs performed negatively when there is high POS.

In this study, the negative relationship may exist because faculty members represent employees with low socioemotional needs. Faculty at National Cancer Institutes cancer centers function as independent employees whose work product is self-directed, and resources are attained with limited input from the organization. Given the limited input from the organization, their control beliefs—i.e., the power to facilitate performance—is not driven by their perception of the organization's support. The other factor that may explain the negative relationship with POS and PBC among faculty is that, according to organizational support theory, POS is a general perception of how much the organization values their contribution. However, for faculty members who are part of academic medical centers, the value of their work product is tied to entities external to their organization, e.g., recognition from professional organizations, the number of times their articles are cited, and being invited to present their data at national and international conferences. The results from the current study showed that POS does not influence attitude or behavioral intention for employees who are self-directed and self-sustaining.

### **5.3 Leader-Member Exchange (LMX)**

Secondly, I examined the role of *leader-member exchange* in the development of a positive attitude toward engaging in scholarly activities and whether that positive attitude led to greater intention to engage in scholarly activities. Both of these hypotheses were supported. The control beliefs of the faculty members were related to the quality of their relationship with the

department chair. Specifically, faculty who believe they have high-quality LMX with their department chair had the perception of greater confidence in their ability and perception of control to engage in scholarly activities. In a high-quality LMX, leadership of and interpersonal relationship with the department chair may result in mentoring, career guidance, access to soft funding, leadership roles, and additional time to produce, all of which are factors that can facilitate faculty members' participation in scholarly activities. The evidence in this study also showed that increased perception of behavioral control strengthened faculty members' willingness to try and exert effort to engage in scholarly activities.

To my knowledge, this is the first study to examine the relationship between perceived behavioral control, behavioral intention, and leader-member exchange. This study demonstrated LMX impacts the development of control beliefs and, consequently, perceived behavioral control. This relationship is consistent with the current literature that shows LMX being positively correlated with self-efficacy and innovative work behavior (Atitumpong & Badir, 2018; Liao & Hui, 2019). Additionally, one of the outcomes of high quality LMX is psychological empowerment (Aggarwal et al., 2020), which would increase the faculty members' self-determination and competence to perform scholarly activities. These factors will motivate the faculty by increasing their willingness to try to submit a grant, a clinical protocol or an article.

#### **5.4 Perceived Behavioral Control and Behavioral Intention**

Thirdly, I examined whether *perceived behavioral control (PBC)* would be positively related to *behavioral intention (BI)* among faculty members. As expected, the evidence showed that faculty with greater PBC around submitting a grant, or a clinical protocol, or a journal article



had stronger intention to engage in those scholarly activities. Previous studies have established that PBC is positively related to behavioral intention with health behaviors, technology adoption, and responsible environmental behaviors, and the application of the theory of planned behavior continues to be applied in several settings (Bosnjak et al., 2020). This study has demonstrated that this relationship remains consistent when assessing scholarly behaviors at academic medical centers. These results indicate that faculty members are willing to put effort into submitting a grant, a clinical protocol, or a journal article when they are confident in their abilities and are able to control tasks around designing research, analyzing data, writing manuscripts, writing grants, and presenting data.

### **5.5 Perceived Organizational Support and Leader-Member Exchange as Moderators**

Finally, I examined POS and LMX as contextual variables that would moderate the relationship between PBC and behavioral intention; however, both hypotheses were not supported. Neither perceived organizational support nor leader-member exchange influenced faculty members' willingness and the amount of effort to engage in scholarly activities. The lack of support for these hypotheses clarifies that LMX is instrumental in the development of faculty members' attitude toward engaging in scholarly activities, but does not influence faculty members' behavioral intention once their attitude toward engaging in scholarly activities has been formed. On the other hand, POS neither influences the development of their attitude nor influences faculty members' behavioral intention once their attitude has been formed. As contextual variables, LMX and POS have been shown to influence employee behaviors (Rosen et al., 2010; Self et al., 2007; Sweet et al., 2015); however, these studies did not examine their influence on the psychological processes of the individual employee as this study did with PBC

and behavioral intention. Finally, this study did not look at actual behavior that may explain why neither POS nor LMX impacted relationships between PBC and BI.

## **5.6 Limitations**

While using a field study for this proposal was an appropriate approach, it also limited the generalizability of the findings, which is a threat to external validity. The results are not reflective of the perceptions and feelings of the general population, given that the data captured and the demographics of the participants are from an academic medical setting. In addition, the precision of control and measurement were compromised as a field study did not control for other variables that naturally occur in a work environment. This limited control of variables can lead to rival hypotheses that may change the relationship among the variables.

Given that this was a cross-sectional study where all data was collected at a single time point from the same respondents, this study may lead to common method variance. To address the common method variance, questions from the life satisfaction survey were included in the survey as dummy questions. In addition, the results from the Harman single-factor test that was conducted indicate that common method variance was not present in the study.

Another limitation of the study was that I only surveyed faculty who were full members or affiliated members of the Cancer Center at their respective universities. Since I assessed POS based on the support from the Cancer Center, another approach could have evaluated the perceptions, attitudes, and intentions from non-affiliates and non-members of the Cancer Center. Such an approach would also better assess the relationship among the variables with or without an affiliation with the Cancer Center.

## 5.7 Implications and Future Research

### 5.7.1 *Theoretical implications*

From a theoretical perspective, the results from this study expanded the application of theory of planned behavior (TPB) in the development of intention to engage in scholarly activities among faculty at academic medical centers. In addition, the study extended TPB to include LMX as a variable that is positively related to PBC, and showed that PBC fully mediates the relationship between LMX and behavioral intention. These results demonstrated that the quality of the relationship with the department chair is instrumental in the development of faculty members' attitude toward and intent to engage in scholarly activities. While behavioral intention is one of best predictors of actual behavior, it only provides a limited perspective on what factors influence faculty members' scholarly productivity. To further expand our understanding of these factors, this study can be further expanded to assess whether LMX influences actual behavior. To measure the actual behavior, a longitudinal study will need to be employed to establish a causal relationship between LMX and PBC.

The negative relationship between POS and PBC and, subsequently, BI was unexpected and could potentially point to the dark side of high POS. Armeli et al. (1998) found that employees with low socioemotional needs had high POS and low performance. Faculty members may represent employees who have low socioemotional needs as they are largely self-directed, operate at a high level of independence, and are not reliant on the organization to attribute value to their work. Faculty members may therefore perceive high POS as a signal of incompetence or that the organization lacks confidence in their abilities. Given the limited research that has been conducted on the negative outcomes of POS, further investigation is needed to examine the impact of high POS on the employees' level of independence or socioemotional needs.

The lack of support for POS or LMX influence on the strength and direction of the relationship between PBC and BI showed that these variables in the work environment do not impact how faculty members behave after their attitude about engaging in certain behaviors is formed. In the academic medicine environment, additional contextual factors could be more impactful in determining the strength and direction of the relationship between faculty members' attitude and their intention to engage in scholarly activities. Interestingly, most research on the relationship between PBC and BI has shifted to focus on how to better predict intention by examining interactions between PBC and attitude toward a behavior or PBC and subjective norms (Castinier et al., 2013; Earle et al., 2018; Huckleberg et al., 2014). However, while PBC is being treated as the contextual variable in the relationship between attitude or subjective norm and behavioral intention, PBC is still a significant direct determinant of behavioral intention (Castinier et al., 2013; Earle et al., 2018; Huckleberg et al., 2014). I propose that researchers revisit the directional relationship between PBC and BI by examining what variables can impact behavioral intention after PBC is established.

While I did not hypothesize any relationship with gender, the correlation matrix showed that there was a significant negative relationship between both gender and LMX, and between gender and PBC. Specifically, female respondents had a negative leadership experience and lower levels of perceived self-efficacy and perceived controllability. Given leadership roles in academic medicine are predominantly held by males, the dynamics of gender in the LMX dyad among faculty may warrant further investigation. Additionally, an investigation of gender differences in the development of PBC toward scholarly activities would allow for a better understanding of what influences those beliefs and attitudes.

### 5.7.2 Practical implications

Regarding implications for practice, the quality of the relationship with the department chair is an important variable in the development of faculty members' attitude toward and intent to engage in scholarly activities. Therefore, department chairs should develop an environment of mutual trust, respect, and loyalty. In addition, department chairs can empower faculty by reinforcing meaning and value of faculty scholarly contributions by providing feedback, mentorship, resources to facilitate engagement in scholarly activities, and identifying funding opportunities. All of these contributions could give faculty autonomy over their work and timing of their work product.

While there are valuable resources available from the Cancer Center, my study indicates that membership does not influence faculty members' attitude towards engaging in scholarly activities. On the other hand, Cancer Center membership was positively related to perceived organizational support, which has been shown to increase commitment, job satisfaction, and job performance. Given the main criteria for membership is obtaining a NIH R01, an independent investigator award that is worth \$800,000 or more, these faculty may have already developed high levels of perceived self-efficacy and perceived controllability, as well as positive intention toward scholarly activities. Consequently, the Cancer Center's role in faculty members' scientific productivity is facilitating actual scholarly contribution. These activities are facilitated through access to shared resources and clinical trials teams, as well as through the alignment of faculty members' career goals with the collaborative research that occurs in the Cancer Center Research Programs and the Disease Oriented Programs provided by the Cancer Center.

## 5.8 Conclusions

This study makes several contributions to research. First, the application of theory of planned behavior (TPB) was expanded to predict intention to engage in scholarly activities among faculty at academic medical centers. Second, the study extended TPB to show a positive relationship between LMX and PBC. Third, the study demonstrated that PBC fully mediates the relationship between LMX and behavioral intention. All of these results lead to a better understanding that in order to increase scientific productivity from faculty, a high-quality relationship with their leader is an important factor.

As for managerial implications, this study's contribution to practice is that the relationship between the leader and member is more influential than the relationship between the institution and the member in the development of a positive attitude toward work. As such, mutual trust, respect, and loyalty in the faculty-chair relationship in the academic medical setting shapes the faculty attitude toward engaging in scholarly activities. Therefore, department chairs are encouraged to build quality relationships and empower their faculty to increase scholarly contributions.

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