

AN EXPLORATION OF SUPERVISOR MISTREATMENT AND RESPECT

A Dissertation

by

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ABSTRACT

Positive and negative supervisor treatment is examined in two samples of graduate students. Using an internal validation approach (confirmatory factor analysis), positive and negative treatment were examined, result indicate they are related but distinct constructs that represent different factors. Using an external validation approach mistreatment negatively predicted well-being in Sample 1 (but not Sample 2), satisfaction and intentions to stay (both samples). Positive treatment predicted mental well-being in Sample 1 (but not Sample 2), and satisfaction and intentions to stay (both samples). Implications, limitations, and future directions are discussed.

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1. INTRODUCTION

The dynamics of the supervisor-supervisee relationship have received considerable attention in the literature (Avolio, Walumbwa, & Weber, 2009; Gerstner & Day, 1997; Graen & Scandura, 1987; Graen & Uhl-Bien, 1995; Pearce & Sims, 2002). Much of the research concerning leadership has examined positive aspects of that relationship, often focusing on the organizationally desirable behaviors enacted by supervisors (Brown & White, 2009; Graen & Uhl-Bien, 1995; Uhl-Bien & Maslyn, 2003). This focus has yielded a body of evidence that positive treatment and positive interactions result in desirable attitudinal, behavioral, and performance based outcomes for supervisees (Avolio et al., 2009, Pearce & Sims, 2002). Likewise, an emphasis on the negative aspects of supervisor behaviors has resulted in a body of compelling evidence that negative interactions with one's supervisor are undesirable (Tepper, 2000; Zellars, Tepper, & Duffy, 2002). Abuse and/or negative treatment from supervisors have been linked to negative attitudinal, behavioral, and performance outcomes (Mitchell & Ambrose, 2007). Indeed, much of the literature has focused on fostering supervisor support, respect, and positive interactions as the quintessential markers of the ideal relationship between a supervisor and supervisee while advocating for the mitigation or reduction of negative and abusive supervisor behaviors (Avolio et al., 2009).

Although the goal of increasing positive interactions and decreasing negative treatment is a good one, this perspective sometimes equates the absence of positive treatment as akin to negative treatment. This perspective either intentionally or

unintentionally affirms the idea that positive and negative treatment from a supervisor are two ends of the same continuum without considering the possibility that the natures of positive and negative treatment are more complex; neglecting, for example, the possibility that positive and negative treatment might be distinct but related behavioral domains.

The purpose of this study is to examine follower outcomes based on follower perceptions of leader *a)* positive treatment and *b)* negative treatment. Although a great amount of previous research has examined positive treatment and mistreatment separately, few studies examine instances of both positive treatment and negative treatment from the same supervisor over the same time period. This study departs from previous work insofar as I focus on an often overlooked pattern in the supervisor-supervisee relationship, mainly, examining both positive and negative treatment from the *same* supervisor toward one employee. What follows is an exploration of follower's experiences with their supervisor, and specifically, an examination of how employees react to positive treatment, mistreatment, or in some cases, combinations of both positive and negative treatment from the same supervisor. To that end, in this dissertation I review the literature on workplace positive treatment and mistreatment. This is followed by a review of issues with leadership and leader treatment of followers. Then, I empirically test these ideas in two samples of graduate students using their reported experiences with their graduate advisors.

1.1. Overview and Motivation for Study

Positive treatment and mistreatment are broad categories in which a number of more specific constructs have been defined. Constructs linked to positive treatment are: transformational leadership (Avolio, Gardner, Walumbwa, & May, 2004), organizational citizenship behavior directed at others (Organ, 1997; Podsakoff & MacKenzie, 1997), and advisor working alliance (Schlosser & Gelso, 2005), to name a few. Topics under the conceptualization of mistreatment include: sexual harassment (Lim & Cortina, 2005; Stark, Chernyshenko, Lancaster, Drasgow, & Fitzgerald; 2002), emotional abuse (Keashly, 1998), workplace bullying (Einarsen, 1999), generalized workplace abuse (Rospenda, Richman, Wislar, & Flaherty, 2000), and incivility (Cortina, Magley, Williams, & Langhout, 2001), to name a few. Although many of these are clearly different instantiations of positive treatment and of mistreatment, some general features of positive treatment and mistreatment can be deduced.

Although much is known about mistreatment and positive treatment separately, there are still lingering questions about how mistreatment and positive treatment relate to each other. Are positive treatment and mistreatment opposite ends of the same behavioral continuum? That is, is positive treatment the opposite of mistreatment? Or, do employees perceive positive treatment and mistreatment behaviors independently? If so, does the presence of both positive treatment and mistreatment result in outcomes in an additive or multiplicative pattern? These questions speak to the nature of mistreatment and respect themselves as well as the interactive effects of positive treatment and mistreatment on outcomes of interest.

In this project, I focus my attention on mistreatment and positive treatment from the immediate supervisors and the subsequent outcomes for employees rather than more distal relationships in the organization. Research has empirically established the relationship between mistreatment from leaders and subsequent subordinate negative outcomes (Boezeman & Ellemers, 2008; Tyler & Lind, 1992). Research has also established the relationship between positive and respectful leader behaviors and subordinate positive outcomes (Tate, 2008; Uhl-Bien & Maslyn, 2003). However, research and theoretical frameworks that deal with leader-follower interactions or relationships (i.e., leader-member exchange, psychological contract, top-down incivility, informational justice, and others) often examine linear, continuous, unidimensional conceptualizations of either positive or negative leader treatment or interpersonal interactions. Further, as previously noted, some of this literature makes the unstated assumption that the absence of mistreatment is equivalent to good treatment, and vice versa.

Thus, the present work departs from the previous stream and contributes to the literature in the following ways. First, it addresses the question about the relationship between positive treatment and mistreatment and whether they are two ends of a single continuum or whether they are two distinct, but related, domains. Second, it examines the individual and joint effects of positive treatment and mistreatment on outcomes by modeling main effects and interactions between positive treatment and mistreatment in the prediction of outcomes.

Examination of supervisor behaviors may have implications for the organization as a whole, as well as implications for how employees understand and perceive the organization as a result of treatment from supervisors (Eisenberger, Karagonlar, Stinglhamber, Neves, Becker, Gonzalez-Morales, & Steiger-Mueller, 2010). Understanding, managing, and influencing the relationship between leader and follower is a central concern for researchers interested in understanding employee attitudes, reactions, and performance related outcomes. Through their behavior, leaders can impact subordinate's attitudes, behaviors, well-being, and performance. Studying the leader-follower relationship can help us understand the role that leaders play in the motivation and performance management of employees.

1.2. The Graduate School Context

The current study is undertaken in the context of graduate school. Positive and negative leader treatment is examined in a graduate school context where the leader is defined as the primary advisor, and the follower is the graduate student. Graduate school is stressful and challenging (Schlosser & Gelso, 2005). In the span of a few years, students are expected to balance competing responsibilities as students, researchers, instructors, and employees. Many doctoral level graduate programs utilize a model of training that pairs students with a primary advisor. It is the responsibility of that advisor to train, mentor, support, and guide students along every stage of development in the graduate program. The advisor-advisee relationship in graduate school informs how students will approach their future work in academia or applied settings (Schlosser & Gelso, 2005).

The graduate school context is especially useful for examining how positive treatment and mistreatment influence subordinate outcomes when the subordinate is highly dependent on the supervisor and where the supervisor has very high power relative to the subordinate (Thompson, 1967). This arrangement might be similar to programs that train medical residents and interns, associates at large law firms, enlisted military personnel, and other training environments and work arrangements where there is high dependency on a high status or high power supervisor. The graduate school context can serve as a model for other contexts that share similar features and as a springboard for understanding leadership and the role advisors play in student development.

Another reason for a focus on this context is that it is understudied (Schlosser & Gelso, 2005). Schlosser, Knox, Moskovitz, and Hill (2003) point to the lack of research on positive and negative experiences and interaction in the graduate student context. Thus, this context is an area ripe for exploration. The surprising lack of research concerning graduate student experiences and quality of interaction between advisor and student necessitates an examination of interpersonal interactions and the relational processes in the graduate student context (Schlosser & Khan, 2007). The quality of interactions between advisor and advisee, and instances of positive treatment and mistreatment, may help researchers understand factors that lead students away from careers in academia as a result of attitudinal changes triggered by leader behaviors. Indeed, detailed examinations of the experiences students report with advisors may help

shed light on student wellbeing outcomes, retention, turnover in graduate programs, and retention in academic fields.

The Advisor as leader. The advisor has roles that include elements of formal and informal supervision of students. The primary advisor works to advise students, provide guidance, and serve as an experience and knowledge based resource. In other words, the primary advisor is a leader. Thus, I draw on leadership research in order to understand some of the complex facets of the advisor-advisee relationship.

Leadership is a social influence process occurring at the individual, dyadic, and group levels (Bryman, 1996). That influence can be shared by a group of managers, an executive board, or held by a small number of individuals (Avolio, Soski, Jung, & Benson, 2003). Phrased another way, leadership can be defined in terms of influence within an organizational context as “the influential increment over and above mechanical compliance with the routine directives of the organization” (p. 528; Katz & Kahn, 1978). Subsumed in this framework is the idea that leaders direct others in an organization toward common goals (Bryman, 1996), mobilizing others to work (i.e., initiate structure) while also taking into account the needs of employees (i.e., consideration; cf. Avolio et al. 2003).

Podsakoff, MacKenzie, Moorman, and Fetter (1990) describe the benefits of leadership in the context of employee outcomes. They highlight the benefits of transformational leadership, a form of leadership where leaders and followers work to advance and develop, with an emphasis on how the leader stimulates, motivates, and exerts influence on the follower (Burns 1978). Podsakoff et al. (1990) describe the primary

benefit of that leadership style. Specifically, they explain that transformational leadership entails leaders fostering a sense of mutual obligation, trust, and interpersonal liking. They explain that when a leader is transformational that employees are more likely to engage in organizationally desirable behaviors.

Uhl-Bien and Maslyn (2003) found that mature leader-follower relationships (characterized by high levels of mutual reciprocity and a sense of shared mutual obligations) result in higher performance, higher satisfaction, and more engagement behaviors enacted by employees. They draw on the Leader-Member Exchange (LMX) framework to explain that mature relationships characterized by a high quality leader-member exchange result in employees feeling like a partner to the leader and not a hired hand for the leader. They further explain that employees who reported a higher quality LMX relationship were more satisfied with the organization and with the leader.

The LMX and leader-employee relational approaches take the perspective that understanding the relationship between a leader and follower helps one understand how the leader influences followers. This relational exchange is based on the principle of social exchanges (e.g., social exchange theory; Blau, 1988). Consistent with Blau (1988), followers hold expectations of reciprocity and expectations of justice (e.g., norms of reciprocity). When reciprocity is high and follower expectations are met, employees tend to report more satisfaction and higher willingness to commit and perform (Graen & Uhl-Bien, 1995; Uhl-Bien & Maslyn, 2003).

Indeed, leadership is also important for how employees make sense of the organization (Avolio, 2003). This is due to the fact that leaders play a role in how

employees understand their work and their own role in the organization. Leaders influence the sense making processes of employees by communicating organizational values, modeling behaviors so employees observe and learn what is acceptable in the organization, and by shaping how employees understand the organization (Avolio, 2003). Leaders are often considered by employees as embodiments of the organization, and how leaders interact and treat employees can have an impact on how employees respond in terms of both attitudinal and behavioral outcomes, but also in terms of how they perform within the organization (Eisenberger et al., 2010).

Borrowing from Fredrickson (2001) and consistent with Avolio, Walumbwa, and Weber (2009), the build-and-broaden framework may help explain why happy, well-tended employees—in this case, graduate students— may engage with the organization and be less likely to leave. According to Fredrickson (2001), positive feelings and emotional states may allow individuals to grow and broaden their efforts beyond their current performance levels, thus making future performance gains likely. When organizations and leaders invest in subordinates or students, those individuals may experience positive emotions. Thus, when supervisors and leaders treat employees well and interact with respect, the result should be positive attitudes (which may explain why individuals engage in behaviors above and beyond the formal performance standards).

Because leader behaviors and the quality of leader-follower relationship are central to good performance, anything that hurts the relationship or any negative treatment from the leader can be problematic for employees. Negative and positive treatment may influence how employees view the organization, and may detract from

employee performance by influencing attitudes and well-being outcomes. This can subsequently result in different behavioral responses depending on the nature of the treatment from one's leader. Lines of leadership research from different perspectives on leadership show that the leader-follower relationship is essential for follower well-being and performance. What follows is a review of mistreatment and respect.

1.3. Mistreatment

The concept of mistreatment at work encompasses a host of negative behaviors from other individuals. Mistreatment occurs when people harm each other physically, emotionally, or psychologically (Rospenda, Richman, Wislar, & Flaherty, 2000; Tepper, 2000). Mistreatment can also occur when the property, dignity, or body of an individual is in some way damaged, violated, or harmed (Cortina et al., 2001). Some conceptualizations of mistreatment entail social exclusion or negative social pressure (Cortina et al., 2001). Mistreatment can also be conceptualized in terms of negative treatment due to unjust outcomes, although these forms of mistreatment are often embedded in other literatures more so than in the traditional mistreatment literature (i.e., *Colquitt, Greenberg, & Zapata-Phelan, 2005*). Numerous conceptualizations of workplace mistreatment have been proffered and examined in the literature.

For the purposes of this study, I focus on workplace incivility as a specific form of workplace mistreatment. Workplace incivility is defined as the exchange of inconsiderate words and actions that, while seemingly inconsequential, violate norms of interpersonal respect and dignity (Porath & Pearson, 2010). Examples of uncivil behaviors include speaking to someone in a condescending tone or making a joke at

someone's expense (Cortina et al., 2001). Previous researchers have found that violations of these expectations for respect and courtesy relate to undesirable consequences for targets (Cortina et al., 2001; Lim, Cortina, & Magley, 2008), including detriments in psychological and physical wellbeing (Lim et al., 2008), symptoms of depression and anxiety, and dissatisfaction with the organization (Caza & Cortina, 2007). Furthermore, Cortina and Magley (2009) found that appraisals of incivility were more negative when uncivil treatment came from someone with power in the organization, as opposed to a peer.

Mistreatment can be understood as a stressor (Cortina et al., 2001; Tepper, 2000). Stressors are events to which a person must adjust and which tax the person's internal (e.g., cognitive, emotional, behavioral) resources (Hobfoll, 1989; Lazarus & Folkman, 1986), resulting in negative consequences for the person and, subsequently, the organization. Stress causes employee suffering and reduced employee quality of life (e.g., work-life conflict, Greenhaus & Allen, 2010), burnout (Van Dierendonck, Schaufeli, & Buunk, 1998), and depression (Blustein, 2008). Stress is also related to a host of job-related outcomes that cost the organization in terms of lost productivity (e.g., absenteeism, Jex & Crossley, 2004; turnover, *Griffin & Clarke*, 2010), employee illness (e.g., medical costs, Ganster, Fox, & Dwyer, 2001), and undesirable work attitudes (e.g., reduced job satisfaction, Jex & Crossley, 2004; lower organizational commitment, Greenhaus & Allen, 2010). Mistreatment is a stressor because it violates expectations for respect, violates norms of interpersonal interactions, and can result in the arousal of negative emotional and physiological states.

Mistreatment is a stressor that can eventually translate into strain for targets (Cortina et al., 2001). One manifestation of psychological strain is burnout (Maslach & Leiter, 1997), which is characterized by emotional exhaustion, alienation from others or depersonalization, and a feeling of diminished accomplishments. Emotional exhaustion is the extent to which a person feels that one's own emotional resources are depleted and used up (Cordes & Dougherty, 1993). Depersonalization is a sense of alienation from the self or others (e.g., a separation or estrangement from self-image and the social self; Banai & Reisel, 1997; Korman, Wittig-Berman & Lang, 1981). Depersonalization can relate to reduced affective commitment to the organization and lower job satisfaction (Hirschfeld, Feild & Bedeian, 2000), and can relate to more tardiness, less effort, and lower performance (Cummings & Manring, 1977). Burnout can also relate to feelings of diminished personal accomplishments, lower effort, and a reduction of motivation (Maslach & Leiter, 1997). Taken together, burnout as a manifestation of strain is undesirable for individuals in situations that require high self-motivation, persistence, and effort (e.g., the graduate school context).

In addition to psychological strain as a reaction to stress, there are a number of negative physiological manifestations of strain that are problematic and potentially dangerous (including such physiological changes as higher cortisol levels; Rydstedt, Copley, Devereux, & Michalianou, 2008). Stress and subsequent strain have also been associated with higher likelihood of contracting illness, susceptibility to disease (Schaubroeck, Jones, & Xie, 2001), high blood pressure (Richman, Pek, Pascoe, &

Bauer, 2010), increased back pain (Linton, 2001), and cardiovascular disease (Landsbergis, Schnall, Belkic, Baker, Schwartz, & Pickering, 2010).

Incivility is the chosen focus of this study because of the unique characteristics of the advisor-advisee relationship and because incivility is disrespectful in nature.

Understanding several factors about the leader-follower arrangement is helpful. First, in terms of the domain of workplace mistreatment, incivility represents low intensity behaviors, whereby episodes of inconsiderate behavior represent small threats to individual dignity. As such, these low intensity behaviors may not pass a certain threshold of workplace rules of misconduct and therefore go under reported or unnoticed by third-party observers. In the long term however, these small low level mistreatment behaviors may function as stressors that threaten supervisee well-being and health.

It is also important to study incivility in the context of the leader-follower power dynamic. In the leader-follower relationship, power differences and structural differences in terms of leader access and control of resources can result in leader-follower relationships where a leader can enact negative behaviors toward a follower with few consequences. On the other hand, if a supervisor enacted more intense negative behaviors, those behaviors would likely attract attention and fall into the category of illegal or prohibited activities by organizational norms, policies, and the law. This may not be so for behaviors like incivility and mild forms of workplace mistreatment. That is not to say that incivility is always a default or natural consequence of power differentials or leader-follower relationships per se. Instead, I take the view that *a*) when enacting intense mistreatment behaviors is costly to instigators, and *b*) when those behaviors

could result in instigator punishment, instigators will instead enact behaviors that are uncivil and low intensity in order to avoid negative or undesirable consequences.

In sum, workplace mistreatment is undesirable for organizations, for the individuals who experience mistreatment, and for those who enact mistreatment on others and get caught doing it. When individuals are mistreated, the subsequent physiological reactions can be negative, resulting in subjective distress and reduced performance. Mistreatment from one's supervisor can threaten the employee's sense of security in the organization because of the supervisor's power and embodiment of the organization.

1.4. Positive Treatment

From a social interactionist perspective, treating people well is good. Whether it is defined as collegiality, respect, civility, kindness, there is recognition at a base level that people prefer and enjoy being treated well. Drawing on the social support literature, positive behavior is desirable because it conveys a sense of feeling supported by others (Vinokur, Price, & Caplan, 1996). The work of Gilbert and Malone (1995) provides a useful platform for understanding how and why positive behaviors can facilitate positive attitudes and desirable outcomes. First, the correspondence bias holds that the actions of a person correspond to some underlying motivation or quality in a person (Gilbert & Malone, 1995). Stated another way, we understand people on the basis of what they do, and behaviors enacted by a person inform observers about the individual. Indeed, the correspondence bias holds that individuals infer traits and underlying motivations based on behaviors of others. Indeed, in the social support literature there is a notion that

positive treatment corresponds to positive intentions on the part of the focal actor. Gilbert and Malone (1995) also provide insight into how negative treatment is appraised, in that negative treatment corresponds to negative or hostile intentions. In the context of social support and undermining (Duffy, Ganster, & Pagon, 2002; Vinokur et al., 1996) individuals might perceive negative treatment as indicative of hostile intentions or as an attempt to undermine others, and likewise, understand positive behaviors as indicative of a motivation to support and bolster the work or standing of others. Based on this I argue that positive treatment may result in positive attitudes and positive outcomes if people perceive that positive treatment corresponds to respect from the advisor. In what follows, I draw on respect and leadership research to discuss positive treatment and how it relates to positive outcomes.

1.5. Positive Treatment and Respect

Quaquebeke and Eckloff (2010) offer an interesting discussion about the nature and etymology of respect. For the purposes of this project, I draw on the definition offered by Quaquebeke and Eckloff (2010). They write: "...we define respect as a person's attitude towards other people, in whom he/she sees a reason that, in itself, justifies a degree of attention and a type of behavior which in return engenders in the target a feeling of being appreciated in importance and worth as a person (pp. 4)."

Respect can be conceptualized in a variety of ways (Quaquebeke & Eckloff, 2010). The individuals involved in an interaction and the context of interactions inform how respect operates in organizations (e.g., respect from a superior, respect from a peer, respect from a subordinate, and respect from social others outside of the work domain).

Respect is important in any relationship, and the nature of the relationship influences how respect manifests. In the context of social exchange theory (Blau, 1988), respect as a process can engender positive interactions between people, especially when those interactions of respect relate to upholding norms of positive interactions. When respectful treatment and interactions are present, positive exchanges can be the basis for the formation of positive attitudes and desired outcomes for employees. In terms of research concerning the need to belong (Leary, Kelly, Cottrell, & Schreindorfer, 2005), positive treatment and interactions may relate to feelings of belonging, and as previously mentioned, foster positive interactions that meet individual social needs (including the need to belong). In order to focus the discussion, I will only discuss the behaviors of supervisors directed at supervisees and the interactions between the two. With that focus in mind, respect is the extent to which the supervisor grants and encourages the supervisee autonomy, expression of voice, and ensured just and fair treatment (procedural and distributive justice; Cropanzano, Byrne, Bobocel & Rupp, 2001). How I have applied this definition to discussion positive treatment and how it is relevant to the literature on leadership is reviewed below.

Quaquebeke and Eckloff (2010) point to the Latin origin of the word respect (e.g., *respicere*, which is literally to look back and/or to look again, and in the most general sense, to notice). Dillon (2003) writes about this noticing of the target other as a form of recognition, and that noticing other people means recognizing their importance and value. Likewise, Spears, Ellemers and Doosje (2005) posit that respect entails an

active appreciation for the target, and that this appreciation of the target is communicated in one's behavior toward the target.

Quaquebeke and Eckloff (2010) also define respect in terms of one's attitude towards others. They position respect as paying attention to others because of some underlying reason. This attention may result in target perceptions that this attention is appreciation or acknowledgement of target worth and importance. In short, they argue that respect means taking notice and considering others because of some value or worth within the target. Indeed, other work has highlighted the benefits of positive treatment from leaders (and people with power and influence) on employee behavior (i.e., increased cooperation and extra-role behavior; Lind & Tyler, 1988; Simon & Sturmer, 2003; Tyler & Blader, 2000), and satisfaction (Boezeman & Ellemers, 2008; Tyler & Lind, 1992). Quaquebeke and Eckloff (2010) characterize respectful leaders as trusting, autonomy granting, considerate of follower needs, encouraging development and growth, attentiveness, and offering support. This characterization reflects a variety of common elements of extant leadership theories (e.g., transformational leadership, Graen & Scandura, 1987; Graen & Uhl-Bien, 1995; rapport with advisor, Schlosser & Gelso, 2005; LMX, Coyle-Shapiro, Shore, Taylor, & Tetrick, 2004; Theory Y and not Theory X; McGregor, 1960). Likewise, Schlosser & Gelso (2005) describe rapport with advisor in a way that essentially contains all the elements of the conceptualization of respect offered by Quaquebeke and Eckloff (2010), and in line with the transformational leadership framework.

Positive Treatment and Respect in Leadership Theories. As noted briefly above, positive treatment and respect are important parts of several extant leadership theories. In their review, Avolio, Gardner, Walumbwa, and May (2004) found that leadership and supervision styles perceived as honest, supportive, and open in terms of communication and sharing were related to higher subordinate performance and satisfaction. Supervisors who treat subordinates well often report stronger, more collaborative relationships with subordinates (Avolio et al., 2004). Treating subordinates well tends to engender mutual trust, mutual respect, and a sense of shared obligation (Avolio et al., 2004; Schlosser & Gelso, 2001). Avolio et al. (2004) also posit that respectful, supportive supervisors encourage open and honest communication such that subordinates feel free to share their values, opinions, and information. Indeed, supervision styles characterized by open communication, mutual trust, and respect have been associated with the formation of social relationships based on mutual respect (Avolio et al., 2004), interpersonal liking (Schlosser & Gelso, 2001), and a sense of membership in an organization (Tajfel, 1972).

Consistent with the above, several conceptualizations of leadership contain elements of positive treatment that result in employee perceptions of respect as causal mechanisms for understanding employee outcomes to that positive treatment (Pearce & Sims, 2002). As mentioned above, LMX posits that the high quality of relationship and employee inclusion in the cadre of a leader is desirable. The framework specifies that being respected, trusted, and being treated like responsible partners and meaningful contributors to the workplace results in positive employee outcomes and good

performance (Avolio et al., 2004). The LMX framework holds that trust from one's leader is central to helping employees thrive.

The transformational leadership framework also contains elements of trust and high expectations from leaders. Unlike a transactional or directive leader approach where leaders set goals and assume that employees are unable or unwilling to manage themselves and develop, the transformational leadership framework hinges on the premise that the leader trusts the employee and that the leader has identified, recognized, and affirmed employee worth, potential, and ability to transform and develop. Transformational leaders expect their employees to grow and transform into more effective employees. Thus, positive treatment comes in the form of trust and in helping employees develop their potential (Pearce & Sims, 2002).

Likewise, Avolio et al., (2004) position authentic leadership as positive and desirable insofar as it is related to trust and fostering authentic relationships between the leaders and employees. Briefly, authentic leaders are those who are apparently honest with others, consistent in terms of actions, and who are authentic (e.g., there is a perception that leader actions are congruent with leader attitudes, values, and cognitions). Avolio et al. (2004) argue that authentic leaders foster honesty and trust in others by being authentic. The perception that a leader is authentic is thought to result in more authenticity by employees because authentic behaviors are modeled by leaders.

Another fruitful ground for understanding where positive treatment fits into the leadership domain is in the context of Theory X and Theory Y of management (McGregor, 1960). Briefly, Theory X is a way of understanding how managers and

leaders view employee motivation and employee potential. Leaders who endorse Theory X believe that employees lack motivation, are unwilling and unable to self-manage, and are not able or willing to set goals for performance. In contrast, Theory Y holds that employees are motivated, ambitious, and that they exercise self-control (McGregor, 1960). Whereas Theory X is problematic because it assumes employees are lazy and unmotivated, Theory Y is based on the premise that employees are motivated and capable of self-management. Theory X is used to explain why some supervisors and leaders enact directive leadership behaviors (e.g., setting goals for employees, micro-managing and dictating every aspect of an employee's performance; Avolio et al., 2004). Theory X can also explain why some supervisors enact transactional behaviors so as to entice employees to engage in specific behaviors and to use rewards or coercive means to ensure compliance (McGregor, 1960). Whereas other leaders enact transformational leadership behaviors aimed at helping employees maximize their performance and help employees reach self-determined goals (based on Theory Y attitudes). In summary, various leadership theories describe positive treatment behaviors and describe a consistent process whereby positive leader behaviors can engender feelings of respect and result in desirable follower outcomes. Indeed, treating employees well, valuing the input of employees, granting employees autonomy, and enacting behaviors that demonstrate leaders respect are discussed in various places throughout the literature, and offer researchers a language for describing positive treatment and interactions.

The need to draw on leadership theories to discuss the effects of positive treatment stems from two underlying premises. As previously stated, the arrangement in

the graduate school context is one where the advisor is supposed to coordinate the efforts of the student. Likewise, the advisor is also supposed to help train and teach the student to develop a set of skills and a knowledge base to help the student advance in academia. In that regard, the advisor initiates structure for the student by setting goals, and helping the student progress through a developmental process all the while helping the student reach certain performance goals. Helping the student develop skills and knowledge is also consistent with the notion of consideration found in the leadership literature.

Although not always the case, I make the argument that graduate advisors are leaders or that they function as leaders in the graduate school context.

Perceptions of Advisor Respect. The relationship between advisor and student is central to the graduate experience. Experiences of positive interactions foster a sense of safety, sharing of information, and mutual trust and respect between advisor and student (Schlosser & Gelso, 2005). A strong collaborative relationship between advisor and student is central to a productive research effort insofar as experiences of respect are important to feeling supported and encouraged as a student (Russel & Adams, 1997; Schlosser & Gelso, 2005).

One way to conceptualize positive treatment from advisors entails understanding the student perceptions about the quality of working alliance or rapport with the advisor as an indicator of that positive treatment and subsequent perceptions of respect. Advisor-advisee working alliance refers to the quality of interpersonal and professional rapport between and advisor and advisee (Schlosser & Gelso, 2005). High rapport in the working alliance is characterized by more interpersonal liking and warmth, mutual

respect, and higher levels of trust (Schlosser & Gelso, 2005). Low rapport on the other hand is characterized by more formality and less interpersonal interactions, lower levels of trust, and less communication (Schlosser & Gelso, 2005). Based on the above review, I position positive treatment as a way to bolster desirable outcomes. The above review of respect as a construct is a way to align positive behaviors and positive treatment with extant theories of leader behaviors. The lens of respect allows for a discussion about how positive treatment from a leader is desirable, as well as how theories of leadership deal with positive treatment. Again, this project focuses on positive treatment and stays in the confines of positive treatment as a behavior. The previous discussion about respect is offered as a way of understanding how positive treatment may be understood by employees as an indicator of respect. Just like LMX and other theories of leader-follower relationship quality start first with an examination of behavior and draw conclusions about relationship quality, so too does this project start with an examination of leader behaviors as a way to understand qualities like leader respect.

1.6. The Relationship Between Mistreatment and Positive Treatment

Within the positive treatment and mistreatment research domains, the degree of behavior is often theorized and operationalized unidimensionally (e.g., high or low, frequent or infrequent). Similarly, research and theoretical frameworks that deal with leader-follower interactions or relationships typically examine linear and continuous conceptualizations of leader behavior. For example, the leader-member exchange (LMX) framework focuses on the quality of leader-follower relationship as a single continuous dimension (e.g., high or low quality relationships). The paradigm implicitly or explicitly

embraced by these different research streams entails a conceptualization of mistreatment and positive treatment as falling along the same continuum (i.e., high quality treatment implies lack of mistreatment).

Absent from these frameworks is consideration of potential interactions or more complex understandings of the different kinds of leader behaviors that can occur throughout the leader-follower relationship. What happens to extant paradigms of the leader-follower relationship (and subsequent outcomes) when both positive and negative leader behaviors from the same source directed to the same subordinate are examined? The crux of this is the absence of theory for dealing with how positive and negative leader behaviors interact.

In order to determine the extent to which positive and negative treatment from advisors are related, I plan to examine the relationship between reports of leader positive treatment and mistreatment. I expect that positive and negative behaviors should occur in tandem; by this I mean that positive and negative treatment behaviors should be related but distinct. Because of this, measures of both should be related but distinct. From a conceptual standpoint, positive treatment entails recognition and affirmation of a person. This can mean affirming the value of others, granting autonomy, and fostering positive interactions and treatment. Mistreatment, in contrast, is the disregard for others. Mistreatment entails social exclusion and behaviors that can harm others or cause distress. Based on the proposition that positive treatment and mistreatment are related and distinct constructs, I predict the following:

Hypothesis 1: Positive and negative leader behaviors are distinct constructs that represent two distinct factors.

It is expected that positive and negative treatment should be related for a host of reasons. First, because both positive and negative treatment pertain to the same source (e.g., the supervisor), the behaviors of that source (both positive and negative) should relate to each other. Likewise, for this study, employee reports of supervisor behavior are the primary means of data collection. Although asserting that two domains of behavior are related implies a view of human behavior in terms of consistency, there is still room for a level of relative independence of positive and negative behaviors. Thus, a small but meaningful correlation is expected, and this correlation is expected to be negative (such that higher positive behaviors should relate to lower negative behaviors). A negative correlation is in line with the behavioral consistency view that people who engage in positive behaviors are less likely to engage in negative behaviors, and likewise, those who engage in negative behaviors are less likely to engage in positive behaviors. Based on the above, I predict the following:

Hypothesis 2: Positive and negative behaviors from leaders are negatively correlated.

1.7. Consequences of Mistreatment and Positive Behaviors

Below, I outline several outcomes that relate to positive and negative treatment. In a general sense, I argue that negative treatment relates to a reduction in desirable outcomes via two mechanisms, mistreatment as a threat that elicits psychological and physical arousal and by negatively impacting employee attitudes about the leader and

organization. Likewise, positive treatment is expected to foster positive attitudes about the leader and the organization. Experiences of mistreatment and disrespect in graduate school may also directly result in reduced satisfaction with the graduate program (Schlosser & Gelso, 2005), lower student self-efficacy and an increased tendency for students to engage in more self-doubting of abilities (Tenenbaun et al., 2001). Chronic mistreatment and discourteous behaviors can lead to recurring stress (Cortina, Magley, Williams, & Langhout, 2001). Together, the consequences of mistreatment may ultimately result in student desire to leave the program (Schlosser & Gelso, 2005).

Experiences of respect can have positive impacts on student attitudinal outcomes and subsequent behavioral responses and foster positive feelings and interpersonal liking (Avolio et al., 2009). These positive feelings can trigger positive attitudes and result in organizationally desirable employee behaviors (e.g., the build-and-broaden framework, Fredrickson, 2001). Indeed, when trust and mutual liking is present, employees tend to engage in higher levels of extra-role behaviors (e.g., social exchanges). When employees feel trusted and respected, they often report willingness to engage in behaviors that contribute to higher levels of performance (e.g., transformational leadership and subsequent outcomes: Coyle-Shapiro et al., 2004; Graen & Uhl-Bien, 1995; Uhl-Bien & Maslyn, 2003). In the following, I briefly recap the effects of mistreatment and positive treatment previously mentioned and provide main effect hypotheses for the effects of both mistreatment and positive treatment on the outcomes included in this study.

Stress and well-being. As described above, mistreatment is a stressor (Cortina et al., 2001; Tepper, 2000). Stressors lessen well-being for the person (Blustein, 2008;

Greenhaus & Allen, 2010; Van Dierendonck, Schaufeli, & Buunk, 1998) and the organization (Ganster, Fox, & Dwyer, 2001; Greenhaus & Allen, 2010; *Griffin & Clarke*, 2010; Jex & Crossley, 2004). In contrast, experiences of positive treatment leads to feelings of safety, being supported, and trust (Russel & Adams, 1997; Schlosser & Gelso, 2005). Therefore,

Hypothesis 3: Leader mistreatment will negatively predict a) mental wellbeing, b) physical well-being, and positively predict c) burnout.

Hypothesis 4: Leader positive treatment will positively predict employee a) mental wellbeing, b) physical well-being, and negatively predict c) burnout.

Satisfaction. As noted by Weiss and Cropazano (1996), job satisfaction is a judgment or evaluation of one's job or job situation. These judgments or evaluations are positive or negative in valence. Because job satisfaction has been linked to a host of outcomes that are relevant to organizations such as higher job performance, higher organizational commitment, and lower turnover, there is an imperative for organizations to foster and support employees in such a way that maintains satisfaction. In a recent meta-analysis, Whitman, Van Rooy, and Viswesvaran (2010) found evidence that job satisfaction was consistently related to job performance, turnover, absenteeism, and organizational citizenship behaviors (OCB; Riketta, 2008; Tett & Meyer, 1993).

Consistent with the above, often satisfaction with one facet of a job or the organization can translate into behavioral outcomes directed at the organization or to attitudes about other facets of the organization. For example, satisfaction with the pay

could result in lowered satisfaction with the organization. Lower satisfaction could result in lower OCBs (Riketta, 2008) or withdrawal of effort. Because I am interested in supervisor behaviors and how they relate to attitudes, it is necessary to measure satisfaction with that supervisor as well as satisfaction with graduate program. This is the case because of the extent to which interactions and rapport with advisors are central to the graduate experience (Schlosser & Gelso, 2005). In other words, measuring both satisfaction with advisor and satisfaction with the graduate programs allows for the examination of the extent to which supervisor behaviors predict attitudes with the program as a whole (and not just attitudes about said advisor).

Hypothesis 5: Leader mistreatment will negatively predict satisfaction with advisor.

Hypothesis 6: Leader positive treatment will positively predict satisfaction with advisor.

Hypothesis 7: Leader mistreatment will negatively predict satisfaction with program.

Hypothesis 8: Leader positive treatment will positively predict satisfaction with program.

Intentions to stay. In terms of turnover, there is evidence that reduced satisfaction may increase turnover (Whitman et al., 2010). In a context like graduate school, the cost of turnover is high (Schlosser & Gelso, 2005). In traditional settings turnover typically entails searching for a new job or transferring to a new job within an organization (or leaving a profession altogether). In the context of graduate school,

negative or neglectful mentoring and advising may result in insufficient preparation for students (Evans & Cokley, 2008). The lack of preparation or negative experiences in graduate school may disqualify some students from obtaining top-tier academic positions; this may pose a threat to the health and viability of academic departments that seek to encourage diversity of interests and skills (Schlosser & Gelso, 2005). By contrast, positive treatment from ones advisor can result in gains to student confidence and foster the development of follower resources to deal with the stress of the workplace. For students who wish to leave graduate school, the process of turnover entails leaving a program and the prospect of having to apply again to another program and taking the chance of being rejected. Because turnover may be prohibitively costly or complex, I chose to measure turnover intentions as opposed to actual turnover. To simplify the presentation of hypotheses and results, I have framed the hypotheses and analyses regarding turnover intentions in terms of its opposite, intentions to stay.

Hypothesis 9: Leader mistreatment will negatively predict intentions to stay.

Hypothesis 10: Leader positive treatment will positively predict intentions to stay.

1.8. The Interaction of Positive Treatment and Mistreatment

Up until this point, I have focused on outlining the linear main effect relationships between positive treatment and various outcomes, and the linear main effect relationship between mistreatment and various outcomes. Thus far, I have only alluded to the notion that positive and negative treatment interact. Indeed, I have made the case that more negative treatment from a leader is expected to result in more negative

outcomes for employees while also arguing that positive treatment will be positively related to wellbeing and attitudes for employees.

To my knowledge, there are only a handful of studies that examine the extent to which positive and negative leader behaviors interact to predict employee attitudinal and well-being outcomes. Interactions of positive and negative behavior and how they relate to employee outcomes can take many forms. If positive and negative treatment were two ends of the same continuum, I would expect no interaction. This would be so because positive and negative behaviors would be highly related (e.g., a negative correlation) that there would be no reports of high positive and negative treatment that occur in tandem (and likewise few reports of low positive and high negative treatment). However, I posit that over the course of a work relationship, people experience both positive and negative treatment from their coworkers. One might be more common than the other in any pair, but it is unlikely that a person experiences only positive or only negative treatment from leaders or relevant social others. Thus, when both occur, it is important to understand how they relate and interact to predict outcomes.

This project charts new territory for the field of leadership research because it examines interactions of positive and negative treatment. There is only a small body of related research to draw upon. There are places in other literatures that may shed light on this specific context. Below is a brief review of social support and social undermining, as well as a review of positive and negative treatment in the context of geriatric patient care. Both of these literatures may help reveal how the interaction of positive and negative advisor treatment could manifest in the graduate context.

In the context of social undermining and social support (Duffy et al., 2002) found that high levels of both undermining and support resulted the negative outcomes. When people were consistently supportive, outcomes were positive, when people were consistently undermining others, outcomes were negative (Duffy et al., 2002). Although it is tempting to argue that people tend to be consistent in their treatment of others, Gottlieb and Wagner (1991) cautions against making that assumption. Major, Zubeck, Cooper, Cozzarelli and Richards (1997) and Pagal, Erdly, and Becker (1987) found that support and undermining, when they occur around the same time from the same person, can trigger negative feelings like anxiety and uncertainty. Thus, this line of research (Duffy et al., 2002; Major et al., 1997; Pagal et al., 1987) demonstrates that positive and negative treatment in the same relationship creates an interactive effect. In contrast, in the context of Alzheimer patients, Fiori, Windsor, Pearson, and Crisp (2012) found that positive treatment was a buffer against negative treatment. In Fiori et al. (2012), positive treatment was examined as a moderator in the negative treatment outcome relationship. These negative and positive treatments interacted to predict the outcomes of interest.

As described above, it is expected that positive treatment will result in positive outcomes and negative treatment results in negative outcomes. However, it is expected that many relationships will have both positive and negative treatment. Thus, the question is: to what extent do positive treatment and negative treatment offset each other, or interact with each other? Figure 1 presents the predicted form of the effects of the interaction of positive and negative treatment on outcomes.

It is predicted that mistreatment will diminish the effects of positive treatment on outcomes. The interaction will manifest in terms of a multiplicative effect whereby the slope of the line representing the positive treatment-outcome relationship in the low mistreatment group will be steeper than the same line in the high mistreatment group. In other words, the expected relationship between positive treatment and outcomes is enhanced when mistreatment is low, and diminished when mistreatment is high. In Duffy et al (2002) the key interaction is expected as a result of inconsistent treatment (both positive social support and negative undermining) being worse than only negative treatment alone. Fiori et al. (2012), on the other hand, offers an alternative, demonstrating that positive treatment is a buffer against negative treatment. Although Duffy et al (2002) and others (Major et al., 1997; Pagal et al., 1987) make a strong case for an interaction where the presence of negative and positive treatment at the same time would result in the arousal of negative states and therefore negative outcomes, that view is based on the extent to which respondents view actions as supportive or as undermining. That is, their work measured target perceptions or appraisals of the interactions, and not the treatment itself. Fiori et al. (2012) measured behavior, much like this study. Thus, the expectations in this study are aligned with Fiori et al.'s findings because the behavior itself—and not the subjective understanding of behavior—is of interest.

This pattern of results is expected because of the nature of negative treatment as a threat to the positive effects of good treatment. This view of positive treatment as building positive outcomes and negative treatment predicting negative outcomes is

consistent with the review above and is central to the idea that positive treatment results in desirable outcomes while negative results in negative outcomes. The integration of positive and negative treatment into the same framework requires that predictions about one form of treatment include the effect of the other. In terms of outcomes, high mistreatment and low positive treatment will result in the least desirable outcomes. In the high mistreatment, high positive treatment outcomes will be better than the first condition but low. When mistreatment is low and positive treatment is low, outcomes will be better than the first two conditions. And when mistreatment is low and positive treatment is high, outcomes are expected to be the highest compared to the other three groups.

Hypothesis 11: Positive treatment and negative mistreatment will interact to predict outcomes such that low negative treatment and high positive will result in the most positive outcomes for students.

2. METHOD

Two studies are reported in this dissertation. Both used self-report surveys and sampled doctoral level graduate students. Study 1 was conducted at a large southern university. Study 2 sampled doctoral students at numerous universities in the United States. Doctoral students who did not work with a dedicated advisor were screened out of the study.

As will be described further below, the surveys were very similar for Studies 1 and 2. However, the length of the questionnaire used in Study 1 was extensive and prohibitively long and was therefore shortened for Study 2. As such, some measures did not appear in Study 2.

2.1. Study 1: Southern University Sample

Graduate students from all disciplines and levels (doctoral, masters, professional, and graduate certificate level) were contacted via e-mail and invited to take part in an electronic survey administered via an internet survey program. An e-mail invitation was drafted and distributed to graduate students with the assistance of an office on campus with access to graduate student contact information. In total, 9,981 students were contacted. Of those, 3,631 were doctoral students. For the purposes of this study, only the data from doctoral students was included in the analyses. This is done for two primary reasons, first, although there is great variability in the way departments structure their graduate programs, the inclusion of masters programs introduces advisor-advisee arrangements that differ from those found in traditional doctoral programs. That is to

say, master and graduate certificate level programs may not pair students with dedicated advisors, students may not have to complete independent research projects, and master and certificate level programs may not require thesis and/or dissertation projects of students. The second reason for not including master and graduate certificate level students is that these programs may have a shorter span or duration. The length of time respondents are expected to remain in a graduate program may systematically affect how they understand the program or how they react to interpersonal treatment as a function of expected duration in the program. Thus, examining only doctoral students is one way of addressing the possibility of unintentionally introducing systematic variability.

Doctoral students ($N = 866$) completed usable online surveys (a return rate of 24.4 % of all graduate students). The ages of respondents ranged from 21 to 66 ($M = 30.36$, $SD = 7.89$). The sample was 54.7 % male ($n = 457$) and 43.6 % female ($n = 378$). Whites were the largest racial group among the respondents (49.4 %; $n = 428$), while 28.4 % ($n = 246$) were Asian, 9.8 % ($n = 85$) were Hispanic, 5.5 % ($n = 48$) were African American, 2.7 % ($n = 23$) were Middle Eastern, 1.4 % ($n = 12$) were Native American, and 2.4 % ($n = 21$) were multi-ethnic (as indicated by either their selection of the category “multi-ethnic” and/or their selecting multiple racial/ethnic categories). Unfortunately, in Sample 1, questions concerning number of semesters in graduate school were not included.

In terms of field of study, 428 students reported their field. The university in Sample 1 offers over 100 fields of study at the graduate level. Students from each field were represented in the sample. Education related fields (e.g., education, curriculum

development, higher education, human resources development, and education administration) represented the largest group with 72 students. Several humanities and social sciences (e.g., Psychology, Sociology, English, History, Anthropology) were represented with 42 student. Various engineering disciplines (aerospace, chemical, mechanical, nuclear, petroleum) were also represented with 35 students. School and counseling psychology represented the next largest collection of students with 32 respondents. Agriculture, agronomy, genetic, and plant pathology and toxicology were represented with 27 students. Physics and various physical sciences were represented with 25 students. Biology, biochemistry and biological sciences were represented with 23 students. Chemistry and Chemistry related fields were also represented with 16 students.

Regarding representativeness of the sample to the University, the sex composition of the general graduate student population at the time of the study was 53% male and 47% female; this is similar to the sample. However, the Study 1 sample had substantially more ethnic minority participants—especially students that identified as Asian—than did the University’s graduate student population at the time of the study (69% white, 5% Asian, 13% Latino/Hispanic, 3% African American, and 10% other ethnic groups). It is important to note that although the sample and the larger graduate student population differed in terms of ethnic identification, the sample in the study was doctoral students whereas the percentages describing the student population was *all* graduate students at the university, including masters students and professional degree

students (e.g., veterinary students). Information on the PhD student population alone was not available.

2.2 Study 2: National Sample

To recruit participants for the national sample, a list of universities that conferred doctorate level degrees in the United States was compiled. The list was then sorted based on program location into universities in each state. A sampling approach was used to select universities proportional to the state population. Once the list of universities was specified, e-mail contact information for each university was obtained via internet searches (typically, a dean of graduate studies, the office or college of graduate studies, or in some cases, the provost or other high ranking administrators). For each university, the appropriate person or office was contacted, specifics of the project were explained in detail, and a request was made to forward an invitation for students to participate in the study. In total, 72 institutions from our list of 352 universities agreed to assist in this project. Graduate students from all disciplines and levels (doctoral, masters, professional, and graduate certificate level) were contacted via e-mail and invited to take part in an electronic survey administered via an internet survey program. After the initial contact was made with various university entities, no follow up messages were sent, thus responses were the result of only one initial contact. Like Sample 1, only doctoral students were included in the analyses for this project.

Doctoral students ($N = 547$) completed online surveys. The ages of respondents ranged from 22 to 63 ($M = 31.15$, $SD = 7.87$). The sample was 38.3 % male ($n = 202$) and 61.7 % female ($n = 325$). Whites were the largest racial group among the

respondents (64.0 %; $n = 350$), while 17.2 % ($n = 94$) were Asian, 7.5 % ($n = 41$) were Hispanic, 2.7 % ($n = 15$) were African American, 3.8 % ($n = 21$) were Middle Eastern, and 1.1 % ($n = 6$) were Native American, and 4.8 % ($n = 26$) were multi-ethnic (as indicated by either their selection of the category “multi-ethnic” or their selecting multiple racial/ethnic categories). In terms of respondent distribution nationwide, 156 respondents (28.6%) came from academic institutions from five states on the east coast. Another 189 (34.7%) came from institutions in six states in the Midwestern United States. Another 200 (36.7%) came from academic institutions in the state of California. To my knowledge no complete source of graduate student demographic data exists. The National Science Foundation and the U.S. Department of Education keep records and information concerning estimates of undergraduate student demographic information based on estimates derived from various sources. Still no comparable records or information exists for doctoral students.

In terms of field of study, 408 students reported their field in Sample 2. In Sample 2, physical sciences (biology, chemistry, physics, etc.) represented the largest group (111 students). Psychology, counseling, and helping professions represented the second largest group (86 students). Various engineering disciplines (aerospace, chemical, mechanical, nuclear, petroleum) were also represented with 78 students. Education related fields (e.g., education, curriculum development, higher education, human resources development, and education administration) represented the largest group with 48 students. Several humanities and social sciences (e.g., Sociology, English, History, Anthropology) were represented with 61 student.

In Sample 2, students were asked to report the number of semesters they had completed in graduate school at the time of the survey. In total, 539 students reported completing between 1 and more than 10 semesters. A majority (100 students, about 20%) had completed 10 or more semesters of graduate school; many (90 students, about 17%) had completed 4 semesters and a smaller group (86 students, about 16%) had completed 6 semesters. The average number of semesters completed about 5.6 semesters.

2.3. Measures

For both samples, surveymonkey.com was used to deliver and administer an online survey. A general link was used, rather than links associated with specific emails. The following describes the measures used in each sample; where samples diverged in the use of measures, both measures are described. All items appear in Appendix A (Sample 1) and Appendix B (Sample 2).

Advisor positive treatment was measured using the Advisory Working Alliance scale (Schlosser & Gelso, 2005). All items ($N = 15$) were anchored on a 1 (strongly disagree) to 5 (strongly agree) scale (see *Appendix B*). For Sample 1, the items of the scale demonstrated adequate reliability (Cronbach's $\alpha = .92$, $M = 4.0$, $SD = .68$). For Sample 2, the items of the scale demonstrated adequate reliability (Cronbach's $\alpha = .94$, $M = 3.91$, $SD = .80$).

Advisor mistreatment was measured using identical items in both samples. Mistreatment from the advisor was measured with items from the Aggressive Experiences Scale (Glomb & Liao, 2003) as well as the Uncivil Workplace Behaviors

(Martin & Hine, 2005). For both samples, items ($N = 26$) from both inventories were used to create a composite scale of mistreatment. Responses were made on a 1 (never) to 5 (always) frequency scale. For Sample 1, the items demonstrated adequate reliability (Cronbach's $\alpha = .88$, $M = 1.14$, $SD = .27$). For Sample 2, the items demonstrated adequate reliability (Cronbach's $\alpha = .96$, $M = 1.28$, $SD = .53$).

Mental and physical well-being were examined in this study to understand how treatment from advisors relates to indicators of mental and physical health. Mental well-being was measured using the Mental Health Inventory (MHI; Viet & Ware, 1983). For the purposes of this project, items are reverse scored such that higher values indicate higher well-being. Items ($N = 18$) were anchored on a 1 (none of the time) to 5 (all of the time) frequency scale. For Sample 1, the items of the scale demonstrated adequate reliability (Cronbach's $\alpha = .92$, $M = 3.67$, $SD = .62$). For Sample 2, the items of the scale demonstrated adequate reliability (Cronbach's $\alpha = .94$, $M = 3.58$, $SD = .68$).

Physical well-being was assessed using the Physical Symptoms Inventory (Spector & Jex, 1998). This measure asks respondents to report the frequency with which they experience negative physical symptoms often associated with stress and physiological arousal. For the purposes of this project, items are reverse scored such that higher values indicate higher physical well-being. Items ($N = 8$) were anchored on a 1 (never) to 5 (once a week or more) frequency scale. For Sample 1, the items of the scale demonstrated adequate reliability (Cronbach's $\alpha = .86$, $M = 2.43$, $SD = .87$). For Sample 2, the items of the scale demonstrated adequate reliability (Cronbach's $\alpha = .80$, $M = 2.56$, $SD = .80$).

Finally, well-being was also assessed with a measure of burnout: the *Maslach Burnout Inventory* (Malle, 2006). Items ($N = 6$) were anchored on a 1 (strongly disagree) to 5 (strongly agree) agreement scale. For Study 1, the items of the scale demonstrated adequate reliability (Cronbach's $\alpha = .73$, $M = 3.38$, $SD = .73$). In the interests of shortening the survey, this scale did not appear in Study 2.

Satisfaction with graduate program was assessed using a modification of the Satisfaction with Life Scale (Diener, Emmons, Larson & Griffin, 1985). The items used for this project were used to focus on attitudes about the respondents' graduate program. Items ($N = 4$) were anchored on a 1 (strongly disagree) to 5 (strongly agree) agreement scale. For this study, a higher value indicated higher satisfaction with graduate program. For Sample 1, the items of the scale demonstrated adequate reliability (Cronbach's $\alpha = .81$, $M = 3.30$, $SD = .89$). For Sample 2, the items of the scale demonstrated adequate reliability (Cronbach's $\alpha = .84$, $M = 3.44$, $SD = .95$).

Satisfaction with advisor was assessed using a modification of the Satisfaction with Life Scale (Diener, Emmons, Larson & Griffin, 1985). The items used for this project were used to focus on attitudes about the respondents' graduate advisor. Items ($N = 6$) were anchored on a 1 (strongly disagree) to 5 (strongly agree) agreement scale. For this study, a higher value indicated higher satisfaction with advisor. For Sample 1, the items of the scale demonstrated adequate reliability (Cronbach's $\alpha = .95$, $M = 4.16$, $SD = .92$). Concerns over survey length prevented the inclusion of this measure in Study 2.

Intentions to stay were assessed with a three item inventory created for the study and inspired by the broader workplace turnover intention literature. Items ($N = 3$)

were on a 1 (strongly disagree) to 5 (strongly agree) agreement scale. For the purposes of this project, items are reverse scored such that higher values indicate higher intentions to stay. For Sample 1, the items of the scale demonstrated adequate reliability (Cronbach's $\alpha = .86$, $M = 4.42$, $SD = .83$). For Sample 2, the items of the scale demonstrated adequate reliability (Cronbach's $\alpha = .82$, $M = 4.52$, $SD = .82$).

Control variables were measured and entered into the analysis for a variety of reasons. Respondents were asked to report their age, sex, and gender identity (how they identify in terms of gender). These were then treated as controls to rule out main effects of age, sex, or gender identity. Gender identity was treated as a control variable in order to insure that any positive or negative treatment as a result of gender identity was controlled for. This was done to control for the possibility of mistreatment directed at individuals as a result of gender expressions that may not conform to social expectations (e.g., those who violate gender norms or who are gender variant; Berdahl, 2007).

Negative Affectivity was measured using the Positive Affectivity and Negative Affectivity Schedule (PANAS, Watson, Clark, & Tellegen, 1988). For Sample 1 the items of the scale demonstrated adequate reliability (Cronbach's $\alpha = .88$, $M = 2.22$, $SD = .74$). For Sample 2 the items of the scale demonstrated adequate reliability (Cronbach's $\alpha = .92$, $M = 2.21$, $SD = .88$). Negative affectivity can relate to higher recall of negative events, selective attention to negative events and experiences, and to higher reporting of negative events or experiences (Watson et al., 1988). Likewise, negative affectivity may also relate to appraising neutral or ambiguous events or stimuli as negative or threatening (Watson et al., 1988).

Dominance was measured using items found in Goldberg, Johnson, Eber, Hogan, Ashton, Cloninger, & Gough (2006). For Sample 1 the items of the scale demonstrated adequate reliability (Cronbach's $\alpha = .85$, $M = 2.73$, $SD = .72$). For Sample 2 the items of the scale demonstrated adequate reliability (Cronbach's $\alpha = .86$, $M = 2.51$, $SD = .73$). Aquino and Bradfield (2000) theorize that certain behaviors may precipitate negative interpersonal interactions. Dominant individuals (e.g., people who are demanding and controlling) may be vulnerable to harassment and mistreatment (Aquino & Bradfield, 2000). This may be due to the reactions of others to dominant individuals. In short, individuals who are dominant tend to engage in demanding or abrasive behaviors which may be perceived by others as discourteous or disrespectful (Aquino & Bradfield, 2000). Aquino and Bradfield (2000) suggest that dominant people may inadvertently trigger mistreatment or spirals of discourteous behavior precipitated by their dominant behaviors. The actions or behaviors of a dominant individual may be misunderstood, leading to the precipitation of conflict, but this does not mean the dominant individual is to blame for the mistreatment, resulting in the need to control for dominance in each sample.

3. RESULTS

Hypothesis 1 predicted that positive and negative treatment items administered in the study represent two distinct constructs. To test this hypothesis, confirmatory factor analyses (CFA) using LISREL 9.1 (*Jöreskog & Sörbom, 2012*) were conducted to compare competing models. In addition to the null model (where items are constrained to not relate to any factor; Model 0), two models were specified: a one-factor model (Model 1) with positive and negative treatment items representing only one construct and a two-factor model (Model 2) in which negative treatment items represent a mistreatment factor and positive treatment items represent a positive treatment factor. In confirmatory factor analysis, measured items are treated as indicators of latent factors which represent pertinent constructs. Since the latent factor is unmeasured, the latent factor has no variance or mean structure. In order to correctly specify the confirmatory factor analysis, one of two approaches must be implemented. One approach is to specify the variance of each latent factor, the variance of the latent factor must be constrained to a value of 1.0. The other approach is to designate one of the measured variables to represent a marker for the latent variable. This marker approach specifies that the unit value of the latent variable and the unit of the measured item are equivalent. Thus, the marker approach allows for the estimation of the mean and variance structure of the latent variable by specifying that the latent variable's mean and variance are on the same scale as the measured items that represent the latent factor.

In model 1, the first mistreatment item was constrained to 1.0; all other mistreatment and positive treatment item-to-construct parameters were estimated freely (26 items for the mistreatment scale, 16 for the positive treatment scale). In model 2, for the first latent factor, the first mistreatment item was constrained to 1.0; all other mistreatment item-to-construct parameters were estimated freely (26 items for the mistreatment scale). For the second latent factor in model 2, the first positive treatment item was constrained to 1.0, all other positive treatment item-to-construct parameters were estimated freely (15 items for the mistreatment scale).

For Sample 1, the one-factor model demonstrated poor fit absolute fit, $\chi^2 (779) = 6,329.68$, root mean square error of approximation (*RMSEA*) = .05, and standardized root mean square residual (*SRMR*) = .10. For Sample 1, the one-factor model demonstrated poor fit relative fit as well, non-normed fit index (*NNFI*) = .84, comparative fit index (*CFI*) = .85. For Sample 1, the two-factor model demonstrated adequate absolute fit, $\chi^2 (778) = 4,985.30$, *RMSEA* = .05, and *SRMR* = .08. For Sample 1, the two-factor model demonstrated adequate relative fit *NNFI* = .88, *CFI* = .89. In terms of fit indices difference, Model 2 was better in terms of absolute fit, $\chi^2_{\text{diff}} (1) = 1,344.38$ ($p < .05$). Standardized factor loadings are presented in Table 3.

For Sample 2, the one-factor model demonstrated poor absolute fit, $\chi^2 (779) = 6,599.12$, *RMSEA* = .08, and *SRMR* = .09. For Sample 2, the one-factor model demonstrated adequate relative fit *NNFI* = .92, *CFI* = .92. For Sample 2, the two-factor model demonstrated adequate absolute fit, $\chi^2 (778) = 5,200.19$, *RMSEA* = .06, and *SRMR* = .08. For Sample 2, the two-factor model demonstrated adequate relative fit *NNFI* =

.94, $CFI = .94$. In terms of fit indices difference, Model 2 was better in terms of absolute fit, $\chi^2_{diff}(1) 1,398.93 (p < .05)$. In the Sample 1 and Sample 2, the two-factor models each displayed superior absolute and relative fit compared to the one-factor and null models. The evidence suggests that that two-factor models were superior to one-factor models in terms of fit. Taken together, these results indicate that positive treatment and mistreatment items represent two distinct constructs (Hypothesis 1 is supported). Standardized factor loadings are presented in Table 4.

Hypothesis 2 proposed that positive treatment and negative treatment are negatively correlated. Table 1 and Table 2 contain the zero-order correlations for positive and negative treatment as well as the correlations for the other study variables of interest. As can be seen in Table 1, there is a large, negative correlation between positive treatment and negative treatment in both Sample 1 ($r = -.57, p < .05$) and Sample 2 ($r = -.72, p < .05$), supporting Hypothesis 2.

To test the remaining hypotheses, hierarchical regression analysis and path analysis using Structural Equation Modeling (SEM) procedures found in LISREL 9.1 (Jöreskog & Sörbom, 2012) were used in two samples. Below are the results from the hierarchical regression analysis followed by the results based on the path analysis. Means, standard deviations, reliability estimates, and zero-order correlations between study variables are presented in Table 1 (Sample 1) and Table 2 (Sample 2).

For the hierarchical regression analysis, several control variables were entered into the first step of the analysis; these were age, sex, gender identification, negative affectivity, and dominance. To test the hypotheses concerning the main effects of

mistreatment and positive treatment, control variables were entered in step 1, followed by entering only mistreatment or only positive treatment in step 2. To test the interaction hypotheses, control variables were entered in step 1, the independent variables, mistreatment and positive treatment were entered simultaneously in step 2. In the last step, the interaction of negative and positive treatment was computed and entered as the final predictor (e.g., step 3). In all regression analyses, in order to reduce multicollinearity, negative and positive treatment were mean centered.

Post hoc power analyses were also conducted to assess the observed power for each of the regression analyses. For these post hoc analyses, power was assessed by deriving the non centrality parameter (designated lambda, λ) by taking into account sample size, variance accounted for (e.g., R^2), and degrees of freedom, power can be determined using standard power tables available in most statistical text books. The approach described above is used as a post hoc test of power for multiple regressions. This was done since the main effects were tested with various controls. Thus, for the main effect analyses, the main effect of either positive treatment or negative treatment, and the five control variables necessitated a power analysis of a six predictor model. In the case of the interaction post hoc power analysis, the five control variables, the main effects of positive and negative treatment simultaneously, and the interaction term necessitated a power analysis of an eight predictor model.

In terms of wellbeing, it was predicted that mistreatment and positive treatment would negatively and positively predict mental wellbeing (Hypothesis 3a and Hypothesis 4a, respectively). Mistreatment negatively predicted mental wellbeing in

Sample 1 ($\beta = -.12, p < .01$), but not Sample 2 ($\beta = .04, p > .05$; in both samples, observed power was 1.0). Hypothesis 3a was only supported in Sample 1. Regarding Hypothesis 4a, positive treatment positively predicted mental wellbeing in Sample 1 ($\beta = .14, p < .01$) but not in Sample 2 ($\beta = .04, p > .05$; in both samples, observed power was 1.0). Hypothesis 4a was only supported in Sample 1.

Turning next to physical wellbeing, mistreatment and positive treatment were expected to negatively and positively predict physical wellbeing (Hypothesis 3b and Hypothesis 4b respectively). In the first sample, mistreatment negatively predicted physical wellbeing ($\beta = -.10, p < .01$), but not in Sample 2 ($\beta = -.05, p > .05$; in both samples, observed power was 1.0). Hypothesis 3b was only supported in Sample 1. In Sample 1 positive treatment was not related to physical wellbeing ($\beta = .07, p > .05$). Likewise for Sample 2, positive treatment was not related to physical wellbeing ($\beta = .05, p > .05$; in both samples, observed power was 1.0). Hypothesis 4b not was supported.

Turning next to burnout, mistreatment and positive treatment were expected to positively and negatively predict burnout (Hypothesis 3c and Hypothesis 4c, respectively). In Sample 1, mistreatment positively predicted burnout ($\beta = .18, p < .01$; observed power was 1.0). Hypothesis 3c was supported. In Sample 1 positive treatment negatively predicted burnout ($\beta = -.28, p < .01$; observed power was 1.0). Hypothesis 4c was supported.

Turning next to the hypotheses concerning satisfaction, it was expected that mistreatment and positive treatment would negatively and positively predict satisfaction with advisor (Hypothesis 5 and Hypothesis 6, respectively). In Sample 1, mistreatment

negatively predicted satisfaction with advisor ($\beta = -.51, p < .01$; observed power was 1.0). Hypothesis 5 was supported. In Sample 1, positive treatment positively predicted satisfaction with advisor ($\beta = .82, p < .01$; observed power was 1.0). Hypothesis 6 was supported.

In terms of satisfaction with the graduate program, it was expected that mistreatment and positive treatment would negatively and positively predict graduate program satisfaction (Hypothesis 7 and Hypothesis 8, respectively). In Sample 1, mistreatment negatively predicted satisfaction with graduate program ($\beta = -.33, p < .01$), in Sample 2, mistreatment negatively predicted satisfaction with graduate program ($\beta = -.21, p < .01$; in both samples, observed power was 1.0). Hypothesis 7 was supported. In Sample 1, positive treatment positively predicted satisfaction with graduate program ($\beta = .45, p < .01$). In Sample 2, positive treatment also positively predicted satisfaction with graduate program ($\beta = .35, p < .01$; in both samples, observed power was 1.0). Hypothesis 8 was supported.

Turning next to intention to stay, it was predicted that mistreatment and positive treatment would negatively and positively predict intention to stay (Hypothesis 9 and Hypothesis 10 respectively). In Sample 1, mistreatment negatively predicted intention to stay ($\beta = -.14, p < .01$), in Sample 2, mistreatment negatively predicted intention to stay ($\beta = -.19, p < .01$; in both samples, observed power was .99). Hypothesis 9 supported. In Sample 1, positive treatment positively predicted intention to stay ($\beta = .33, p < .01$). In Sample 2, positive treatment also positively predicted intention to stay ($\beta = .29, p < .01$; in both samples, observed power was 1.0). Hypothesis 10 was supported.

Mistreatment and positive treatment were also expected to interact to predict mental wellbeing (Hypothesis 11). In both samples there was no interaction between mistreatment and positive treatment ($\beta = .05, p > .05$ in Sample 1; $\beta = -.12, p > .05$ in Sample 2; Hypothesis 11 was not supported).

Mistreatment and positive treatment were also expected to interact to predict physical wellbeing (Hypothesis 11). In both samples there was no interaction between mistreatment and positive treatment to predict physical wellbeing ($\beta = -.08, p > .05$ in Sample 1; $\beta = -.14, p > .05$ in Sample 2; Hypothesis 11 was not supported).

Mistreatment and positive treatment were also expected to interact to predict burnout (Hypothesis 11). In Sample 1 there was no interaction between mistreatment and positive treatment to burnout ($\beta = .04, p > .05$; Hypothesis 11 was not supported). Burnout was not measured in Sample 2.

Mistreatment and positive treatment were expected to interact to predict satisfaction with advisor (Hypothesis 11). Mistreatment and positive treatment interacted to positively predict satisfaction with advisor ($\beta = .09, p < .05$; see Figure 2). Simple slope analyses were used to examine the extent to which the slope of the relationship between positive treatment and satisfaction with advisor differed as a function of negative treatment. When negative treatment was high, the relationship between positive treatment and satisfaction with advisor was positive. The simple slope analysis indicated that for high negative treatment the slope was not significant ($t = 1.31, p > .05$). When negative treatment was low, the relationship between positive treatment and satisfaction with advisor was positive and similar to the slope when mistreatment was high. The

simple slope analysis indicated that the slope at low negative treatment was not significant ($t = 1.24, p > .05$). Satisfaction with advisor was high on average in the sample (the sample mean satisfaction with advisor rating was 4.16 on a 1 to 5 scale). The interaction was not in the predicted direction; therefore, hypothesis 11 was not supported in terms of satisfaction with advisor, more about this result in the discussion.

Mistreatment and positive treatment were expected to interact to predict satisfaction with graduate program (Hypothesis 11). In terms of the interaction, mistreatment and positive treatment did not interact to predict satisfaction with graduate program in either sample ($\beta = -.10, p > .05$ and $\beta = .11, p > .05$; Hypothesis 11 was not supported).

Mistreatment and positive treatment were expected to interact to predict intention to stay (Hypothesis 11). In terms of the interaction, mistreatment and positive treatment did interact to predict intention to stay in Sample 1 ($\beta = .17, p < .05$) but not Sample 2 ($\beta = .03, p > .05$). In Sample 1 positive and negative treatment interacted to predict intention to stay (Figure 3). Simple slope analyses were used to examine the extent to which the slope of the relationship between positive treatment and intention to stay differed at a function of negative treatment. When negative treatment was high the relationship between positive treatment and intention to stay was positive. The simple slope analysis indicated that for high negative treatment the slope was not significant ($t = .87, p > .05$). When negative treatment was low, the relationship between positive treatment and intention to stay was positive but the slope was less than the slope for high negative treatment. The simple slope analysis indicated that the slope at low negative

treatment was not significant ($t = .17, p > .05$). These results are counter to expectations, thus Hypothesis 11 was not supported, more on this in the discussion section.

Table 5 (Sample 1) and Table 6 (Sample 2) contain the regression results for the analyses that test models with control variables (Step 1), mistreatment and positive treatment entered simultaneously (Step 2), and with the interaction entered in the last step (Step 3).

In addition to using regression analysis to test the study hypotheses, full maximum likelihood path analysis using Structural Equation Modeling (SEM) procedures found in LISREL 9.1 (Jöreskog & Sörbom, 2012) were also implemented. This was done as an alternate to the first approach in order to account for the correlations among the study variables. One advantage of using SEM is that the unique, non-redundant relationship estimates among study variables. See Figure 4 (Sample 1) and Figure 5 (Sample 2) for models tested in LISREL 9.1. Using SEM procedures, the relationships between independent variables and outcomes were estimated simultaneously, the estimates of main effects are smaller (and often not significant) compared to the regression estimates derived from the hierarchical regression approached presented earlier. The above regression estimates are based on linear regression models where control variables were entered and main effects were estimated separately. Table 5 and Table 6 contain regression estimates for the above analyses where main effects were estimated simultaneously at the same time along with the interaction effects.

In terms of wellbeing, mistreatment was not related to mental wellbeing in the first sample ($\beta = -.05, p > .05$), the same was found in the second sample ($\beta = -.02, p > .05$; Hypothesis 3a was not supported). In Sample 1 positive treatment positively predicted mental wellbeing ($\beta = .14, p < .01$). Likewise for Sample 2, positive treatment positively predicted mental wellbeing ($\beta = .13, p < .05$; Hypothesis 4a was supported).

Turning next to physical wellbeing, mistreatment negatively predicted physical wellbeing ($\beta = -.61, p < .01$), but the same was not found in the second sample ($\beta = -.26, p > .05$; Hypothesis 3b was only supported in Sample 1). In Sample 1 positive treatment was not related to physical wellbeing ($\beta = .02, p > .05$). Likewise for Sample 2, positive treatment was not related to physical wellbeing ($\beta = .4, p > .05$; Hypothesis 4b not was supported).

Turning next to burnout, mistreatment was not related to burnout ($\beta = .22, p > .05$; Hypothesis 3c was not supported). In Sample 1 positive treatment negatively predicted burnout ($\beta = -.31, p < .01$; Hypothesis 4c was supported).

Turning next to the hypotheses concerning satisfaction, mistreatment did not predict satisfaction with advisor ($\beta = -.03, p > .05$; Hypothesis 5 was not supported). In Sample 1, positive treatment positively predicted satisfaction with advisor ($\beta = 1.03, p < .01$; Hypothesis 6 was supported).

In terms of satisfaction with the graduate program, mistreatment negatively predicted satisfaction with graduate program ($\beta = -.74, p < .05$), in Sample 2, mistreatment was not related to satisfaction with graduate program ($\beta = .21, p > .05$; Hypothesis 7 was only supported in Sample 1). In Sample 1, positive treatment

positively predicted satisfaction with graduate program ($\beta = .53, p < .01$). In Sample 2, positive treatment also positively predicted satisfaction with graduate program ($\beta = .46, p < .01$; Hypothesis 8 was supported).

Turning next to intention to stay, mistreatment positively predicted intention to stay in Sample 1 ($\beta = .67, p < .05$), in Sample 2, mistreatment was not related to intention to stay ($\beta = .02, p > .05$; Hypothesis 9 was only supported in Sample 1). In Sample 1, positive treatment positively predicted intention to stay ($\beta = .47, p < .05$). In Sample 2, positive treatment also positively predicted intention to stay ($\beta = .26, p < .05$; Hypothesis 10 was supported).

In both samples there was no interaction between mistreatment and positive treatment ($\beta = -.11, p > .05$ in Sample 1; $\beta = -.14, p > .05$ in Sample 2; Hypothesis 11 was not supported). In both samples there was no interaction between mistreatment and positive treatment to predict physical wellbeing ($\beta = -.22, p > .05$ in Sample 1; $\beta = -.16, p > .05$ in Sample 2; Hypothesis 11 was not supported). In Sample 1 there was no interaction between mistreatment and positive treatment to burnout ($\beta = .08, p > .05$; Hypothesis 11 was not supported). Burnout was not measured in the second sample.

Mistreatment and positive treatment interacted to positively predict satisfaction with advisor ($\beta = .22, p < .05$). Like before, when positive treatment was low, high mistreatment related to lower satisfaction with advisor, and when mistreatment was low, higher satisfaction with advisor was observed. When positive treatment was high, low mistreatment resulted in lower satisfaction with advisor, when positive treatment was

high, high mistreatment results higher satisfaction with advisor, Hypothesis 11 was not supported.

In terms of the interaction, mistreatment and positive treatment did not interact to predict satisfaction with graduate program in either sample ($\beta = -.24, p > .05$ and $\beta = .14, p > .05$; Hypothesis 11 was not supported).

In terms of the interaction, mistreatment and positive treatment did interact to predict intention to stay in Sample 1 ($\beta = .36, p < .05$) but not Sample 2 ($\beta = .03, p > .05$). Consistent with the regression analyses, in Sample 1, when positive treatment was low, the difference between high and low mistreatment predicting intentions to stay were small. When positive treatment was high, higher mistreatment resulted in a higher intention to stay. When positive treatment was high, lower mistreatment resulted in lower intention to stay. These results are counter to expectations, thus hypothesis 11 was not supported.

4. DISCUSSION

The purpose of this project was to examine the relationship between positive and negative treatment from leaders and their singular and interactive effects on well-being. Using an internal validation approach in two samples, I found that positive treatment and negative treatment represent distinct constructs that are negatively related to each other. Turning to the external validation approach, positive treatment and negative treatment were related to various attitudinal and well-being outcomes. Analyses revealed a main effect of negative treatment on well-being in Sample 1 (but not Sample 2), as well as main effects on satisfaction and intentions to stay in both samples. Likewise, I found main effects of positive treatment on mental well-being in Sample 1 (but not Sample 2), and on satisfaction and intentions to stay in both samples. Contrary to hypotheses, I found very few interactive effects of positive and negative treatment on outcomes. In the following, I discuss these findings further.

4.1. Discriminant Validity Evidence

Much of the research concerning supervisor and leader treatment has been conducted with the assumption that positive treatment is the absence of negative treatment, and negative treatment is akin to the absence of positive treatment. This study directly address this assumption by using an internal validation approach to examine the extent to which positive treatment and negative treatment represent two distinct constructs. Consistent with expectations, positive treatment and negative treatment were distinct, as evidenced by the confirmatory factor analyses. Correlation analyses also

demonstrated that positive treatment and negative treatment were negatively related. Taken together, these findings suggest that positive treatment and negative treatment are distinct but related constructs.

Workplace interpersonal mistreatment is conceptualized in terms of behaviors and actions that violate expectations or social norms of respect (Brown & White, 2009; Graen & Scandura, 1987; Graen & Uhl-Bien, 1995; Uhl-Bien & Maslyn, 2003; Pearce & Sims, 2002) which harm or threaten targets of that behavior (Rospenda et al., 2000; Tepper, 2000; Zellars, et al., 2002). Within these lines of research there is often an absence of a discussion about what constitutes positive behaviors. Many of the conclusions offered by researchers entail eliminating negative treatment to reduce undesirable outcomes. Similarly, the conceptualizations of positive treatment are based in respect, autonomy granting, trust formation, and relationship building (Graen & Uhl-Bien, 1995; Uhl-Bien & Maslyn, 2003; Pearce & Sims, 2002). Although many frameworks of positive treatment work describe how it relates to desirable outcomes, these frameworks often do not deal explicitly with negative treatment. Further, neither framework deals with low positive and low negative treatment (e.g., neglect) and whether neglect is qualitatively different from only positive or only negative treatment.

One reason for this could be that many researchers implicitly assume that positive and negative treatment are two opposites of one behavioral domain. Under this assumption, any conclusions drawn about discouraging negative treatment would be equivalent to fostering positive treatment, and vice versa. When researchers and practitioners accept this view, resultant practices that focus on only reducing negative

treatment may not do enough to foster positive treatment. This is akin to healthcare professionals focusing only on disease prevention and ignoring nutrition, exercise, and wellness promotion. This view is problematic because it leaves no room in research and practice to deal with reducing negative treatment and encouraging positive treatment together.

Alternatively, it could be the case that researchers conceptualize positive and negative treatment as two distinct issues and therefore do not study them concurrently. Such a belief would be problematic because it ignores the reality that positive and negative treatment are related. The results of this study indicate that the indicators of positive and negative treatment were negatively related, indicating that as one increased, the other decreased, providing evidence that people tend to be consistent in terms of treating others in a positive or negative way. This study demonstrated that positive treatment and negative treatment were each individually related to outcomes, consistent with previous work. However, when both positive and negative treatment were examined together (as two main effects in a single regression predicting outcomes), both were still significant predictors of outcomes, but the effects were smaller. It is clear that each contributes to the prediction of well-being. Whatever the rationale for not examining positive and negative treatment, theory building concerning positive and negative treatment cannot proceed until both are understood together.

There are two primary advantages to studying positive and negative treatment together. First, examinations of positive and negative treatment require researchers to question the nature of positive treatment, the nature of negative treatment, and how they

relate. This is advantageous insofar as it moves the field away from a focus on single indicators of leader styles, leader behavior or treatment of subordinates, or quality of leader-follower exchanges. Second, studying positive treatment and negative treatment simultaneously encourages researchers to deal with questions concerning behavioral consistency and relational paradigms. This may also compel researchers to examine various sources of information concerning behaviors as observed and perceived by targets, outside observers, and actors to understand the extent to which people enact positive and negative behaviors and to understand if people can perceive the actions of others that are only positive, only negative, both, or neither.

The results of this study provide a deeper understanding of positive and negative treatment from supervisors, at least as it is experienced and reported by subordinates. First, the results show that although individuals who experience positive treatment are less likely to experience negative treatment (and vice versa), this is not because positive and negative treatment are two sides of the same coin. Instead, the results show that these are distinct behaviors. The absence of positive treatment is not the same as negative treatment and vice versa. Instead, positive and negative treatment are likely to be manifestations of the quality of relationships between leaders and subordinates, such that some relationships are mostly positive and generally manifested in positive treatment, some relationships are mostly negative and manifested as negative relationships, some are ambivalent and manifest with positive and negative treatment, and some are neither and manifest with neglect (i.e., little positive or negative treatment). The findings in this study point to a relationship between positive and

negative treatment in which supervisors are consistent in their treatment of subordinates (e.g., when people are treated in a positive way, they are less likely to be treated negatively), at least as reported by the subordinates.

4.2. The Main Effects of Positive and Negative Treatment

Regarding main effects, the results observed are consistent with previous research. Mistreatment was negatively related to both mental (Hypothesis 3a) and physical indicators of well-being in Sample 1 (Hypothesis 3b; Sample 1 only), and to higher burnout (Hypothesis 3c). Positive treatment was related to higher mental health (Hypothesis 4a; Sample 1 only) and burnout (Hypothesis 4c). Mistreatment also resulted in lower satisfaction (advisor satisfaction in Sample 1, Hypothesis 5; satisfaction with program in both samples, Hypothesis 7). Positive treatment resulted in higher satisfaction (advisor satisfaction, Hypothesis 6; satisfaction with program in both samples, Hypothesis 8). In both samples, mistreatment resulted in lower intention to stay (Hypothesis 9) and positive treatment resulted in higher intention to stay (Hypothesis 10).

In terms of mistreatment and well-being, the Sample 1 results are consistent with previous work that identified links between mistreatment and lower well-being (Blustein, 2008; Ganster, Fox, & Dwyer, 2001; Greenhaus & Allen, 2010; *Griffin & Clarke*, 2010; Jex & Crossley, 2004; Russel & Adams, 1997; Schlosser & Gelso, 2005; Tenenbaun et al., 2001; Tepper, 2000; Van Dierendonck, Schaufeli, & Buunk, 1998). Unexpectedly, this same pattern was not observed in the national sample (Sample 2). There are a variety of possible explanations for this. Mistreatment was low in both

samples; for Sample 2, the standard error value of mistreatment was also higher than the standard error value in Sample 1. This low base-rate coupled with higher standard error in Sample 2 may have attenuated my ability to detect the relationship between mistreatment and the two indicators of well-being. One explanation for the difference between Sample 1 and Sample 2 may be differences in contextual factors (e.g., differing University and college policies about behavior, individual student differences as a function of institution, differing climates and cultures, institution level behavioral norms). Because Sample 1 is all drawn from the same institution, there could be effects of institution level factors that are not present in Sample 2 (which was based on several contexts). For Sample 2, a variety of relevant factors (e.g., institution size, prestige of university, rigor of academic programs, institutional implementation of programs to prevent mistreatment or foster positive treatment, cultures for respect and mistreatment) could vary considerably across institutions, thus masking the relationship between variables of interest.

In terms of physical symptoms, the null results for positive treatment in both samples may be due to a host of factors. The items included symptoms like headache, nausea, and diarrhea, which Spector and Jex (1998) suggest can be used as indicators of stress and strain. However, as argued above, the absence of positive treatment is not the same as the presence of negative treatment, nor the presence of positive treatment equivalent to the absence of negative treatment. Thus, it might be that positive treatment does not necessarily predict fewer physical symptoms because the physical symptoms correspond to physiological arousal associated with negative treatment and only with

negative treatment. Thus, this lack of relationship between physical symptoms and positive treatment bolsters the case that positive treatment is distinct from negative treatment.

Turning next to the results concerning satisfaction and intention to stay, positive treatment relates to higher satisfaction and mistreatment relates to lower satisfaction, whether satisfaction with graduate program or satisfaction with advisor. Similarly, higher mistreatment predicted lower intention to stay whereas positive treatment predicted higher intentions to stay in the program, in both samples. These findings are consistent with past research that positive treatment from one's leaders is helpful for fostering higher satisfaction and intentions to stay. Likewise, mistreatment relating to lower satisfaction and lower intentions to stay is also consistent with the finding that mistreatment is stressful and detrimental to target attitudinal outcomes. These findings bolster the relationships that have been previously identified in literatures that deal with positive and negative treatment.

4.3. The Interaction of Positive and Negative Treatment

Little evidence was found to support the idea that positive treatment and negative treatment interacted to predict the included outcomes. Only two outcomes were significantly predicted by the interaction (satisfaction with advisor in Sample 1, turnover intentions in Sample 1), but neither effect was in the expected direction (Figure 2 and Figure 3).

This may have been due to a number of reasons. In both samples, the low base-rate of mistreatment (which may violate assumptions of normality required to detect

interaction effects) may help explain why there were few interactions. Another possibility is that positive treatment and negative treatment may in fact be so strongly related that issues with multicollinearity could prevent the detection of interaction effects. Relatedly, supervisors might behave so consistently that even though positive treatment and negative treatment are different constructs, there is little room for both positive and negative behaviors from a supervisor to a single subordinate. Finally, it could also simply be that the hypothesis was incorrect; perhaps when it comes to indicators of well-being, main effects are strong and robust and interactions do not occur.

Taken as a whole, the results of this study suggest that positive treatment and mistreatment do generally predict outcomes in a way that is expected, specifically in terms of main effects but they do not interact to predict outcomes. Next, I turn to a discussion of broader issues—both in this study and in the study of positive and negative treatment more generally—that could influence our understanding of these experiences in the workplace.

4.4. Behaviors Versus Perceptions of Behaviors

One of the central aspects of this project is the focus on how supervisors treat subordinates. Studying interpersonal and relational interactions necessitates a discussion about how people understand the actions and behaviors of others. One framework for understanding perceptions of behaviors is the correspondence bias (Gilbert & Malone, 1995), which basically means that observers infer that the person's actions correspond to the actor's dispositional traits or attitudes. For example, observers infer that a person

who treats others well and is pleasant is friendly and agreeable, and that the actions of being pleasant and treating others well is due to the friendly and agreeable traits.

An example of how the correspondence bias matters to our understanding of positive and negative treatment as perceived by the targets comes from Duffy et al. (2002), who examined the interaction between perceptions of social support and social undermining. Their work showed that high support and high undermining result in negative outcomes compared to those who received only support or only undermining. Duffy et al. (2002) argued that experiencing both support and undermining can be negative because of the dissonance created by experiencing support and undermining at the same time from the same person. Duffy et al. (2002) argues that people expect consistency, and when inconsistency is perceived, it causes ambiguity and uncertainty that undermine perceptions of trust and safety because the target is uncertain about the motives of the actor.

One key element in Duffy et al. (2002) is the extent to which people perceive behaviors as supportive or as undermining. It is important to note that Duffy et al. (2002) conceptualized and measured social support and social undermining as perceptions informed by actor behavior (and not as behaviors per se), consistent with the correspondence bias framework (Gilbert & Malone, 1995). In contrast, in the current study, I asked respondents about the frequency of behaviors and not perceptions of those behaviors. It is unknown whether these behaviors were actually interpreted as positive or negative by respondents; instead, the positivity and negativity of the behaviors were assumed *a priori*, based on the extant literature. However, it might depend on the

individual and the relationship with the advisor as to whether these behaviors actually are experienced as positive or negative (or neither). For example, some students might consider raising ones voice or shouting as inappropriate or threatening, while others might not experience negative reactions to that behavior at all. For some students, being ignored or ostracized is more threatening than being yelled at. Likewise, respondents may have very different standards concerning what is supportive or not supportive behavior. Some students might perceive that an advisor being readily available for assistance and regularly checking in as not trusting the student to do the work independently, whereas others would see this as a collegial relationship.

This distinction between behaviors (this study) and perceptions about behavior (Duffy et al., 2002) is key as it can help reconcile the results of the current study with the findings of others who have examined interactions of positive and negative leadership or social interaction. Although the *a priori* assumption of these behaviors as either positive or negative is probably consistent with most people's experiences, it does not necessarily reflect all experiences. Future research should examine the perceptions of these behaviors, rather than just the frequency of the behaviors, as well as determine what factors influence these perceptions.

Cognitive reappraisal could also explain how inconsistent behaviors are reappraised. In the context of this project, people who experience both positive and negative treatment from a supervisor could reappraise the negative behaviors to resolve inconsistencies; the same could happen whereby people reappraise positive treatment as negative to fit an expectation or standing perception about negative treatment. Thus, a

supervisor who treats employees well but also engages in negative behaviors (e.g., shouting, belittling others, using an aggressive or inappropriate tone) may actually be understood as exhibiting “tough love.” Or the negative behaviors may be dismissed as examples of the supervisor having a bad day.

4.5. Relationships Over Time

One clear limitation of this study is that respondents were asked to report their experiences over the span of a year on a single survey. Thus, the complexity and richness of interactions was collapsed into recollections at one moment in time. Over time, Supervisors can treat people well and mostly engage in positive behaviors, or mostly engage in negative behaviors and not treat others well, or some complex combination of these. Human relationships are complex, and there may be instances where, over the span of several months, a supervisor may engage in both positive and negative behaviors. Likewise, a supervisor may also start one way and change their behaviors over the course the relational period.

There are probably some relational and situational factors that influence the trend of interactions over time. Relationships change over time. Individuals get to know each other; employees and supervisors begin to understand the knowledge, skills, and abilities that the other possess. The quality of relationship changes over time as well (Uhl-Bien & Maslyn, 2003), often, trust, mutual liking, and interpersonal rapport grow over time (although decreases in quality and few changes in quality of relationships are also possible). One central underpinning of the LMX framework is that relationship quality changes (because time is needed for high quality LMX to form, Uhl-Bien & Maslyn,

2003). Over time, changes in how leaders treat subordinates are likely, and the perceptions subordinates have about leader treatment could also change as mutual trust and interpersonal liking increase.

Likewise, contextual and situational factors could also relate to changes in how leaders treat followers over time. One example is the approach of important deadlines. As a deadline approaches, the stress and anxiety associated with that deadline could result in changes in how leaders and subordinates interact and treat each other. Likewise, changes in leader mood because of situational and contextual factors could also relate to how leaders interact with followers.

4.6. Individual Differences

Further, it is important to recognize that there are probably individual differences in the extent to which people interpret actions of others as positive or negative. For example, people with high negative trait affect, could perceive others as hostile or could perceive the ambiguous actions of others as hostile or negative. Likewise, those with high positive trait affect could appraise actions as being very positive or very friendly when they are not. Likewise, there are probably individual differences that influence how consistently people act toward others over time. Impression management (Leary & Kowalski, 1990; Leary, Kelly, Cottrell & Schreindorfer, 2005), for example, may explain why some people act one way consistently despite differences in daily moods, affect, or attitudes about a person.

In terms of perceptions, several individual differences may play a role in how employees perceive the behaviors and actions of others. As noted above, there is a body

of research that suggests that stable individual differences like negative and positive trait affect relates to how people perceive that actions of others (Spector, Zapf, Chen, & Frese, 2000). Affect has been linked to how people perceive and react to ambiguous stimuli (Payne, 1988; Penny & Spector, 2005; Spector et al., 2000). Positive affect and negative affect have also been linked to what experiences people remember and how those experiences are recalled (e.g., negative affect has been linked to a higher likelihood of encoding and remembering negative events and experiences and positive affect to selective encoding and recall of positive events; Spector et al., 2000). Individual differences like agreeableness and hardiness have also been linked to how people perceive and react to positive and negative events (Penny & Spector, 2005; Spector et al., 2000).

There are also individual differences that make people more vulnerable to mistreatment (e.g., sex predicting sexual harassment, low agreeableness predicting inadvertent triggers of workplace mistreatment, race predicting race based harassment). Self-report data may be influenced by the aforementioned factors, third party measures to corroborate self-reports would help allay these concerns.

4.7 Implications for Theory and Practice

The unique contribution of this project is the explicit test of the relationship between positive and negative treatment. My results shed light on how positive and negative treatment are related but distinct constructs. The findings have implications for how researchers conceptualize positive treatment and negative treatment insofar as both should be measured at the same time and points to the need to have researchers examine

both positive and negative treatment to explicitly test how they are related. One contribution of this project is construct clarity regarding positive and negative treatment and whether they are a single dimension or two distinct dimensions. My finding that positive and negative treatment are distinct but related constructs helps to shed light on how both domains of treatment might operate in predicting outcomes of interest.

There is a need to develop conceptualizations of mistreatment and positive treatment that parses out a domain of positive treatment and negative treatment. This approach should also entail examinations of mistreatment as a set actor of behaviors or target perceptions of mistreatment within that mistreatment domain (as opposed to conceptualizing positive treatment as the absence of behaviors from the mistreatment domain). Likewise, examinations of positive treatment should examine actor behaviors and target perceptions that sample this positive domain (as opposed to conceptualizing negative treatment as the absence of behaviors from the positive treatment domain). The findings highlight the extent to which positive and negative treatment can and do occur together. Further, the findings suggest that examining both positive treatment and mistreatment might be useful for understanding employer-employee relationships. Although this study was conducted in graduate schools, there are still implications for training and employment arrangements that use a model where one person provides most of the training, advising and mentoring (e.g., apprenticeships, medical school residency, etc.).

In addition to implications for research, there are also implications for how we understand leader behaviors in the context of graduate school and subsequent

interventions that can be implemented to address issues like student treatment and outcomes. One implication for the development of interventions is to focus on both the reduction of negative treatment and encouraging positive treatment. Indeed, training can be implemented to teach advisors how to interact with students in a way that reduces negative behaviors, and likewise training can also focus on teaching advisors the skills needed to treat students better. These same interventions can also be used to train students to treat peers and supervisors better. Indeed, targeted interventions can go a long way toward fostering employee well-being and attitudinal outcomes.

As mentioned above, low well-being and negative attitudes are costly in terms of employee health, absenteeism, performance, and engagement. Mistreatment can also cost the organization in terms of turnover and retention. In the graduate school context, departments invest considerable resources to recruit, select, and train students. Once a student is selected, departments invest in training that is costly (e.g., departmental resources and funds, advisor time, coursework hours). Attrition in the context of graduate school means that at the least, a department and institution will lose the resources invested in students who transfer to other programs. At worst, if a student leaves a field or discipline altogether, then the field loses the knowledge, skills, and abilities that each individual would otherwise contribute. Given the selectivity of graduate programs and the low selection ration, losing one student selected from a pool of dozens or scores of qualified applicants represents a substantial loss for the organization and the profession.

In other contexts, attrition may mean that an employee seeks employment elsewhere, transfers to another unit in an organization, or leave the workforce. For graduate students, attrition comes at a high cost which often entails conducting a new graduate search or leaving a chosen discipline altogether. This process is costly for students who have invested time and effort into a graduate education, not to mention the cost associated with finding a new program or seeking other avenues for employment. Indeed, evidence from this project would suggest that one way to avoid turnover and attrition in general is to target interventions at increasing positive treatment and reducing negative treatment.

4.8. Limitations

This study is not without limitations. One of the major limits of this study is the cross-sectional nature of the data. The findings of this study are based on predictor and outcome variables measured at the same time, making it difficult to rule out reverse causality. This cross-sectional approach could also inflate the relationship between measures of positive and negative leader behaviors. Related to the cross-sectional nature of survey, steps were taken to reduce order effects of the items in the survey instrument. Consistent with suggestions by Spector and Jex (1998), measures of outcome variables were presented before questions about mistreatment and positive were administered in the survey so they did not trigger negative or positive reactions (respectively) and influence responses on the outcomes due to in situ reactions. Asking respondents to report outcomes first, followed by questions concerning negative and positive treatment, may help to mitigate these concerns.

Inferences about causality are also difficult to make given the cross-sectional nature of the data. Reports of positive and negative treatment, indicators of well-being and satisfaction were measured at the same time from the same source, making it difficult to assert that treatment causes well-being and attitudes. A true experiment, where positive and negative treatment are manipulated and the presence of a control group for comparisons would allow for clear statements and inferences concerning causality. It may be the case that attitudes and well-being predict perceptions of positive and negative treatment, and without true experiments to rule out the alternative, all conclusions must be drawn with caution. Although a true experiment would go a long way to address questions of causality, such experiments are unethical if and when persistent harm or risk are present. One of the better research designs to study these phenomena is the cross-lagged panel design, with predictors and outcomes measured at the same time on multiple occasions. This approach would allow for tests of relationships over time to determine whether (a) the relationship between positive and negative treatment differs over time, (b) treatment at one time point relates to outcomes at the first and later time points, and (c) the lingering effects of earlier treatment on later outcomes, while accounting for current treatment.

Although the use of self-report information is appropriate given the research questions of interest, there are still several issues with relying solely on self-report data. First, in terms of leader behaviors, there are several factors that could relate to how employees perceive leader behaviors, and several factors that might relate to how employees report leader behaviors. The phenomenological experiences of employees is

relevant and asking respondents to report their perceptions of leader behaviors is appropriate for the research questions presented in this project, there is still the possibility of bias or other factors that may introduce construct irrelevant variance. Limited resources (e.g., funds, time, willing participants) and difficulties associated with social desirability makes it difficult to corroborate respondent reports of leader behavior. Not having third party reports of leader behaviors can make it difficult to measure the occurrence of mistreatment (and positive treatment at work). Relatedly, the lack of third party reports of employee well-being, satisfaction, and intentions to stay are limits of the study, these limits are not prohibitive in terms of making general, cautious conclusions about the relationship between leader treatment and employee outcomes.

Consistent with other work concerning deviance and negative treatment at work (Bacharach, Bamberger, & Sonnenstuhl, 2002; Fox, Spector, & Miles, 2001; Skarlicki, van Jaarsveld, & Walker, 2008), this study also identified a relatively low rate of mistreatment behaviors. This relatively low rate of mistreatment occurrence in both samples is a potential limitation for the interpretation of statistical analyses. The relatively low occurrence of mistreatment resulted in a range restriction and a skew in the data about mistreatment, making the detection of main effects and interactions more difficult. The range restriction and skew violate the assumption of the general linear model that data be normally distributed.

Another potential limitation of this study is the generalizability of the results to contexts outside of graduate school. Graduate school is highly stressful because there is a high level of demand on students in terms of time pressures, responsibilities, and work

load. Thus, it is possible that outcomes are also related to these contextual factors and that leader mistreatment and positive treatment are relatively small contributors to graduate student outcomes. Likewise, there may be factors in the graduate school context that systematically influence both outcomes and predictors (e.g., leader behaviors may stem from the influence of larger systematic influences that characterize the graduate context like the lack of resources or stress from political or interpersonal conflict). Likewise, the stress experienced by both subordinates and supervisors may be a third variable that explains both supervisor mistreatment and negative outcomes for the subordinate. The characteristics of graduate school may render the conclusions drawn from these two samples difficult to apply to other contexts, although the graduate school context does align with contexts that use an apprentice or intensive training models of employee training and work arrangements.

Another limitation of the study was the limited set of questions chosen to assess positive and negative treatment. As reviewed above, several definitions, conceptualizations, and operationalization of positive treatment and negative treatment exist. Inclusion of other measures might yield different results. In the introduction, I reviewed several streams of research that deal with issues related to generally positive or generally negative leader behaviors. Drawing on different operationalization than the ones used here and conducting the same analyses could result in different outcomes.

For example, research on directive and transactional leadership behaviors often position directive or transactional leader behaviors as undesirable because those behaviors result in employees feeling less autonomy, less trust, and less respect.

Likewise, transformational leadership behaviors are often discussed in terms of positive outcomes because they result in subordinates feeling more trust, respect, and interpersonal warmth (Pearce & Sims, 2002). Choosing directive behaviors to indicate negative treatment and transformational leadership to indicate positive treatment would be appropriate, but the results would likely be similar to this study (e.g., two behavioral domains that represent different constructs, related in a negative way). However, choosing an indicator of negative treatment like sexual harassment and an indicator of positive treatment like transformational leadership would likely result in results consistent with this study. Although there would likely be evidence that sexual harassment and transformational leadership behaviors are distinct constructs that are negatively related, interpretations of the results and implications would be different than those of the current study. Interpretations of study results in this context must be made cautiously. The domains of positive and negative treatment are large and include a host of behaviors reviewed above and others not reviewed. The measures selected represent core aspects of each domain, but not the entire domain. Future work is needed using other indicators and operationalization of positive and negative treatment to understand how positive and negative treatment are related.

4.9. Future Directions

Future research should be conducted to examine how mistreatment relates to outcomes of interest using other conceptualization and operationalization of mistreatment (e.g., tyrannical supervision, counterproductive work behaviors) and positive treatment (e.g., information sharing, organizational citizenship behaviors). In

terms of measurement issues associated with simple reports of frequency of behavior, future work should include measures of mistreatment that also contain elements of target perceptions about mistreatment intent and reactions to that mistreatment (as opposed to simple reports of leader behavior frequency). Future work should explicitly measure perceptions of behavior as opposed to relying on only frequencies of certain behaviors per se.

Work is also needed to corroborate reports of leader behaviors. It would be informative to understand if there is a mismatch between how leaders understand their own behaviors versus how subordinates understand leader behaviors. Another direction that needs attention is the extent to which positive treatment and mistreatment relate to outcomes of interest in other contexts. This could include how positive and negative treatment modeled by supervisors relates to how employees treat peers and subordinates. Likewise, it would be interesting to see if there are changes over time to how employees react to negative and positive treatment. Relatedly, it would be informative to see if the relationship between positive and negative treatment is constant over time or if there are changes in how positive and negative treatment are enacted by supervisors over time.

In terms of outcomes, stable individual differences may also explain how the same sets of behaviors or events relate to different intra-individual reactions to those events or treatment. The transactional stress framework (Lazarus & Folkman, 1984) holds that people experience events and then appraise those events differently as a function of personality, previous experiences, and individual differences, and based on those appraisals, respond in different ways. This appraisal process varies from person to

person and is influenced by individual differences and a host of contextual factors that may not be apparent to researchers. Future work should examine the role of such individual differences (e.g., hardiness, conscientiousness, self-esteem) as moderators and as factors that could buffer or exacerbate the relationship between treatment and employee outcomes. Relatedly, it may be informative to consider how positive and negative treatment operate to predict outcomes using the transactional stress framework (e.g., asking people to appraise positive and negative treatment and measuring subsequent reactions and responses to that behavior).

5. CONCLUSION

Graduate school is difficult, stressful, and challenging. Any steps the academy can take to ensure higher retention and higher student well-being is a worthy of our attention. The findings of this study are consistent with previous work and point to the benefits of positive treatment as a way to foster student well-being, satisfaction, and intention to stay. The results of this study also point to the threat that mistreatment can pose to well-being, satisfaction, and intentions to stay.

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APPENDIX A

TABLES AND FIGURES

Table 1.
Means, Standard Deviation Values, Reliability Estimates and Correlations Between
Study Variables In Sample 1.

<i>Variable</i>	<i>M</i>	<i>SD</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>
1. Mistreatment	1.14	.27	(.88)							
2. Positive Treatment	4.00	.68	-.57	(.92)						
3. Mental Wellbeing	3.68	.61	-.27	.32	(.92)					
4. Physical Wellbeing	3.57	.87	-.19	.17	.43	(.86)				
5. Burnout	2.62	.73	.31	-.39	-.51	-.35	(.76)			
6. Satisfaction With Program	3.33	.89	-.40	.51	.39	.22	-.66	(.81)		
7. Satisfaction with Advisor	4.16	.92	-.54	.84	.30	.15	-.37	.50	(.95)	
8. Intention to Stay	4.42	.83	-.20	.39	.38	.15	-.44	.52	.42	(.86)

Note. All correlation estimates are significant, $p < .01$. Values in parentheses are Cronbach Alpha estimates.

Table 2.
Means, Standard Deviation Values, Reliability Estimates and Correlations Between
Study Variables In Sample 2.

<i>Variable</i>	<i>M</i>	<i>SD</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>
<i>1. Mistreatment</i>	1.28	.53	(.96)					
<i>2. Positive Treatment</i>	3.91	.80	-.72	(.94)				
<i>3. Mental Wellbeing</i>	3.57	.68	-.20	.28	(.94)			
<i>4. Physical Wellbeing</i>	3.44	.80	-.20	.22	.52	(.80)		
<i>5. Satisfaction With Program</i>	3.44	.95	-.35	.48	.38	.24	(.84)	
<i>6. Intention to Stay</i>	4.52	.77	-.33	.40	.28	.14	.58	(.82)

Note. All correlation estimates are significant, $p < .01$. Values in parentheses are Cronbach Alpha estimates.

Table 3.
Confirmatory Factor Analysis Results Sample 1.

	<i>Factor 1</i>	<i>Factor 2</i>
Mistreatment 1	.73	
Mistreatment 2	.72	
Mistreatment 3	.46	
Mistreatment 4	.47	
Mistreatment 5	.55	
Mistreatment 6	.66	
Mistreatment 7	.58	
Mistreatment 8	.53	
Mistreatment 9	.66	
Mistreatment 10	.55	
Mistreatment 11	.57	
Mistreatment 12	.12	
Mistreatment 13	.58	
Mistreatment 14	.38	
Mistreatment 15	.42	
Mistreatment 16	.22	
Mistreatment 17	.27	
Mistreatment 18	.41	
Mistreatment 19	.49	
Mistreatment 20	.41	
Mistreatment 21	.50	
Mistreatment 22	.61	
Mistreatment 23	.30	
Mistreatment 24	.53	
Mistreatment 25	.61	
Mistreatment 26	.45	
Positive Treatment 1		.83
Positive Treatment 2		.87
Positive Treatment 3		.92
Positive Treatment 4		.66
Positive Treatment 5		.74
Positive Treatment 6		.76
Positive Treatment 7		.70
Positive Treatment 8		.64
Positive Treatment 9		.39
Positive Treatment 10		.49
Positive Treatment 11		.30
Positive Treatment 12		.66
Positive Treatment 13		.57
Positive Treatment 14		.61
Positive Treatment 15		.64

Model 1: $\chi^2(779) = 6,329.68$, $RMSEA = .05$, $SRMR = .10$, $NNFI = .84$, $CFI = .85$.

Model 2: $\chi^2(778) = 4,985.30$, $RMSEA = .05$, $SRMR = .08$, $NNFI = .88$, $CFI = .89$.

Table 4.
Confirmatory Factor Analysis Results Sample 2.

	<i>Factor 1</i>	<i>Factor 2</i>
Mistreatment 1	.81	
Mistreatment 2	.78	
Mistreatment 3	.73	
Mistreatment 4	.69	
Mistreatment 5	.75	
Mistreatment 6	.87	
Mistreatment 7	.84	
Mistreatment 8	.80	
Mistreatment 9	.90	
Mistreatment 10	.72	
Mistreatment 11	.81	
Mistreatment 12	.54	
Mistreatment 13	.75	
Mistreatment 14	.62	
Mistreatment 15	.59	
Mistreatment 16	.19	
Mistreatment 17	.58	
Mistreatment 18	.63	
Mistreatment 19	.75	
Mistreatment 20	.60	
Mistreatment 21	.60	
Mistreatment 22	.79	
Mistreatment 23	.62	
Mistreatment 24	.74	
Mistreatment 25	.72	
Mistreatment 26	.66	
Positive Treatment 1		.88
Positive Treatment 2		.94
Positive Treatment 3		.95
Positive Treatment 4		.86
Positive Treatment 5		.76
Positive Treatment 6		.72
Positive Treatment 7		.71
Positive Treatment 8		.57
Positive Treatment 9		.49
Positive Treatment 10		.58
Positive Treatment 11		.36
Positive Treatment 12		.69
Positive Treatment 13		.60
Positive Treatment 14		.67
Positive Treatment 15		.73

Model 1: χ^2 (779) = 6,599.12, *RMSEA* = .08, *SRMR* = .09, *NNFI* = .92, *CFI* = .92.

Model 2: χ^2 (778) = 5,200.19, *RMSEA* = .06, *SRMR* = .08, *NNFI* = .94, *CFI* = .94.

Table 5.
Regression Estimates For Sample 1 Using Hierarchical Regression Analysis.

	<u>Mental Wellbeing</u>			<u>Physical Wellbeing</u>			<u>Burnout</u>			<u>Satisfaction With Advisor</u>			<u>Satisfaction With Graduate School</u>			<u>Intention To Stay</u>		
	<i>Step 1</i>	<i>Step 2</i>	<i>Step 3</i>	<i>Step 1</i>	<i>Step 2</i>	<i>Step 3</i>	<i>Step 1</i>	<i>Step 2</i>	<i>Step 3</i>	<i>Step 1</i>	<i>Step 2</i>	<i>Step 3</i>	<i>Step 1</i>	<i>Step 2</i>	<i>Step 3</i>	<i>Step 1</i>	<i>Step 2</i>	<i>Step 3</i>
Constant	4.70*	4.63*	4.64*	5.09*	5.00*	4.95*	1.43*	1.55*	1.57*	4.74*	4.32*	4.37*	4.33*	4.05*	3.99*	5.04*	4.96*	5.04*
Controls																		
Age	.01*	.01*	.01*	.00	.00	.00	-.01*	-.01*	-.01*	.00	.00	.00	.00	.00	.00	.00	.00	.00
Sex	-.36*	-.30	-.30	-.29	-.26	-.28	-.02	-.17	-.16	-.40	.14	.16	-.08	.21	.19	-.32	-.10	-.07
Gender Identity	.29	.24	.23	-.02	-.05	-.03	.16	.31	.31	.38	-.16	-.17	.00	-.28	-.27	.34	.11	.09
Negative Affect	-.57	-.54*	-.54*	-.48*	-.45*	-.44*	.44*	.37*	.37*	-.28*	-.03	-.03	-.41*	-.26*	-.25*	-.26*	-.18*	-.19*
Dominance	.04	.04	.04	-.03	-.02	-.01	.09*	.09*	.09*	-.01	-.02	-.03	-.01	.00	.01	-.05	-.06	-.08
Negative Treatment		-.14	-.04		-.29	-.54*		.10	.19		-.32*	-.03		-.41*	-.72*		.20	.67*
Positive Treatment		.10*	.11*		.03	.02		-.29*	-.28*		1.02*	1.03*		.53*	.52*		.45*	.47*
Negative X Positive Treatment			.08			-.18			.07			.22*			-.23			.36*
Adj. R ²	.48	.50	.49	.21	.22	.22	.25	.32	.32	.05	.69	.69	.11	.31	.31	.06	.18	.19
Δ Adj. R ²		.01	.01		.01	.00		.08	.00		.64	.00		.20	.00		.12	.01

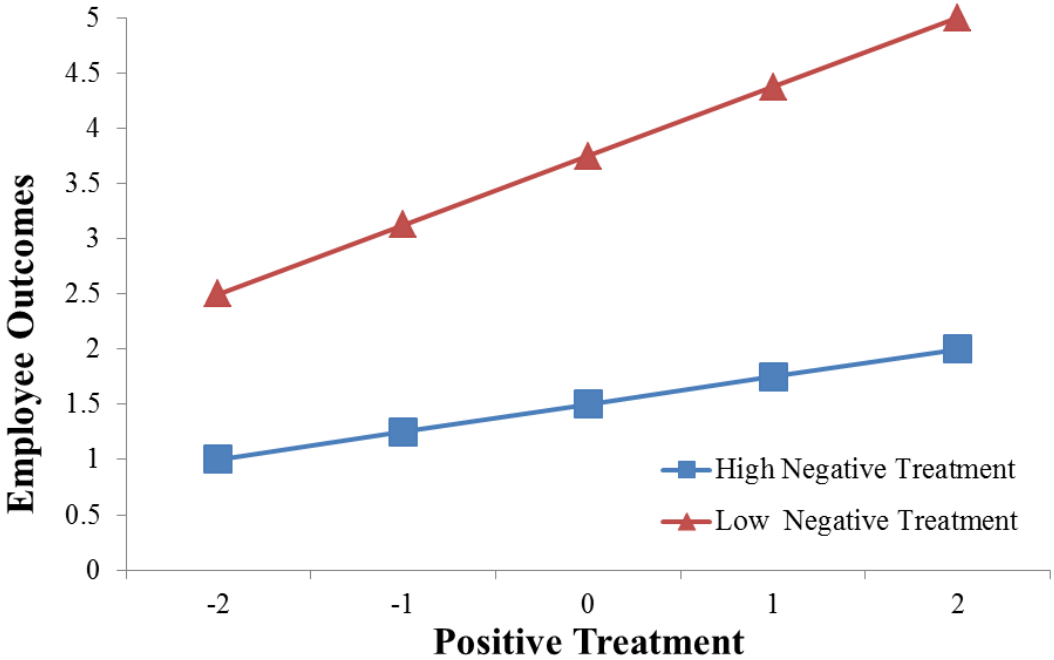
Note. * $p < .05$, estimates are unstandardized regression estimates.

Table 6.
Regression Estimates For Sample 2 Using Hierarchical Regression Analysis.

	<u>Mental Wellbeing</u>			<u>Physical Wellbeing</u>			<u>Satisfaction With Graduate School</u>			<u>Intention To Stay</u>		
	<i>Step 1</i>	<i>Step 2</i>	<i>Step 3</i>	<i>Step 1</i>	<i>Step 2</i>	<i>Step 3</i>	<i>Step 1</i>	<i>Step 2</i>	<i>Step 3</i>	<i>Step 1</i>	<i>Step 2</i>	<i>Step 3</i>
Constant	4.70*	4.68*	4.67*	4.76*	4.71*	4.69*	4.56*	4.17*	4.19*	5.12*	4.87*	4.87*
Controls												
Age	.00	.00	.01	-.01	-.01	-.01	-.01	-.01	-.01	.00	.00	.00
Sex	-.09	-.11	-.10	-.27	-.27	-.25	-.02	-.02	-.02	-.12	-.12	-.13
Gender Identity	.16	.17	.16	.27	.27	.24	.05	-.03	-.03	.25	.24	.24
Negative Affect	-.57*	-.58*	-.58*	-.52*	-.51*	-.51*	-.46*	-.31*	-.31*	-.27*	-.17*	-.17*
Dominance	-.01	-.01	-.01	-.07	-.06	-.06	-.02	.01	.01	-.08	-.06	-.06
Negative Treatment		-.17*	-.01		-.01	-.23*		-.00	.20		-.03	.02
Positive Treatment		.11*	.10*		.05	.03		.43*	.45*		.26*	.27*
Negative X Positive Treatment			-.10			-.14			.13			.03
<i>Adj. R²</i>	.52	.52	.52	.29	.29	.30	.17	.27	.27	.09	.15	.15
Δ <i>Adj. R²</i>		.00	.00		.00	.01		.10	.00		.06	.00

Note. * $p < .05$, estimates are unstandardized regression estimates.

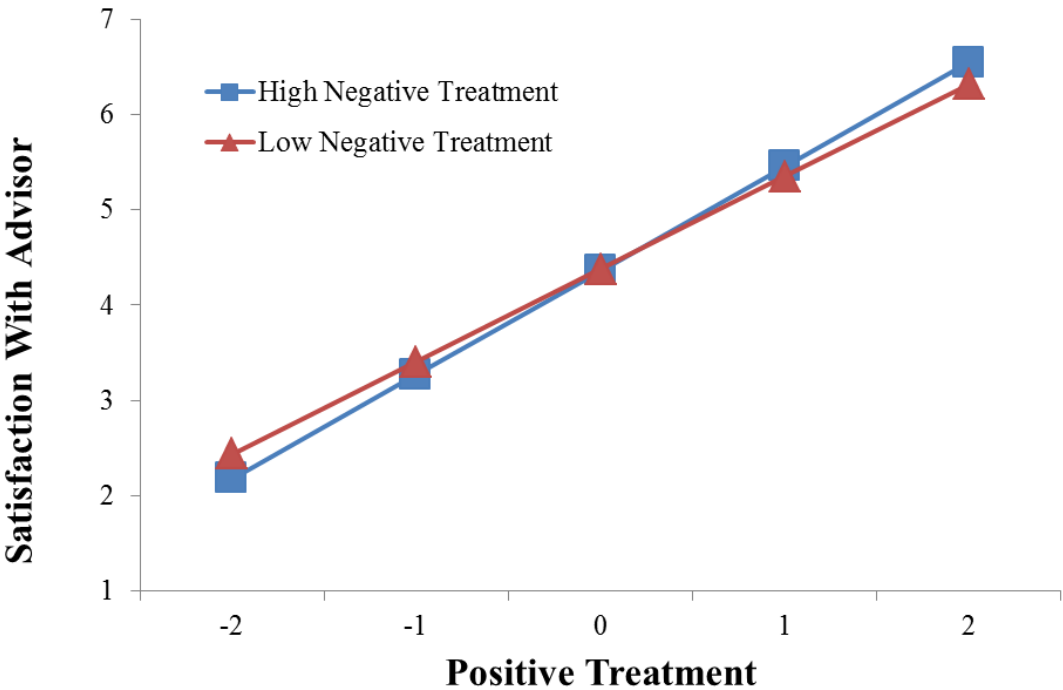
Figure 1.
Interaction Plot #1



Caption: Predicted self-report outcomes as a function of positive treatment and mistreatment from supervisors.

Note: Higher values indicate more positive outcomes.

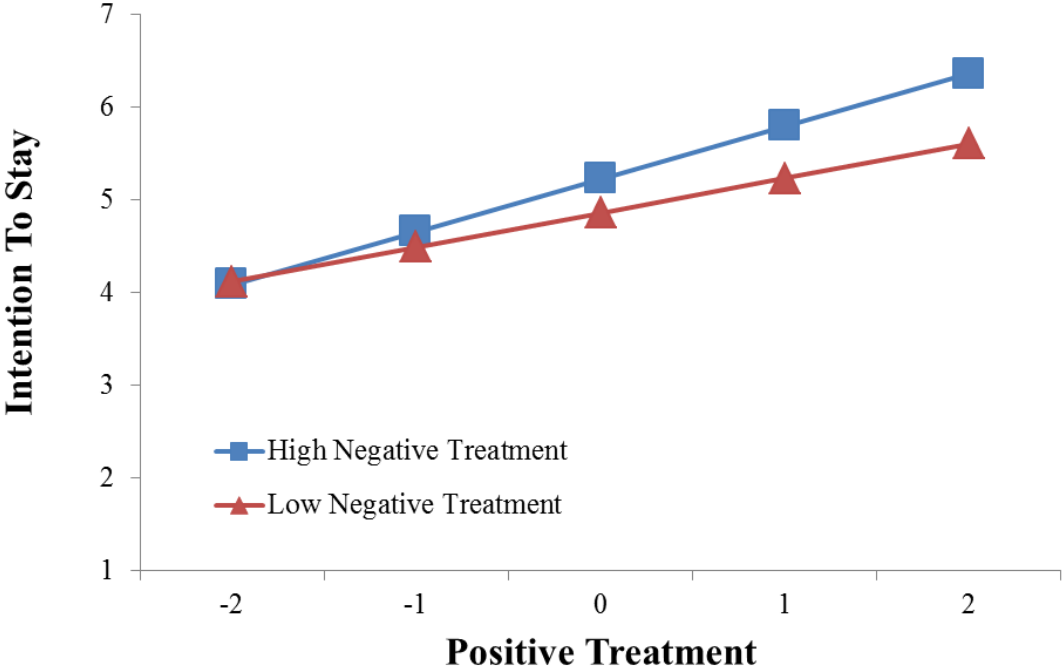
Figure 2.
Interaction Plot #2



Caption: Self-report satisfaction with advisor as a function of positive treatment and mistreatment from supervisors in Sample 1.

Note: Higher values indicate more positive outcomes.

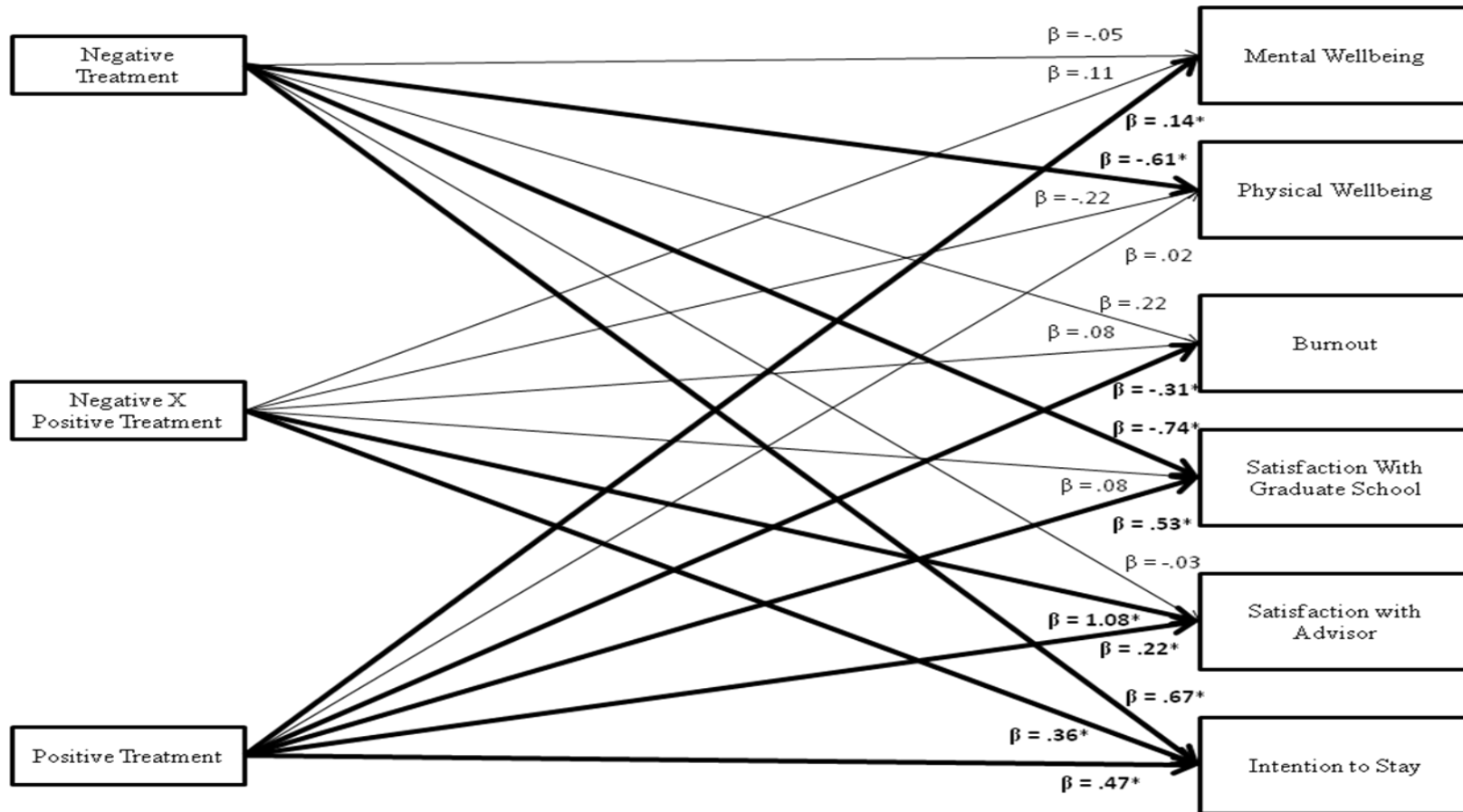
Figure 3.
Interaction Plot #3



Caption: Self-report intention to stay as a function of positive treatment and mistreatment from supervisors in Sample 1.

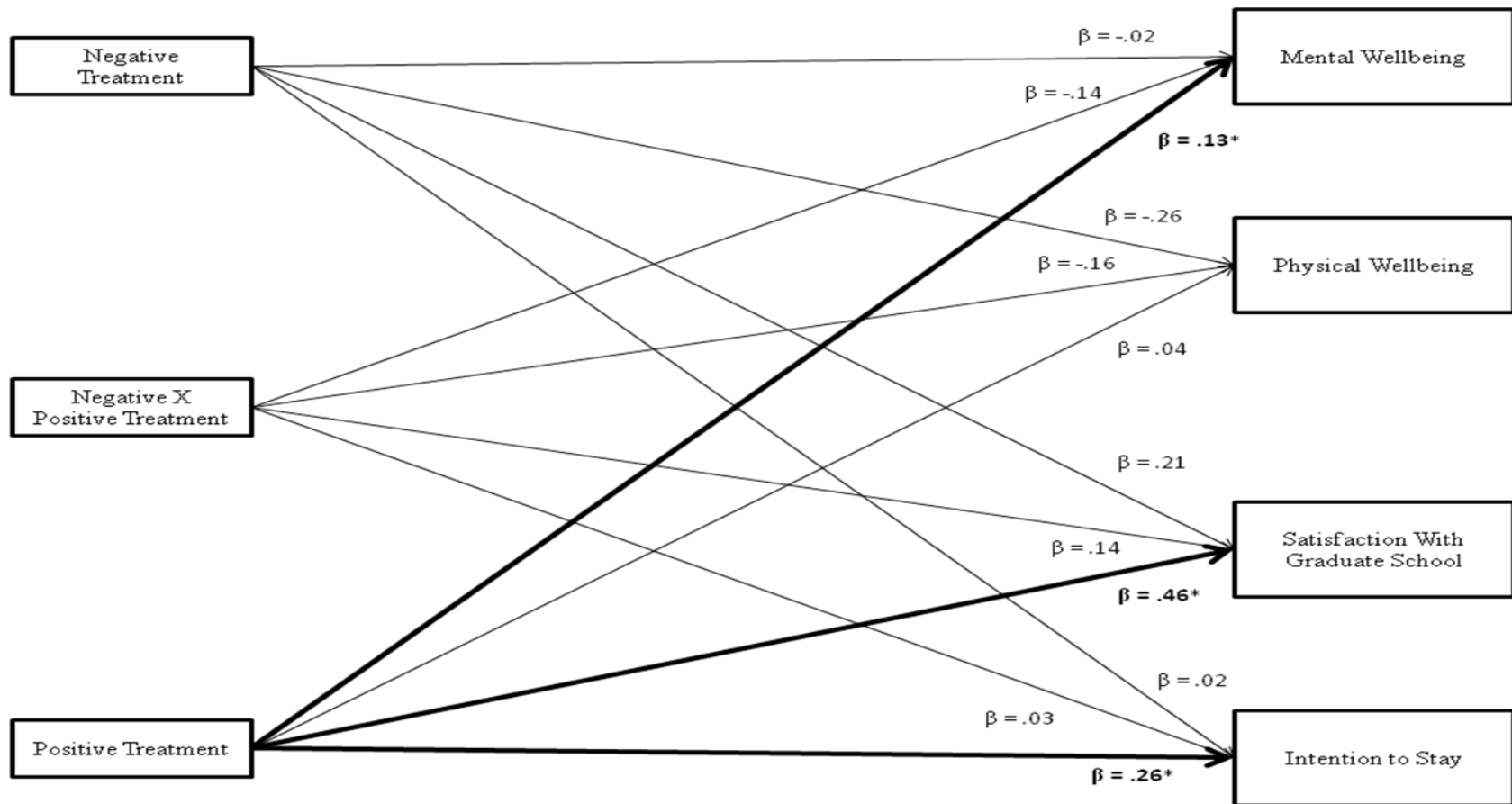
Note: Higher values indicate more positive outcomes.

Figure 4.
Path Estimates #1



Caption:
Sample 1. Path estimates derived from LISREL 9.1 program. Bold pathways are significant at $p < .05$, estimates are standardized.

Figure 5.
Path Estimates #2



Caption:
Sample 2. Path estimates derived from LISREL 9.1 program. Bold pathways are significant at $p < .05$, estimates are standardized.

APPENDIX B

COMPLETE LIST OF ITEMS USED IN SAMPLE 1

Complete list of items used to construct *mistreatment from advisor* composite scale. Original items found in *Aggressive Experiences Scale* (Glomb & Liao, 2003), and the *Uncivil Workplace Behaviors* scale (Martin & Hine, 2005).

- Used an inappropriate tone when speaking to you?
- Spoken to you in an aggressive tone of voice?
- Used hostile body language?
- Rolled their eyes at you?
- Given you the “silent treatment?”
- Made snide remarks about you?
- Insulted or criticized you (including using sarcasm) in public?
- Talked about you behind your back?
- Made you look bad?
- Interrupted or “cut you off” while speaking?
- Belittled your opinions in front of others?
- Sworn at you?
- Yelled or raise their voice?
- Gotten “in your face?”
- Made threats?
- Read communications addressed to you, such as e-mails or faxes?
- Publicly discussed your confidential personal information?
- Whistle-blow or told supervisors or others about your negative behavior?
- Failed to consult you in reference to a decision you should be involved in?
- Returned your phone messages or e-mails slowly without good reason for the delay?
- Responded slowly to matters on which you are reliant on them, without good reason?
- Avoided consulting you when they would normally be expected to do so?

Fail to inform you of a meeting you should be informed about?

Avoided you?

Intentionally failed to pass on information which you should be made aware of?

Withheld resources (e.g., supplies, equipment) needed to do your job?

Complete list of items used to measure *positive advisor treatment*. Items are found in Schlosser and Gelso (2005).

My advisor treats me in a polite manner.

My advisor treats me with dignity.

My advisor treats me with respect.

My advisor refrains from improper remarks or comments about me.

My advisor respects my career goals, whatever they may be.

My advisor values my research interests.

I get the feeling that my advisor does not like me very much. (Reversed)

My advisor does not encourage my input into our discussions. (Reversed)

My advisor introduces me to professional activities (e.g., conferences, submitting articles for journal publication).

My advisor helps me conduct my work within a plan.

My advisor has invited me to be a responsible collaborator in his/her own work.

I do not want to be like my advisor. (Reversed)

I tend to see things differently from my advisor. (Reversed)

I do not want to feel similar to my advisor in the process of conducting work. (Reversed)

I do not think that my advisor believes in me. (Reversed)

Complete list of items used to measure *mental well-being*, items found in Mental Health Inventory (MHI; Viet & Ware, 1983).

How much of the time:

have you been a very nervous person? (Reversed)

have you been anxious or worried? (Reversed)

did you get rattled, upset, or flustered? (Reversed)

have you been moody or brooded about things? (Reversed)

have you been in low or very low spirits? (Reversed)

have you felt downhearted and blue? (Reversed)
have you been in firm control of your behavior, thoughts, emotions, feelings?
have you felt emotionally stable?
have you felt like crying? (Reversed)
have you been a happy person?
have you been happy, satisfied, or pleased with your personal life?
has your daily life been full of things that were interesting to you?
have you felt loved and wanted?
did you feel there were people close to you?
have you felt lonely? (Reversed)
have you felt left out? (Reversed)
did you feel that your love relationships, loving and being loved, were full and complete?
did you feel isolated from others? (Reversed)

Complete list of items used to measure *physical symptoms*, items found in Physical Symptoms Inventory (Spector & Jex, 1998).

An upset stomach or nausea
Trouble sleeping
Headache
Acid indigestion or heartburn
Diarrhea
Constipation
An infection
Tiredness or fatigue

Complete list of items used to measure *turnover intentions*.

I am actively looking for another graduate program.
I will probably look for a new graduate program during the next year.
I would love to quit this graduate program.

Complete list of items used to measure *satisfaction with graduate program*, items found in Satisfaction with Life Scale (Diener, Emmons, Larson & Griffin, 1985).

In most ways my graduate program is close to my ideal.

I am satisfied with my graduate program.

If I could start my graduate program over, I would change almost nothing.

I often think about quitting this graduate program (Reversed).

Complete list of items used to measure *satisfaction with graduate advisor*, items found in Satisfaction with Life Scale (Diener, Emmons, Larson & Griffin, 1985).

I want to remain with my advisor.

I like my advisor.

I look forward to working with my advisor.

I dread working with my advisor. (Reversed)

If it were possible to move to another advisor at this time, I would.(Reversed)

I am dissatisfied with my advisor.(Reversed)

Complete list of items used to measure *burnout*, items are found in the Maslach Burnout Inventory (Malle, 2006).

I want to remain with my advisor.

I like my advisor.

I look forward to working with my advisor.

I dread working with my advisor. (Reversed)

If it were possible to move to another advisor at this time, I would.(Reversed)

I am dissatisfied with my advisor.(Reversed)

APPENDIX C

COMPLETE LIST OF ITEMS USED IN SAMPLE 2

Complete list of items used to construct *mistreatment from advisor* composite scale. Original items found in *Aggressive Experiences Scale* (Glomb & Liao, 2003), and the *Uncivil Workplace Behaviors* scale (Martin & Hine, 2005).

- Used an inappropriate tone when speaking to you?
- Spoken to you in an aggressive tone of voice?
- Used hostile body language?
- Rolled their eyes at you?
- Given you the “silent treatment?”
- Made snide remarks about you?
- Insulted or criticized you (including using sarcasm) in public?
- Talked about you behind your back?
- Made you look bad?
- Interrupted or “cut you off” while speaking?
- Belittled your opinions in front of others?
- Sworn at you?
- Yelled or raise their voice?
- Gotten “in your face?”
- Made threats?
- Read communications addressed to you, such as e-mails or faxes?
- Publicly discussed your confidential personal information?
- Whistle-blow or told supervisors or others about your negative behavior?
- Failed to consult you in reference to a decision you should be involved in?
- Returned your phone messages or e-mails slowly without good reason for the delay?

Responded slowly to matters on which you are reliant on them, without good reason?
Avoided consulting you when they would normally be expected to do so?
Fail to inform you of a meeting you should be informed about?
Avoided you?
Intentionally failed to pass on information which you should be made aware of?
Withheld resources (e.g., supplies, equipment) needed to do your job?

Complete list of items used to measure *positive advisor treatment*. Items are found in Schlosser and Gelso (2005).

My advisor treats me in a polite manner.
My advisor treats me with dignity.
My advisor treats me with respect.
My advisor refrains from improper remarks or comments about me.
My advisor respects my career goals, whatever they may be.
My advisor values my research interests.
I get the feeling that my advisor does not like me very much. (Reversed)
My advisor does not encourage my input into our discussions. (Reversed)
My advisor introduces me to professional activities (e.g., conferences, submitting articles for journal publication).
My advisor helps me conduct my work within a plan.
My advisor has invited me to be a responsible collaborator in his/her own work.
I do not want to be like my advisor. (Reversed)
I tend to see things differently from my advisor. (Reversed)
I do not want to feel similar to my advisor in the process of conducting work. (Reversed)
I do not think that my advisor believes in me. (Reversed)

Complete list of items used to measure *mental well-being*, items found in Mental Health Inventory (MHI; Viet & Ware, 1983).

How much of the time:

have you been a very nervous person? (Reversed)
have you been anxious or worried? (Reversed)
did you get rattled, upset, or flustered? (Reversed)

have you been moody or brooded about things? (Reversed)
have you been in low or very low spirits? (Reversed)
have you felt downhearted and blue? (Reversed)
have you been in firm control of your behavior, thoughts, emotions, feelings?
have you felt emotionally stable?
have you felt like crying? (Reversed)
have you been a happy person?
have you been happy, satisfied, or pleased with your personal life?
has your daily life been full of things that were interesting to you?
have you felt loved and wanted?
did you feel there were people close to you?
have you felt lonely? (Reversed)
have you felt left out? (Reversed)
did you feel that your love relationships, loving and being loved, were full and complete?
did you feel isolated from others? (Reversed)

Complete list of items used to measure *stress*, items found in Physical Symptoms Inventory (Spector & Jex, 1998).

An upset stomach or nausea
Trouble sleeping
Headache
Acid indigestion or heartburn
Diarrhea
Constipation
An infection
Tiredness or fatigue

Complete list of items used to measure *turnover intentions*.

I am actively looking for another graduate program.
I will probably look for a new graduate program during the next year.

I would love to quit this graduate program.

Complete list of items used to measure *satisfaction with graduate* program, items found in Satisfaction with Life Scale (Diener, Emmons, Larson & Griffin, 1985).

In most ways my graduate program is close to my ideal.

I am satisfied with my graduate program.

If I could start my graduate program over, I would change almost nothing.

I often think about quitting this graduate program (Reversed).

APPENDIX D

COMPLETE LIST OF STUDY HYPOTHESES

Hypothesis 1: Positive and negative leader behaviors are distinct constructs that represent two distinct factors.

Hypothesis 2: Positive and negative behaviors from leaders are negatively correlated.

Hypothesis 3: Leader mistreatment will negatively predict a) mental wellbeing, b) physical well-being, and positively predict c) burnout.

Hypothesis 4: Leader respect will positively predict employee a) mental wellbeing, b) physical well-being, and negatively predict c) burnout.

Hypothesis 5: Leader mistreatment will negatively predict satisfaction with advisor.

Hypothesis 6: Leader respect will positively predict satisfaction with advisor.

Hypothesis 7: Leader mistreatment will negatively predict satisfaction with program.

Hypothesis 8: Leader respect will positively predict satisfaction with program.

Hypothesis 9: Leader mistreatment will negatively predict intentions to stay.

Hypothesis 10: Leader respect will positively predict intentions to stay.

Hypothesis 11: Positive treatment and negative mistreatment will interact to predict outcomes of interest such that low negative treatment and high positive will result in the most positive outcomes.

APPENDIX E

CONFIRMATORY FACTOR ANALYSIS RESULTS FOR SHORT VERSIONS OF MISTREATMENT AND POSITIVE TREATMENT SCALES¹

In model1, the first mistreatment item was constrained to 1.0; all other mistreatment and positive treatment item-to-construct parameters were estimated freely (16 items for the mistreatment scale, 7 items for the positive treatment scale). In model 2, for the first latent factor, the first mistreatment item was constrained to 1.0; all other mistreatment item-to-construct parameters were estimated freely (16 items for the mistreatment scale). For the second latent factor in model 2, the first positive treatment item was constrained to 1.0, all other positive treatment item-to-construct parameters were estimated freely (7 items for the mistreatment scale).

For Sample 1, the one-factor model demonstrated poor absolute fit, χ^2 (230) = 2,667.53, root mean square error of approximation (*RMSEA*) = .03, and standardized root mean square residual (*SRMR*) = .12. For Sample 1, the one-factor model demonstrated poor relative fit, non-normed fit index (*NNFI*) = .82, comparative fit index (*CFI*) = .83. For Sample 1, the two-factor model demonstrated adequate absolute fit, χ^2 (229) = 1,577.49, *RMR* = .02, and *SRMR* = .07. For Sample 1, the two-factor model demonstrated adequate relative fit *NNFI* = .90, *CFI* = .91.

For Sample 2, the one-factor model demonstrated poor absolute fit, χ^2 (230) = 3,034.42, *RMSEA* = .05, and *SRMR* = .08. For Sample 2, the one-factor model

¹ The following is a report of results of the analyses using a shortened version of the two independent variables. The shorten versions of the two independent variables was based on rating of item relevance generated by four graduate students.

demonstrated adequate relative fit, $NNFI = .91$, $CFI = .92$, For Sample 2, the two-factor model demonstrated good absolute fit, $\chi^2 (229) = 1,902.46$, $RMSEA = .04$, and $SRMR = .06$. For Sample 2, the two-factor model demonstrated good relative fit, $NNFI = .94$, $CFI = .95$. In the Sample 1 and Sample 2, the two-factor models each displayed superior absolute and relative fit compared to the one-factor models. The evidence suggests that that two factor models were superior to one-factor models in terms of fit. Taken together, these results indicate that positive treatment and mistreatment items represent two distinct constructs (Hypothesis 1 is supported).

APPENDIX F
HIERARCHICAL LINEAR REGRESSION AND STRUCTURAL EQUATION
RESULTS FOR SHORT VERSIONS OF MISTREATMENT AND POSITIVE
TREATMENT SCALES²

In terms of wellbeing, it was predicted that mistreatment and positive treatment would negatively and positively predict mental wellbeing (Hypothesis 3a and Hypothesis 4a respectively). In the first sample, mistreatment negatively predicted mental wellbeing ($\beta = -.11, p > .05$), the same was not found in the second sample ($\beta = .04, p > .05$; Hypothesis 3a was supported in Sample 1). In Sample 1, positive treatment positively predicted mental wellbeing ($\beta = .13, p < .01$). For Sample 2, positive treatment was not related to mental wellbeing ($\beta = .03, p < .05$; Hypothesis 4a was supported in Sample 1).

Turning next to physical wellbeing, mistreatment and positive treatment were expected to negatively and positively predict physical wellbeing (Hypothesis 3b and Hypothesis 4b respectively). In the first sample, mistreatment negatively predicted physical wellbeing ($\beta = -.08, p < .01$), in the same was not found in the second sample ($\beta = -.07, p > .05$; Hypothesis 3b was only supported in Sample 1). In Sample 1 positive treatment was not related to physical wellbeing ($\beta = .05, p > .05$). Likewise for Sample 2, positive treatment was not related to physical wellbeing ($\beta = .03, p > .05$; Hypothesis 4b was supported).

² The following is a report of results of the analyses using a shortened version of the two independent variables. The shorten versions of the two independent variables was based on rating of item relevance generated by four graduate students.

Turning next to burnout, mistreatment and positive treatment were expected to positively and negatively predict physical wellbeing (Hypothesis 3C and Hypothesis 4C respectively). In the first sample, mistreatment positively predicted burnout ($\beta = .15, p < .01$; Hypothesis 3c was supported). In Sample 1 positive treatment negatively predicted burnout ($\beta = -.20, p < .01$; Hypothesis 4c was supported).

Turning next to the hypotheses concerning satisfaction, it was expected that mistreatment and positive treatment would negatively and positively predict satisfaction with advisor (Hypothesis 5 and Hypothesis 6 respectively). In Sample 1, mistreatment negatively predicted satisfaction with advisor ($\beta = -.46, p < .01$; Hypothesis 5 was supported). In Sample 1, positive treatment positively predicted satisfaction with advisor ($\beta = .73, p < .01$; Hypothesis 6 was supported).

In terms of satisfaction with the graduate program, it was expected that mistreatment and positive treatment would negatively and positively predict graduate program (Hypothesis 7 and Hypothesis 8 respectively). In Sample 1, mistreatment negatively predicted satisfaction with graduate program ($\beta = -.27, p < .01$), in Sample 2, mistreatment was negatively related to satisfaction with graduate program ($\beta = -.20, p > .05$; Hypothesis 7 was supported). In Sample 1, positive treatment positively predicted satisfaction with graduate program ($\beta = .32, p < .01$). In Sample 2, positive treatment also positively predicted satisfaction with graduate program ($\beta = .32, p < .01$; Hypothesis 8 was supported).

Turning next to intention to say, it was predicted that mistreatment and positive treatment would negatively and positively predict intention to say (Hypothesis 9 and

Hypothesis 10 respectively). In Sample 1, mistreatment negatively predicted intention to stay ($\beta = -.13, p < .01$), in Sample 2, mistreatment negatively predicted intention to stay ($\beta = -.19, p < .01$; Hypothesis 9 was supported). In Sample 1, positive treatment positively predicted intention to stay ($\beta = .31, p < .01$). In Sample 2, positive treatment also positively predicted intention to stay ($\beta = .25, p < .01$; Hypothesis 10 was supported).

Mistreatment and positive treatment were also expected to interact to predict mental wellbeing (Hypothesis 11). In both samples there was no interaction between mistreatment and positive treatment ($\beta = -.02, p > .05$ in Sample 1; $\beta = -.09, p > .05$ in Sample 2; Hypothesis 11 was not supported).

Mistreatment and positive treatment were also expected to interact to predict physical wellbeing (Hypothesis 11). In both samples there was no interaction between mistreatment and positive treatment to predict physical wellbeing ($\beta = -.07, p > .05$ in Sample 1; $\beta = -.15, p > .05$ in Sample 2; Hypothesis 11 was not supported).

Mistreatment and positive treatment were also expected to interact to predict burnout (Hypothesis 11). In Sample 1 there was no interaction between mistreatment and positive treatment to burnout ($\beta = .11, p > .05$; Hypothesis 11 was not supported). Burnout was not measured in the second sample.

Mistreatment and positive treatment was expected to interact to predict satisfaction with advisor (Hypothesis 11). Mistreatment and positive treatment did not interact to positively predict satisfaction with advisor ($\beta = .11, p < .05$; Hypothesis 11 was not supported).

Mistreatment and positive treatment was expected to interact to predict satisfaction with graduate program (Hypothesis 11). In terms of the interaction, mistreatment and positive treatment did not interact to predict satisfaction with graduate program in Sample 1 ($\beta = -.10, p > .05$), and mistreatment and positive treatment did interact to predict satisfaction with graduate program in Sample 2 ($\beta = .22, p < .05$). In Sample 2, when positive treatment was low, the difference in satisfaction in program was not different for high and low mistreatment. In the high positive treatment condition, when mistreatment was low, satisfaction with graduate program was lower compared to the high mistreatment condition (which displayed the highest satisfaction with graduate program). These finds are counter the expected direction, Hypothesis 11 was not supported.

Mistreatment and positive treatment was expected to interact to predict intention to stay (Hypothesis 11). In terms of the interaction, mistreatment and positive treatment did interact to predict intention to stay in Sample 1 ($\beta = .14, p < .05$) but not Sample 2 ($\beta = -.06, p > .05$). In Sample 1, when positive treatment was low, the difference between high and low mistreatment predicting intentions to stay were small. When positive treatment was high, higher mistreatment resulted in a higher intention to stay. When positive treatment was high, lower mistreatment resulted in lower intention to stay. These results are counter to expectations, thus hypothesis 11 was not supported, more on this in the discussion section.

In addition to using regression analysis to test the study hypotheses, path analysis using Structural Equation Modeling (SEM) procedures found in LISREL 9.1

(Jöreskog & Sörbom, 2012) was also implemented. This was done as an alternate to the first approach in order to account for the correlation among the study variables. One advantage of using SEM is that the unique, non-redundant relationship estimates among study variables. This approach is useful to estimating the extent to which the independent variables relate to the dependent variables while taking into account the extent to which the dependent variables relate to each other.

In terms of wellbeing, mistreatment was not related to mental wellbeing in Sample 1 ($\beta = .23, p > .05$), the same was found in the second sample ($\beta = .08, p > .05$; Hypothesis 3a was not supported). In Sample 1 positive treatment positively predicted mental wellbeing ($\beta = .12, p < .01$). Likewise for Sample 2, positive treatment positively predicted mental wellbeing ($\beta = .13, p < .01$; Hypothesis 4a was supported).

Turning next to physical wellbeing, mistreatment negatively predicted physical wellbeing in Sample 1 ($\beta = -.47, p < .05$), in the same was not found in the second sample ($\beta = -.34, p > .05$; Hypothesis 3b was only supported in Sample 1). In Sample 1 positive treatment was not related to physical wellbeing ($\beta = .02, p > .05$). Likewise for Sample 2, positive treatment was not related to physical wellbeing ($\beta = .03, p > .05$; Hypothesis 4b was supported).

Turning next to burnout, mistreatment was not related to burnout in Sample 1 ($\beta = .30, p > .05$; Hypothesis 3c was not supported). In Sample 1 positive treatment negatively predicted burnout ($\beta = -.21, p < .01$; Hypothesis 4c was supported).

Turning next to the hypotheses concerning satisfaction, mistreatment predicted satisfaction with advisor in Sample 1 ($\beta = -.35, p < .05$; Hypothesis 5 was supported). In

Sample 1, positive treatment positively predicted satisfaction with advisor ($\beta = .86, p < .01$; Hypothesis 6 was supported).

In terms of satisfaction with the graduate program, mistreatment negatively predicted satisfaction with graduate program in Sample 1 ($\beta = -.83, p < .01$), in Sample 2, mistreatment negatively predicted satisfaction with graduate program ($\beta = .48, p < .01$; Hypothesis 7 was supported). In Sample 1, positive treatment positively predicted satisfaction with graduate program ($\beta = .35, p < .01$). In Sample 2, positive treatment also positively predicted satisfaction with graduate program ($\beta = .46, p < .01$; Hypothesis 8 was supported).

Turning next to intention to stay, mistreatment was positively predicted intention to stay in Sample 1 ($\beta = .45, p < .01$), in Sample 2, mistreatment was not related to intention to stay ($\beta = -.13, p > .05$; Hypothesis 9 was only supported in Sample 1). In Sample 1, positive treatment positively predicted intention to stay ($\beta = .39, p < .01$). In Sample 2, positive treatment also positively predicted intention to stay ($\beta = .22, p < .01$; Hypothesis 10 was supported).

In both samples there was no interaction between mistreatment and positive treatment ($\beta = -.04, p > .05$ in Sample 1; $\beta = -.09, p > .05$ in Sample 2; Hypothesis 11 was not supported).

In both samples there was no interaction between mistreatment and positive treatment to predict physical wellbeing ($\beta = -.16, p > .05$ in Sample 1; $\beta = -.15, p > .05$ in Sample 2; Hypothesis 11 was not supported).

In Sample 1 there was no interaction between mistreatment and positive treatment to burnout ($\beta = .08, p > .05$; Hypothesis 11 was not supported). Burnout was not measured in the second sample.

Mistreatment and positive treatment did not interact to positively predict satisfaction with advisor ($\beta = .07, p > .05$; Hypothesis 11 was not supported).

In terms of the interaction, mistreatment and positive treatment did not interact to predict satisfaction with graduate program in Sample 1 ($\beta = -.23, p > .05$), and mistreatment and positive treatment did interact to predict satisfaction with graduate program in Sample 2 ($\beta = .23, p < .05$). In Sample 2, when positive treatment was low, the difference in satisfaction in program was not different for high and low mistreatment. In the high positive treatment condition, when mistreatment was low, satisfaction with graduate program was lower compared to the high mistreatment condition (which displayed the highest satisfaction with graduate program). These finds are counter the expected direction, Hypothesis 11 was not supported.

In terms of the interaction, mistreatment and positive treatment did interact to predict intention to stay in Sample 1 ($\beta = .26, p < .05$) but not Sample 2 ($\beta = -.05, p > .05$). In Sample 1, when positive treatment was low, the difference between high and low mistreatment predicting intentions to stay were small. When positive treatment was high, higher mistreatment resulted in a higher intention to stay. When positive treatment was high, lower mistreatment resulted in lower intention to stay. These results are counter to expectations, thus hypothesis 11 was not supported, more on this in the discussion section.