Combined Effects of Organizational and Professional Identification on the Reciprocity Dynamic for Professional Employees

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Abstract

We consider when professional employees reciprocate perceived organizational treatment. We found in a large sample of physician employees that the association between perceived organizational support (POS) and employee work performance was (a) most positive when organizational identification was high and professional identification was low and (b) least positive when organizational identification was low and professional identification was high. We also found that the association between perceived psychological contract violation (PPCV) and employee work performance was (a) most negative when organizational identification was low and professional identification was high and (b) least negative when organizational identification was high and professional identification was low.

Social exchange theory regards exchanges between organizational members that involve obligations that are unspecified and implicit—hence "social" as opposed to economic in nature (Blau, 1964; Emerson, 1972). According to Social Exchange Theory, organizational members tend to reciprocate beneficial treatment they receive with positive work-related behaviors (e.g., greater levels of helpfulness toward those who have treated them well), and to reciprocate detrimental treatment they receive with negative work-related behaviors (e.g., lower levels of helpfulness toward those who have treated them poorly). Put more simply, social exchange theory and findings suggest that employees respond to what they perceive as either beneficial or detrimental treatment according to the norms of positive and negative reciprocity, respectively (Blau, 1964; Gouldner, 1960). Consistent with this view, employees' perceptions of organizational support (POS), which regards employees' belief that their organization values their contributions and cares about their wellbeing (Eisenberger et al., 1986), is generally thought to be the organization's contribution in a positive reciprocity dynamic with employees, as employees tend to perform better to pay back POS (Rhoades & Eisenberger, 2002). Also consistent with a Social Exchange perspective, employees' perception of psychological contract violation (PPCV), which regards employees' feelings of disappointment (ranging from minor frustration to betrayal) due to their belief that their organization has broken its work-related promises (Morrison & Robinson, 1997), is generally thought to be the organization's contribution in a negative reciprocity dynamic, as employees tend to perform worse to pay back PPCV (Robinson, 1996; Robinson, Kraatz & Rousseau, 1994; Turnley & Feldman, 1999).

We challenge the notion that professional employees (e.g., accountants, engineers, lawyers, and physicians) adhere to positive reciprocity norms in response to POS and negative reciprocity norms in response to PPCV in the straightforward fashion suggested above. Our

research is inspired in part by evidence indicating that social exchange in organizations may be more complex than originally conceived. Empirical findings have shown, for example, that employee positive reciprocity with the organization may be influenced by various personality characteristics, such as agreeableness (Colbert et al., 2004), fear of being exploited (Lynch, Eisenberger & Armeli, 1999), propensity to endorse positive reciprocity norms (Eisenberger, Cotterell & Marvel, 1987), and the tendency to reject power distance and traditionality norms (Farh, Hackett & Liang, 2007). Similarly, employee negative reciprocity may be influenced by attitudes toward revenge associated with age (Aquino & Douglas, 2003) and propensity to endorse negative reciprocity norms (Mitchell & Ambrose, 2007).

Our study advances prior research on employee reciprocity with organizations (Colbert et al., 2004; Eisenberger et al., 1987; Farh et al., 2007; Lynch et al., 1999) in three ways. First, we propose that the extent to which professional employees reciprocate organizational treatment depends on the extent to which they identify with both their organization and their profession. Organizational and professional identification are thought to have powerful effects on how employees interpret and react to organizational actions (Pratt & Foreman, 2000; Riketta, 2005), but the influence of organizational and professional identification on employee reciprocity dynamics has not been explored.

Second, we maintain that it is inappropriate to isolate the effects of either organizational or professional identification when assessing how professional employees will respond to organizational treatment. The effect of either type of identification will depend on the strength of the other. Thus, we predict that professional employee reciprocation of organizational treatment will depend on the combined influence of organizational and professional identification. We anticipate a joint effect (rather than only independent effects) because organizations and

professions are rival groups in many important respects (Freidson, 2001; Starr, 1982; Van Maanen & Barley, 1984), and the effects of identification with rival groups can be complicated (Pratt & Doucet, 2000; Pratt & Foreman, 2000; Wang & Pratt, 2007). Although Pratt and colleagues did not address employee reciprocity, they did suggest that similar levels of identification with competing groups at work could paralyze some employees and lead others to act erratically. We advance their work by theorizing about and testing how organizational and professional identification influence the employee-organization reciprocity dynamic.

A third way we advance prior research on reciprocity dynamics is by investigating the reciprocity behavior of professionals and, more specifically, physicians. In general, understanding how to manage professional employees has become vital for many organizations because the proportion of the workforce performing professional work has increased dramatically in recent years (Barley & Orr, 1997). Yet, existing research on the employee-organization reciprocity dynamic has not explicitly involved professionals. Moreover, prior research focusing on physician social exchange has examined physician reciprocation with patients and colleagues but not with the organization (Halbesleben, 2006; Roberts & Aruguete, 2000). Because physicians have only recently become organizational employees on a large scale (Kletke, Emmons & Gillis, 1996), reciprocity between physicians and their employing organizations has been ignored. Understanding when and how professional employees are likely to reciprocate as a function of organizational and professional identification will help to improve the accuracy and generalizability of employee reciprocity models and provide insight into how to manage these professional workers effectively.

The physician behaviors we examine, productivity and policy adherence, represent a further advance over prior research. Productivity refers to the overall volume of health issues

handled per day by each physician. Policy adherence is the degree to which physicians abide by guidelines for prescription rates of drugs to treat cardiovascular disease. These dimensions of physician performance are important to the organization because better performance along these lines translates into major cost savings and improved profitability. Consequently, productivity and policy adherence reflect professional employees' tendency to help the organization achieve its goals. In this respect, our measures are similar to those used in prior studies of reciprocity in organizations that have assessed helping behavior via organizational citizenship scales and supervisor-rated in-role performance (Rhoades & Eisenberger, 2002). Productivity and policy adherence are better measures of organizational helping behavior because they are objective, context-specific assessments of particular behaviors that pertain directly to organizational goal achievement (e.g., profitability).

We begin by clarifying why POS and PPCV have been treated in past work as distinct constructs despite notable similarities, and we develop hypotheses about how POS and PPCV relate directly to positive and negative reciprocity dynamics, respectively. Second, we present theory and hypotheses about how organizational identification, professional identification, and their combination alter positive and negative reciprocity dynamics. Third, we describe the study that tests our hypotheses and present results. We conclude by discussing our findings' implications for managers as well as management scholars who are interested in understanding employee reciprocity dynamics more fully.

PROFESSIONAL EMPLOYEE SOCIAL IDENTIFICATION AND RECIPROCITY

POS, PPCV, and Professional Employee Reciprocity

Employees are likely to perceive an amalgamation of beneficial and detrimental treatment from their organizations. For example, an employee may be afforded a coveted developmental opportunity but at the same time receive a raise that is less than expected.

Perceived organizational support and perceived psychological contract violation are useful constructs for investigating employee responses to beneficial and detrimental organizational treatment, respectively (Aselage & Eisenberger, 2003).

POS and PPCV are similar in that both are firmly rooted in social exchange theory and are based on the assumption that organizational treatment leads employees to alter their efforts toward helping the organization achieve its goals (Coyle-Shapiro & Conway, 2005). The concepts, however, cover different aspects of the employee-organization relationship. Unlike PPCV, POS includes pleasant surprises and beneficial treatment that goes beyond organizational promises (cf. Rhoades & Eisenberger, 2002). PPCV, in contrast, is cast exclusively in negative terms, focusing on the extent to which the organization disappoints employees (Morrison & Robinson, 1997). Consequently, researchers have treated POS and PPCV as distinct constructs both conceptually (Aselage & Eisenberger, 2003) and operationally (Coyle-Shapiro & Conway, 2005; Tekleab, Takeuchi & Taylor, 2005). Treating these two concepts distinctively is also consistent with the research on appraisal or attitude formation that indicates people process information pertaining to beneficial and detrimental treatment in parallel, via two evaluative channels (Cacioppo & Berntson, 1994; Cacioppo, Gardner & Bemtson, 1997; Gray, 1994). From this perspective, employees' are able to perceive simultaneously the organization as treating them beneficially and detrimentally.

Due to the norm of positive reciprocity, POS is expected to lead employees to feel obligated to reciprocate by helping the organization achieve its goals (Eisenberger et al., 2001). While not specifically focused on professionals, prior empirical research has found that employee POS is positively associated with job performance (Armeli et al., 1998; Eisenberger et al., 2001; Eisenberger, Fasolo & Davis-LaMastro, 1990). Given that reciprocity norms are

thought to apply universally (Gouldner, 1960), we predict that professional employees, like other employees, will tend to reciprocate POS with better work performance.

Hypothesis 1: POS will be positively associated with professional employee work performance.

When the organization breaks its promises, not only is the felt obligation to help the organization undermined, but also the desire to restore balance or a sense of justice to the relationship by means of retaliation is activated (Adams, 1965; Gouldner, 1960; Robinson, 1996; Robinson & Morrison, 2000). Accordingly, prior research has found a negative relationship between employee PPCV and job performance (Robinson, 1996; Robinson et al., 1994; Turnley & Feldman, 1999). Although previous studies have not focused on professional employees per se, the norm of negative reciprocity is thought to be universal, and therefore, we expect professional employees will tend to reciprocate PPCV with worse work performance.

Hypothesis 2: PPCV will be negatively associated with professional employee work performance.

Influence of Organizational Identification on Professional Employee Reciprocity

We propose that professional employees' sense of oneness with the organization (or organizational identification) affects their reciprocity behavior with the organization by influencing their perceived relationship with organizational administrators. Administrators are the organization members responsible for creating and maintaining the conditions of employment that promote organizational goal achievement (Mintzberg, 1977). Consequently, employee social exchange with the organization takes place largely through administrators (Rhoades & Eisenberger, 2002; Rousseau, 1995). For example, administrators usually define and track employee job performance, and they deliver organizational support and sanctions.

Administrators are generally perceived first and foremost as the guardians of the organization (Freidson, 2001) and as quintessential organization members (Golden, Dukerich & Fabian, 2000).

Social identification refers to the extent to which an individual experiences a sense of oneness with a group, such as an organization (Ashforth & Mael, 1989; Turner, 1991). Social identification leads people to view themselves and other group members in stereotypical terms—i.e., as possessing the values, goals, and attitudes considered standard for members of the group—rather than as individuals possessing unique characteristics (Turner, 1984). Individuals who identify with a group view fellow group members more positively (Brewer, 1979) and as being more trustworthy (Kramer, Brewer & Hanna, 1996), due in part to perceived similarity and a sense of common fate with fellow group members (Kramer & Goldman, 1995). When people strongly identify with a group, they care more deeply about the welfare of the group and their status in it (Tyler & Blader, 2003). Finally, strongly identifying with a group causes people to desire and solicit treatment from other members that indicates good standing in the group (Ellemers, Spears & Doosje, 1997).

In sum, identification with a group leads people to see other group members as being relationally closer (Brewer, 1979; Kramer et al., 1996). That is, people tend to view other group members as "like them" and "on their side." As a result, we maintain that organizational identification tends to lower professional employees' perceived relational distance with other organization members, including administrators—i.e., the personnel responsible for mediating employee social exchange with the organization. On this basis, organizational identification influences professional employees' interpretation of and response to POS and PPCV.

Organizational identification and reciprocation of POS. We predict that professional employees will more strongly adhere to the norm of positive reciprocity the more strongly they identify with the organization. People are generally more likely to reciprocate beneficial treatment received from others when they expect to trade benefits with them over time (Blau, 1964). A sense of social connection with exchange partners leads people to assume that these relationships will be more enduring (Sahlins, 1972). People are also more likely to reciprocate beneficial treatment as their confidence grows that the other party can be trusted to exchange treatment equitably (Blau, 1964). Social identification begets trust in other group members (Kramer, et al., 1996). Low relational distance provides security that exchange partners will not take more than they give (Sahlins, 1972).

In addition, people are more likely to reciprocate beneficial treatment as their feeling of indebtedness to the provider grows (Cartwright & Zander, 1953). People tend to instill benefits with additional symbolic value (above material worth) when they feel relationally closer to the provider (Hatfield, Utne & Traupmann, 1979). For example, beneficial treatment symbolizes positive regard and trust on the part of the provider (Molm, Schaefer & Collett, 2007). Furthermore, indebtedness can be so uncomfortable and the act of giving so gratifying in closer relationships that individuals often overpay for the beneficial treatment received from others (Parry, 1986).

Finally, people are more likely to reciprocate benefits to the degree the benefits come from others who are important to their sense of self (Swann et al., 2004). Receiving benefits conveys good standing with the provider and validates the recipient's self-concept (Tyler & Blader, 2003). Individuals are generally motivated to uphold their contribution to a positive

reciprocity cycle in groups they strongly identify with in order to ensure continued receipt of self-validating benefits (Ellemers, DeGilders & Haslam, 2004).

In sum, we maintain that organizational identification leads professional employees to view themselves as relationally closer to organizational administrators and that people are more likely to adhere to the norm of positive reciprocity in closer relationships. Our reasoning leads to the following hypothesis.

Hypothesis 3: The positive association between POS and employee work performance will be stronger for employees with higher levels of organizational identification.

Organizational identification and reciprocation of PPCV. We argue that professional employees will more weakly adhere to—and perhaps even act against—the norm of negative reciprocity when they strongly identify with the organization. People are inclined to refrain from retaliating after receiving detrimental treatment when it comes from exchange partners with whom they feel more relationally close (Hornsey, Oppes & Svensson, 2002). Individuals tend to assume that these exchange partners are benevolently motivated and trustworthy (Hornsey & Imani, 2004). Relational closeness fosters forgiving attitudes (Perdue et al., 1990) and leads people to give others the benefit of the doubt and see their behavior in a charitable light (Beal, Ruscher & Schnake, 2001). Recipients often view mistreatment by allies as unintended or aberrational, making retaliation for the mistreatment seem unwarranted (Hornsey et al., 2002).

Furthermore, detrimental treatment calls into question one's good standing in a group (Tyler & Blader, 2003). Thus, when the detrimental treatment comes from those who are presumed to possess benevolent motives and have one's best interests at heart, the recipient may interpret the detrimental treatment as a signal that the provider somehow feels shortchanged in the relationship (Sutton, Elder & Douglas, 2006). When the recipient accepts at least partial

responsibility for bringing on the detrimental treatment in a valued relationship, retaliation is less likely to occur. In fact, the recipient may reciprocate beneficial treatment in response to the detrimental treatment in an attempt to make up for a perceived shortfall the other party may have experienced (Hornsey et al., 2002). In general, people greatly desire and solicit treatment from others that indicates good standing in their highly valued relationships (Swann & Ely, 1984). Therefore, they may give back beneficial treatment for detrimental treatment, at least in the short-run, in an effort to gain or regain good standing with valued others (Ellemers et al., 2004).

In sum, we maintain that the relational closeness stemming from organizational identification will lead professional employees to refrain from adhering to the norm of negative reciprocity, and they may even act counter to it. Thus, we make the following prediction.

Hypothesis 4: The negative association between PPCV and employee work performance will be weaker for employees with higher levels of organizational identification.

We note that the theorizing we present here is bounded by our assumption that the severity and persistency of any negative organizational treatment experienced by the physicians in our sample is insufficient to trigger feelings of outright betrayal. We clarify this because research on betrayal suggests that employees may be especially likely to engage in retaliatory behavior in response to betrayal from others with whom they feel relationally close (Bohnet & Zeckhauser, 2004; Brockner, Tyler & Copper-Schneider, 1992; Elangovan & Shapiro, 1998; Koehler & Gershoff, 2003). Our study is not intended to advance thinking on the topic of betrayal per se.

Influence of Professional Identification on Professional Employee Reciprocity

Professional employees' sense of oneness with their profession (or professional identification) alters their responses to POS and PPCV in a manner opposite that of

organizational identification. Although professional employees usually view administrators as fellow members of the organization, they typically do not see administrators as true members of the profession, even when administrators have had professional training and experience (Golden et al., 2000). Professional employees do not think of administrators as professionals mainly because organizations and professions tend to be rival groups whereby the goals and values of organizations and professions often conflict, and administrators are seen as clearly emphasizing organizational concerns over professional ones (Freidson, 2001).

For example, organizations tend to be primarily concerned with efficiency and profitability, whereas professions care mainly about providing the highest quality service (as defined by the profession), almost regardless of cost or revenue considerations (Freidson, 2001). Administrators are usually seen as promoting profitability at the expense of profession-defined quality (Freidson, 2001). In one notable study, practicing physicians viewed administrators with medical degrees (MDs) as "outsiders" to the medical profession because of what the physicians believed to be the administrators' undue emphasis on organizational goals (Hoff, 1999: 336). Remarkably, practicing physicians viewed administrators with MDs more negatively than those without MDs because administrators with MDs were thought to have "betrayed" the medical profession by assuming administrative roles (Hoff, 1999: 344).

Social identification not only shapes one's self-perception in relation to other group members, but it also shapes one's self-perception in relation to non-group members (Turner et al., 1987). Social identification leads one to view non-members as being dissimilar, to evaluate non-group members less positively, and to see them as being less trustworthy (Jetten, Spears & Manstead, 1996). Negative evaluations of non-group members are intensified to the degree they

belong to a competing group because perceived rivalry between groups accentuates perceptions of dissimilarity with rival group members (Turner, 1984).

In sum, identification with a group leads people to view non-group members, and especially members of rival groups, as being relationally more distant (Brewer, 1979; Kramer et al., 1996; Turner, 1984)—as "not like them" and "not on their side." As a result, we maintain that professional identification heightens professional employees' perceived relational distance from other organization members, including administrators. On this basis, professional identification influences professional employees' interpretation of and response to POS and PPCV.

Professional identification and reciprocation of POS. We predict that professional employees will more weakly adhere to the norm of positive reciprocity—and perhaps even act against it—when they strongly identify with their profession. Individuals are less likely to reciprocate benefits in social exchange when they do not believe the other party can be trusted to trade fairly over time (Blau, 1964). In addition, relational distance diminishes trust (Brewer, 1979; Jetten et al., 1996). People are more likely to presume the existence of incompatible interests when others are perceived as relationally distant (Gregory, 1982). Consequently, evidence of benevolent intent is often discounted (Sahlins, 1972). For example, in a study of exchange in developing economies, exchanges between family members (where people were relationally close) were characterized by over-repayment and generous benefits, but exchanges between non-family members (where people were relationally distant) were characterized by under-repayment (Sahlins, 1972). Because people are more likely to believe that they will receive less than expected at some future point by those with whom they are distant, failing to fully reciprocate received benefits is more easily rationalized (Brewer, 2001). Finally, because

professional employees typically possess insufficient time and other resources to pursue disparate organizational and profesisonal goals (Friedson, 2001), employees highly identified with the profession may choose to pursue goals tied to their sense of self despite increasing POS.

Hypothesis 5: The positive association between POS and employee performance will be weaker for employees with higher levels of professional identification.

Professional identification and reciprocation of PPCV. We predict that professional employees will more strongly adhere to the norm of negative reciprocity when they strongly identify with the profession. A person is more likely to believe that retaliation is warranted when mistreated by someone who is relationally distant (Hornsey et al., 2002). In addition, the distrust associated with relational distance leads people to be highly vigilant for each other's mistreatment and to interpret each other's behavior in a harsh light (Hornsey, Trembath & Gunthorpe, 2004). Thus, people are prepared to see and retaliate for mistreatment. Finally, people retaliate not only to even the score, but also to discourage or preempt future mistreatment (Gouldner, 1960).

Hypothesis 6: The negative association between PPCV and employee performance will be stronger for employees with higher levels of professional identification.

Combined Influence of Professional and Organizational Identification

Organizational and professional identification orient professional employees in fundamentally different ways in their relationships with administrators and have essentially counter-moderating effects on the degree to which professional employees reciprocate perceived organizational treatment. Professional employees, however, can identify with both their organization and their profession simultaneously (Johnson et al., 2006). Although organizational and professional identification have been shown to be somewhat positively correlated, they have

also been shown to vary fairly independently (Bamber & Iyer, 2002; Johnson et al., 2006). Therefore, some professionals view themselves as professionals first and foremost and organization members second; others hold the opposite view. Still others see the profession and the organization as more or less equally self-defining (Johnson et al., 2006).

When employees have similarly high levels of organizational and professional identification, they are likely to experience identity conflict. Identity conflict occurs when two aspects of self-concept, such as two different types of social identification, direct individuals to engage in incompatible behaviors in a particular situation (Baumeister, 1999). Early research on social identity in organizations highlighted the possibility that identification with different groups could give rise to identity conflict. For example, Ashforth and Mael (1989: 29) remarked, "Given the number of groups to which an individual might belong, his or her social identity is likely to consist of an amalgam of identities, identities that could impose inconsistent demands upon that person…Note that it is not the identities per se that conflict, but the values, beliefs, norms and demands inherent in the identities." Identity conflict carries stress and strain (Kreiner, Hollensbe & Sheep, 2006; Pratt, Rockmann & Kaufmann, 2006), and the ambivalence derived from identity conflict can purportedly lead to highly inconsistent employee behavior toward the organization (Wang & Pratt, 2007).

Because of their potential to generate identity conflict, organizational and professional identification should be considered in combination when investigating the employee-organization reciprocity dynamic. The orienting effects of one type of identification interfere with those of the other. For professional employees, the belief due to organizational identification that administrators are "like them" and "on their side" is challenged by the belief stemming from professional identification that administrators are "not like them" and "not on

their side." Thus, the frame of reference for interpreting and responding to organizational behavior due to either organizational or professional membership is clear only when identification with one group is high and the other group is low. Otherwise, the frame of reference is contested and, thus, is less definitive as a guide to thought and action. Similarly high levels of organizational and professional identification are particularly problematic, given that professional employees ordinarily possess insufficient time and other resources to pursue both organizational and professional goals.

POS is the organization's contribution in a positive reciprocity dynamic. However, a positive reciprocity dynamic is likely to follow from POS principally when professional employees' organizational identification is high and professional identification is low. When the opposite holds, however, the norm of positive reciprocity is not only undermined, but also professional employees may behave counter to it. Furthermore, similarly high levels of organizational and professional identification generate identity conflict, which does not carry clear implications for professional employee reciprocity behavior. Such identity conflict may be especially problematic because time and other resources necessary for the pursuit of both organizational and professional goals are limited. On the basis of this logic, we make the following prediction.

> *Hypothesis 7: The association between POS and professional employee work performance will be (a) most positive when organizational identification is high and professional identification is low and (b) least positive when organizational identification is low and professional identification is high.*

Likewise, PPCV is considered the organization's contribution in a negative reciprocity dynamic. However, a negative reciprocity dynamic is likely to follow from PPCV mainly when

professional employees' organizational identification is low and professional identification is high. When the opposite holds, the norm of negative reciprocity is not only undermined, but also professional employees may behave counter to it. Again, similarly high levels of organizational and professional identification interfere with each other. Therefore, we predict the following.

Hypothesis 8: The association between PPCV and professional employee work performance will be (a) most negative when organizational identification is low and professional identification is high and (b) least negative when organizational identification is high and professional identification is low.

METHODS

Sample

Our research site is a large, non-profit health maintenance organization, hereafter referred to as Healthcorp.[1] Healthcorp provides coverage and healthcare for about 350,000 people in the Pacific Northwest region of the United States, and directly employs approximately 800 healthcare providers (both general practitioners and specialists) to care for its members.

Our initial sample consisted of all 255 primary-care physicians (i.e., family practitioners) who were directly employed by Healthcorp. Although poor response rates are regularly encountered when surveying physicians (Templeton et al., 1997), 185 physicians completed the survey for a response rate of 72.5%. Missing values (primarily due to limited variables recorded by the organization) reduced the number of usable observations to 133 or 52.2% of the initial sample. Within our usable sample, 36.1% were women; the average age was 50.1 years. The average tenure with the organization was 13.9 years. All respondents had a medical degree.

[1] Healthcorp is a pseudonym.

Statistical comparisons between the initial sample and final sample yielded no significant differences in gender, age, or tenure.

Dependent Variables

We measure physician performance along two dimensions. The first is physician productivity, which is the number of patients seen and health issues discussed in a given time period. The second measure is the physician's level of adherence to Healthcorp medical guidelines for prescription rates of particular medications for patients possessing precise cardiovascular disease criteria. Healthcorp systematically tracks physician performance along these metrics. For each metric, physicians are shown how they compare to the organizational goal and to the organizational average.

Both performance dimensions are highly beneficial to Healthcorp, as they have direct implications for organizational profitability. All physicians are compensated equally based only on tenure, specialty, and full-time status. They are not compensated based on performance. Thus, higher physician productivity reduces overall expenses to Healthcorp because it reduces the number of physicians Healthcorp needs to hire. Adherence to medical guidelines also reduces expenses by delaying the onset of costly patient health events, such as strokes and heart attacks. Because patients pay the same premiums regardless of their use of medical resources, these reductions in expenses due to higher physician productivity and their adherence to medical guidelines directly help Healthcorp by improving profitability. We collected both dependent variables in the same quarter as the survey.

Productivity. Productivity was measured as the average number of patients seen by each doctor in a standardized 8-hour day, adjusted for the difficulty of each visit. These figures were recorded by the organization's scheduling software. Healthcorp physicians maintain significant

control over the amount of work that they do in a day as they can control the difficulty of each visit (e.g., the number of procedures performed and patient health issues addressed per visit), the number of patients they interact with by choosing or refusing to be "double-booked" (e.g., seeing two patients in one 20-minute slot), and whether they see patients who have shown up late and missed their appointments. Healthcorp administrators determine the number of patients in each physician's panel.[2]

Our productivity variable was the composite of average face-to-face visits, phone visits, and email consultations per day, adjusted by the average difficulty of each visit. Difficulty was measured by Relative Value Units (RVUs), which are coded by physicians at the end of each visit according to standard national coding guidelines. RVUs capture the amount of time involved, the required physical and mental effort, the required judgment and technical skill, and the psychological stress experienced (Hsaio et al., 1988a; Hsaio et al., 1988b). According to quarterly audits by administrators, Healthcorp physicians accurately record RVUs in 90 percent of patient visits. Coding errors resulting from physicians coding too many or too few RVUs are normally and equally distributed. We standardized the raw measure of productivity based on the full-time status of the physician, We then multiplied this standardized measure of productivity by each physician's average visit difficulty to obtain the *average RVU-adjusted patient encounters per day*.

Higher productivity does not necessarily indicate higher quality performance, as the standard productivity-quality tradeoff can come into play. For example, physicians could achieve higher levels of productivity by increasing the number of patients they see each day to the point

[2] Healthcorp administrators, and not physicians, assign patients to panels and determine panel size based on the four biggest predictors of patient demand (patient age, gender, sickness, and panel size). Larger panels, more women patients, older patients, and sicker patients are associated with more patient demand for physician services. Healthcorp administrators try to ensure that all physicians have similar demand and so potential workloads. We also statistically control for these four predictors of patient demand in our analysis.

where they are unable to give some patients the attention they require. Others could achieve higher productivity by striving to cover more problems during each patient visit so that they occasionally neglect to delve down adequately on some of the more critical issues. Thus, physicians can rationalize, at least to themselves, why an increase in productivity would be undesirable.

Policy Adherence. Policy adherence refers to the degree to which those patients eligible for statins or Angiotensin-converting-enzyme (ACE) inhibitors are actually prescribed these medications. Healthcorp measures and gives feedback to physicians regarding each physician's prescription rate of statins and ACE inhibitors to patients with cardiovascular disease. Treatment of cardiovascular events, such as strokes, clots, and heart attacks, is the most costly portion of healthcare delivery in the U.S. (Willerson & Cohn, 2000). These drugs delay cardiovascular events but do not necessarily reduce the number of events over patients' lifetimes (Gerstein et al., 2000). HMOs can avoid, at least temporarily, expensive patient hospital stays and emergency room visits due to cardiovascular events by preventing them for as long as possible and therefore increasing the HMO's short-term profit margins.

According to Healthcorp guidelines, all patients with cardiovascular disease should regularly take ACE inhibitors and some form of a statin. ACE inhibitors lower blood pressure, and statins lower cholesterol. These drugs significantly lower the immediate risk of a cardiovascular event (e.g., stroke, heart attack) for all individuals, regardless of gender or previous history of cardiovascular disease (LaRosa, He & Vupputuri, 1999; Yusuf et al., 2000). To promote a higher prescription rate, Healthcorp administrators send emails to physicians and letters to cardiovascular disease patients encouraging doctors to prescribe and patients to receive such treatment.

From the physician and patient perspectives, the prescription of such drugs may not be considered uniformly beneficial. These drugs prevent one cardiac event for every nineteen patients treated with statins over a five-year period (Heart-Protection-Study-Collaborative-Group, 2002) or for every eighteen patients treated with ACE inhibitors over five years (Acute-Infarction-Ramipril-Efficacy-Study-Investigators, 1993).[3] Patients are often highly disinclined to take drugs to control high blood pressure and high cholesterol because the treatments can seem highly unpleasant and the diseases themselves are symptom-less (Heidenreich, 2004). For example, taking a daily regimen of statins or ACE inhibitors can make patients feel old, and it can lead eventually to the experience of some rather distasteful side-effects (Eagle et al., 2004), such as liver, muscle, and memory decay (Davidson & Robinson, 2007; Eagle et al., 2004), which patients may not want to risk. Roughly half of all patients nationwide decline to take statin and ACE inhibitor prescriptions (Dubois et al., 2002). Regardless, some Healthcorp physicians invest extra time and effort calling and reminding patients, on behalf of the organization, to take these drugs.

This variable is the composite of the percent of cardiovascular disease patients eighteen years and older who were dispensed the equivalent of a standard 90-day supply for ACE inhibitors and statins at any time within the 120-day interval closest to the survey date. The denominator of this variable consists of every patient in the physician's panel that should be taking statins or ACE inhibitors. The numerator is the number of eligible patients who have actually been prescribed such appropriate medication within the previous 120 days.

[3] Even though medical research clearly demonstrates that statins and ACE inhibitors are the best way to prevent cardiac events and death, one can see that the drug benefits are somewhat unimpressive from the perspective of the individual. A central characteristic of professions is an aversion to selling treatments which involves, "phrasing their treatments in common language, offering advice on professionally irrelevant issues, indeed promising results well beyond those predicted by the treatment structure itself" (Abbott, 1988: 47). However, market and organizational pressures usually force professionals to engage in at least some level of selling treatments (Abbott, 1988). We would not be surprised therefore if highly professionally identified physicians had lower levels of policy adherence because of their aversion to engage in unprofessional sales tactics regarding statins and ACE inhibitors.

Healthcorp's electronic medical record-keeping system only includes a patient in the denominator if that person meets 13 precise disease criteria. If patients do not meet all of the qualifying criteria, they are ineligible to receive statins or ACE inhibitors, and administrators remove them from the denominator of the dependent variable. For example, patients who have previously experienced side-effects from the drugs are excluded. Healthcorp did not calculate this variable for pediatricians because pediatricians' patient populations are too young for such treatment. The component variables approached normality and were added together. The resulting variable was each physician's overall *prescription rate of statins and ACE inhibitors for cardiovascular disease patients*. Thus, the prescription rate of these drugs is a proxy of physician effort expended on actions that are consistent with organizational policies. The average prescription rate at Healthcorp is 50%, which is equal to the national average.

Independent Variables

Organizational identification. We measured the extent to which physicians identified with their organization and its members using Mael and Ashforth's (1992) scale. Because of low item reliability in a pilot survey we sent to a pre-sample of physicians, we omitted the item, "I am very interested in what others think about Healthcorp" from our survey. We asked the respondents to indicate on a seven-point scale the extent to which they agreed with the following five items (1 = strongly disagree / 7 = strongly disagree): (1) When someone praises Healthcorp, it feels like a personal compliment. (2) When someone criticizes Healthcorp, it feels like a personal insult. (3) When I talk about Healthcorp, I usually say "we" rather than "they." (4) Healthcorp's successes are my successes. (5) If a story in the media criticized Healthcorp, I would feel embarrassed. The composite reliability of this measure was .80.

Professional identification. We measured the extent to which physicians identified with the profession and their colleagues using the same root items used to measure organizational identification. We asked the respondents to indicate on a seven-point scale the extent to which they agreed with the following (1 = strongly disagree / 7 = strongly disagree): (1) In general, when someone praises doctors, it feels like a personal compliment. (2) In general, when someone criticizes doctors, it feels like a personal insult. (3) When I talk about doctors, I usually say "we" rather than "they." (4) Medicine's successes are my successes. (5) If a story in the media criticized doctors, I would feel embarrassed. All physicians were family physicians, so the term "doctor" likely called to mind mental images of the same social group and colleagues (i.e. family physicians) for all physicians in our sample. The composite reliability of this measure was .75.

Perceived organizational support. We measured the physicians' perceptions of beneficial organizational treatment using Settoon, Bennett, and Liden's (1996) eight-item scale of perceived organizational support. We asked the respondents to indicate on a seven-point scale the extent to which they agreed with the eight items. We list two sample items here (1 = strongly disagree / 7 = strongly disagree): (1) Healthcorp cares about my opinions. (2) Healthcorp is willing to help me, if I need a special favor. The composite reliability of this measure was .94.

Perceived psychological contract violation. We measured physicians' perceptions of detrimental organizational treatment using Robinson and Morrison's (2000) four-item scale of perceived psychological contract violation. We asked the respondents to indicate, on a seven-point scale, the extent to which they agreed with the following (1 = strongly disagree / 7 = strongly disagree): (1) I feel a great deal of anger toward Healthcorp. (2) I feel betrayed by Healthcorp. (3) I feel that Healthcorp has violated the contract between us. (4) I feel extremely frustrated by how I have been treated by Healthcorp. The composite reliability of this measure

was .96. Perceived organizational support and perceived psychological contract violation are parallel in the sense that they both target intentional administrator actions (Aselage & Eisenberger, 2003; Eisenberger et al., 1986; Morrison & Robinson, 1997; Robinson & Morrison, 2000).

Control Variables

Physician full-time status. We collected this variable from the archival records of Healthcorp. Physicians ranged from working 30 to 100 percent of a full-time position. Physicians who work more hours may feel more fatigued than do those who work part-time (Ozyurt, Hayran & Sur, 2006).

Pediatrician dummy. All physicians in the sample were family practitioners; however, some dealt only with pediatrics. We created a dummy variable to differentiate between pediatricians and non-pediatricians.

Physician continuance commitment. Because physicians' perceptions that they have few alternatives or a high perceived cost for leaving may influence their responses to organizational treatment, we measured continuance commitment using Meyer and Allen's six-item continuance commitment scale (1991). We asked the respondents to indicate, on a seven-point scale, the extent to which they agreed with the following (1 = strongly disagree / 7 = strongly disagree): (1) Right now, staying with Healthcorp is a matter of necessity as much as desire. (2) I feel that I have too few options to consider leaving Healthcorp. (3) One of the few negative consequences of leaving Healthcorp would be the scarcity of available alternatives. (4) It would be very hard for me to leave Healthcorp right now, even if I wanted to. (5) Too much of my life would be disrupted if I decided I wanted to leave Healthcorp now. (6) If I had not already put so much of myself into Healthcorp, I might consider working elsewhere. The composite reliability of

continuance commitment was .83. Further, we included the interactions of continuance commitment with POS and PPCV as control variables in the analysis to rule out a plausible alternative explanation for our results. Physicians who expect to interact with administrators for a long time (i.e. high continuance commitment) may reciprocate POS and avoid reciprocating PPCV. By testing the interactions of continuance commitment with perceived organizational treatment, we can demonstrate that organizational and professional identification, regardless of continuance commitment, are influencing our results.

Variables that influence patient demand. Healthcorp administrators try to spread the patient workload equally between physicians by assigning an equal number of patients to each physician. Four variables drive patient demand, which would increase or decrease productivity and policy adherence rates from the demand side (patient initiated) rather than the supply side (doctor initiated). Physicians who are assigned large numbers of older, sicker, or female patients by Healthcorp administrators have the highest patient demand. To compensate for this effect, we controlled for panel size, panel age, panel average chronic sickness, and percent of panel that is female.

Physician demographic variables. Physician gender, age, and tenure were also obtained from organizational records. Men identify more strongly with their organization than women (Riketta, 2005) and are less responsive to POS (Rhoades and Eisenberger, 2002). Likewise, older and longer-tenured physicians are likely to identify more strongly with their organization and also be more familiar with how to get things done around the organization (Ashforth & Mael, 1989; Goldberg et al., 1998; Riketta, 2005). To address such systematic variation between our predictor and dependent variables, we controlled for physician demographics in our analysis.

Aquino and Douglas (2003) hypothesized that young people and men are more likely to respond negatively to organizational treatment than their older or female counterparts do. We included the four interaction terms of age by POS, age by PPCV, gender by POS, and gender by PPCV as control variables in the analysis to demonstrate that organizational and professional identification explain additional variance over previous known moderators of the reciprocity dynamic.

Measure validity

We used confirmatory factor analysis with LISREL and maximum likelihood estimation to assess the psychometric properties of the scaled items for constructs derived from the survey instrument. A satisfactory fit was achieved ($\chi^2 = 451.03$, $df = 313$, $p < .01$, RMSE = .04, CFI = .97). The ratio of chi-squared to degrees of freedom is 1.44; a value of less than 3 for the ratio indicates a good fit (Carmines & McIver, 1981). The composite reliability values for the constructs range from .75 to .96, all above the cutoff suggested by Bagozzi and Yi (1988).

Insert Table 1 about here

We assessed discriminant validity between constructs by comparing our target measurement model with various nested models, moving from a highly restricted single-factor structure (all items linked to one construct) to a final target structure that contained our five constructs of interest (continuance commitment, organizational and professional identification, perceived organizational support, and violation)(see Table 1). Chi-square difference tests for the nested models were consistently large and significant, showing that large improvements in fit were gained as we moved from one factor to five. Most importantly, and consistent with prior

research (Tekleab et al., 2005), separating POS and PPCV significantly improved the fit between the items and the constructs (change in $\chi^2 = 539.38$, $p < .001$).

RESULTS

Table 2 reports the means, standard deviations, and correlation coefficients between the dependent, independent, and control variables. We used hierarchical moderated regression models to examine the hypothesized interaction effects. To avoid multicollinearity between the predictors and the interaction terms and to enhance the interpretation of the main effects, we centered all variables involved in the interaction terms (Aiken & West, 1991). Table 3 presents the results of the analysis.

Insert Tables 2 and 3 about here

In Model 1 (Table 3), we include all the control variables and the first order effects of social identification and perceived organizational treatment. Model 2 includes all second order effects. Model 3 includes the three-way interactions. We found support for the three-way interactions predicted in hypotheses 7 and 8. The existence of the three-way interactions makes any interpretation of the two-way interactions and main-effects incomplete (Aiken & West, 1991). Therefore, we focus solely on describing the three-way interaction effects in this section.

Hypothesis 7 predicted that organizational and professional identification will jointly interact with POS, such that the association between POS and professional employee work performance will be (a) most positive when organizational identification is high and professional identification is low and (b) least positive when organizational identification is low and professional identification is high. Model 3 in Table 3 shows a significant three-way interaction

of organizational identification, professional identification, and POS for policy adherence (b = -.65, p < .05) but not for productivity.

To assess whether the form of the interaction is consistent with our hypotheses, we plotted the significant interaction according to standard procedures (Aiken & West, 1991). Figure 1 shows the plots. We calculated the significance of the simple slopes and found a significant positive relationship between POS and policy adherence (p < .01) when organizational identification was high (+ 1 s.d.) and professional identification was low (- 1 s.d.). We also found a significant negative relationship between POS and policy adherence (p < .05) when organizational identification was low (- 1 s.d.) and professional identification was high (+ 1 s.d.). Thus, hypothesis 7 is supported for one operationalization of professional employee work performance (i.e., policy adherence).

Insert Figures 1-3 about here

Hypothesis 8 predicted that organizational and professional identification will jointly interact with PPCV, such that the association between PPCV and professional employee work performance will be (a) most negative when organizational identification is low and professional identification is high and (b) least negative when organizational identification is high and professional identification is low. Model 6 in Table 3 shows a significant three way interaction of organizational identification, professional identification, and PPCV for both policy adherence (b = -.65, p < .05) and productivity (b = .68, p < .05).

To assess whether the form of this interaction is consistent with our hypotheses, we plotted the significant interactions (Aiken & West, 1991), which are shown in Figures 2 and 3. We calculated the significance of the simple slopes and found a significant negative relationship between PPCV and both policy adherence (p < .05 in Figure 2) and productivity (p < .01 in

Figure 3) when organizational identification was low (- 1 s.d.) and professional identification was high (+ 1 s.d.). We also found a significant positive relationship between PPCV and both policy adherence ($p < .001$ in Figure 2) and productivity ($p < .05$ in Figure 2) when organizational identification was high (- 1 s.d.) and professional identification was low (+ 1 s.d.). Thus, hypothesis 8 is supported for the two operationalizations of professional employee work performance.

DISCUSSION

We set out to understand better how professional employees' reciprocity behavior in social exchange with the organization is influenced by their social identification with the organization and profession. Our study focused on physician employees working for a large managed care organization. We found that when professional employees had high levels of organizational identification and low levels of professional identification, they adhered more strongly to the norm of positive reciprocity and appeared to behave counter to the norm of negative reciprocity. When professional employees had low levels of organizational identification and high levels of professional identification, they more strongly adhered to the norm of negative reciprocity and appeared to behave counter to the norm of positive reciprocity. Our study advances employee social exchange research by showing how employee-organization social exchange dynamics are more complex than has been previously acknowledged. It also contributes to social identification research by demonstrating how professional and organizational identification interact to influence employee behavior.

Theoretical Implications

Our study makes several contributions to the research on social exchange and social identification in organizations. First, we add to organizational social exchange research by

showing that employee reciprocity depends on organizational and professional identification. In fact, we found evidence of behavior that seemed to run counter to reciprocity norms. Higher organizational identification together with lower professional identification was associated with improved performance in response to PPCV. Our theory suggests that these employees were possibly attempting to gain or regain good standing in a group they considered to be unequivocally self-relevant. The combination of lower organizational identification and higher professional identification was associated with lower performance in response to POS. Professional employees can perhaps more readily justify backing off a bit in helping the organization achieve its goals when employees are relationally distant from administrators.

Second, the few prior studies explicitly addressing the question of when employees are more likely to reciprocate organizational treatment have focused on dispositional factors (Colbert et al., 2004; Farh et al., 2007; Lynch et al., 1999). We showed that organizational and professional identification are important non-dispositional moderators of the reciprocity dynamic between employees and organizations.

Third, our study contributes to research on social identification in organizations by suggesting how organizational and professional identification combine to influence professional employee behavior. Prior research on dual identification has speculated that expressing the values of one group can conflict with expression of another group's values (Ashforth & Mael, 1989; Wang & Pratt, 2007), an argument that implies a two-way interaction between organizational and professional identification in predicting employee behavior. Our research suggests a more nuanced relationship between these two types of identification, at least when it comes to social exchange phenomena. The three-way interactions we found indicate that

organizational and professional identification together shape employees' frame of reference for interpreting the meaning of organizational actions, such as organizational treatment.

Fourth, our study contributes to research on relational models of how employees attach to and work on behalf of their groups (Tyler & Blader, 2003; Tyler & Lind, 1992). These frameworks suggest that when employees receive detrimental treatment (i.e., injustice) from a group (such as an organization), their identification with the group decreases, which in turn leads them to perform less effectively. Relational models, however, have not considered how existing levels of social identification with a group may influence performance in response to treatment. Certainly, receipt of detrimental treatment could lead to lower levels of group identification and subsequent performance over time. We maintain that employees may not immediately abandon highly self-defining group memberships. Our research suggests instead that employees may respond to signs of group rejection with attempts to recover full-status membership. These status recovery efforts might be successful in some cases and unsuccessful in others, and social identification with the group may eventually weaken if evidence of good standing (e.g., beneficial treatment from fellow group members) is not eventually forthcoming.

Finally, our research establishes an empirical association between levels of organizational and professional identification, on the one hand, and objectively assessed levels of performance on the other. Prior work in this area has shown that social identification influences self-reported organizational commitment, in-role performance, extra-role performance, job satisfaction, job involvement, and withdrawal and turnover intentions (Riketta, 2005; van Dick et al., 2004; Wright & Bonett, 2002). This study is the first to link organizational identification and professional identification to objective measures of performance.

Practical Implications

Our study helps explain that social identification is one reason why professional employees resist administrative controls more than non-professional employees (Gouldner, 1957; Sorensen & Sorensen, 1974; Van Maanen & Barley, 1984). When professional identification is high and organizational identification is low, perceived beneficial organizational treatment, at best, will have no influence on performance and, at worst, will be associated with lower levels of performance. One implication is that managers should focus mainly on removing perceptions of detrimental treatment, such as psychological contract violation, for employees whose self-concepts are tied mainly to the profession. Reducing instances of perceived psychological contract violation may have equated to eliminating workplace de-motivators but not to adding motivators. Social exchange motivators available to organizations in managing employees whose self-concept is aligned mainly with their profession may be limited. Our analysis highlights the value of fully understanding the social identification of professional employees prior to implementing policies.

In our study, administrators were part of the organization but rivals to the profession. Therefore, professional employee identification with the organization rather than with the profession influenced their responses to perceived organizational treatment. We expect our results to generalize to other cases where organizational treatment providers belong to one psychological group and not its rival. For example, union employees may reciprocate beneficial treatment received from managers when identification with their union is low and identification with their organization is high

The practical implications of understanding social identification are also apparent by examining effect size and ramifications within our sample. Previous medical research has shown

that some healthcare organizations systematically have higher physician distribution rates of statins and ACE inhibitors to patients than others (Ward et al., 2004). Medical research regarding these drugs is very mature, and the relationship between drug distribution and death prevention is well established (Ebrahim et al., 1999; Yeo & Yeo, 2000). Studies show that these drugs prevent one death for every 56 patients treated over a five year period (Acute-Infarction-Ramipril-Efficacy-Study-Investigators, 1993; Heart-Protection-Study-Collaborative-Group, 2002). Overall, these drugs reduce risk of death by twelve percent over five years (Hitinder & Hoogwerf, 2003). Within our sample, we find that patients failed to receive the proper cardiovascular disease medications 50% of the time. This non-compliance rate is consistent with the national average resulting in roughly 37,000 unnecessary annual deaths out of 20 million people who have cardiovascular disease (Dubois et al., 2002; Kerr et al., 2004). Our analysis shows that the more physicians identify with their organization and the less they identify with their profession, the greater their rate of prescription of drugs for cardiovascular disease. Applying our model and extrapolating from the national mortality figures, if every Healthcorp primary care physician increased his or her current level of organizational identification by one standard deviation and decreased his or her level of professional identification by one standard deviation, of the 350,000 patients at Healthcorp, there would be 11.8 fewer vascular events and 5.2 fewer deaths annually. Arguably, many more deaths could be prevented if these results generalize nationally and to other drugs and medications besides statins and ACE inhibitors.

Limitations and Future Research

The implications of this study should be considered in light of its limitations. Causal direction cannot be fully substantiated because we used a cross-sectional design. However, the relationships we hypothesized are consistent with the numerous longitudinal studies that have

shown that POS (for a review, see Rhoades & Eisenberger, 2002) and PPCV (Guzzo, Noonan & Elron, 1994; Robinson & Rousseau, 1994; Turnley & Feldman, 1999) predict employee behavior. In addition, our theoretical model entails somewhat complex interaction effects that minimize the probability of drawing incorrect conclusions (Bowen & Wiersema, 1999). Furthermore, reverse causality is not as theoretically plausible. For example, it seems relatively implausible that performing at high levels will lead employees to feel they are being mistreated when they strongly identify with the organization and weakly identify with the profession. Further, to test for interactions that might indicate reverse causality, we individually ran every possible three-way interaction in models that included all appropriate controls, main effects, and lower-order interactions. Out of the 16 possible three-way interactions, only the three we reported were significant ($p < .05$). Certainly, this additional analysis does not rule out the possibility of reverse causality, but it does show that the model we specified explains our data better than alternatives that could be interpreted as indicating reverse causality. Nevertheless, confidence in our findings would be further enhanced if supported by results from future studies based on longitudinal designs.

Second, because our study did not include several variables that have been identified as influencing employee reciprocity, we cannot ascertain how much variance in our findings could be attributable to those particular unmeasured factors. However, we did control for employee age, gender, and continuance commitment as moderators of both POS and PPCV in predicting professional employee work performance. Prior research has shown that young people and men are pre-disposed to responding more negatively to organizational treatment (Aquino & Douglas, 2003; Rhoades & Eisenberger, 2002). We found that the joint influence of organizational and professional identification explain unique variance in employee responses to POS and PPCV.

Still, more inclusive research in this area now seems warranted. Future research should look at the relative importance of different variables that have been shown to affect employee reciprocity behavior in the employee-organization exchange relationship.

Another potential limitation of our study is that we did not directly measure relational distance from administrators. However, our theory and findings are quite consistent with the large volume of research on social identification that explains how a person's identification with a group differentially orients that individual to other group members and to members of rival groups (Brewer, 1979; Brewer & Brown, 1998; Turner, 1984, 1991; Turner et al., 1987). Nevertheless, given the centrality of relational distance from administrators to our model, future research assessing whether this relational distance is the mechanism driving the joint effect of organizational and professional identification on employee responses to perceived organizational treatment seems warranted.

We assumed that the detrimental organizational treatment physicians experienced in our study was less severe and perhaps less persistent than that experienced in studies of interpersonal betrayal (e.g. employee reactions to being laid off in Brockner et al's 1992 study). Given that the mean for our psychological contract violation measure was 3.06 on a 7-point Likert scale and the mean for the item in the measure stating, "I feel betrayed by Healthcorp" was only 2.07, our assumption about the severity of the treatment seems reasonable. However, we have no data on the persistence of the negative treatment, which is a limitation of our study. Furthermore, future research is needed to determine the severity and persistence level at which detrimental treatment leads to the retaliatory responses identified by research on betrayal.

Finally, we are not certain that professional employees in our sample viewed the abstract category of administrators as being responsible for delivering organizational treatment.

Therefore, another avenue for future research is better examination of employees' perceived source of organizational treatment. However, consistent with past research, we assumed employees view most organizational treatment to come from administrators (Mintzberg, 1977; Rhoades & Eisenberger, 2002; Robinson et al., 1994). Likewise, all our measures target large, abstract categories (e.g. the profession and the organization) and broad perceptions of organizational treatment (the degree to which the organization provides beneficial and detrimental treatment), and they do not focus on identification with specific individuals or treatment from a particular person. Future research exploring the interplay between abstract identities and specific relationships may be fruitful (Sluss & Ashforth, 2007).

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TABLE 1
Analysis of Discriminant Validity of Predictor Variables

	RMSEA	CFI	Δ CFI from Model 1	χ^2	Δ χ^2 from Model 1[a]
1. Five factor model (professional identification, organizational identification, continuance commitment, POS, PPCV)	.04	.97		451.03	
2. One factor model	.20	.78	.19	3037.42	2586.39***
3. Two factor model (identification/commitment, perceived treatment)	.18	.81	.16	2546.30	2095.27***
4. Three factor model (continuance commitment, identification, perceived treatment)	.14	.86	.11	1622.83	1171.80***
5. Four factor model (organizational and professional identification combined)	.09	.91	.06	957.51	506.48***
6. Four factor model (POS and PPCV combined)	.10	.91	.06	990.41	539.38***

[a] *** p < .001

TABLE 2
Intercorrelation Matrix for Dependent, Independent, and Control Variables[a]

	Variable	*M*	*s.d.*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.	DV-productivity	23.99	2.86	-														
2.	DV-policy adherence	1.00	0.16	.03	-													
3.	Pediatrician Dummy	0.11	0.31	-.03	n.a.	-												
4.	Full-time status	0.80	0.19	.18	.10	.10	-											
5.	Number of patients	1724.12	521.30	.22	.11	-.04	.56	-										
6.	Average patient age (years)	42.06	12.31	.06	.20	-.93	-.09	.00	-									
7.	Percent female patients	0.55	0.16	.06	.02	-.20	-.51	-.25	.08	-								
8.	Average panel sickness	1.02	0.13	.10	.05	-.54	-.15	-.09	.68	.17	-							
9.	Tenure (years)	14.27	8.52	.11	.14	-.03	.13	.06	.33	-.28	-.15	-						
10.	Gender (0=female, 1=male)	0.64	0.48	.03	-.04	.00	.56	.37	.20	-.89	.02	.22	-					
11.	Age (years)	50.55	6.93	.19	.05	..01	.13	.17	.28	-.26	.01	.61	.36	-				
12.	Continuance Commitment	26.54	7.75	.02	-.07	.01	-.02	.03	.18	.01	.03	.16	.01	.14	-			
13.	Organizational Identification	24.57	5.17	.08	.03	-.04	.13	.06	.05	-.06	.04	.22	.06	.12	-.01	-		
14.	Professional Identification	22.05	5.09	.06	-.22	.07	.23	.11	-.08	-.10	.01	.06	.13	.06	.06	.61	-	
15.	POS	32.00	9.18	.04	-.03	-.03	.09	.01	.02	-.15	.05	.13	.15	.05	-.33	.46	.28	-
16.	PPCV	12.24	6.42	-.10	.08	.09	-.11	-.01	-.08	.08	-.12	-.07	-.11	-.05	.38	-.30	-.17	-.66

[a] All correlations larger than .17 are significant at p<.05 (two-tailed), all larger than .20 are significant at p<.01; N = 133 for all variables except correlations involving the variable "DV-policy adherence," where N = 122.

TABLE 3
Analysis Examining Moderating Effects of Social Identification and Organizational Treatment on Physician Performance[a]

	Policy Adherence			Physician Productivity		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Controls						
Pediatrician dummy variable	n.a.	n.a.	n.a.	.27	.32	.29
Full time equivalent	.19	.27*	.34*	.22†	.24†	.23†
Number of patients in panel	.13	.06	.02	.17	.17	.19
Panel age	.22†	.22	.20	.26	.29	.21
Panel % female	.03	.09	.07	.23	.24	.25
Chronic sickness of panel	.03	.00	-.01	.04	.03	.05
Tenure with Healthcorp (years)	.06	.14	.13	.02	.03	.10
Male	-.20	-.12	-.19	.00	.00	.01
Age (years)	-.02	-.04	.01	.02	-.05	-.10
Continuance Commitment	-.04	-.07	-.06	.20*	.24*	.29**
Direct effects						
Organizational Identification	.21†	.26*	.27*	.05	.13	.15
Professional Identification	-.36**	-.49**	-.44**	-.04	-.04	-.01
Perceived Organizational Support (POS)	.05	.06	.23	.05	.09	-.06
Perceived Psychological Contract Violation (PPCV)	.12	.21*	.36*	-.11	-.09	-.32*
Lower-order Interactions						
Age X POS		.00	.06		.10	.08
Age X PPCV		-.17	-.13		.11	.00
Male X POS		.13	.09		-.14	-.14
Male X PPCV		.10	.07		-.14	-.09
Continuance commitment X POS		.04	-.03		.02	.10
Continuance commitment X PPCV		-.12	-.17		.05	.14
Organizational identification X POS		.41**	.30*		.24	.36*
Professional identification X POS		-.34*	-.29*		-.35**	-.39**
Organizational identification X PPCV		.51**	.42*		.08	.30*
Professional identification X PPCV		-.62***	-.54**		-.26	-.35*
Support X Violation		.15	.15		-.04	-.06
Organizational X Professional		-.07	-.05		.07	-.13
Three-way Interactions						
Organizational X Professional X POS			-.65*			.30
Organizational X Professional X PPCV			-.61*			.68*
R^2	.20	.35	.38	.15	.25	.30
ΔR^2 from previous model		.15*	.03*		.10*	.05*

[a] †p<.10, * p<.05, ** p<.01, *** p<.001; N = 122 for policy adherence and 133 for productivity

FIGURE 1
The Effects of Social Identification and POS on Policy Adherence

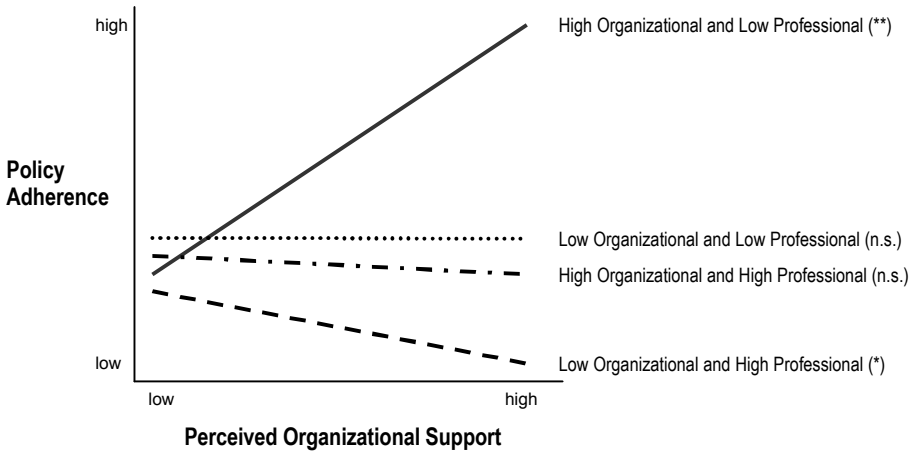


FIGURE 2
The Effects of Social Identification and PPCV on Policy Adherence

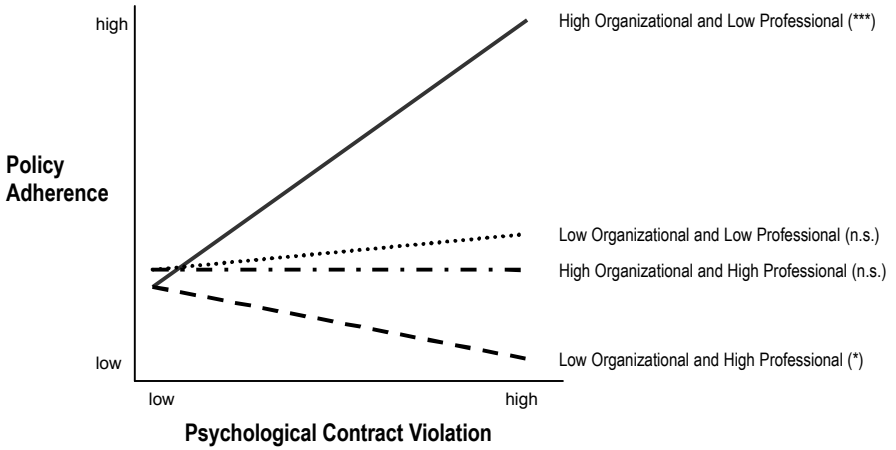
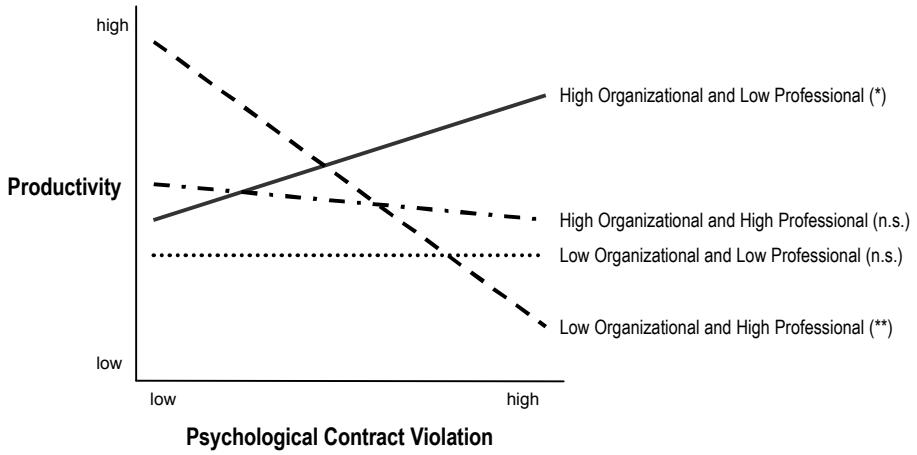


FIGURE 3
The Effects of Social Identification and PPCV on Productivity



*** $p < .001$
** $p < .01$
* $p < .05$
n.s. $p > .10$

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