ANTECEDENTS AND CONSEQUENCES OF COLLECTIVE PSYCHOLOGICAL OWNERSHIP: THE VALIDATION OF A CONCEPTUAL MODEL

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INTRODUCTION

The popular and business press has long hailed employees "owning" their projects as a key to motivation (e.g., Bullock, 2014), but only in the last twenty years has the phenomenon been more rigorously examined by organizational scholars. Although such work has tended to study ownership feelings at the individual level, recent conceptual work has begun to investigate the importance of feelings of "us" and "ours" with respect to teams and their work output. In their seminal work, Pierce and Jussila (2010) defined Collective Psychological Ownership (CPO) as a feeling of collective possessiveness and attachment to organizational objects, such as work products. CPO has been theoretically linked to important team outcomes; and three drivers of CPO have been proposed but not empirically tested. In two studies, we test several of these relationships. In Study 1, we use several methodologies and two samples to test the conceptual structure and construct validity of drivers of CPO proposed by Pierce and Jussila (2010): investment, control and intimate knowledge. In Study 2, we examine the relationship between these three drivers of CPO, CPO itself, and several positive team outcomes, including perceptions of team effectiveness, quit intentions, and intentions to champion the shared work product.

THEORETICAL BACKGROUND

Classical psychology, anthropology, and political philosophy have long stressed the importance of the fruits of work as a natural source of personal ownership (Belk, 1988; Csikszentmihalyi & Rochberg-Halton, 1981). Individuals, in occidental culture especially, have a set of latent needs that are served by feelings of psychological ownership (PO - Pierce, Kostova & Dirks, 2003): to affect their environment, to express themselves, and to define their identity by possessions. Responding to these needs - by investing the self into an object, controlling the object and getting to know the object - activates feelings of ownership. These motives can lead individuals to experience the output of their work as "mine", even without formal assertion of this property. However, feelings of possession can not only link work products to the individual self ("me-mine") but also to the collective self ("us-ours").

Control

Much like parts of our body, objects that can be controlled come to be regarded as part of the self. The more the members of a group believe that an object is collectively controlled and influenced the more it becomes a part of the collective self (Furby, 1978). For example, in an academic team in which team members believe everyone has helped decide on the theoretical framework to follow, or have shared control over the analytic methods to be applied, the resulting research article is likely to be regarded as collectively "ours". Hence:

> *Hypothesis 1a: The extent to which a team member feels that all team members controlled/influenced the team work output relates positively to how much that team member feels CPO over the team work output.*

Intimate knowledge

According to Rudmin and Berry (1987), through a process of active association, the more information known about a target the stronger the connection between the individual and that object. Getting to know intimately elements of the environment grows from our need to explore and to affect the environment, and to feel competent (Pierce & Jussila, 2010). These motives are highly active in the workplace during the creation of new objects as attachment to the object is generated by familiarity and knowledge. In teams, shared knowledge about the team work output can strengthen feelings of a shared connection with the collective work product, in the form of feelings of CPO. For example, members of a team that feel everyone is familiar with the details, the originating purpose, and the history of a specific project will tend to feel higher levels of CPO towards what has been collectively produced.

> *Hypothesis 1b: The extent to which a team member feels that all team members know intimately the team work output relates positively to how much that team member feels CPO over the team work output.*

Investment

According to Csikszentmihalyi and Rochberg-Halton (1981) the investment of energy, time, effort, and attention to objects leads the self to become one with the object of their creation. Work creations that have received substantial personal investment begin to reflect and constitute a part of a person's identity, fulfilling also their need for affectance (Pierce & Jussila, 2010). If, for example, the research team members recognize a shared investment of time and energy from team members in the collective creation of the project, they will tend to feel higher levels of CPO.

> *Hypothesis 1c: The extent to which a team member feels that all team members have invested in the team work output relates positively to how much that team member feels CPO over the team work output.*

Impact of CPO on team effectiveness

There are several reasons why we expect teams with stronger versus weaker feelings of "us" and "ours" to perform better. Personal PO has been related to extra-role behaviors (Vandewalle,

Van Dyne & Kostova, 1995) and to pride in the target and enhanced responsibility (Pierce & Jussila, 2010). Feelings of CPO are expected to relate to the same positive outcomes, as CPO subsumes feeling personal PO. Nonetheless, as CPO includes also the connection to the team ("us"), these positive feelings (pride and responsibility) might not solely be related to the target of ownership (in this case, the team work output) but also to the team. Indeed, several additional aspects of CPO are expected to lead to perceptions of team effectiveness among team members. High CPO involves the target being considered a part of the team's collective self (Belk, 1988). As the product is considered "ours" and "a part of us", team members are likely to work hard on behalf of the target and to engage in behaviors to improve group internal functioning (Druskat & Pescosolido, 2002). In addition, they are likely to expect such effort and behaviors from other group members (Pierce & Jussila, 2010).

Hypothesis 2a: CPO relates positively to perceptions of team effectiveness.

Hypothesis 2b: CPO mediates the relationship between control, investment and intimate knowledge regarding a target and perceptions of team effectiveness.

Effects of CPO on Quit intentions

We also propose that CPO will relate negatively to turnover intentions of group members. When CPO is high versus low, team members feel the team as a collective "us", an extension of themselves that warrants protecting (Belk, 1988). In contrast, if feelings of CPO are low or absent, team members will not feel as responsible for and identified with the existence and proper functioning of the team. Therefore, they are likely to be less reluctant to break this collective entity, for example through leaving voluntarily.

Hypothesis 3a: CPO relates negatively to quit intentions.

Hypothesis 3b: CPO mediates the relationship between control, investment and knowledge regarding a target and quit intentions.

Impact of CPO on product championing

PO has been theorized by several authors to increase the pride and identity invested in work products (e.g., Pierce, Kostova & Dirks, 2003). Champions are individuals who are willing to put extraordinary effort into ideas and products (Shane, 1994). We propose that feeling CPO will lead to championing behavior due to this attachment to the team creation (the team work output). Championing includes being willing to represent the team work output outside the team, in order to attract more stakeholder interest and sponsors, even if not formally designated for this task (e.g. Van de Ven, 1986).

Hypothesis 4a: CPO relates positively to championing the team work output.

Hypothesis 4b: CPO mediates the relationship between control, investment and intimate knowledge regarding a target and championing the team work output.

METHOD

Study 1

Item generation. The item pool developed reflected the three drivers to CPO proposed by Pierce and Jussila (2010): Investment in the target (e.g., "All of us spent a great deal of energy to build the TEAM WORK OUTPUT"), Control over the target (e.g., "Together we all had a lot of control over how the TEAM WORK OUTPUT was created") and Knowledge about the target (e.g., "All of us know this TEAM WORK OUTPUT very well"). The 30 item pool was presented in random order to 10 Organizational Behavior experts, who were asked to assign each item to a driver. Of the 30 items, 22 items were correctly assigned by more than 80% of the experts.

Study 1a results – Exploratory factor analysis. The primary sample (sample A) for this study was a heterogeneous sample of 210 working adults with teamwork experience from a wide cross-section of organizations. An exploratory factor analysis (EFA) of the 22 items was conducted using SPSS 22. Three factors were identified. The first factor consists of eight items tapping team member investment in the teamwork output, referred to as Investment. The second factor consists of six items tapping team member knowledge of teamwork output, referred to as Intimate Knowledge. The third factor consists of four items tapping into team member influence and control over the teamwork output, referred to as Control.

Study 1b results – Confirmatory factor analysis. The second sample (Sample B) for this study was a heterogeneous sample of 140 working adults with team work experience from a wide cross-section of organizations. A confirmatory factor analysis (CFA) was conducted. The proposed three-factor structure showed very good fit and parameter estimates for all indicators were significant. The items that showed weaker factor loading in the EFA were the one that showed lower factor loading on the CFA. Thus, the results of the CFA largely support the findings of the EFA. Following this study, from the final 18 items we further excluded items based on low factor loadings, content redundancy, subject inconsistency, and, extended meaning beyond Investment, Control or Intimate knowledge, leaving a final measure of 12 items (four per dimension).

Study 2

In Study 2 drivers and consequences of CPO were investigated. In total 183 working adults with team work experience from a wide cross-section of organizations participated. Participants were invited by email to participate in a study with two parts, separated by a one-month interval. At Time 1 participants were asked to describe something a team they belonged was creating, and at both Time 1 and Time 2 participants were reminded of that specific team work output (referred to in the surveys by the name they had provided for it, and in the items and instructions provided below by TEAM WORK OUTPUT) while answering questions.

At time 1 the drivers of CPO were measured using the previously validated measure (Study 1). At time 2, collective psychological ownership was measured using Pierce and colleagues' (2011) 5-item measure. Perceptions of team effectiveness were measured using four items adapted from Jung and Sosik's (2002). Intentions to quit were measured using three items from Rusbult and colleagues' (1988) adapted for the team context. Championing was measured using five items adapted from George and Jones (1997).

Study 2 results. Study 2 results provided partial support for our hypotheses. In Study 2, Knowledge and Investment related to CPO, but Control did not. Thus, H1b and H1c are supported, but H1a is not. In terms of outcomes of CPO, CPO related to team effectiveness, quit intentions,

and championing the team work product, providing support for H2a, H3a and H4a. Further, CPO mediated the relationship between knowledge and perceptions of team effectiveness, but not between investment and perceptions of team effectiveness. Thus, H2b is partially supported. Additionally, CPO mediated the relationship between investment and quit intentions, and between knowledge and quit intentions, providing some support for H3b. CPO also mediates the relationship between intimate knowledge and championing the teamwork output, providing partial support for H4b.

OVERALL DISCUSSION

In this research we investigated the antecedents and consequences of CPO. First, we found that all three proposed drivers correlated with CPO. However, when all three predictors were simultaneously considered the relation between control and CPO was no longer significant. Second, CPO was also found to predict important team outcomes. Team members with high CPO tend to champion the team work output, to want to stay in the team, and to perceive their team as effective. Third, CPO mediated the relationships between investment and quit intentions, and between intimate knowledge and both effectiveness perception and championing the teamwork output.

This research provides insight into the factor structure of the three drivers of CPO: control, investment, and knowledge. The measures developed for each demonstrated good psychometric properties. This research shows that the experiences that have been found to lead to personal PO are also drivers of CPO. However, contrary to prior theory, control did not predict CPO when CPO was regressed on all three drivers. Nonetheless, the first order correlations suggest that the reason may be multicollinearity among the closely related CPO drivers. It is also possible that the characteristics of the targets are important to the experiences leading to PO, and also in this case to CPO. For example, depending on the task (and hence, the nature of the target) team member participation and roles might not *per se* include exercising substantial control over the product. Our findings suggest that feelings of CPO may nonetheless develop if members invest in and become intimately familiar with the target.

CONCLUSION

As put forward theoretically, CPO seems to play an important role in team functioning. Especially when teams are changing, attachment to collective products can be enduring sources of employee identification and efficacy. Even as people enter and leave teams they can feel a deep connection to an ongoing project, physical artifact, routine, or even client. Also in virtual teams, where connection to other individuals can be more difficult and when the collective "us" has less physical presence, the objects that the team has created might be an important source of iden tification and motivation. We hope this research provides preliminary insights and originates further conversations about the connection of team workers to their collective work products.

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