THE INFLUENCE OF HUMAN AND SOCIAL CAPITAL ON CREATIVITY: A SITUATIONAL STRENGTH PERSPECTIVE

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Abstract- Human capital and social capital are generally seen as having beneficial effects on creativity. We argue that such positive relationships between human/social capital and employee creativity depend on situational strength. Specifically, we consider the situational strength in terms of a perceived caring atmosphere and proactive personality, and contend that antagonistic effects, rather than beneficial effects, are likely. In a strong situation (i.e., when the perceived caring atmosphere is high or when the proactive personality is low), we hypothesize that a beneficial effect tends to occur. In a weak situation (i.e., when the perceived caring atmosphere is low or when the proactive personality is high), we hypothesize that a detrimental effect tends to occur. We collected survey data from employees in one funeral service organization in Taiwan (N=384). Our results suggest that such antagonistic effects occur when a proactive personality interacts with social capital to act on employee creativity, or when a perceived caring atmosphere interacts with human capital to act on employee creativity.

Keywords- creativity, social capital, human capital, proactive personality, caring atmosphere

I. INTRODUCTION

Does having employees with ample tacit knowledge and skills (or high human capital) facilitate the innovation of an organization? Does having employees who are well-connected (or who have high social capital) facilitate the innovation of an organization? The extant literature often adopts an organizational level of analysis and tends to give both questions a positive answer. For instance, Subramaniam and Youndt (2005) collected data from 93 organizations and found that human capital (i.e., individuals' knowledge and skills) and social capital (i.e., the well-connectedness of individuals in facilitating the sharing and exchange of knowledge and skills) influence the innovative capability of an organization.

In the present study, we are interested in how this organizational phenomenon unfolds at the individual level of interaction among coworkers. By doing this, we explore the microfoundation of such a macro phenomenon (see also Powell & Colyvas, 2008). Employee creativity is our main focus as it serves as a hotbed for organizational innovation (Amabile, 1988). However, these two questions become intriguing when we rephrase them at the individual level of interaction between coworkers: "Does having coworkers who are high in human capital facilitate employees' creativity?" and "Does having coworkers who are high in social capital facilitate employees' creativity?" Such questions are important as we do not only want employees who have ample knowledge in their minds (human capital) or in their social network (social capital) to be solely responsible for creativity. We also want the presence of such employees to create synergistic effects with others within an organization in facilitating creativity. By answering these questions, we can provide a nuanced understanding of how human capital and social capital within an organization facilitate creativity. Specifically, we are interested in what situations the knowledge residing in coworkers' minds (human capital) or in coworkers' social networks (social knowledge) would flow out and become accessible resources for facilitating employee creativity.

Regarding the accessibility of resources, we identify two theoretical constructs that can usefully explain such a phenomenon: a perceived caring atmosphere and a proactive personality. The former focuses on what makes coworkers' human capital accessible in the first place, while the latter stresses what makes individuals attentive enough to access coworkers' social capital. Drawing on the situation strength perspective (Mischel, 1977), we argue that not only situations but also their strength matter. The situation strength perspective originated to resolve the person-situation debate in personality psychology and organizational behavior: whether the person (e.g., personality trait) or the situation (e.g., social norms) is more influential in determining a person's behavior. Founded on the old maxim that behavior is a function of a person and situation, the situation strength perspective provides an insightful explanation by distinguishing situations in terms of strength. Situational strength is defined as "implicit or explicit cues provided by external entities regarding the desirability of potential behaviors" (Meyer, Dalal, & Hermida, 2010, p. 122). Situations are strong to the degree that rules, scripts, and social cues provide clear guidance and thus a situation has the potential to restrict expression. In strong situations, personality traits provide less guidance. Situations are weak when

the social roles are unstructured, and thus individuals have wide latitude of personal discretion. Personality thus may act more dominantly in influencing a person's behavior. As we will elaborate later in the hypotheses development section, we argue that strong situations (that is, those high in a perceived caring atmosphere or low in proactive personality) give rise to certain routine practices regarding the accessibility of resources in facilitating employee creativity.

In the sections that follow, we first explain how a perceived caring atmosphere and proactive personality define the situation, and hypothesize that their strengths moderate the relationship between human/social capital and employee creativity. Then, we explain our data collection and analysis. Finally, we present our results and discuss their implications.

II. HYPOTHESES DEVELOPMENT

In this section, we explain and develop hypotheses about how human capital and social capital of coworkers become accessible resources for an individual employee to develop some new or better way of doing things. Specifically, we explore the moderating roles of a perceived caring atmosphere and proactive personality in producing antagonistic effects.

Antagonistic effects of a perceived caring atmosphere on the relationship between human capital and employee creativity

Human capital refers to the knowledge and skills residing in the minds of employees (Chen, Shih, & Yang, 2009; Subramaniam & Youndt, 2005). Individual human capital is a double-edged sword. When it is used to serve the best interests of the organization, it may create positive impacts on the organization as individuals' expertise helps to detect problems, search for relevant information, and generate possible solutions (Zhang & Bartol, 2010). This said, if coworkers' human capital becomes an accessible resource for their colleagues, it might create positive synergistic effects and facilitate employee creativity within an organization. When it is used for purposes other than the best interests of the organization, however, it may have a deleterious effect as individuals with expertise know how to manipulate the system through misreporting problems, providing misleading information, or withholding good solutions. This suggests that human capital could also create negative synergistic effects and thus could hinder employee creativity.

To shape the purpose of one's action at work, we argue that a perceived caring atmosphere is critical. A perceived caring atmosphere is defined as having supportive supervision that encourages employees to voice their concerns and which cares about employees' needs (Rice, 2006). The extant literature has shown that supportive supervision and encouragement facilitate employee creativity (Amabile & Gryskiewicz, 1987; Oldham & Cummings, 1996; Rice, 2006; Zhou, 2003). Drawing on social exchange theory (Blau, 1964), a perceived caring atmosphere may enact a norm of reciprocity. That is, the receivers of caring may feel obligated to return their caring to the organization.

The norm of reciprocity of caring may create a strong situation (Mischel, 1977) where enacting sharing and exchange of individual human capital in detecting problems, searching for relevant information, and generating useful ideas to solve problems become scripted behavior. To return the favor of receiving caring, individuals may also seek to contribute their knowledge and skills for the best interests of the organization. This suggests that a high perceived caring atmosphere may predict a positive relationship between human capital and employee creativity. In contrast, a low perceived caring atmosphere can create a weak situation (Mischel, 1977) where openly sharing one's knowledge and skills is not scripted and thus affords employees the latitude to act in many different ways. Moreover, individuals may not share the similar goal of serving the organization's best interests. This suggests that a low perceived caring atmosphere may predict a negative relationship between human capital and employee creativity. Thus, we hypothesize:

H1: A perceived caring atmosphere moderates the relationships between human capital and employee creativity in such a way that the relationship is positive when the perceived caring atmosphere is high, while it is negative when the perceived caring atmosphere is low.

Antagonistic effects of proactive personality on the relationship between social capital and employee creativity

In the present study, we refer to social capital as the relational resources embedded in personal ties in the community (Jacobs, 1965). Social capital allows individuals to leverage resources from the groups and networks in which they are embedded. Having coworkers with high social capital can be either good or bad depending on whether individuals have abilities to attentively detect the usefulness of relational resources. For some, the relational resources from well-connected coworkers can be valuable and relevant for detecting problems, searching for information, and generating possible solutions. For others, the relational resources can be irrelevant or even threatening.

Proactive personality refers to an individual's behavioral tendency to change his or her environment (Bateman & Crant, 1993). Individuals who are high in proactive personality are typically described as people who are "relatively unconstrained by situational forces, and who effect environment changes" (Bateman & Crant, 1993, p. 105). A proactive

personality, thus, shares an affinity with weak situations where people are less constrained and have more opportunities to act in many different ways. In contrast, individuals low in proactive personality are more likely to enact the scripted behaviors.

Individuals who are high in proactive personality tend to demonstrate more creativity than those who are low in proactive personality (Kim, Hon, & Crant, 2000). However, they are typically more ambitious, future-oriented, and have a strong desire to "get ahead" (for a review see Fuller & Marler, 2009). They pay relatively less attention to "getting along", and this quality may hinder them from mobilizing the relational resources of their coworkers. As they seek to "get ahead", coworkers with high social capital can be viewed as threats. This suggests that a negative relationship between a coworker's social capital and employee creativity is likely for individuals who are high in proactive personality. In contrast, although individuals who are low in proactive personality may generally demonstrate lower performance in creativity, they may interact better with coworkers who are high in social capital and thus may benefit more from interactions with coworkers who have high social capital than high proactive individuals do. Thus, we hypothesized:

H2: Proactive personality moderates the relationships between social capital and employee creativity in such a way that the relationship is positive when employees are low in proactive personality, but negative when they are high in proactive personality.

III. METHODS

Sample

The total sample consisted of 384 Taiwanese full-time employees working in one funeral service organization, of whom 47%were male. The majority of the respondents were service employees (75%), followed by first-line supervisors (19%) and middle managers and executives (6%).

Measure

All of the variables in this study were assessed on a seven point Likert scale (where 1= strongly disagree and 7 = strongly agree).

Creativity. We used Zhou and George's (2001) 13-item self-report scale of creativity. An example item includes, "I often have new and innovative ideas." The Cronbach's alpha was .96.

Human capital. We refined a 5-item scale developed by Subramaniam and Youndt (2005) by changing the references from "our employees" to "my coworkers". An example item is, "My coworkers are widely considered the best in our industry." The Cronbach's alpha was .91.

Social capital. We adapted a 5-item scale for social capital developed by Subramaniam and Youndt (2005) by shifting the reference from "our employees" to "my coworkers". An example item is, "My coworkers are skilled at collaborating with each other to diagnose and solve problems." The Cronbach's alpha was .94.

Perceived caring atmosphere. We used the 5-item scale for perceived caring atmosphere developed by Rice (2006). An example item is, "There is free and open communication in my organization." The Cronbach's alpha was .82.

Proactive personality. We adopted the 10-item proactive personality scale, which was developed by Bateman and Crant (1993) and later used by Brown, Cober, Kane, Levy, and Shalhoop (2006). An example item is, "If I see something I don't like, I fix it." The Cronbach's alpha was .94.

IV. RESULTS

Table 1 Means, standard deviations, and correlations among variables

	Mean	s.d.	1	2	3	4
Employee creativity	4.83	.99	1			
Human capital	4.75	1.06	.37***	1		
Social capital	4.85	1.14	.37***	.81***	1	
Perceived caring atmosphere	4.99	1.01	.62***	.65***	.70***	1
Proactive personality	4.72	1.01	.73***	.63***	.50***	.64***

Note: *p < 0.1 **p < 0.05 ***p < 0.01

Table 1 reports the descriptive statistics and correlation coefficients among all variables. H1 predicts that a perceived caring atmosphere moderates the relationships between human capital and employee creativity. Specifically, we hypothesized an antagonistic moderating effect. We conducted regression analyses to test this hypothesis, entering human capital (as an independent variable) and social capital (as a control variable) into an equation with creativity as the dependent variable in the first hierarchical step; in the second step, a two-way product term was entered (i.e., human capital x perceived caring atmosphere). Support for H1 would require that the two-way product term in the second step is statistically significant.

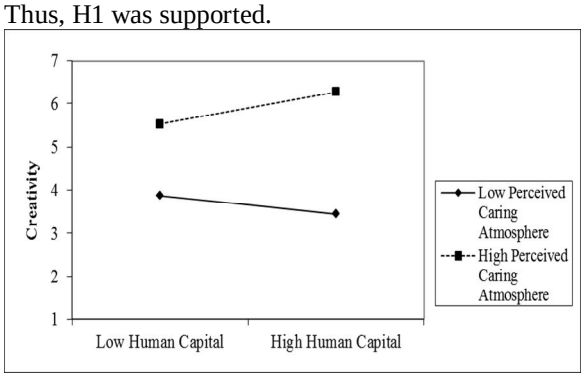
Table 2 Results of regression analyses: Effect of human capital, perceived caring atmosphere, and their interaction

	Employee creativity	
Variable	Model 1	Model 2
Control		
Social capital	-.058	-.054
Main effect		
Human capital	.059	-.299

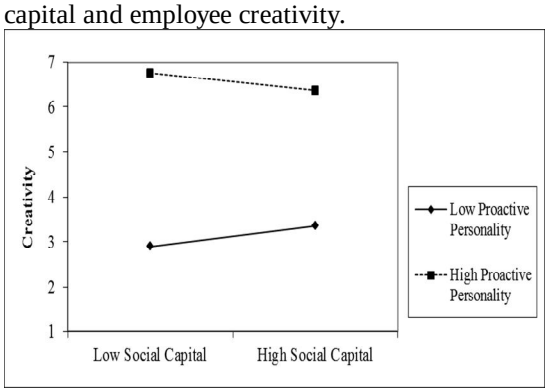
Perceived caring atmosphere	.541***	.255
Two-way interaction		
Human capital x perceived caring atmosphere		.589**
ΔR2		.007**
Overall R2	.292	.299
Adjusted R2	.286	.292
Overall F value	52.235***	40.503***

Note: standardized beta coefficients are reported. *p < 0.1 **p < 0.05 ***p < 0.01

Table 2 summarizes the results of the regression analysis. In support of the moderating effect in H1, the result showed that the statistic associated with the two-way product term was statistically significant (β = .06, p <.05). Figure 1(a) is a graphic representation of this moderating effect. By following the procedure suggested by Cohen, Cohen, West, and Aiken (2003), we graphically represented this two-way antagonistic moderation. As shown in Figure 1(a), a positive relationship between human capital and employee creativity was observed when the perceived caring atmosphere was high, while a negative relationship between human capital and employee creativity was found when the perceived caring atmosphere was low. Thus, H1 was supported.



(a) The moderating effects of a perceived caring atmosphere on the relationships between human capital and employee creativity.



(b) The moderating effects of proactive personality on the relationships between social capital and employee creativity.

Figure 1. Moderating effects on the relationship between human/social capital and employee creativity.

H2 tests whether a proactive personality moderates the relationship between social capital and employee creativity as the antagonistic moderating effect was hypothesized. We conducted a moderation regression analysis to examine this hypothesis, entering social capital (as an independent variable) and human capital (as a control variable) into an equation with creativity as the dependent variable in the first step of the hierarchical regression; in the second step, a two-way product term was entered (i.e., social capital x proactive personality). Support for the moderating effect in H2 would require that the two-way product term in the second step is statistically significant.

Table 3 Results of regression analyses: Effect of social capital, proactive personality, and their interaction

	Employee creativity	
Variable	Model 1	Model 2
Control		
Human capital	-.065	-.049
Main effect		
Social capital	.019	.237
Proactive personality	.797***	.999***
Two-way interaction		
Social capital x proactive personality		.382*
ΔR2		.004*
Overall R2	.598	.602
Adjusted R2	.595	.598
Overall F value	188.562***	143.342***

Note: standardized beta coefficients are reported. *p < 0.1 **p < 0.05 ***p < 0.01

As Table 3 shows, the statistic associated with the two-way product term of social capital and proactive personality, although not statistically significant at the conventional .05 level, was just marginally higher (β =-.04, p =.056). We consider it as marginally significant. To graphically represent the results allows us to examine whether this moderation has an antagonistic effect. Following a similar procedure as that used to create Figure 1(a), Figure 1(b) plots the relationships between social capital and creativity at a high or low level of proactive personality. A positive relationship between social capital and employee creativity was observed when proactive personality was low, while a negative relationship between social capital and employee creativity was observed when proactive personality was high. Thus, H2 was marginally supported.

V. DISCUSSION

In the present study, we are interested in what situations the knowledge residing in coworkers' minds (human capital) or in coworkers' social networks (social knowledge) would flow out and

become accessible resources for facilitating employee creativity. This inquiry contributes to the literature by providing a nuanced understanding of how employees with high social or human capital create synergistic effects with others within an organization in facilitating creativity. Drawing on the situational strength perspective, we hypothesize that the perceived caring atmosphere and proactive personality moderate the relationship between human/social capital and employee creativity. The theoretical and practical implications of our results follow.

Theoretical implications

Our results extend the current understanding of the relationship between human/social capital and organizational innovation in four ways.

First, our work goes beyond the organizational level of analysis (e.g., Subramaniam & Youndt, 2005) which suggests that human/social capital has positive effects on organizational innovation. We specifically consider such a phenomenon at the individual level of analysis. In particular, we consider in what situations the human and social capital of the coworkers can flow out as accessible resources for other employees in facilitating creativity. Our paper is an initial attempt to understand the microfoundation of such a macro theory. Our intention resonates well with other recent studies that also explore the microfoundation of a macro theory such as competitive advantage (Ployhart & Hale, 2014) and legitimacy (Bitektine & Haack, 2015), to name just two. Such a microfoundation is important as it gives us "a richer understanding of how individuals locate themselves in social relations and interpret their context" (Powell & Colyvas, 2008, pp. 276-277). Our work attempts to give the relationship between human/social capital and organizational innovation a micro and individual level of explanation. Specifically, we focus on the human/social capital of the coworkers to create synergistic effects in facilitating creativity.

Second, our theorizing and results show that the relationships between human/social capital of coworkers and employee creativity are more diverse than typically described at the organizational level of analysis. Our results suggest that antagonistic effects, rather than positive effects, are likely. Our central tenet is that knowledge and skills residing either in an individual's mind (human capital) or in an individual's network (social capital) are neutral and may produce positive or negative consequences depending on the situation (e.g., a perceived caring atmosphere or proactive personality) and their strengths.

Third, we theorize and test one important situational factor: the perceived caring atmosphere. Drawing on social exchange theory (Blau, 1964), we consider that building a caring atmosphere activates and reinforces a norm of reciprocity and thus shapes a strong situation to enact sharing and exchanges of knowledge. As shown in Figure 1, the results suggest that a perceived caring atmosphere moderates the relationship between human capital and employee creativity. Moreover, the relationship between human capital and employee creativity is positive when the perceived caring atmosphere is high, and negative when the perceived caring atmosphere is low. Such results highlight the need to build a caring and positive atmosphere and thus a strong situation to create the enactment of sharing.

Fourth, we also identify another important theoretical construct, proactive personality, in shaping the relationships between social capital and employee creativity. Drawing on the literature on proactive personality, we identify the affinities between proactive personality and situational strength. Our results suggest that proactive personality has positive effects on employee creativity as those high in proactive personality generally show higher ratings in employee creativity than those low in proactive personality do. However, individuals high in proactive personality show some degree of difficulty in accessing knowledge and skills from coworkers high in social capital. Our results are consistent with the literature which suggests that individuals high in proactive personality often seek to "get ahead" rather than "get along" (Fuller & Marler, 2009).

Managerial implications

Our results in the present study also have important managerial implications. First, our results suggest that the human and social capital of coworkers do not guarantee positive effects on employee creativity within an organization per se. To create synergistic effects of having coworkers high in human capital, managers need to foster a caring atmosphere. A caring atmosphere has the potential to encourage enacting sharing and exchange of knowledge and thus could facilitate positive relationships between the human capital of the coworkers and employee creativity. Second, our results show that not everyone is attentive enough to utilize the social capital of their coworkers. Managers must pay particular attention to employees' proactive personality. Those employees who are high in proactive personality may have difficulty cooperating with coworkers who are high in social capital.

Limitations and future research

Although we believe that our study makes some contributions to the field, it is not without its limitations. First, all variables were collected via a single survey in a single organization. This raises concerns of common method variance. We conducted Harmon's single-factor test (Podsakoff, MacKenzie, Lee & Podsakoff, 2003) and the results suggest that there is neither one single factor nor a general factor that explains the majority of the variance. Moreover, we followed Podsakoff et al.'s recommendations for

reducing common method variance through non-statistical approaches (protecting respondents' anonymity and improving scale items). Nevertheless, further research may incorporate other methodological approaches, such as collecting data from different sources. Second, our research design is cross-sectional so it precludes us from determining the direction of causality. Future researchers may enact a longitudinal research design to make more solid inferences on this issue.

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