



Predicting transactive memory system in multidisciplinary teams: The interplay between team and professional identities



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ABSTRACT

In explaining how communication quality predicts TMS in multidisciplinary teams, we drew on the social identity approach to investigate the mediating role of team identification and the moderating role of professional identification. Recognizing that professional identification could trigger intergroup biases among professional subgroups, or alternatively, could bring resources to the team, we explored the potential moderating role of professional identification in the relationship between team identification and TMS. Using data collected from 882 healthcare personnel working in 126 multidisciplinary hospital teams, results supported our hypothesis that perceived communication quality predicted TMS through team identification. Furthermore, findings provided support for a resource view of professional subgroup identities with results indicating that high levels of professional identification compensated for low levels of team identification in predicting TMS. We provide recommendations on how social identities may be used to promote TMS in multidisciplinary teams.

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1. Introduction

In response to demands for complex work requiring the contribution and integration of a diverse range of professional knowledge and skill sets, multidisciplinary (or cross-functional) teams have become common work design features in today's organizations. Multidisciplinary teams require inter-professional collaboration and the distribution of workload according to areas of expertise. In this respect, ensuring a well-developed transactive memory system (TMS) is especially critical in these teams (Faraj & Yan, 2009; Jarvenpaa & Majchrzak, 2008; Kotlarsky, van den Hooff, & Houtman, 2012). A TMS is defined as the shared division of cognitive labor for encoding, storing, and retrieving information based on a collective awareness of where specialized knowledge resides in the team (Lewis & Herndon, 2011). Whereas the positive effects of TMS have been well-documented in the literature, such as improved team learning (e.g., Lewis, Lange, & Gillis, 2005; Rau, 2006) and team performance (e.g., Chiang, Shih, & Hsu, 2014; Zhang, Hempel, Han, & Tjosvold, 2007), there is notably less research on the antecedents of TMS (see Ren & Argote, 2011).

Ren and Argote's (2011) empirical review of the literature highlighted that although there is considerable support for the role of communication in predicting TMS, the processes through which team members are motivated to build a well-developed TMS are not well understood. They argued that social identification processes may be one potential factor in motivating TMS building because members who identify with their team are more likely to rely on each other for expertise coordination, and share knowledge with each other (see also Haslam, 2001; Liao, Jimmieson, O'Brien, & Restubog, 2012). In accord with this argument, we draw upon social identity/self-categorization theories (Tajfel, 1978; Tajfel & Turner, 1979; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987) to build on prior work showing the predictive role of communication on TMS.³

Multidisciplinary teams are, by definition, composed of people with distinctive professional skills, background, knowledge, and expertise who come together to work on collective tasks. Thus, in such a context, there are *two social identities* that are salient and important in understanding how team members can leverage each other's expertise: a shared (common or superordinate) team identity and an unshared (distinctive or subgroup) professional identity. Because important

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³ Throughout this paper, we conceptualize and measure the TMS construct consistent with Lewis' (2003) definition and measurement of TMS (see also Lewis & Herndon, 2011). Thus, we focus on predicting the extent to which TMS is present in the team (or levels of TMS) as indicated by knowledge specialization, knowledge coordination and knowledge credibility in the team.

aspects of the self are derived from memberships to social groups, the extent to which people identify and internalize group memberships can shape and influence coordinated group efforts (Tajfel & Turner, 1979; Turner, 1985). Team members' shared identity is important in understanding how team members perceive themselves and others as a team, and consequently, how they work together to achieve shared goals. Unshared professional identities also are critical in defining how individuals perceive their unique contributions, and also of how they respond to other team members' contributions.

We aim to investigate the interplay between team identification and professional identification in explaining the relationship between communication and TMS in multidisciplinary teams. We argue for the importance of considering both shared (team) and unshared (professional) identities. Existing research typically advocates the benefits of a shared team identity in promoting knowledge sharing (Kane, 2010; Kane, Argote, & Levine, 2005; Sethi, 2000). We propose that team identification is an important mediating mechanism explaining how communication predicts a well-developed TMS. In contrast, a more complex picture has been painted regarding professional identities. On the one hand, some researchers describe professional identification as a trigger for intergroup conflict and segregated silo-work (e.g., Hekman, Bigley, Steensma, & Hereford, 2009; Hekman, Steensma, Bigley, & Hereford, 2009). On the other hand, some researchers argue that subgroup identification can bring along subgroup identity resources into the work environment (e.g., Haslam, Eggin, & Reynolds, 2003; Peters, Haslam, Ryan, & Fonseca, 2012).

In this paper, we first provide a brief summary of TMS research that identifies the role of communication as an antecedent in predicting a well-developed TMS in multidisciplinary teams. Next, we draw attention to the importance of social identities in understanding team processes, and we propose that team identification (a shared common identity) mediates the positive relationship between perceived communication quality and TMS. We also explore how professional identities may interact with team identification to predict levels of TMS in two alternative ways. Professional identities can accentuate the distinctiveness and relational distance between professional groups, and this silo-working effect may act as a barrier to team identification building a TMS. Alternatively, professional identities can function as important resources for TMS because such identities emphasize one's unique professional knowledge, and also motivate identity-specific contributions to the work of the team. In this paper, we respond to calls (e.g., Haslam, 2001; Liao et al., 2012; Ren & Argote, 2011) to extend TMS research beyond a cognitive-based group information-processing framework (which focuses on the cognitive processes involved in encoding, storing, and retrieving information; Wegner, 1995), and consider the interplay of social identification processes in predicting the level of TMS present in a team.

2. The role of communication in predicting TMS

Communication is an important predictor of TMS (Ren & Argote, 2011). For example, TMS has been shown to be predicted by the number of messages posted on a webpage and the number of emails among team members (Yoo & Kanawattanachai, 2001), the proportion of actual communication compared to the total possible amount of communication (Palazzolo, Serb, She, Su, & Contractor, 2006), and frequent face-to-face communication (Lewis, 2004). Communication has been viewed as the initial building blocks of a TMS structure (Pearsall, Ellis, & Bell, 2010), and TMS processes also have been argued to occur in the communication and interactions among team members (Hollingshead & Brandon, 2003; Liao et al., 2012).

In multidisciplinary teams, the quality of communication experienced by team members is especially important for overcoming the challenges associated with cutting across professional knowledge boundaries. Multidisciplinary teams face challenges associated with disciplinary differences in syntactic (language) knowledge and pragmatic

(procedural) knowledge, which Kotlarsky et al. (2012) showed negatively predicted TMS. However, they found that interactions aimed at reducing differences in practice-based knowledge dissemination promoted knowledge coordination in multidisciplinary healthcare research teams. Multidisciplinary teams also encounter potential discrepancies among team member goals, expectations, as well as tacit assumptions about each other's knowledge. Hence, communication that can clarify these discrepancies by establishing rules of conversation is critical to knowledge collaboration efforts among different professionals (Jarvenpaa & Majchrzak, 2008). At the same time, communication practices that are collaborative in nature and aimed at building a bridge between professional disciplines can reduce the need for lengthy conversations about knowledge differences (Majchrzak, More, & Faraj, 2012). In this way, high quality communication within teams (indicated by perceptions that communication involves meaningful and informative information-exchange, and positive relation-building experiences) should assist in forming a well-developed TMS. In the next sections, we examine the roles of team identification and professional identification in explaining how communication quality predicts TMS.

3. The role of social identities in predicting TMS

According to the social identity approach, social identities are definitions of the self based on group memberships that are cued by contextual factors (Tajfel & Turner, 1979; Turner, 1985). Social identities promote a sense of "one-ness" with the group because it is an extension of one's individual self to incorporate the social collective (Ashforth & Mael, 1989). Self-categorization theory (Turner, 1985; Turner et al., 1987) further asserts that depending on the salience of social identities, categorization of the self with a group influences how people define themselves, as well as determine the perception and behavior with those identified as belonging to the same group (in-group members) and those who do not (out-group members). When people identify strongly with a group, they internalize the group's goals as their own, and are motivated to behave in a way that is aligned with being a prototypical group member (Hogg & Hains, 1996). Richter, West, van Dick, and Dawson (2006) showed that social identities in the workplace can simultaneously occur to influence intergroup conflict and intergroup productivity. Our paper investigates the contributions of a shared and an unshared social identity in predicting a well-developed TMS in multidisciplinary teams.

A substantial body of research demonstrates the benefits of a shared identity for a group's performance and cohesiveness. For example, shared identities have been positively linked to meeting planned performance objectives (Sethi, 2000) and accepting and implementing knowledge (Kane, 2010; Kane et al., 2005). In a sample of multidisciplinary software developing teams, Faraj and Yan (2009) showed that the team's effort to create awareness of the boundaries among members to build a distinctive team identity (boundary reinforcement) predicted both psychological safety and team performance, especially when resources were scarce. Holding a shared team identity results in perceiving other team members as in-group members, as well as internalizing the team's goals as one's own personal goals. Consequently, team identification can motivate team members to engage in coordinated group efforts and actions (Ellemers, de Gilder, & Haslam, 2004). In a meta-analysis, Riketta and van Dick (2005) showed that workgroup identification predicted workgroup extra-role behavior, workgroup climate, and workgroup satisfaction.

3.1. Mediating role of team identification

Social identification mechanisms have been implicated in research investigating the sharing of knowledge resources in teams (e.g., Gao & Riley, 2010; Van der Veegt & Bunderson, 2005). Prior TMS research examining the role of team identity in TMS did so in the context of ruling out alternative explanations for the positive impact of TMS

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