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COMMENTARY

Transactive memory systems in virtual teams: Opportunities post COVID-19

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Though empirical data on the scope and severity of the effects that COVID-19 has and will have on various work-related processes are still nascent in many respects, the effects that the pandemic has had on accelerating or impeding current organizational trends is well enough understood for industrial-organizational (I-O) psychology to articulate challenges and offer guidance for opportunities. Organizational trends toward the use of higher levels of virtuality in workforce teams as well as the commensurate trend in the study of virtual teams in academic research are likely to be accelerated further by COVID-19 and the ongoing global pandemic it presents. In Rudolph et al. (2021), challenges and opportunities for organizations and researchers apropos of themes such as virtual team effectiveness, team member accountability, social exchange, and knowledge exchange are considered to various degrees.

The accelerated relevance of these themes as well as other related team processes of interest to I-O psychology provides an impetus to reiterate and evaluate the concept of transactive memory systems (TMS) in virtual teams. In this commentary, I have two goals. First, I would like to take preemptive action to quell concerns about TMS being regarded as too abstract, conceptual, and theory heavy in a time when resources should be spent on actionable, concrete, and agile responsiveness to shifting organizational trends. The second goal of this commentary is to propose how TMS is especially useful given the aforementioned relevant themes involving virtual teams.

Presently, I will briefly review TMS as a construct while tying relevant qualities of its conceptual development to COVID-19. Transactive memory (TM) theory, as defined by Peltokorpi (2008), holds two components: the internal knowledge of the individual and the external knowledge of what individuals collectively know about other members. Broadly speaking, a TMS is a construct of socially shared cognition that serves as the collective knowledge of a group. More specifically, TMS is a knowledge sharing construct that describes shared knowledge possessed by each member of a group formed by *directory updating* of team members' knowledge to a mental directory of expertise and unique information that is shared between individuals. This directory characterizes a shared awareness of who knows what within the group, whereas updating describes behaviors of knowledge sharing and seeking. Brandon and Hollingshead (2004) described TMS development as an outcome of three functions.

First, a perceived cognitive interdependence among group members is required for a TMS. The convenience in this first antecedent to TMS in virtual teams should not be lost on researchers and practitioners post COVID-19. As Rudolph et al. (2021) stated, organizations should and are likely to emphasize mutual support, higher levels of team spirit, the purpose and effectiveness of the teamwork for the organization, and other proactive ideas wherein a perceived cognitive interdependence among team members is likely to be a quality that will naturally occur in virtual teams. The second function to lead to a TMS in a team requires the acknowledgment of each team member's expertise in relation to the group. This second antecedent to a TMS seems optimal for virtual

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teams especially. As noted by Rudolph et al., one advantage virtual teams enjoy is expanded expertise across team members, whereby the selection of team members may be based on competencies instead of spatial copresence. Therefore, a more experientially heterogeneous team with more experts, made possible by advantages characteristic to virtual teams, will yield higher salience of each team member's expertise in relation to the group. Third and finally, a functioning TMS requires a shared mental model formation and ongoing development among team members.

In the preceding issue of this journal, the focal article from Highhouse et al. (2020) prompted SIOP member's general thoughts on I-O psychology journals and their relevance to practitioners. In their findings, a significant number of SIOP members expressed concerns with theory-heavy publications that seemed to have little relevance to practitioners. These findings are in line with concerns brought up by past researchers who lament that research that focuses on broader theoretical concepts is done at the expense of concrete empirical research that is applicable to problems that are faced by practitioners (Campbell & Wilmot, 2018). One could say that some theory-heavy areas of research in the field have the problem of not seeing the trees for the forest. Indeed, criticism that was cited in Rudolph et al. (2021) regarding the field of psychology as not being "crisis ready" is a possible manifestation of these concerns. Yet, although TMS research does have a considerable amount of theory and abstract concepts involved, it should not necessarily be counted as too theory heavy.

Beyond abundant empirical research on TMSs that suggests team performance benefits (Bachrach, et al., 2019; Lewis and Herndon, 2011), one can look to the parallels drawn by Wegner (1987) between the metacognitive aspects of a TMS and an individual's memory processes. Encoding, storage, retrieval of knowledge, and the use of external memory (i.e., other team members in the TMS or a sticky note in individual memory) are all present in both.

Should a theory of metacognition mimic the known aspects of cognition, this author would propose that theory be motivated by empiricism, using fewer conceptual leaps and encouraging pragmatic application.

Speaking of pragmatic application, themes brought up in Rudolph et al. (2021), such as virtual team effectiveness, can be addressed within a functioning TMS. As the construct of TMS is characterized by optimal knowledge exchange behaviors, its influence on group performance is broad and potent. Emich and Wright (2016) reported desirable performance outcomes attributed to transactive memory in the form of improved decision-making abilities of top management teams in the financial sector and effectiveness in new product development teams launching products internationally. Relevant to what I-O psychology should value as an applied science post COVID-19, researchers have also reported TMSs as integral to the success of emergency response teams within governmental agencies (Majchrzak et al., 2007).

Concerning themes of how to hold team members accountable and increase social exchange, the transactive dynamic between team members has been noted to hold team members accountable for knowledge that falls under their expertise or knowledge that was delegated as their responsibility (Lewis and Herndon, 2011). The constant reciprocal aspects present in the transactive knowledge-sharing and knowledge-seeking behaviors in teams described within a TMS can serve as a powerful loop of reciprocity. Consequently, pressures among team members to hold themselves and each other accountable become normative. The constant reciprocal aspects present in TMSs may also ameliorate territorial motives of an individual's feeling that any discrete piece of knowledge is theirs due to, among other things, concepts described within social exchange theory.

The accelerated use of virtual teams in organizations requires the field of I-O psychology to accelerate a response that encourages theoretically sound and data-driven organizational policies and practices. TMS theory is a promising candidate for further research by which organizations can adopt to rise to shifting trends in response to COVID-19. Furthermore, through the transactive dynamics involved, TMSs can enrich the experiences of workers by facilitating more responsible team work and improve virtual social exchange.

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References

Bachrach, D. G., Lewis, K., Kim, Y., Patel, P. C., Campion, M. C., & Thatcher, S. (2019). Transactive memory systems in context: A meta-analytic examination of contextual factors in transactive memory systems development and team performance. *Journal of Applied Psychology*, **104**(3), 464–493.

Brandon, D. P., & Hollingshead, A. B. (2004). Transactive memory systems in organizations: Matching tasks, expertise, and people. *Organization science*, **15**(6), 633–644.

Campbell, J. P., & Wilmot, M. P. (2018). The functioning of theory in industrial, work, and organizational psychology (IWOP). In D. S. Ones, N. Anderson, & C. Viswesvaran (Eds.), *The sage handbook of industrial, work and organizational psychology* (pp. 3–37). Sage Publishing.

Emich, K. J., & Wright, T. A. (2016). The "I"s in team. *Organizational Dynamics*, **1**(45), 2–10.

Highhouse, S., Zickar, M. J., & Melick, S. R. (2020). Prestige and relevance of the scholarly journals: Impressions of SIOP members. *Industrial and Organizational Psychology*, **13**(3), 273–290.

Lewis, K., & Herndon, B. (2011). Transactive memory systems: Current issues and future research directions. *Organization Science*, **22**(5), 1254–1265.

Majchrzak, A., Jarvenpaa, S. L., & Hollingshead, A. B. (2007). Coordinating expertise among emergent groups responding to disasters. *Organization Science*, **18**(1), 147–161.

Peltokorpi, V. (2008). Transactive memory systems. *Review of General Psychology*, **12**(4), 378–394.

Rudolph, C. W., Allan, B., Clark, M., Hertel, G., Hirschi, A., Kunze, F., Shockley, K., Shoss, M., Sonnentag, S., & Zacher, H. (2021). Pandemics: Implications for research and practice in industrial and organizational psychology. *Industrial and Organizational Psychology Perspectives on Science and Practice*, **14**(1), 1–35.

Wegner, D. M. (1987). Transactive memory: A contemporary analysis of the group mind. In B. Mullen & G. R. Goethals (Eds.), *Theories of group behavior* (pp. 185–208). Springer.

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