



COMMENTARY

Beyond individuals' use of information and communication technologies (ICTs): A multilevel approach in research on ICTs

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Hu et al. (2021), in their focal article, discussed the past, current, and future of research on information and communication technologies (ICTs) in industrial-organizational (I-O) psychology and related research fields. Although Hu et al. mentioned that they “categorize current themes of ICT research [. . .] at the individual level of analysis” (p. 371), they did not provide an explanation for why they focused their review on only individual-level studies. Despite extensive research on how ICTs influence employee attitudes and behaviors (e.g., Gajendran & Harrison, 2007), significantly less attention has been paid to the effects of ICT use on collective outcomes. Nevertheless, ICT-related policies and practices are applied to a whole team or firm; therefore, their effects on team- or firm-level outcomes is worthy of further examination. Given that the current COVID-19 pandemic has forced most organizations to implement telecommuting (Gallup, 2020), we take telecommuting, one of the ICTs discussed in Hu et al., as an example to illustrate the importance of multilevel thinking in ICT research.

Much of the current research on telecommuting's effects in organizational settings has focused on individual-level consequences. A meta-analytic study conducted by Gajendran and Harrison (2007) shows the benefits of telecommuting at the individual level, such as increased job performance and satisfaction, and decreased work–family conflicts and work role stress. However, telecommuting is also a collective phenomenon, and its multilevel effects have been neglected. This oversight is unfortunate because the positive individual performance and well-being associated with telecommuting (an individual choice) neither guarantee positive collective outcomes nor reveal much about the actual implementation of telecommuting at the collective level. Telecommuting is also often treated as a simple, dichotomous variable (i.e., used by an individual/team/organization or not), which may overlook the critical differences in telecommuting policies and practices across teams/organizations.

We believe that team theory and strategic human resource (HR) research can help take current telecommuting research, which mostly resides at the individual level, to higher levels. For example, from a team perspective, team members are dependent on each other in completing their tasks and other team members influence their perceptions, behaviors, and experiences. Telecommuting (e.g., lack of some team members' physical presence at work) affects communication and cooperation among team members (as discussed later), which in turn affect team outcomes (e.g., Mathieu et al., 2017). From a strategic HR perspective, organizations must consider whether and how to implement telecommuting policies after the pandemic. However, not knowing how telecommuting influences collective outcomes, organizational decision makers will have difficulty designing and implementing appropriate (evidence-based) telecommuting policies and related practices.

In the following paragraphs, we discuss the prospects and promises of a broad-based and multilevel approach to studying telecommuting. At the team level, if many team members use telecommuting once a week, then the team will have little to no task and relational conflicts related to telecommuting. When most team members telecommute at a similar intensity, they are likely to have a better understanding of each other's situations and be more tolerant of other members' absence at work. However, in a similar scenario wherein a small portion of the team members uses telecommuting 3 days a week, commuting team members are likely to perceive such telecommuting team members' long physical absence as reflecting a severe lack of motivation and commitment to work, or even preferential treatment. This may also result in frequent relational conflicts. Comparing these two scenarios, the former team will obviously outperform the latter team at least due to less frequent relational conflicts and higher levels of mutual understanding. Moreover, these scenarios illustrate differences in telecommuting at the individual and team levels: Whereas telecommuting at the individual level is mostly an intrapersonal variable that influences individual-level perceptions and outcomes, telecommuting at the team level is an interpersonal variable that can influence team-level processes and outcomes.

Additionally, telecommuting is more than a simple dichotomy (e.g., used by an individual or not). It can also be considered with respect to various forms (i.e., composition and compilation) and degrees, such as prevalence (e.g., Golden, 2007) and intensity (e.g., Golden & Veiga, 2005). It is worthwhile to examine both team-level mean and variance in how many team members use telecommuting and how many days each team member uses it in a given period in relation to team processes and outcomes. For example, we believe telecommuting intensity differentiation, defined as the unequal intensity of telework among team members within a team, is likely to influence team processes and outcomes. Specifically, when team telecommuting intensity differentiation is high (vs. low), cooperation and social bonding between team members are likely to be low (vs. high) due to a lack of close interactions and in-depth communications. Moreover, the negative effect of team telecommuting intensity differentiation on team performance is likely to be aggravated when team task interdependence is high (vs. low). This is because members of a team with high (vs. low) task interdependence "rely on and interact frequently with their coworkers to coordinate efforts toward achieving common work goals" (Chong et al., 2020, p. 1410) and high (vs. low) differentiation in the intensity of team telecommuting will likely make such interaction and coordination more difficult.

At the organizational level, telecommuting as part of an HR system can lead to different outcomes depending on how employees understand its motive/purpose. For example, some organizations may favor telecommuting because it can help reduce various costs for the organization, whereas some may adopt it to help enhance employee well-being and reduce work-family conflicts. Others may also implement telecommuting to comply with union contracts or government regulations (current cases due to COVID-19). When employees attribute their organization's HR practices to employee-oriented (vs. employer-oriented), internal (vs. external) motives (i.e., enhanced employee well-being and performance vs. cost reduction or union compliance), they are likely to help each other more and serve their customers better, thus contributing more to their team and organization (Nishi et al., 2008). Thus, organizations' decision makers should help employees form positive attributions about their telecommuting practice and other HR practices through better communications, which can reduce uncertainty for employees and facilitate a better understanding and internalization of various HR practices (Nishii & Paluch, 2018). We believe this line of organization-level telecommuting research merits more attention from strategic HR scholars.

In summary, as illustrated above, a multilevel approach to studying telecommuting based on team theory and strategic HR research can introduce theoretically important nuance that is otherwise unavailable from current individual-level research on telecommuting. Furthermore, these insights may enable organizational decision makers to leverage the collective benefits of telecommuting more effectively and efficiently. We believe the aforementioned multilevel approach

also “balance[s] the need and desire for new ICT concepts with the potential danger of construction proliferation” (Hu et al., 2021, p. 4) while promoting greater integration of micro and macro I-O/HR research (Wright & Boswell, 2002).

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