

Forum

Interdisciplinary Problem Solving, Where Do We Go From Here? A Commentary on Kim (2020)

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Many of the pressing problems humankind face, ranging from climate change to epidemic diseases, raised the need to integrate knowledge to create innovative solutions (Craven et al., 2019; Keynejad et al., 2021; Mol & Hardon, 2020). Indeed, the survival of humanity against the pressing challenges necessitates interdisciplinary collaboration. The question is *how* to achieve interdisciplinary collaboration. Kim (2020) attempts to answer this question by advocating for composing a community and developing the process of community problem solving based on effective interdependence among science, humanism, and art. In this commentary, my aim is first to critically reflect on key claims advanced in the article, then to discuss future directions for research on interdisciplinary problem solving.

To begin, of the novel ideas and paradigmatic views Kim (2020) discusses, I would like to note three here: (a) theoretical explication of the critical constructs, (b) illustration of the behavioral processes that enable and enrich the community, and (c) discussion on the critical values of community problem solving. First, Kim offers a theoretical explication of several critical constructs. The article begins by contrasting *behavioral problems* with *situational problems*. Both types of problems can be understood as a discrepancy between a desired and an actual state of affairs that requires action (Kepner & Tregoe, 1965; Newell & Simon 1972). What distinguishes the two is universality and situational specificity. Behavioral problems are the ones that involve universal procedures to develop a problem-solving agency with effective capability while situational problems are the ones that threaten humanity at a time and place. Kim argues, then, it is by solving behavioral problems that we can solve situational problems.

Another important theoretical construct Kim (2020) discusses is *community*. Community is not a fixed unit; rather, it is an evolving entity that begins to emerge when multiple individuals start to pay attention

to a particular issue. In this sense, community building is a persisting matter that requires “*ever-renewing* engagement” of its members (Kim, 2020, p. 36, emphasis in original). Drawn from theoretical explications of these important constructs, the author’s main purpose in the paper is to explicate “interdisciplinarity” or “the process of community problem solving” (p. 22). Kim highlights that interdisciplinarity across science, humanism, and art should be about removing gaps among these disciplines not only to integrate existing knowledge but also to bring out new ideas. It is through the process of composing an interdisciplinary community and collective problem solving that innovative solutions to situational problems are realized.

Theoretical explication of interdisciplinarity is directly related to the second original idea of Kim (2020) that I would like to note here. In the article, Kim emphasizes that “interdisciplinary is and ought to be the *developing* process of community problem solving” (p. 22, emphasis in original). Community problem solving, according to Kim, consists of two behavioral processes: co-minding and co-moving. Co-minding is a process of making a community possible and capable, which is realized through a series of collective act that starts from co-exposing and then accompanies by co-focusing, co-cognizing, co-remembering, co-questioning, and co-imagining. Co-minding instructs co-moving, which is a process of bringing about collective capability to work together to solve a collective situational problem. Throughout the paper, Kim stresses that community “has *no corporeal* body but comes to realization *only* in the collective behavioral process” (p. 37, emphasis in original).

Third, Kim’s (2020) account on the critical value of interdisciplinary problem solving deserves attention. Of course, the basic importance of interdisciplinarity among science, humanism, and art resides in the need to solve situational problems that immediately threaten

our bodies. An additional, but potentially even more important benefit of enhancing interdisciplinary capability, or solving the behavioral problem of community, is that behavioral (processual) capability that works for one situational problem can help solve other situational problems. Kim explains that acts of co-minding and co-moving establish “behavioral architecture” (p. 31), or community’s composing steps, which could solve behavioral problems of community. Solving behavioral problems of the community, for example, by building social capital or promoting effective communication, renders effective interdependence among science, humanism, and art. Realization of behavior architecture is thus critical part of interdisciplinary problem solving because it develops repertoire of solutions to different situational problems.

Having provided a review of novel ideas Kim discusses, in the following, I turn to identify potential future research directions and offer some suggestions to this end. First, a critical appraisal of theoretical validity of Kim’s paradigmatic explication of community problem solving is needed. Kim’s paradigmatic explication is built upon Carter’s (2015) work on behavioral foundations of effective problem solving as well as the author’s own previous publications (e.g., Kim, 2003, 2012). Although accumulated research in this area certainly provides theoretical bases for Kim’s paradigmatic explication, little scholarly effort has been made to *test* its theoretical validity. Future studies may challenge some of the claims Kim proposes by raising questions like “Is there any condition that solving situational problems may precede solving behavioral problems?” or “Does interdisciplinarity always help to community problem solving, and if not, what are the potential disadvantages of interdisciplinary problems solving?”

Next, future research should seek to contextualize the discussion on interdisciplinarity

within the bigger picture. Indeed, there are some very promising possibilities to relate theoretical constructs addressed in the paper with existing empirical concepts and more generally, empirical approaches to study social phenomena. Before offering specific examples that may connect Kim' accounts with existing concepts and theories, I would like to clarify that my goal here is not to negate the value of distinguishing theoretical constructs from empirical concepts. Rather, my intention is to seek ways to utilize a paradigmatic explication to advance empirical research and enrich scholarly discussion.

For example, the concept of community Kim theorizes bears a resemblance to Grunig's (1997) explanation on "active publics" in the situational theory of publics. Grunig argues that publics come into existence when individuals communicate about specific situations (i.e., problems) produced by organizational behaviors. Drawn from this idea, previous studies on the situational theory of publics demonstrated that actively communicating publics tend to develop cognitions, attitudes, and behaviors related to the organization, trying to do something about the problem at hand (e.g., Grunig, 1982, 1989). Such findings are precisely what we can refer to as we seek to *test* what Kim theorized about community building and community problem solving.

In providing another example that can make use of the critical constructs discussed by Kim, I would like to focus on the idea of collective capability. Practically, an interesting question regarding collective capability could be: What motivates people to work together to solve a collective situational problem? One empirical concept that has long been explained as predicting individuals' intention to participate in collective problem solving process is collective efficacy, or confidence in collective power to achieve desired outcome (Bandura, 2000; Stajkovic et al., 2009). Although Kim's main focus in the paper is distinguishing theoretical

constructs from empirical concepts, I argue that there is value in complementing the two. For a more complete understanding of the picture, research efforts should not only be grounded in understanding theoretical constructs but also be able to *test* the relationships among the key empirical concepts. Future work should weave together theoretical constructs and empirical concepts to better analyze complex phenomena and to offer a blueprint for potential phenomena.

Moreover, in future studies, researchers should be more attentive to the role of communication in community problem solving process. Kim certainly emphasizes the importance of communication in community problem solving, explaining that "[c]ommunication has to be more than *connection*," and "the act of communicating among members should be effectively timed" (p. 36, emphasis in original). Yet, the paper lacks specific directions for integrating communication research into interdisciplinary problem solving efforts. Future studies should explore how concepts and theories advanced by communication scholars offer insights into developing our collective capability for problem solving.

Previous research on communal coping is a good example that offers how communication can contribute to collective problem solving. Communal coping is a communicative process of constructing shared meaning of the stressor and collaborating to manage it together (Afifi et al., 2020; Lyons et al., 1998). Although coping against stress was originally understood as an individual process (e.g., Lazarus, 1985), communal coping framework has highlighted that communication, as a social process, may lead people to appraise the stressor and responsibility for it as both shared among group members (Afifi et al., 2020; Lyons et al., 1998). Especially given that communal coping can alleviate emotional distress, increase collective capability, and foster a feeling of unity (Afifi et al., 2020; Richardson & Maninger,

2016), it would be invaluable to understand how exactly communication leads to communal coping against dire problems that challenge us.

For another instance, communication infrastructure theory (CIT; Kim & Ball-Rokeach, 2006) also offers insights into how communication promotes effective community problem solving process. Communication infrastructure refers to a communication opportunity structure that can promote local storytelling and thus, build community. CIT attempts to understand how a community's communication infrastructures and residents' access to them shape residents' civic engagement (Kim & Ball-Rokeach, 2006). One way to solve the behavioral problem of community could be to invest in local communities whose members face the same situational problem. Specifically, the process of co-minding and co-moving could be facilitated by enabling more communication opportunities and more functional communication within the community.

In conclusion, Kim's article offers a theoretical base for interdisciplinary collaboration across science, humanism, and art. Kim explains that different disciplines can contribute to innovative problem solving processes by providing basic respective functions: Science defining problem, humanism offering problem relevance, and art composing solutions. A new paradigmatic explication of community problem solving is promising especially given that it has a potential to enable fruitful scholarly conversation about community, collective capability, and interdisciplinarity, with other research programs that have addressed similar ideas. Communication theories and research are well positioned to move this program of research forward considering the communication field's attention to ideas that resonate with interdisciplinary problem solving, such as social processes and civic engagement. It is my hope that future research directions discussed in this commentary work to revisit the significance

of Kim's argument and invite both conceptual and empirical future research concerning interdisciplinary problem solving.

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