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# Editorial: Complexity-based approaches in health communication

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## Editorial on the Research Topic Complexity-based approaches in health communication

There have been growing calls to embrace complexity thinking as an alternative way of conceptualizing in the social sciences and to explore its implications for professional practice in areas such as healthcare and education. While the call is widespread, it is important to note that the term complexity has been defined in multiple ways and has evolved over time in its application to theory, research and practice. In healthcare, for example, [Sturmberg et al. \(2014\)](#) suggest that there have been four phases of development over the past several decades. [Long et al. \(2018\)](#) more succinctly suggest there are two broad approaches: “classical,” which is associated with a more positivist epistemology, and “social complexity” which they claim has an unclear epistemology. While the meta-theoretical aspects of the approaches are important, that is for another discussion. What is key for the present purpose is to recognize that the term complexity is difficult to grasp because it has been used in varying ways both in healthcare and beyond. Thus, it is important to clarify how it is being defined in a given context and what the implications might be when recommending policy, procedures, and practices.

The calls for more complexity-driven research far exceed the number of studies that actually engage complexity thinking, especially in communication. While communication is often labeled a process, most existing social science research has treated it as simple linear cause and effect action. Conceptualizations that fail to capture the complex, multifaceted process nature of communication severely limit the usefulness of the research ([Lang, 2013](#); [Sherry, 2015](#); [Greenhalgh and Papoutsis, 2018](#); [Jorm et al., 2021](#)). This was highlighted at a [European Center for Disease Control \(2010\)](#) meeting convened in 2010 to establish an agenda for health communication research in the EU. In the final report of the meeting, the need for “communication complex” approaches was explicitly acknowledged. Despite such calls, studies of communication embracing complexity in any of its definitions have been slow to appear. The present collection of articles is intended to respond to the call for research that engages complexity rather than simply call for it.

The articles in this issue cover a range of topics, including first responders and autism ([Rascon](#)), intercultural engagement ([Fisher-Yoshida](#)), moral injury and veterans ([Buechner](#)), mental health support for refugees ([Parrish-Sprowl et al.](#)), hospital design and stress ([Lamb](#)), and vaccine mandates ([Attwell et al.](#)). Variation in the authors’ complexity perspectives serves as a reminder that complexity is still a variably defined term, and myriad approaches can serve to advance more complex thinking about communication, especially as it relates to health and healthcare. Three of the articles take a complexity approach that varies from the others to some degree. [Buechner](#) highlights the critical nature and complexity of moral injury in military personnel and veterans. [Fisher-Yoshida](#), in first-person perspective, highlights the challenges of

intercultural engagement. Attwell et al. take on the problematic aspects of vaccine mandates, highlighting the complexity of the issues involved.

Three studies situate their research within the metatheoretical framework known as Communication Complex (CC). Informed by quantum theory, neuroscience, and social constructionism, the CC perspective conceptualizes communication as a bioactive and systemic process. It recognizes the reflexive and non-linear nature of all connections, broadening the possibilities for interventions to improve health. The articles by Lamb, Parrish-Sprowl et al., and Rascon are significant because they demonstrate diverse applications of this quantum complexity theoretical framework that moves beyond a traditional foundationalist social science approach. When Lamb explores the implications of the non-verbal aspects of architecture and design in hospitals on the health of patients, we can see bioactive and systemic properties of communication in action. Rascon presents research on a CC-informed training of first responders to aid in their ability to assist those labeled Autistic in emergency situations. She demonstrates how understanding the bioactive process of communication can make a difference at key moments. Finally, Parrish-Sprowl et al. describe the use of a CC process to address mental health and psychosocial support (MHPSS) needs in a primary healthcare clinic serving refugees in Jordan. Rather than create an add-on program, the intervention focused on transforming routine interactions as well as the clinic environment (similar to Lamb's research) to support the mental health of the patients, as well as those who serve them. As the recent pandemic has highlighted, protecting staff from stress and burnout is as important as the care given to patients.

As noted above, a quantum complexity perspective places the focus on connections rather than objects. Physicist Carlo Rovelli notes that reality is not “things” but rather “connections” and it is in these connections that everything in the universe is created, including humans (Rovelli, 2021). This places communication as a key locus of reality creation. Social constructionists have long argued this without referencing quantum, but adding the science both supports the perspective and extends it beyond just social reality to include ALL reality. This is evidenced by the growing body of neuroscience that recognizes the key role communication plays in brain functioning, epigenetics, and nervous system processes (Hasson et al., 2012; Cozolino, 2020; Siegel, 2020). Research

illuminating the role our microbiome plays in various aspects of communication also speaks to the interconnection of everything. It provides additional evidence of the importance of quantum thinking for gleaning insight into communication and all that goes on in the process.

While health communication scholars often invoke the phrase “communication is a process,” their research rarely reflects a substantive understanding of process from a complexity perspective. David Berlo, who first called communication a process in 1960, later noted that he did not understand the implications of this claim and that it is more complex that we often treat it (Berlo, 1977). Almost 30 years later, Pearce noted that “communication is more complex than we thought” (Pearce, 1989, p 60). Now, 30 years later, we have greater theoretical and scientific insight into complexity. It is time for health communication scholars to more fully engage complexity thinking, and we would argue *quantum* complexity thinking, to inform theory and research in our efforts to improve health and healthcare.

## Author contributions

JP-S provided the preliminary draft. SP-S and LZ edited and made subsequent contributions. The final product represents the collective effort of these three authors. All authors contributed to the article and approved the submitted version.

## Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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