Special Issue: Hidden Gems in Communication Studies

"The Emerging Frontier of Interpersonal Communication and Neuroscience: Scanning the Social Synapse" is a Gem Hiding in Plain Sight

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"The emerging frontier of interpersonal communication and neuroscience: Scanning the social synapse" (Wilcox et al., 2020) is a gem hiding in plain sight. The ideas put forth in this article could serve to illuminate the constructs formerly relegated to the "black box" as scholars theorized about interpersonal communication processes and outcomes. Although this article was recently published in 2020, its intuitively appealing ideas about the initial move to a transdisciplinary area of interpersonal neuroscience have not received the attention that they deserve. In fact, to date, there have been only seven citations for this important article.

The authors provided a great service by laying out initial forays into applying communication neuroscience to explain interpersonal communication processes. Their focus is on shared understanding of messages and how this can ultimately lead to development, maintenance, or even dissolution of relationships. They make an emphatic statement that their goal is not to reduce interpersonal communication to biology; rather it is to show that at a certain level the explanations and findings offered by neuroscience can illuminate higher level processes such as shared understanding resulting from an exchange of messages.

They call for an interdisciplinary approach to merging neuroscience and interpersonal communication. Ultimately, that could lead to a transdisciplinary interpersonal neuroscience approach to studying how messages are formed, exchanged, and understood as they lead to important personal and interpersonal outcomes such as happiness, intimacy, trust, synchrony, resilience, relational development, relational maintenance, and even relational dissolution.

Interpersonal communication is critical to living a fulfilling life.

Just recently an 85-year longitudinal study at Harvard identified the most important key to happiness as having close positive relationships. These relationships provide safety and security, learning and growth, emotional closeness and self-disclosure, identity affirmation and shared experience, romantic intimacy, help, and fun and relaxation (Waldinger, 2023; Waldinger & Schultz, 2023).

We know that relational initiation, development, and maintenance are integral to these positive long-term relationships and that interpersonal communication is key to each of these processes. As Miller and Steinberg (1975) postulated, we can communicate with others at the cultural, sociological, or truly interpersonal levels as we develop important relationships with them. As Knapp (1984) and others who set forth stage models of interpersonal communication and relational development showed, these stages are not linear. Some may be skipped altogether, and at other times the relationship moves backward through stages. Planalp and Honeycutt (1985) made clear that unexpected events in relationships can be the cause of relational change. Relational dialectics (Baxter & Braithwaite, 2017) research highlights that relationships are a balancing act as we negotiate between poles such as autonomy-togetherness and predictability-novelty, to name just two.

Huskey et al. (2020) cite Chaffee and Berger (1987) and argue that communication neuroscience can be heuristically provocative, in general, across sub-fields in communication. When applied specifically to interpersonal communication theory, an interpersonal neuroscience approach would allow us to delve deeply into the common underpinnings of processes that move people toward and away from closeness and intimacy with one another.

As Wilcox et al. (2020) state, there are two basic steps in neuroscience research:

1. Create situations that evoke the phenomenon under study

2. Record and analyze the physiological reactions to identify how they relate to the eliciting stimuli and tasks, or to subsequent behavior.

In this way, interpersonal neuroscience could help us to understand how the central variables and concepts in interpersonal communication theories come into being, i.e., how evolved and deeply rooted brain systems give rise to the phenomena important to interpersonal communication theories. Moreover, we could begin to ask whether certain constructs engage particular brain regions or systems, and whether they share commonalities across people.

Reciprocation Versus Compensation

Although there are many important outcomes in interpersonal communication that would be of interest in this type of study, one basic set of outcomes is critical to interpersonal communication development, maintenance, and dissolution. Interpersonal communication theories can be examined by virtue of where they lie on a continuum that moves from reciprocation and convergence behavior (which lead to more closeness) to the other end of the continuum with compensation and divergence behavior (which lead to more distance). Several recent books (Braithwaite & Schrodt, 2021; Smith & Wilson, 2009; Wilson & Smith, 2019) and many journal articles highlight interpersonal communication theories and the constructs they specify that promote and impede the development of closeness and intimacy through either compensation or reciprocation.

The possibility to discover whether similar brain systems activate when creating a common phenomenon, such as relational closeness, predicted by different theories would show that interpersonal neuroscience could have *organizing power* and could provide *theoretical synthesis* at a deep level (Chaffee & Berger, 1987; Huskey et

al., 2020). This is even more important as we are currently seeing such developments in other areas, particularly cognitive science and psychology as well as linguistics, where neuroscientific evidence helps confirm, systematize, and sometimes revise existing theories. This research could potentially help integrate the common bases of different interpersonal communication theories and their predictions based on different constructs thus integrating different theoretical explanations of a common process or outcome, such as relational closeness.

For example, several theories, such as expectancy violations theory (Burgoon, 1978), communication accommodation theory (Giles et al., 1991), and relational turbulence theory (Solomon et al., 2016) specify constructs and processes that can lead to various positions on the reciprocation-compensation continuum. Other theories and perspectives primarily highlight one end of the continuum versus the other. Interpersonal communication theories that highlight self-disclosure and social support provision largely predict reciprocation and convergence outcomes, while theories that highlight dark side processes such as reactance, betrayal, and deception lead primarily to compensation and divergence outcomes.

After a sustained program of interpersonal neuroscience research that investigated the predictions of various theories which predict common outcomes, the field would have a much greater understanding of the commonalities and differences in biological underpinnings of important outcomes. As stated here, interpersonal neuroscience could help us to observe when theoretically derived constructs/variables that lead to either compensation or reciprocation differ in their patterns or when they share biological commonalities.

This short overview of Wilcox et al. (2020) comes from the perspective of a communication scientist. In order to move to transdisciplinary work (Silk & Smith, 2015) both neuroscientists

and communication scientists need to form an integrated whole. A transdisciplinary model integrates cross-disciplinary perspectives with the aim of synthesizing them to create a new approach of team science for addressing a research problem that is too large for one side to address alone (Kreps & Maibach, 2008). It requires collaboration, information exchange, resource sharing, and integration of disciplines (Rosenfield, 1992). The article by Wilcox et al. (2020) shows us that we, as communication scientists, can have a place at an exciting juncture in time where neuroscientific studies are increasingly focusing on social behavior. Our theories could provide a blueprint for future studies, and we could form a partnership to engage in interpersonal neuroscience. The Wilcox et al. (2020) article points us in that exciting direction.

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