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The Influence of Everyday Interpersonal Communication on the Medical Encounter: An Extension of Street's Ecological Model

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Acknowledgements: This essay was inspired by not only our own observations about the influence of everyday interpersonal communication about health on patient-provider interactions, in our own lives and in our own research, but also by a panel at the 2016 Kentucky Conference on Health Communication devoted to the current state of research on the ecological model and precision medicine. The authors wish to thank Dr. Rick Street for a conversation that led to this manuscript and to thank Dr. Nancy Grant Harrington for her helpful comments on an early draft of this manuscript.

This is the authors' manuscript of the work published in final form as:

Head, K. J., & Bute, J. J. (2018). The Influence of Everyday Interpersonal Communication on the Medical Encounter: An Extension of Street's Ecological Model. *Health Communication*, *33*(6), 786–792. https://doi.org/10.1080/10410236.2017.1306474

Abstract

Street's ecological model has shaped the research examining communication during medical encounters for over a decade. Although the model accounts for the variety of contexts that shape the conversations in which patients and healthcare providers engage, the model does not adequately address the way that everyday conversations about health carry over into patient-provider interactions. In this essay, we propose an extension of Street's model that adds the context of everyday communication about health as a contributing factor in the medical encounter. We support the need for this extension by discussing research that points to the ways these conversations with our social network influence communication during the medical encounter and propose new areas for research based on this extension.

Keywords: ecological model, interpersonal communication, patient-provider communication

The Influence of Everyday Interpersonal Communication on the Medical Encounter: An Extension of Street's Ecological Model

Perhaps no model has better framed the patient-provider communication landscape than Street's ecological model. Published in 2003 in the first edition of the *Handbook of Health Communication*, the ecological model has proven to be an important and foundational model for framing patient-provider communication research and practice over the last decade. Nevertheless, any model should be open to modifications as new evidence develops (Dubin, 1978). Indeed, Sharf (1993) argued that the applied nature of our work in health communication should be a driving force for theory generation, uncovering new answers as we ask more complex questions and contextualize those questions in the communication situations we observe. However, health communication scholars as a whole have been reluctant to engage in theory building and modification (Babrow & Mattson, 2011), perhaps because they are not "preoccupied" (p. 18) with such work or perhaps because of the difficulty involved in engaging in this kind of work. Whatever the case may be, our goal in this essay is to occupy ourselves consciously with the task of building upon one of the most well-known models in our field. After providing a brief review of the ecological model and highlighting research framed by the model, we propose the addition of a new context to the model: everyday interpersonal communication about health and its effect on the medical encounter. We then review health communication literature that has pointed to the essential role of this context and provide directions for future research studying everyday talk about health.

The Ecological Model

Street's ecological model provides a robust structure for understanding the nature of medical encounters. Unique to this model is that it accounts for the broader contexts in which

interpersonal medical encounters are embedded. The model borrows its structural framework from the biology field by adopting an ecological perspective. Ecology is the branch of biology devoted to studying how all organisms are related to each other and how they affect and are affected by their physical surroundings. In Street's model, the medical encounter between a patient and a provider is situated in the center, in what he calls the interpersonal context. Street posits that both predisposing influences (i.e., an individual's communication style) and cognitive-affective influences (i.e., situational influences unique to this specific medical encounter) can affect the interpersonal communication between the patient and provider. Building on the notion of the ecological frame, Street then goes on to identify four non-interpersonal contexts that, he notes, are "broad, complex, and multifaceted" (p. 64). These include the media context, organizational context, cultural context, and political-legal context. Street explicates how each of these influences and contexts can have important implications for affective, cognitive, and behavioral processes within the medical encounter. It is a complex and well-developed model.

The sign of any good model is that it leaves an indelible mark on the field and sets an agenda for other scholars. As Cegala (2011) noted , "the model provides considerable guidance in designing research that transcends traditional approaches to the study of physician-patient communication. The cumulative effect of such research has the potential to advance theory in physician-patient communication beyond its current status" (pp. 427-428). It should come as no surprise that many health communication researchers have used the ecological model to frame their research in patient-provider communication. Perhaps one of the biggest strengths of this model is that it brings together areas of health communication that are usually disparate and encourages scholarly conversation by allowing scholars to frame their research within the

context of this larger model. As such, scholars have sought to understand and investigate individual contexts (e.g., the media context) or variables (e.g., cognitive-affective influences) from the model that align with their expertise (see especially: Ahmed & Bates, 2010; Ashton et al., 2003; Passalacqua & Segrin, 2012; Quick, 2009). On the other hand, some researchers have taken into account multiple ecological model contexts and variables, which is perhaps a more fitting utilization of this framework (see especially, Bute, Petronio, & Torke, 2015; Cegala, 2011; Golden, 2014).

In sum, Street's original model has provided a strong and enduring foundation for the study of patient-provider communication for the last decade and no doubt will continue to do so. The varied published work citing Street's work affirms the utility of this model in framing our understanding of potential influences on the medical encounter and provides a way for scholars who study a variety of health communication issues to be a part of a larger conversation under the umbrella of this framework. Thompson's (2003) prediction that Street's chapter would "likely…guide health communication research for years to come" was accurate (p. 4).

What's Missing?

Street's model exemplifies Harter and Kirby's (2004) observation that "physicians bring more than technical expertise to the exam room and patients bring more than bodies and disease" (p. 58). Yet one area that Street's original conceptualization of the ecological model overlooks, and one that we believe deserves greater attention, is the role of our everyday conversations about health and the influence these interactions have on clinical encounters. Street conceptualizes the medical encounter as *the* interpersonal health communication context, while characterizing the other elements of the model as "noninterpersonal contexts" (p. 64). We

contend that this characterization leaves out an array of interpersonal conversations about health that influence patient-provider communication.

No theoretical model is expected to cover all ground or explain all communication phenomena; however, scholars should be willing to propose new, modified, or extended theoretical models when evidence presents itself. Dubin (1978) argued that social scientists have been somewhat indifferent to data that may challenge our accepted, albeit narrow range, of theories and he urged instead "that the research stance toward theory building…be that of constant alertness to the descriptive knowledge of the domain about which [researchers] wish to theorize" (p. 230). Theorizing is necessarily a back-and-forth between induction and deduction, between data and theory (Dubin, 1978). But are we really doing this in practice? In our sister discipline of health behavior, researchers have a tendency to dismiss data that does not fit with existing theories rather than using that data to refine existing theories (Ogden, 2003). While this same issue may be happening in health communication research, we may also be avoiding using theory all together when we do not have frameworks that fit with our research questions. Babrow and Mattson (2011) discuss this issue, citing several reviews demonstrating that health communication research includes too little theorizing and theory-based research. They go on to note that, perhaps given the pragmatic approach in our field, health communication scholars have typically been unconcerned with theory-building. Whether we are not preoccupied with theory building due to time, effort, or even realizing that this is something we should be doing, what *is* happening is that our theories are not keeping up with the scholarship that we are doing. However, in this essay, we hope to address just that, by offering an extension of a theoretical model based on what we've seen happening in our field. If the ecological model purports to "expand our thinking in order to ground our analysis in the setting in which these [medical]

encounters have relevance and meaning" (Street, 2003, p. 82), how can we *not* work to advance the field by addressing a gap in this foundational model?

We are not the first to argue that more attention should be paid to the context of everyday communication about health. In the same volume in which Street called for consideration of the broader context in which patient-provider interactions emerge, Cline (2003; see also Cline, 2011) called for more scholarly attention to our everyday talk about health. She labels everyday talk as the "neglected box" in research and theorizing about health communication. The ordinary, often spontaneous, conversations with friends, family, neighbors, and coworkers that arise naturally in our everyday lives are where we communicate our experiences with health and illness: It's where we share stories about our health challenges and triumphs, support one another during difficult times, make sense of our particular experiences, and attempt to create changes for improved health (Goldsmith & Brashers, 2009; Parrott, 2009). In fact, health decisions and behavior change often occur in a relational context (Cline, 2003, 2011). And while scholars have addressed the influence of third parties (e.g., caregivers) in shaping medical encounters (see Laidsaar-Powell et al., 2013 for a recent review), we know far less about the influence of third parties who discuss health issues with patients but do not necessarily attend appointments with them. Duggan's 2006 review of interpersonal communication processes across health contexts employs a relational perspective; yet this piece also stops short of spanning the boundary between clinical encounters and everyday talk to consider more fully how our unscripted, casual conversations impact clinical conversations. Medical encounters are embedded not only in the broader legal/political, organizational, mediated, and culturally-specific context that Street proposes but also exist within a web of relationships that most certainly enable and constrain patient-provider communication. Social networks disseminate health information, information

that undoubtedly spurs us to seek healthcare, prompts us to ask particular questions of our providers, and informs our decision-making. As such, we propose an extension of Street's original model that includes the "neglected" box, what we call the everyday interpersonal context, and theorize about how our everyday conversations come into play during medical encounters.

The types of conversations that fit into the everyday interpersonal context include the sort of talk Cline describes as our comparatively informal conversations about health—our interactions with friends, family, peers, and coworkers. Discussions of our health experiences in rather mundane contexts may remain unnoticed "because they are woven into daily life" (Goldsmith & Brashers, 2009, p. 9). Yet we contend that these unnoticed conversations almost certainly seep into the conversations that unfold during patient-provider interactions. In the next section, we highlight health communication work that points to the influence of everyday interpersonal communication on these processes as evidence to support our argument.

Evidence to Support the Influence of the Everyday Interpersonal Context on Medical Encounters

Despite the absence of the everyday interpersonal context in Street's model, communication scholarship has a long tradition of examining how everyday interpersonal communication affects health and healthcare encounters. Notably, the vast literature on social support, which encompasses a wide array of studies that link everyday talk to various health outcomes, points to a complex and varied relationship between routine conversations and communication in healthcare contexts. Social support is central to health decision-making during medical encounters and assists patients in navigating complex healthcare systems (Goldsmith & Albrecht, 2011). Social norms research also suggests that interpersonal sources can affect health.

Discussed and defined in many ways in the literature (Ajzen & Fishbein, 1980; Lapinski & Rimal, 2005), social norms research as a whole elucidates how our social networks can influence our perceptions and behaviors related to healthcare (Viswanath & Emmons, 2006), including, for example, what health topics are socially acceptable to discuss openly (Rouner & Lindsey, 2006). Health communication scholars have also produced literature that strongly alludes to the influence of everyday interpersonal communication on the medical encounter in terms of the actual communication that takes place. Below, we present three areas where this influence is seen.

Seeking care. Scholars have long suggested that our social networks affect our utilization of healthcare services. Our social networks are instrumental in whether, when, how, and from whom we seek care (Baiocchi-Wagner, 2015; Jones, Beach, & Jackson, 2004; Tardy & Hale, 1998). When we experience novel or returning symptoms or face new or unexpected questions about our health, we likely turn to our informal networks first. Our networks might then provide encouragement to seek care; thus prompting us to initiate a clinical encounter. Discussions with family members influence whether or not we seek treatment for symptoms, schedule regular checkups, and maintain preventive care (Jones et al., 2004). And when we experience emergent symptoms that require immediate care, networks members are often essential to helping us access emergency treatment (Khraim & Carey, 2009).

In her call to advance research focused on families' communicative influence on individual health behaviors, Baiocchi-Wagner (2015) summarizes numerous studies suggesting that family members play a crucial role in influencing members to utilize healthcare services, such as Jones et al.'s (2004) study of the breast cancer context, which revealed how women rely on female family members when they have questions about breast cancer. And, across a variety

of cancer contexts, patients have suggested that their partners were involved in their decision to initiate treatment (Goldsmith & Moriarty, 2008). Research exploring prenatal care norms in rural Mexico demonstrates that even in the midst of weak or limited social networks, friends and family communicate important normative information about seeking prenatal care, including interpersonal talk about whether they themselves sought care during their own pregnancies. These conversations then inform pregnant women's own beliefs and behaviors when it comes to whether they seek medical care (Lapinski, Anderson, Cruz, & Lapine, 2015). Even health information communicated by acquaintances or strangers can prompt us to seek the expertise of care providers. For instance, research exploring unsolicited questions and advice that women receive during pregnancy found that stories of difficult deliveries, troublesome pregnancy symptoms, and miscarriage prompted women to verify this information with an authority (Petronio & Jones, 2006).

Communication during the medical encounter. The everyday interpersonal context affects how patients communicate with providers during the medical encounter by encouraging patients to discuss certain issues, ask particular questions, seek specific information, or request certain medications, laboratory tests, or treatment options. Chronically ill patients report how family members play a role in their communication with healthcare providers. Diabetes patients, for example, have recounted how their family members influenced their conversations with physicians by helping or hindering patient efforts with dietary restrictions and medication management (Burke, Earley, Dixon, Wilke, & Puczynski, 2006), and some adolescents with chronic conditions have revealed that before an appointment with their doctor, they rehearse with a family member the questions they want to ask (Beresford & Sloper, 2003). Other studies have documented how mothers solicit advice from each other about health concerns regarding

pregnancy, labor, and delivery. For instance, Tardy and Hale (1998) found that women discussed what sorts of questions to ask their healthcare providers about the safety of various prenatal tests (Tardy & Hale, 1998), and Vos, Anthony, and O'Hair (2014) found that female friends' and family members' stories about due dates and delivery decisions influenced women's own approaches to birthing, such as asking for drugs (Vos, Anthony, & O'Hair, 2014). Women researching hormone replacement therapy integrated information they found online with advice and information from offline sources like friends and family and felt that this led to improved communication with their physicians about the therapies (Sillence, Briggs, Harris, & Fishwick, 2007).

Making healthcare decisions. Everyday interpersonal communication can influence the decision-making that occurs during the medical encounter. For example, research exploring the role of social influences on vaccination behaviors found that individuals' intentions to get the H1N1 vaccine during the 2010 flu outbreak were heavily influenced by interpersonal discussions and social pressures, even more than news coverage (Yang, 2015). Young women deciding whether to get the HPV vaccine were strongly influenced by conversations with their parents and to a lesser extent by female relatives (e.g., sisters) and female friends (e.g., members of the same cheerleading squad; Cohen & Head, 2013). Specifically, this work showed that young women discussed the tension between conversations with parents, who were often hesitant about their daughter getting the vaccine, and doctors, who were promoting the vaccine.

In addition to preventive care, everyday interpersonal communication can also play a role in treatment decisions about disease, especially in the context of cancer. Family members may "persuade" cancer patients to switch doctors and often influence treatments chosen by the patient (e.g., surgery, clinical trials), including when it is time to switch from curative to palliative care

(Zhang & Siminoff, 2003). For patients with localized prostate cancer, advice from family and friends was the most important reason influencing their treatment decisions for almost 20% of patients in one study (Diefenbach et al., 2002). Women newly diagnosed with breast cancer also identify important influences from family and friends, including informational (i.e., seeking and understanding health information) and instrumental (i.e., tangible aid, help with medical decision-making) support (Arora, Finney Rutten, Gustafson, Moser, & Hawkins, 2007).

An Addition to the Model

We have argued that there is considerable empirical evidence to suggest that everyday interactions shape our medical encounters in numerous ways, including generally how we think about health and healthcare, but also specifically by prompting us to seek healthcare, encouraging us to discuss particular issues during appointments, and influencing our decision-making during our conversations with clinicians. As such, a model of medical encounters that accounts for the broader ecological context in which these interactions are embedded, as Street's model does, should explicitly acknowledge everyday interpersonal communication about health as an influential context. Adding the everyday interpersonal context to the ecological model is not only justified but necessary as a call to action for greater attention to the link between these types of conversations and the communication that unfolds during the medical encounter. In Figure 1, we present the extended ecological model, adding everyday interpersonal communication as a context. In much of the research we cited in this essay, scholars either allude to or briefly mention that everyday talk affects patient-provider communication; however, few studies address the relationship between ordinary conversations and clinical conversations as a central research question. By adding this new box to an established model, we hope to encourage

health communication scholars to purposefully and intentionally address the connection between the everyday interpersonal context and medical encounters.

--- Figure located about here --

A Call for Research

In this section, we present a potential agenda for this line of research and provide guidance for future work that may help to expand our knowledge of the patient-provider interaction. We hope that our extension can inform and set the agenda for scholars to produce important work in this area. It should be noted that while the formal addition of the everyday interpersonal context to the ecological model opens the door for more research in this area, it may also call attention to existing research in health communication that had previously not "fit" into the model (e.g., research on caregiving). Below, we outline four potential directions for future research.

1. *What do these conversations look like and how do they impact the medical encounter?* In the most basic sense, researchers should consider more fully what our unscripted, casual conversations with friends, family members, peers, co-workers, and so on look like and how these conversations impact clinical encounters. As we previously noted, while we did find evidence of this effect in the literature, few researchers seemed to purposefully focus on this phenomenon as a central research question. Communication scholars, particularly those in health, family, and interpersonal communication, can address this gap by focusing multi-methodological research on collecting rich, descriptive information about what this phenomenon looks like. This might include focusing on the content of these exchanges, such as discussions about certain medications or dietary issues that should be brought up at the next doctor's appointment. This research might also focus on

the people involved; in other words, which people influence our conversations with healthcare providers? It might be that different people play different roles depending on our demographics or depending on the health condition or illness we are dealing with. Research on this topic may also consider when and where these conversations take place, including a consideration of the role of interpersonal media (e.g., texting, email) and how these technologies may play a role in the everyday interpersonal context. In any case, we urge scholars to examine what everyday talk about health looks like and how these conversations impact clinical encounters as a central research question.

2. *How might we harness the influence of everyday interpersonal communication to change health behavior within the clinical encounter?* In the health promotion realm, researchers and practitioners have learned to harness the power of interpersonal influences in changing health behavior (e.g., encouraging exercise or eating healthy). The same could be true in the medical encounter. Leveraging the influence of family and friends to encourage an individual to seek care, ask questions while at the doctor, or even decide on treatments may be a particularly fruitful area of study. In other words, beyond researching the spontaneous and unscripted everyday conversations in peoples' lives, researchers could also study how incorporating more scripted conversations with friends and family members into patients' lives may influence their healthcare interactions in positive ways.
3. *How do we conceptualize the role of third parties in light of Street's model?* While our primary interest in this essay is to draw attention to the role of extra-clinical interpersonal communication, we urge scholars of health, interpersonal, and family communication to consider whether and how Street's model accounts for the presence of parents,

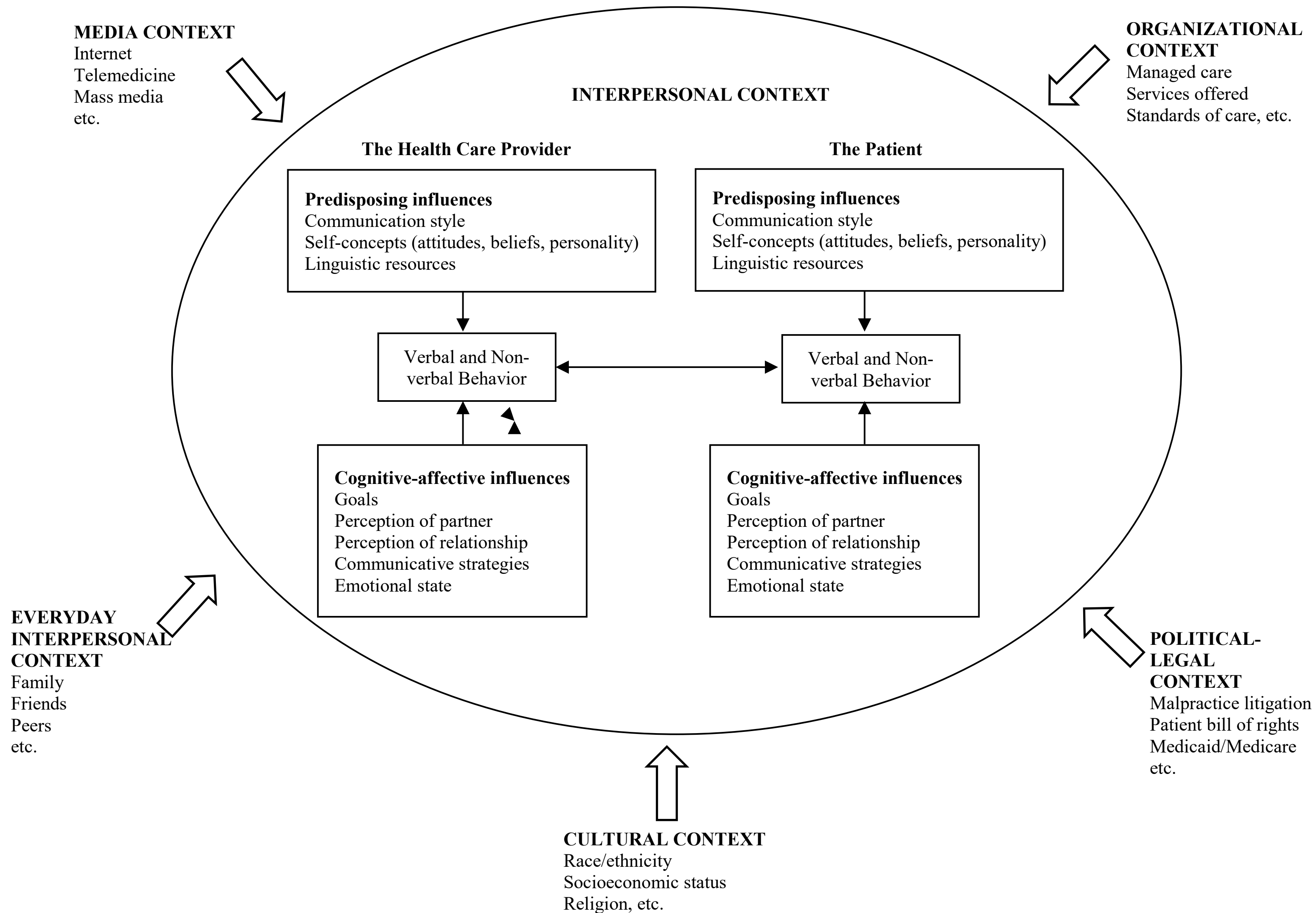
caregivers, and other third parties in shaping communication in medical appointments. Street (2003) explicitly defines the medical encounter as a dyadic interaction; yet a large area of recent health communication research has focused on the caregiving context, examining the role caregivers play during the medical encounter and at home. Caregiving is somewhat conceptually different from spontaneous everyday interpersonal communication because it assumes a more formal role played by the caregiver; however, these individuals still may exert a strong influence on patients' decisions to seek care, ask questions during medical encounters, and make health decisions. We call on caregiver researchers and others to strive to interpret their work in terms of not only the larger ecological context presented by Street but also within this proposed context of everyday interpersonal communication. Similar to the caregiving context, parents and guardians play a necessary (and legal) role in influencing their children's medical encounters. Scholars should seek to understand how parent-child communication affects a child's ability to effectively communicate with their doctors. This may be especially important for children who have chronic conditions (e.g., children with severe allergies). If we believe that communication is a learned behavior, as we do in our discipline, examining how parents teach, demonstrate, and reinforce different communication behaviors in their children during the medical encounter may be a prudent area of study. As children grow older, the role of parents in their children's healthcare may change; younger children may see their parents taking the lead during medical encounters, while older children may discuss their appointments with their parents before the encounter and then do most of the talking themselves. Research should continue to explore the roles that parents/guardians play in different clinical care contexts, paying attention to variables like the age of the

child or the type of encounter (e.g., routine health check-ups, chronic disease management, etc.), and how these variables may affect communication during the medical encounter.

4. *Does the influence of everyday interpersonal communication in medical encounters extend to healthcare providers as well?* One assumption of the ecological model is that the medical encounter, which includes both the patient and the provider, is situated within the larger media, organizational, political-legal, cultural, and now everyday interpersonal contexts. Much of this essay, admittedly so, has centered on how the proposed everyday interpersonal context may influence the patient's communication during the medical encounter. However, everyday talk is likely to affect healthcare providers as well. Similar to other professions, healthcare providers likely discuss their work with their family and friends and receive feedback and encouragement about their jobs, especially in the case of "difficult" patients. While there has been work that has looked at interpersonal influences on the healthcare provider using the ecological model, it has often been done within the organizational context – communication with fellow doctors, administrators, nurses, and others. However, it may be appropriate to now also discuss this type of research within the new realm of everyday interpersonal communication, as many of these conversations may happen outside the confines of formal organizational communication (e.g., a consult within the healthcare system), and instead may be better characterized as informal and spontaneous (e.g., casual conversations with providers and non-provider family members/friends about healthcare).

With the formal addition of the everyday interpersonal context to the ecological model, health communication and interpersonal communication scholars alike will not only recognize new areas for research but also be able to interpret their findings within this larger model. The ecological model will continue to frame patient-provider communication scholarship in a way that now better represents the reality of medical encounters.

Figure 1. Original Ecological Model of Communication in Medical Encounters with Proposed Extension



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