

**A THEORY OF PROFESSIONAL TOUCHING BEHAVIOR IN ORGANIZATIONS:
IMPLICATIONS FOR HUMAN RESOURCE SCHOLARS AND PRACTITIONERS**

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ABSTRACT

Professional touching behavior (PTB), which we define as *intentional touching behavior that occurs between organizational members and that falls within the boundaries of appropriateness and professionalism in the workplace*, is prevalent in organizations. Scholars from multiple disciplines, including human resources researchers, have acknowledged the importance of physical contact for facilitating interpersonal communication and relationship-building. However, PTB may not only elicit positive reactions from those who receive it, but negative reactions as well, with implications for social dynamics in organizations. PTB can, on the one hand, fulfill employees' desires for interpersonal connection; at the same time, such physical contact at work can represent a threat to employees' health. To explain the nature and implications of these divergent effects of receiving PTB, we draw upon sociometer theory and behavioral immune system (BIS) theory to model the *emotional, cognitive, and physiological* processes via which, and the conditions under which, receiving such behavior will result in socially functional responses and prompt subsequent prosocial behavior, and when PTB will be perceived as a health risk and prompt withdrawal behavior. Our theoretical framework expands our conceptual understanding of the consequences of interpersonal physical contact at work, and has important human resources management (HRM) implications for organizational managers.

Keywords: Emotions; Well-being; Interpersonal Behavior; Professional Touching; Sociometer; Behavioral Immune System

Touch is arguably the most foundational and powerful form of communication that humans possess. Indeed, in our species' evolution, interpersonal communication via touch preceded the development of verbal and written modalities (Burgoon, Butler, & Woodall, 1996). Touch is also the first sense that human fetuses develop, and the most developed sense that we have when we are born (Field, 2001). As such, it plays an outsized role in our initial communication with other humans and the external world (Hertenstein, Verkamp, Kerestes, & Holmes, 2006). Beyond infancy, touch remains perhaps the most intense form of human communication, in part because of its ability to elicit emotional and cognitive reactions "at times more powerful than language" (Gallace and Spence, 2010: 247). Although not as frequently used throughout one's lifespan as verbal and written forms of communication (e.g., Hatwell, Streri, & Gentaz, 2003), the impact of touch on human social interactions is nonetheless profound, including that which occurs in the work domain (Fuller et al, 2011; Simmering, Fuller, Marler, Cox, & Bennett, 2013).

Within organizations in particular, employees often use this age-old form of physical communication—touching—in their daily interactions with one another (Fuller et al, 2011). This is for good reason, as touch is one of the most powerful ways to get others' attention (Field, 2001). In addition, touch can complement and amplify the strength of other commonly used forms of communication such verbal exchanges and written messages (e.g., Frank, 1957; Geldard, 2012; Hertenstein, Verkamp, Kerestes, & Holmes, 2006). The impact of touch has been shown in prior research which indicates that this form of communication accounts for more than half of the variability of people's responses to one another during interpersonal interactions (Mechrabian, 1981). The reason that humans are more sensitive to touch (physical contact) compared to other forms of interactions has been articulated by evolutionary and developmental psychologists, who explain that the association between touch and a sense of (inter)personal attachment and social connection is likely developed

through childhood interactions with our primary caregivers (Bowlby, 2008).

The important of touch in the work domain is evidenced by the many ways it is used by workers in contemporary organizations. In the workplace, prototypical forms of work-based touch communication include handshakes to communicate greetings (e.g., Stewart, Dustin, Barrick, & Darnold, 2008), taps on the shoulder to signal interruptions (e.g., Blanchard & Johnson, 1983; Field, 2001; Todd, 2019), nudges to get someone's attention (Jones & Yarbrough, 1985), or pats on the back to signify a job well done (Fuller et al., 2011). As these examples illustrate, touching is a prevalent means via which employees communicate social information in the course of their work.

Although it serves important social functions at work, touch-based communication can also cause problems in the workplace. In particular, it is one of the primary ways in which infections spread in workplaces (Thomas & Kim, 2021; Yeager, 2020). For employees returning to work in the wake of the COVID-19 pandemic, there is a heightened sense of risk associated with touching, and both employees and organizational managers are seeking ways to reduce physical contact (e.g., Katila, Gan, & Goodwin, 2020). Indeed, the potential health risk associated with touch-based communication may be more acute in the workplace than in other settings, given that employees sometimes attend work when they are sick (Dew, Keefe, & Small, 2005; Gosselin, Lemyre, & Corneil, 2013; Johns, 2010), that the closed, indoor environments typifying many workplaces facilitate the spread of sickness (Bain & Baldry, 1995), and that worker hygiene practices are often lax (e.g., employees commonly do not wash their hands after shaking hands or eating lunch, thereby increasing the likelihood of disease transmission; Zivich, Gancz, & Aiello, 2018). Together, the social signals conveyed by such behavior occur in tandem with health risks, raising the question of when and why employees will respond positively versus negatively to touch. Addressing this question not only can shed light on how employees react to this enduring form of communication, but as

importantly, can indicate whether touch should have a role in the workplace going forward, especially given that HRM scholars and practitioners are increasingly concerned about the role that physical contact plays at work.

The aforementioned social and health-related consequences of touching align with two evolutionarily-developed systems that provide insight into the process of how employees (and potentially managers) may respond to physical contact at work. First, people possess an internal regulation system termed the sociometer to detect social signals (Leary & Baumeister, 2000). This system, which operates outside of conscious awareness, helps people understand the meaning conveyed by the behavior of other individuals (e.g., Borenzweig, 1983; Kneidinger, Maple, & Tross, 2001; Stier & Hall, 1984). Specifically, touching often conveys information to recipients regarding their relational standing and relational value in social settings, including organizations (Leary, 2005, 2011). From an interpersonal standpoint, professional or work-related touching behaviors thus provide social information that informs employees of their social worth in the workplace.

In addition to this social system, individuals possess an infection-detection system that operates as a dormant alarm in people's minds, sounding when physical contact creates the risk of detrimental consequences to one's health (Schaller, 2015; Schaller & Park, 2011). This behavioral immune system (BIS) exists because in general, many common infectious diseases spread via physical contact with other people (Li et al., 2020; Phan et al., 2020). Depending on the circumstances surrounding physical contact, this system will signal when touch is regarded as "infection-connoting stimuli" (Murray & Schaller, 2016: 83). In the workplace, this means that professional touching can potentially signal an infection risk to receivers, thereby eliciting a series of defensive responses. As such, the socially functional effects of touching are counterbalanced by an immunological response that sometimes labels touching behavior as aversive for organizational members, especially for the recipients.

In this monograph, we draw upon insights from sociometer theory (Leary, 2005, 2011; Leary & Baumeister, 2000) and BIS theory (Murray & Schaller, 2016; Schaller, 2015; Schaller & Park, 2011) to develop a dual appraisal-based framework that describes the consequences of receiving coworkers' professional or work-related touching behavior (see Figure 1). To begin, we propose a construct which we label professional touching behavior (PTB)—defined as *intentional touching behavior between organizational members that falls within the boundaries of appropriateness and professionalism in the workplace*.¹

From here, we theorize how recipients experience PTB through the lens of two evolutionarily-developed systems that provide insight into how people respond to PTB in the workplace. First, guided by sociometer and BIS theory, we theorize that following physical contact during work interactions (i.e., professional touching), recipients undergo a primary appraisal process to determine whether such behavior has implications for their positive relational value at work (i.e., whether touch is socially beneficial), as well as whether there are implications for risk of infection (i.e., whether touch is a health concern). To present a balanced view of the consequences of professional touching at work, we integrate these two systems and situate them within the work context to develop a comprehensive theory of professional touching that explains how organizational members appraise and react to coworkers' touching behavior at work. Then, to reconcile the tensions between these two perspectives, we build theory related to how personal, relational, and situational factors (i.e., recipients' personal comfort with touch, the quality of recipients' relationship with other party in the interaction, and the norms related to touching in the given situation) should shape the extent to which the sociometer system versus the BIS guides employee responses to PTB.

¹ Importantly, we note that this definition excludes one impactful form of touch in the work domain—that which is involved in some incidents of sexual harassment (e.g., Fitzgerald & Cortina, 2018). We have taken the appropriateness of such behavior into consideration while developing the boundary conditions for the primary appraisal process (Propositions 3a-c). However, a more complete treatment of this form of touch at work is beyond the scope of this paper and has been extensively reviewed in recent articles (e.g., Konard & Gutek; 1986 Lee & Guerrero, 2001).

We go on to propose that when the appraisal of professional touching leads to activation of the sociometer system, it should inform an immediate series of emotional (i.e., pride), cognitive (i.e., self-esteem), and physiological (i.e., oxytocin secretion) responses, which in turn affect recipients' behaviors (i.e., prosocial). Alternatively, when professional touching causes the activation of the BIS, it should inform a very different series of emotional (i.e., disgust), cognitive (i.e., threat), physiological (i.e., cytokines secretion), and behavioral (i.e., withdrawal) responses. We then explain how these secondary appraisals help recipients of professional touching further evaluate the appropriateness of the primary appraisal and its coinciding responses. Here, we describe how both sociometer-based personal (i.e., need for belonging) and contextual (i.e., organizational political climate) factors as well as BIS-based personal (i.e., need for healthiness) and contextual (i.e., organizational hygienic climate) factors will shape employees' responses to PTB.

By building theory on how professional touching affects those who receive it, this monograph meaningfully extends our understanding of a ubiquitous workplace behavior that is under more scrutiny than ever. By describing the consequences of PTB from a joint evolutionary lens—through our incorporation of insights from both sociometer and BIS theory—our model explains the contrasting potential consequences of this behavior. Because of the disparate reactions that touch can elicit, understanding when, why, and for whom each system will operate is of critical importance to understanding the role of touch in the post-pandemic workplace (for both employees and human resources managers). By elucidating the existence and unpacking the operation and consequences of these two perspectives, we respond to calls from organizational scholars to address “the lack of understanding regarding a recipient's responses” to touching behavior during work interactions (Fuller et al., 2011: 2).

Second, our integrated appraisal-based framework contributes to sociometer theory and BIS theory simultaneously. Our work enriches sociometer theory by theorizing that

workplace touching can convey social signals that reflect employees' relational value in the workplace. By viewing touching at work through the lens of sociometer theory, our work extends the predictive power of this theory by broadening the interpersonal behavior that one's sociometer can detect, rather than limiting it to social rejection or inclusion (Liu & Zhang, 2016). In addition, our theorizing contributes to the behavioral immunology literature by explaining the role that appraisal processes play in the BIS (Schaller, 2015). Specifically, we extend BIS theory by applying it to a specific behavior (i.e., touching) and context (i.e., work), and explaining how activation of this system can lead to employee withdrawal. Ultimately, these two distinct systems shed light on the emotional, cognitive, physiological, and behavioral consequences of interpersonal physical contact in the workplace.

Finally, by unpacking the roles that personal and contextual factors play in how employees respond to professional touching, we explain not only *how* such touching affects employee behavior, but *when* the social (i.e., sociometer) versus the immunological (i.e., BIS) response system will be activated. Overall, this integrated framework answers the question of *why*, *when*, and *for whom*, professional touching behavior impacts employee behavior in organizations (Whetten, 1989). To conclude, the theory that we develop and present in this monograph provide crucial insights for both HRM scholars and managers to better understand how employees in the post-pandemic world would react to others' PTB at work. In sum, it is our intention for this monograph to raise more questions than answers to advance needed scholarship in this space and push HRM managers to set clearer boundaries about PTB at work.

PROFESSIONAL TOUCHING BEHAVIOR IN ORGANIZATIONS

As mentioned earlier, touching is one of the oldest forms of communication (Knapp, 1980) and it remains a common aspect of communication among organizational members (Heaphy, 2007). However, as Marler and colleagues (2011: 145) noted, "the literature on

interpersonal touch in the workplace is scant” and somewhat scattered (Fuller et al., 2011). Thus, an important precursor to our theorizing involves establishing conceptual boundaries around our phenomenon of interest and situating our framework within this literature.

As previously noted and defined, the focus of our monograph is on what we refer to as professional touching behavior (PTB). To explain, touching that occurs in the workplace can be received as either appropriate or inappropriate, both in the eyes of the receiver and in relation to organizational norms and policies. Our focus is on touch that would normally be considered context-appropriate by both the receiver and the organization. Defined this way, PTB is intended to connect with prior touching and communication research which has focused on touch as a means of transmitting both social and work-related messages during interactions in organizations (e.g., Blanchard & Johnson, 1983; Crusco & Wetzel, 1984; Stewart et al., 2008). This conceptualization firmly excludes the body of research on what would widely be considered context-inappropriate touching (e.g., sexual harassment and interpersonal deviance). Because those types of touching are almost universally experienced negatively (Dunlop & Lee, 2003; Morrow, McElroy, & Philipps, 1994; Woolum, Foulk, Lanaj, & Erez, 2017), and further are fundamentally norm-violating (e.g., Robinson & Bennett, 1995) and potentially illegal, they lie beyond the scope of our theorizing.

PTB can occur in many forms across different circumstances during the course of work (e.g., high-fives, light touches on the hand or shoulder; Hall & Friedman, 1999; Simmering et al., 2013). These touching behaviors often occur as employees work on tasks together, try to persuade one another of their perspective, and both celebrate accomplishments and bemoan failures (e.g., Hornik, 1992; Marler et al., 2011). While the exact form of touch and the context in which it occurs may vary, a commonality is that employees often use touching behavior to amplify the strength of messages they convey during work-related interactions (e.g., Field, 2001; Fuller et al., 2011). In this way, professional touch is not only

regarded as a communication-based conduit to facilitate the achievement of work goals, but also as important indicator for employees' social relationships at work (Heaphy, 2017).

Towards this end, scholars have theorized that PTB is a type of social ritual in the workplace that transcends other nonverbal forms of communication (e.g., gestures or facial expressions) by sending relatively complex messages that facilitate goal-pursuit processes (Schroeder, Risen, Gino, & Norton, 2019).

Although PTB is defined as context-appropriate, this does not mean that a given instance is necessarily interpreted favorably. Given the subtlety of touch, and the diversity of messages that can be embedded in it, recipients have the potential to experience a wide range of responses. While in many cases it may be welcomed given its role in conveying social acknowledgement and support (e.g., Goldman & Fordyce, 1983; Heaphy, 2017; Todd, 2019), if those more primitive areas of our brain interpret it as a potential threat, then it is possible for touch to lead to a variety of negative response. This makes clear that the ultimate message conveyed by touch is heavily dependent "on the meaning and evaluation inferred by the recipient" (Whitcher & Fisher, 1979: 88). To more thoroughly understand how employees will respond to PTB, it is thus necessary to elucidate the processes through which recipients attribute meaning to coworkers' PTB (Fisher, Rytte, & Heslin, 1976).

As interpersonal physical contact facilitates the fulfillment of humans' basic need to develop and maintain social closeness with others (Davis, 1999; Montagu, 1972), touching can convey important social information to individuals. That is, touch may contain signals suggesting the quality of social connections and the recipients' social worth (Graham, Unruh, & Jennings, 1991; Hertenstein et al., 2006). Within the context of organizations, then, receiving PTB should trigger employees to interpret what such behavior signals about their social standing in the workplace (Leary, Haupt, Strausser, & Chokel, 1998). At the same time, since our brains evolved to be wary of the potential dangers associated with physical

contact, touching can also activate people's infection detection systems (Schaller, 2015). As such, this primitive area of our brain can appraise PTB from colleagues as a potential source of disease (Salathé et al., 2010; Zhao et al., 2019). With this conceptualization of PTB, we next describe the consequences of receiving this type of interpersonal contact at work via both the socially functional lens of sociometer theory and the immunological lens of BIS.

PRIMARY APPRAISAL OF PTB: BENEFIT VERSUS HARM

As articulated earlier, PTB can activate up to two evolutionarily-developed systems (i.e., sociometer and BIS). Next, we describe these two systems, and precisely why and how they will shape employee responses to PTB, in detail.

Sociometer Perspective on PTB

Over millennia, humans have evolved to send and receive social signals during interactions for the purpose of survival (Leary, 2010). Through this process, human beings have developed “an internal monitor of the degree to which one is valued as a relational partner” (Leary & Baumeister, 2000: 2). This internal monitor is referred to as the sociometer, which is at the core of a regulatory system that continuously detects and appraises social signals from other individuals in social settings, such as coworkers in organizations (i.e., the sociometer system; Baumeister & Leary, 1995; Leary, 2005). When functioning properly, this system guides individuals to appropriately adjust their social behavior in response to the appraisals of these signals from the external environment (Leary, 2011). More specifically, when an employee's sociometer system registers behavior from a coworker that signals that the employee is “valued as a relational partner” (e.g., by receiving help; Leary & Baumeister, 2000: 2), it responds by triggering a self-evaluative process to determine appropriate behavioral responses. In the instance of receiving social support from a coworker, for instance, employees may respond by engaging in more affiliative behaviors to maintain their positive self-appraisals. In other words, employees' sociometers help them

gain and preserve a desired level of relational value in social settings (Liu et al., 2016).

According to sociometer theory, in addition to overt verbal messages, others' non-verbal behavior during interpersonal interactions serve important social functions (Denissen, Penke, Schmitt, & Van Aken, 2008). For example, when a coworker touches a colleague on the shoulder, it can convey social acceptance from the toucher (Gallace & Spence, 2010), while an encouraging pat from a peer can signal cooperation and friendship from others at work (Heaphy, 2017; Kraus, Huang, & Keltner, 2010). In this way, the sociometer system shapes how employees appraise and respond to social signals conveyed by coworkers' PTB and regulates employees' subsequent psychological, physiological, and behavioral responses, such that they are appropriate for the situation (Baumeister & Leary, 1995; Leary, Tambor, Terdal, & Downs, 1995; Schilpzand, Leavitt, & Lim, 2016).

Inherent in people's sociometer is a dual-appraisal process that helps individuals detect and interpret social signals from others (Leary & Baumeister, 2000). The first appraisal is automatic (Lazarus, 1991, 2001; Leary, 2005). Upon experiencing an event, people instantly assess the relevance and significance of this stimulus—whether or not it is socially beneficial (Lazarus, 1991). Given that PTB plays a crucial role in conveying social signals, recipients of PTB will promptly evaluate whether such behavior represents a positive or negative social signal about their interpersonal relationships in the workplace (Fuller et al., 2011; Heaphy, 2017). This primary appraisal process helps recipients to quickly determine what such behavior from coworkers' means in terms of their current relational value, both in the specific relationship and at work more broadly (Leary, 2005; Leary & Baumeister, 2000; Leary & Downs, 1995; Puranik et al, 2019). In essence, this automatic appraisal process provides an immediate assessment of coworkers' PTB, and what such behavior means about recipients' social worth in the eyes of coworkers (Lazarus, 1991; Leary & Baumeister, 2000).

Because PTB is limited to touching that is considered appropriate for the work

context by both the receiver and the organization, this form of interpersonal contact should often be appraised as a form of social validation, support, and acknowledgement (Fuller et al., 2011; Heaphy, 2007; Leary & Baumeister, 2000). In support of this notion, research indicates that PTB serves as an indicator of one's social approval in the workplace (Montagu, 1972). For example, a gentle touch from a colleague can signal one's positive connection to others in the workplace (Sin & Koole, 2013). In addition, PTB in the form of high fives or pats on the shoulder can convey acceptance and support to recipients (Hertenstein et al., 2006; Jones & Yarbrough, 1985; Leary, 2011). As such, physical-contact based behaviors can provide instantaneous self-evaluative information and feedback to recipients (Marler et al., 2011), regarding their social standing at work (e.g., Lamothe, 2018; von Mohr, Kirsch, & Fotopoulou, 2017; Williams & Bargh, 2008). PTB can thus provide positive social feedback by conveying to employees that they are valued by others in the workplace (Simmering et al., 2013). In sum, based on sociometer theory, recipients detect the social signals encapsulated in coworkers' PTB, which in turn convey to recipients that they are valuable organizational members (Leary, 2005; 2011; Leary & Baumeister, 2000).

Proposition 1: PTB positively relates to recipients' appraisals of their relational value in their workplace.

BIS Perspective on PTB

In addition to triggering a sociometer-based appraisal process, PTB has the potential to simultaneously activate another system within humans, one that is focused on defending against potential health risks. To understand why PTB may trigger such a defense system, it is important to consider that human beings evolved alongside infections and diseases (Ewald, 1995; Wolfe, Dunavan, & Diamond, 2007). Over tens of thousands of years of interactions with pathogens (i.e., any form of microbe that can trigger one's immune system, including bacteria and viruses; Casadevall & Pirofski, 2002), humans developed a unique psycho-

immunological system that coordinates a series of disease-avoidance responses to health threats (Barreiro & Quintana-Murci, 2010). This BIS “comprises psychological processes that infer infection risk from perceptual cues, and that respond to these perceptual cues through the activation of aversive emotions, cognitions and behavioral impulses” (Schaller, 2011: 3418). Essentially, the BIS acts as the “first line of defense against contamination,” and protects human beings from potential health-related risks (Terrizzi Jr, Shook, & McDaniel, 2013: 99). The BIS contains multiple mechanisms to detect the presence of pathogens during interpersonal encounters and to help individuals avoid further direct contact with these pathogens (Schaller & Park, 2011). As such, some BIS scholars conceptualize this system as a type of proactive defense, the main purpose of which is to enhance the survival of human beings (Schaller & Duncan, 2007). In this way, the BIS serves to direct behavior so as to avoid infection in the first place, rather than relying solely on the reactive internal immunological system to deal with infections once they are present (Murray & Schaller, 2016; Schaller, 2015; Schaller & Park, 2011).

According to BIS theory, humans’ BIS includes a primary appraisal mechanism that determines how individuals interpret potential sources of infection with which they come into contact on a daily basis (i.e., infection risk or not; Murray & Schaller, 2016). During the primary appraisal process, individuals immediately and subjectively evaluate the likelihood of getting sick due to exposure to the infection risk after interpersonal encounters involving physical contact (Schaller & Park, 2011). Moreover, the BIS is sensitive to the existence of any health-related information that is available and relevant to making this risk assessment during interactions with others (Murray & Schaller, 2016). Specifically, the BIS is “sensitive to perceptual cues indicating that pathogens may be present” (Schaller & Park, 2011: 99). The implication is that this system should appraise these cues as potential health risks. In workplaces, such cues are often present. As described earlier, physical contact is a common

means via which infections spread (e.g., Nicolaides et al., 2020; Worboys, 2000), it is not uncommon for employees to come to work while ill (e.g., Dew et al., 2005; Gosselin et al., 2013), and much of work takes place in closed, indoor settings which facilitate the transmission of illnesses (e.g., Bain & Baldry, 1995). For these reasons, when an employee touches a fellow colleague, the receivers' BIS will likely appraise such behavior as a potential infection risk, rather than as a benign event (Schaller, 2011).

Proposition 2: PTB positively relates to recipients' appraisals of their infection risk in their workplace.

Relational Value (Sociometer) and Infection Risk (BIS): The Influence of Personal, Relational, and Contextual Factors

We have thus far described how the sociometer and BIS prompt employees to appraise coworkers' PTB in two fundamentally different ways. In doing so, we have treated all episodes of PTB equally. In reality, PTB may occur in various forms across different work settings. In terms of the extent to which employees appraise PTB as a potential benefit versus a source of potential harm, the primary set of determinants should involve the considerations relevant to the recipient at three different levels; namely personal, relational, and situational.

First, at the personal level, the recipient's personal comfort with touch should play a crucial role in affecting the outcome of primary appraisal among these individuals. This comfort can be defined as individuals' dispositional perspective of touching (physical) behavior as an acceptable form of interpersonal exchange (e.g., Burlison, Roberts, Coon, & Soto, 2019; Clark & Reis, 1988). When employees on the receiving end of PTB have higher levels of personal comfort with touch, they are more likely to see PTB as a legitimate and credible way of conveying social support, understanding, and caring in the workplace (Sahi et al., 2021). In other words, workers who are comfortable with touch should be very likely to view PTB positively, as a signal of their importance in their relationship(s) and as a

meaningful way for maintaining social bonding, as opposed to something threatening (Schirmer et al., 2015). To this point, scholars from other disciplines such as consumer psychology have similarly highlighted that individuals' level of comfort with "intentional interpersonal touch from or to another person" positively relates to the extent to which they attach relational value to such behavior (Webb & Peck, 2015: 62). Taken altogether, employees' personal comfort with touch should influence the likelihood that upon receipt of PTB, they appraise such behavior as a relational endorsement, rather than a threat to their well-being.

Proposition 3a: Personal comfort with touch will influence recipients' appraisals of PTB such that recipients will be more likely to appraise PTB as a source of relational value (rather than infection risk) when their personal comfort with touch is high.

Second, at the relational level, the interpersonal connection between those who engage in PTB and those who receive it should play a meaningful role in determining whether recipients will appraise such behavior as a positive signal of their relational value versus a potential threat to their physical well-being. Relationship psychologists have suggested that relational closeness (e.g., in a romantic relationship) between the individuals involved in an episode involving touch positively relates to whether recipients view the touching as appropriate behavior (Remland & Jones, 2022). Further, communication and anthropology scholars converge in their explanations that to the degree that recipients of PTB have close and intimate relationships with the person who initiates touching, recipients are inclined to experience touch as not only non-intrusive and meaningful, but also as an effective communication gesture (Devito, O'Rourke, & O'Neill, 2000; Koeppl, Montagne-Miller, & O'Hair, 2013). Finally, ethnomethodologists have also argued that the relationship quality between those who give and receive touch is one of the most important factors that determines the legitimacy of such behavior in interpersonal encounters (Cekaite & Mondada,

2020). Applying this concept to the workplace and organizational literature, it thus stands to reasons that whether they receive PTB from a coworker (high relationship quality with peers; Farmer, Van Dyne, & Kamdar, 2015) or a supervisor (high relationship quality with leader; Schriesheim, Castro, & Cogliser, 1999), how recipients appraise the behavior will be strongly shaped by their relationship quality with the other individual. More specifically, PTB from a coworker or supervisor with which an employee has a strong relationship should be more likely to be experienced as a social endorsement of their relational value at work than when it comes from an organizational member with whom they do not share a particularly close relationship. In these latter cases, PTB is more likely to be appraised more negatively, including as a health risk.

Proposition 3b: Relationship quality will influence recipients' appraisals of PTB such that recipients will be more likely to appraise PTB as a source of relational value (rather than infection risk) when their relationship quality with the person engaging in PTB is high.

Third, at a higher, situational level, norms within organizations, professions, and industries likely also play a vital role in affecting the primary appraisal process among PTB recipients. For example, "human touch" has been proposed as a normative behavior during the service delivery process (Solnet et al., 2019: 392); thus, employees within this section are more likely to see PTB as an appropriate means of communicating work-related messages among coworkers and to customers. Professional service settings can also be ones in which PTB is viewed as necessary for professionals to carry out their basic job functions.

Interestingly, this includes healthcare settings (e.g., nursing; Routasalo, 1999). For example, when medical team members work alongside one another together in an emergency room to save a patient, initiate and receiving PTB may be critical to effectively carry out necessary medical procedures. As these examples illustrate, there are industries and professional situations in which recipients are likely to view PTB as an integral part of their jobs and their

social connections to their colleagues and customers. This can be contrasted with industries or occupations that potentially in which PTB is not necessary for the job, such as educational settings (e.g., Reilly, Lott, & Gallogly, 1986). In such situations, PTB is more likely to be viewed by recipients an unneeded infection risk, or a health threat in the form of sexual harassment and interpersonal teasing (Lipson, 2001). Overall, norms associated with different professional situations (e.g., industry, profession) should play a meaningful role in determining the appropriateness of PTB from the perspective of recipients (Hedlin, Åberg, & Johansson, 2019).

Proposition 3c: Norms relevant to the context in which PTB occurs will influence recipients' appraisals of PTB such that they will be more likely to appraise PTB as a source of relational value (rather than infection risk) when PTB is normative for the professional context in which it takes place.

Now that we have described how and when employees will appraise PTB as a source of relational value versus and infection risk, we delve more deeply into the sociometer and BIS-based consequences these appraisals. To do so, we first explicate the primary set of *emotional, cognitive, physiological, and behavioral* responses that occur when recipients appraise PTB as a source of relational value.

THE SOCIALLY FUNCTIONAL PERSPECTIVE: SOCIOMETER THEORY

Subsequent Sociometer-based Responses

Socio-emotional response. According to sociometer theory, when employees' social standing is affirmed via positive social evaluation by others, such as in response to PTB, they should experience positive self-evaluative emotions (Tracy & Robins, 2007). That is, receiving PTB from coworkers should convey to receivers the achievement of a positive self-representation in the work setting, as well as the maintenance of desirable social connections and relationships with others (i.e., heightened relational value), which should make receivers

feel positively toward themselves (Robins, Nofhle, & Tracy, 2007; Tangney, Dearing, Wagner, & Gramzow, 1989). Regarding what particular self-focused emotion should result from favorable appraisals about one's relational value, emotion theorists have specifically posited that pride is commonly experienced in response to others' behavioral signals of one's social acceptability (Tangney, Stuewig, & Mashek, 2007; Tracy & Robins, 2004; Tracy, Robins, & Tangney, 2007). Following this, when employees experience heightened relational value as a result of receiving PTB, their primary emotional reaction should be pride.

Proposition 4: As a result of PTB being appraised as a benefit to recipients' relational value, they will experience the emotion of pride.

Socio-cognitive response. Per sociometer theory, the primary appraisal process and emotional response (i.e., pride) converge to provide crucial social information to recipients' sociometer, which subsequently regulates one's cognitive self-evaluation, and more specifically, the global judgement of one's self in the workplace (Denissen et al., 2008; Leary, 2011; Liu et al., 2016). In this way, the sociometer system transforms the validation by others conveyed by PTB into a positive primary appraisal of one's relational value at work, leading to feelings of pride. Such positive self-appraisal, according to sociometer theorists (e.g., Leary, 2005), should then drive elevated self-esteem, defined as an person's appraisal of their relational value (Leary & Baumeister, 2000). Indeed, researchers have noted that the positive, self-evaluative nature of pride at work should elicit positive cognitive self-appraisals in employees because pride is reflective of how much employees are able to achieve at work (e.g., Chen, Gully, & Eden, 2004; So et al., 2015); therefore, feelings of pride often relate to subsequent positive evaluations about oneself in the form of heightened self-esteem (e.g., e.g., Williams & Desteno, 2008). When PTB is appraised as a positive indication of recipients' relational value and triggers feelings of pride, then, recipients' should experience a boost in self-esteem due to the pride of being socially acknowledged (Robins, Nofhle, &

Tracy, 2007; Simmering et al., 2013). Taken together, the emotional response of pride stemming from PTB should lead recipients to view themselves more favorably.

Proposition 5: The emotion of pride stemming from the receipt of PTB will lead to elevated self-esteem in recipients.

Socio-physiological response. Although sociometer theory primarily deals with individuals' emotional and cognitive responses to social cues, research in other domains suggest that a third, physiological-based response will take place during the primary appraisal of PTB. To this point, prior physiological research indicates that the social signals conveyed by touching behavior can play a crucial role in facilitating the secretion of oxytocin (e.g., Uvnäs-Moberg, 1998), a hormone that promotes prosocial behaviors in individuals (e.g., Leng, Caquineau, & Sabatier, 2005). In particular, this line of research has shown that social cues from others provide self-evaluation information for individuals, and when this information is positive, an array of neural impulses are sent to the hypothalamus region of the brain, which is responsible for oxytocin secretion (i.e., hypothalamus; Renaud & Bourquet, 1991). In other words, the favorable appraisal of social signals from others facilitates the secretion of oxytocin in the receiving individuals (e.g., Ellingsen et al., 2014; Light, Grewen, & Amico, 2005; Lund et al., 2002). Applied to the receipt of PTB specifically, when recipients of PTB experience pride (i.e., a positive self-evaluative emotion) and self-esteem (i.e., a positive self-appraisal cognition), the recognition of these positive self-evaluations by the social regions of recipients' brains should send neural impulses to the hypothalamus (Sabatier, Rowe, & Leng, 2007), triggering the nervous system to release oxytocin into the bloodstream (Leng et al., 2005).

Proposition 6: The receipt of PTB will indirectly lead to the secretion of oxytocin in recipients, via elevated pride and self-esteem.

Socio-behavioral response. Sociometer theory posits that the primary appraisal in

response to social signals from the external environment ultimately affects people's behavior such that they maintain a desired level of relational value (Leary, 2005; Leary et al., 1995). Most commonly, emotional and cognitive responses to social signals prompt individuals to engage in behaviors that further promote their social acceptance (e.g., positive deeds; Schilpzand et al., 2016; Schilpzand & Huang, 2018). Beyond how pride and self-esteem may lead employees to engage in positive social behavior following PTB, research on the effects of oxytocin suggests that one form of behavior is especially likely to follow PTB when it is appraised as a source of relational value. That is, oxytocin promotes prosociality among individuals (Lim & Young, 2006), in that its release activates specific brain regions and the part of nervous system that are responsible for coordinating prosocial behavior (Swanson & Kuypers, 1980). Indeed, scholars regard oxytocin as “a facilitator of sociality” (Yamasue et al., 2012: 14110) that promotes and regulates humans' prosocial behavior (Bartz et al., 2011; Hammock & Young, 2006), and empirical research has shown that oxytocin in individuals' bloodstream positively relates to prosocial behavior (e.g., Bosch & Young, 2018; Carter, Williams, Witt, & Insel, 1992). The release of oxytocin in response to PTB, then, should lead to prosocial behavior in recipients (e.g., Bartz et al., 2011; Feldman, 2012), meaning that the sociometer-based process following the receipt of PTB should leave employees neurophysiologically primed to behave prosocially.

Proposition 7: The increased pride and self-esteem caused by the receipt of PTB will indirectly lead to recipient prosocial behavior via the physiological response of increased oxytocin secretion.

Having delineated the sociometer-based response process to the receipt of PTB, we now turn to BIS, to explicate how the appraisal of PTB as a health risk should lead to a different emotional, cognitive, physiological, and behavioral response process.

THE IMMUNOLOGICAL PERSPECTIVE: BEHAVIORAL IMMUNE SYSTEM

THEORY

Subsequent BIS-based Responses

Immuno-emotional response. The central tenet of BIS theory is that the primary appraisal of infection risk leads to an emotional response that directs subsequent disease-avoidance responses (Murray & Schaller, 2016; Schaller, 2014). Following this, BIS theory posits that one particular affective response—disgust—is activated in response to the detection of potential infection risks (Ackerman, Hill, & Murray 2018; Schaller, 2015). Disgust, which is associated with feelings of contamination and impurity, evolved from a primitive affective response aimed at expelling contaminated oral stimuli (Rozin & Fallon, 1987; Rozin, Haidt, & McCauley, 2008). In modern humanity, disgust continues to inform individuals of the possible contamination of food, but it also signals the possible presence of many health-related risks (Oum, Lieberman, & Aylward, 2011).

Researchers have pinpointed the central role of disgust in the BIS (Curtis, De Barra, & Anger, 2011; Lieberman & Patrick, 2014; Peng, Chang, & Zhou, 2013), and shown that disease-connoting stimuli specifically trigger disgust, as opposed to other possible emotional reactions (Tybur, Lieberman, Kurzban, & DeScioli, 2013). Given the potential for PTB to transmit illness between employees at work, recipients are likely to appraise such interpersonal encounters as creating potential for such transmission, thereby triggering the BIS-based “emotional experience of disgust” (Schaller, 2011: 3419). Therefore, in the workplace, when a recipient appraises PTB as an infection risk, it should elicit disgust.

Proposition 8: As a result of PTB being appraised as an infection risk to recipients, they will experience the emotion of disgust.

Immuno-cognitive response. BIS theory indicates that when people experience disgust after appraising a cue as disease-connoting, they then experience threat cognitions associated with the potential of experiencing harm to one’s health (Curtis et al., 2011).

Specifically, the experience of disgust increases individuals' awareness of disease-connoting cues (e.g., Ackerman et al., 2009; Olatunji, Wolitzky-Taylor, Willems, Lohr, & Armstrong, 2009), which thus causes feelings of being threatened (Curis, Aunger, & Rabie, 2004). In other words, disgust heightens people's sense of vulnerability to contagious disease and triggers defense-based cognitions (i.e., threat; Davey, 2011). As a result, when individuals experience the emotion of disgust (e.g., in response to a coworker's PTB), they should also tend to exaggerate the presence of other sources of disgust from their short-term memory, which will heighten feelings of vulnerability (i.e., threat) (Schaller, 2011; 2015). In the case of receiving PTB from a coworker, the emotional response of disgust will likely amplify recipients' sensitivity and correspondingly their perceptions of vulnerability (Rouel, Stevenson, & Smith, 2018), which combined should manifest in cognitions of threat.

Proposition 9: The emotion of disgust stemming from the receipt of PTB will lead to elevated threat perceptions in recipients.

Immuno-physiological response. BIS theory not only focuses on the psychocognitive responses to appraisals of infection risk, but also it concurrently indicates a physiological mechanism that prompts subsequent disease-avoidant behavioral responses (Murray & Schaller, 2016). Per BIS theory, the emotional and cognitive responses (i.e., disgust and threat perceptions) resulting from the primary appraisal contribute to a specific physiological response in individuals (Larson, 2002)—the production of cytokines from immune cells (Dantzer & Kelley, 2007). Cytokines are a special type of immunological protein that directs the body to prepare for disease-avoidant actions physiologically and behaviorally (Dantzer et al., 1998). When the BIS appraises stimuli as disease-connoting, the resulting emotional and cognitive responses activate individuals' immunological systems (Schaller, Miller, Gervais, Yager, & Chen, 2010). This physiological activation directs white-blood cells (i.e., a typical type of immune cells) to release cytokines. In the context of the

workplace, then, the experience of disgust and threat stemming from the receipt of PTB should initiate a BIS-based physiological reaction in the form of the release of cytokines.

Proposition 10: The receipt of PTB will indirectly lead to the release of cytokines, via elevated disgust and threat perceptions.

Immuno-behavioral response. According to BIS theory, the cytokines released by the immunological system in response to a potential infection risk (Clark & Fessler, 2015) will be detected in the bloodstream by receptors in humans' endocrine systems, which will then send neural signals to the brain that an avoidance-based behavioral response is needed (Larson, 2002). In response to these neural signals, impulses are sent to multiple organs and systems (e.g., muscular and cardiovascular system) to cease physical and social activities in order to conserve resources (Hart, 1988). In other words, cytokines-driven brain signals prompt individuals to reduce all forms of behavioral activities, especially those requiring large amounts of energy (Larson & Dunn, 2001; Schaller et al., 2010).

In the context of work, then, cytokines secretion stemming from the receipt of PTB should reduce employees' engagement in resource-depleting activities (Aubert, 1999; Dantzer, Wollman, Vitkovic, & Yirmiya, 1999; Schaller et al., 2010). This reduction in engagement often takes the form of avoidance-oriented behavior, namely withdrawal (Eder & Eisenberger, 2008). Therefore, when cytokines are released in response to the disgust and threat triggered by receiving PTB, they should cause employees to withdraw from activities such as work tasks and social engagement with coworkers. Meanwhile, per BIS theory, these employees should also prepare themselves to fight against any potential pathogen through ceasing all unnecessary forms of physical activity or behavior at work to spare resources (Kent, Bluthé, Kelley, & Dantzer, 1992). As such, the conclusion of the BIS-based process stemming from the receipt of PTB should be withdrawal, which serves the purpose of behaviorally protecting the employee from further immunological risk (Kelley et al., 2011).

Proposition 11: The increased disgust and threat perceptions caused by the receipt of PTB will indirectly lead to recipient withdrawal behavior via the physiological response of increased cytokines.

SECONDARY APPRAISAL OF PTB

Both sociometer theory and BIS theory suggest that in parallel with this primary appraisal is a second appraisal process that shapes individuals' perceptions of the appropriateness of their primary appraisal (Lazarus, 1991, 2001). Specifically, as people undergo the emotional, cognitive, and physiological responses described above, they simultaneously consider the appropriateness of such responses for themselves and their situation, and adjust these responses accordingly. As we describe next, in the case of receiving PTB at work, this secondary appraisal process will influence the strength of employees' primary appraisals of PTB and their associated responses.

Sociometer-based secondary appraisal of PTB

Secondary appraisals begin with a person-based process that is geared "towards confirming" the primary appraisal based on one's personal characteristics (Li, McAllister, Ilies, & Gloor, 2019: 365). Relevant to sociometer theory, individuals differ in terms of their need for belonging—how much they desire social validation and acceptance from others (Leary, 2021). Moreover, the extent to which individuals experience need for belonging relates to how strongly they react to the presence or absence of positive social information from others (e.g., Baumeister, Brewer, Tice, & Twenge, 2007). As such, the degree to which people harbor a need for belonging should shape the effect of PTB on the relational value derived from receiving such behavior, and thus the subsequent pride and self-esteem it elicits.

Individuals high in the need for belonging are sensitive to social signals with regards to their social acceptance across social settings (Pickett, Gardner, & Knowles, 2004), whereas individuals low in the need for belonging exhibit relatively little concern about signals related

to their interpersonal relationships (Baumeister & Leary, 1995). Therefore, employees high in need for belonging should be particularly responsive to the primary appraisal of coworkers' PTB because they are predisposed to value social connections to, and relationships with, others (Leary & Kelly, 2009). In contrast, because employees low in need for belonging are less motivated by interpersonal acceptance, they should be less affected by the social signals associated with PTB. Overall, individuals with high levels of need for belonging should be more likely to confirm and evaluate their primary appraisal as accurate, which should strengthen the pride and self-esteem they experience following PTB.

Proposition 12: The relationships between the appraisal of PTB as a benefit to their relational value and subsequent pride and self-esteem will be stronger for recipients who are high in need for belonging, than for those who are low in need for belonging.

Furthermore, appraisal theorists propose that individuals go through a context-based process in the secondary appraisal by evaluating the relevance of their responses to the primary appraisal in a more cognitively effortful manner (Lazarus, 1991, 2001). In the case of the sociometer-based responses to PTB, this means that recipients will further evaluate whether the primary appraisal is socially favorable or not to them (Lazarus & Smith, 1988). In this secondary process, one contextual factor—organizational political climate—should be particularly relevant in shaping employees' sociometer-based reactions to PTB. Political climate refers to the shared belief among organizational members how much the work environment is characterized by political behavior (Andrews & Kacmar, 2001). Because political behavior is inherently social, the organizational political climate within which PTB occurs should affect the extent to which recipients appraise such behavior as socially beneficial. In a highly political climate, organizational members tend to be driven by self-interest (Rosen, Ferris, Brown, Chen, & Yan, 2014); therefore, even when coworkers exhibit intentional and appropriate physical contact that conveys positive social signals, recipients

are likely to regard PTB as politically motivated and self-serving. Prior research has shown that when recipients of ostensibly positive behavior attribute it to political motives, they respond less positively (Ferris, Bhawuk, Fedor, & Judge, 1995). Likewise, when recipients of PTB attribute the positive interpersonal contact to political motives, it is unlikely they will also feel that the PTB is a positive signal of their relational value. On the contrary, employees working in less political climates should see PTB from coworkers as a genuine and authentic means to establish social connections, instead of attributing it to self-interest. In this way, organizational political climate should heighten the extent to which the recipients of PTB view such behavior as politically motivated rather than as a genuine, social-oriented act aimed at developing relationships.

Proposition 13: The relationships between recipients' appraisals of PTB as a benefit to their relational value and their subsequent pride and self-esteem will be weaker in high political climates compared to low political climates.

BIS-based secondary appraisal of PTB

As noted earlier, secondary appraisal usually begins with a person-based process that is geared towards confirming the primary appraisal (Li et al., 2019). Specific to BIS theory, individuals' need for healthiness should play a prominent role in shaping this confirmation process. Individuals high in need for healthiness possess a strong inclination to avoid sources of potential infection (Haselton & Nettle, 2006). These individuals are exceedingly sensitive to the risk of infection and they tend to overgeneralize the cues associated with infection risk (Park, Schaller, & Crandall, 2007). In the parlance of BIS theory, then, employees high in need for healthiness are predisposed to broadly perceive superficial cues, including the receipt of PTB, as disease-connoting (Murray & Schaller, 2016). These individuals tend to perceive the risk of infection as relatively high in most of their interpersonal encounters, and appraise physical contact during these interactions as key pathways of contagion (Schaller,

2015). In contrast, individuals low in need for healthiness are less sensitive towards the existence of disease-connoting cues or behavior because these individuals are not particularly alert in protecting themselves against pathogens. Hence, relative to employees who are low in need for healthiness, recipients of PTB, who are high in need for healthiness are more likely to confirm and evaluate their primary appraisal of PTB as an infection risk as accurate, which should strengthen their responses of disgust and threat.

Proposition 14: The relationships between the appraisal of PTB as an infection risk and subsequent disgust and threat perceptions will be stronger for recipients who are high in need for healthiness, than for those who are low in need for healthiness.

As part of the secondary appraisal, the appropriateness of the primary appraisal and corresponding responses will also be informed by the context in which it takes place (Lazarus, 1991, 2001). Therefore, recipients of PTB should consider the context in which PTB occurs when assessing the accuracy of their primary appraisal of the behavior as a risk of infection (Lazarus & Smith, 1988). Given that BIS theory deals with limiting individuals' exposure to infection risks (Ackerman et al., 2018), one contextual factor that deals with mitigating that same risk—organizational hygienic climate, should be especially relevant. Organizational hygienic climate refers to shared values and beliefs among organizational members regarding the importance of maintaining high levels of personal hygiene at work (Story, Kaphingst, Robinson-O'Brien, & Glanz, 2008). Increasingly, organizational researchers have discussed the importance of health-focused organizational climates for the sake of employees' occupational health (e.g., Arbogast et al., 2016; Kim, Cho, & Park, 2021; Sonnentag, Pundt, & Venz, 2017). Due to this importance, the extent to which an organization possesses a hygienic climate should influence recipients' perceptions of the accuracy of their primary appraisal of PTB as a health risk. In organizations with strong hygienic climates, hygiene-specific guidelines are often reiterated by managers, thereby

fostering adherence with such guidelines among employees (e.g., Daugherty, Paine, Maragakis, Sexton, & Rand, 2012). As a result, employees working in strong, compared to weak, organizational hygienic climates tend to be more vigilant about, and sensitive to, the health-related implications of physical contact or interpersonal encounters that potentially expose them to infection risks (Yuan et al., 2009). Plus, to the extent that an organization emphasizes the importance of personal hygiene at work, employees tend to be more aware of the infection potential represented by interpersonal contact with coworkers (e.g., Thompson & Rew, 2015). Following from the above, when recipients of PTB work in an organization with strong hygienic climate, they should react more negatively to such behavior and thus are more likely to confirm their primary appraisal of PTB as a risk to their health. As a result, it should strengthen their emotional response of disgust and cognitive response of threat.

Proposition 15: The relationships between recipients' appraisals of PTB as an infection risk and their subsequent disgust and threat perceptions will be stronger in high hygienic organizational climates compared to low hygienic climates.

DISCUSSION

Touch is a fundamental form of interpersonal communication, the receipt of which has important social and physiological effects (Davis, 1999; Knapp, 1980) that shape humans' emotions, cognitions, physiology, and behavior. In the workplace, PTB remains a ubiquitous form of communication that has the strength to convey messages in a way that other mediums cannot (e.g., Lynn et al., 1998; Stier & Hall, 1984). Because of the prevalence and strength of PTB, its effects in the workplace are complex; it can be a very effective and positive form of communication, but it can also be a source of extreme discomfort and disgust for recipients. The importance of the effects of touch in the workplace are increasing even more in the wake of the pandemic and the widespread shift to remote work arrangements that preclude this form of communication. And yet HRM scholars'

understanding of the consequences of this behavior is limited. Thus, there is a pressing need to disentangle and build theory regarding the potential effects of receiving PTB from colleagues at work (Fuller et al., 2011; Marler et al., 2011).

In order to close this science/practice gap (Ferris, Hochwarter, Buckley, Harrell-Cook, & Frink, 1999) between our academic understanding of the effects of PTB and the reality that HR professionals are increasingly have to deal with the complexity of it in the workplace, we focused on two systems that humans possess that shape how they respond to PTB (i.e., sociometer and BIS). Despite sharing similar evolutionary roots, their co-existence creates tensions when considered in the context of the workplace. On the one hand, from a sociometer (i.e., social-functional) perspective, PTB sends social signals to recipients that can be used to evaluate their relational value in the workplace, which subsequently triggers a series of responses that ultimately prompt recipients of PTB to enact prosocial behavior. On the other hand, from a BIS (i.e., psycho-immunological) perspective, PTB represents a potential disease-connoting stimuli which triggers recipients' evaluation of their infection risk in the workplace, initiating a series of responses that ultimately prompts recipients of PTB to engage in withdrawal behavior (Murray & Schaller, 2016; Schaller, 2015). To provide guidance regarding which of the two systems will play a leading role in shaping employee responses to PTB, we explained the personal, relative, and situational factors that will trigger whether PTB is appraised as a source of relational value versus a health risk.

The result of our theorizing is a model and set of propositions that we believe are useful for informing HR scholars and practitioners as to the complex dynamics stemming from PTB. In particular, for HRM and/or organizational researchers interested in topics pertaining to physical contact at work (e.g., Fuller et al., 2011; Heaphy, 2017), we show two theoretically grounded paths via which the receipt of such behavior can either be positive or negative. In doing so, we not only expand out theoretical knowledge of this phenomenon but

lay the groundwork for empirical work that tests and extends our propositions. Our theorizing is equally important for HRM practitioners, for whom PTB presents particularly thorny issues. For those who see little harm in it, our model makes a clear and strong case for the physiological, mental, and behavioral damage that touching can cause. For others who may feel that touching has no place in modern work settings, we show how and why its elimination would likely weaken the social fabric of the organization. Overall, it is our hope that by providing such a thorough and grounded explanation for PTB's effects, both academic and practitioner conversations about this phenomenon will be richer, more evidence-based, and more effective when it comes to understanding PTB's place in organizational communication.

Intended Contributions

Our model integrates the central tenets of sociometer theory and BIS theory to build new theory that elucidates how PTB at work affects organizational members. By doing so, we contribute to research on touching behavior, sociometer theory, and BIS theory in the organizational literature. First, by delineating *when* and *for whom* the sociometer- and BIS-based responses to PTB may be more salient, we provide a thorough account of the consequences of interpersonal touching at work. More specifically, our theory takes a balanced perspective in shedding light on *why* and *how* PTB affects recipients' engagement in prosocial and withdrawal behaviors, and in doing so, it offers novel insights regarding the consequences of work-related physical contacts in the workplace. As we alluded to earlier, humans possess two evolutionarily-developed systems (i.e., sociometer and BIS) to interpret others' social behavior, which when considered in tandem, create potential tension regarding the impact of PTB at work on recipients. Our theory not only acknowledges the role of these two systems when it comes to receiving PTB, but also helps reconcile such potential tensions by identifying the personal, relational, and situational factors that influence the strength of

recipients' sociometer-based versus BIS-based responses to PTB. In doing so, our theory heeds calls to address "the lack of understanding regarding a recipient's responses" to PTB in the workplace (Fuller et al., 2011: 2).

Second, in using sociometer theory to guide our theorizing related to the social implications of PTB, our integrated framework broadens the scope of sociometer theory in the organizational literature. Although organizational scholars have used sociometer theory to explain how employees may react to coworkers' (anti)social behavior, scant attention has been given to the processes (i.e., emotional, cognitive, physiological, and behavioral reactions) that unfold when employees' sociometers detect these social signals from coworkers (Schilpzand et al., 2016). In addition, by viewing PTB through the lens of sociometer theory, this monograph enriches sociometer theory by extending the interpersonal behavior that employees' sociometer can detect and react to, rather than limiting it to social rejection or inclusion (Leary & Baumeister, 2000).

Third, our model extends BIS theory by applying it to the organizational context (i.e., receiving PTB at work), and in doing so uncovering the series of responses that ultimately lead to the enactment of withdrawal behavior. In addition, our model directly responds to calls from BIS theorists to develop theory that disentangles the "the appraisal (process) of infection risk" in individuals' BIS (Schaller, 2015: 219). By doing so, it deepens scholars' understanding regarding the triggering process (i.e., appraisal) that leads to the series of responses in an individual's BIS (Murray & Schaller, 2016) upon receiving a stimulus. Moreover, our model illuminates the complete BIS-based set of responses (i.e., emotional, cognitive, physiological, and behavioral) that can be triggered by a particular behavior (i.e., PTB). In doing so, we move beyond extant BIS research that has predominantly focused on single psychological or behavioral responses to infection-connotating stimuli (e.g., Eskine, Kacinik, & Prinz, 2011; Miller & Maner, 2012; Young, Sacco, & Hugenberg, 2011).

Fourth and finally, the current monograph joins and extends emerging conversations regarding the importance of taking multi-disciplinary approaches to more thoroughly understand the mechanisms through which different types of employee behavior affects recipients (e.g., Glomb, Duffy, Bono, & Yang, 2011; Reina, Peterson, & Waldman, 2015). Specifically, this paper moved beyond useful but common affective and cognitive mechanisms and examined PTB from a neuro-biological perspective (e.g., Field, 2010). In doing so, our theorizing illuminates the usefulness of adopting the lenses of occupational health and social connectedness at work to understand the socio-physiological consequences of employee behavior (e.g., Leary, 2005; Sonnentag et al., 2017), instead of only the cognitive and affective effects. This model should thus serve as further evidence of the value of looking outside of the organizational literature when trying to understand organizational phenomena.

Directions for Future HRM and Organizational Research

Beyond enhancing HRM scholars' and managers' understanding about how employees react to coworkers' PTB, our theorizing opens new avenues for future research. First, this monograph provides a guiding framework for scholars to empirically examine the two distinct systems that are activated by receiving PTB at work. To do this, researchers will need to validate or adapt measures to assess the frequency of receiving PTB from coworkers during a particular period of time and the appraisal of relational value and infection risk. Regarding these empirical examinations, we would also like to call researchers' attention to potential boundary conditions (i.e., the need preferences of individuals and the climates of organizations) of the two pathways developed in our model.

Second, methodologies based in neuroscience have been increasingly common in organizational and HRM research because these approaches help uncover the neuro-physiological mechanisms of workplace phenomena (Waldman, Wang, & Fenters, 2019).

These approaches would also be useful for examining the neuro-physiological mechanisms that we predicted are triggered by PTB. For example, future research may employ methods using functional magnetic resonance imaging (fMRI) to examine employees' brain regions that are responsible for the release of oxytocin or cytokines upon receiving PTB in the workplace. By doing so, future research can test the neural mechanisms that underlie the physiological responses that we propose in our model. In another example, researchers can use less intrusive physiological approaches to assess hormone (e.g., oxytocin) levels in recipients of PTB, such as by collecting and analyzing their saliva (Huffmeijer et al., 2012).

Third, although there are psychometrically sound measures to assess interpersonal touching behavior (e.g., Fuller et al., 2011; Jones & Brown, 1996), these measures are largely subjective (e.g., perceived frequency of coworkers' touching during work-related interactions). Therefore, we encourage future HRM research to adopt mixed-method approaches (i.e., assessing PTB in a field study using subjective measures as well as manipulating PTB in an experiment setting), and consider operationalizations that objectively capture the receipt of PTB. To the later point, future research may consider using skin pressure sensor to detect the intensity and frequency of PTB (e.g., Someya et al., 2004). Specifically, this physiological instrument can measure touch input from others on a focal employee's skin and transform it into objective data that indicates the depth and frequency of touch receipt during work interactions (Nittala, Withana, Pourjafarian, & Steimle, 2018).

Fourth, as recent psychology research explicitly highlights, "an individual's power or status" can directly influence whether PTB will be appraised in a favorable manner or not (Schirmer et al., 2022: 2). To this end, we encourage researchers to consider how recipients' reactions to PTB will be shaped by the status of the other party. From the perspective of sociometer theory, employees are primed to detect any social information encapsulated in colleagues' PTB (Leary & Baumeister, 2000). Thus, it is possible that when an organizational

member who is respected and possesses prestige in the workplace (i.e., high status) engages in PTB, recipients' sociometers are likely to appraise such PTB as a potential source of enhancement to their own social standing in the workplace (Earley, 1999; Yu, Hays, & Zhao, 2019). Put differently, when a coworker who initiates PTB has high workplace status, such contact will likely be seen by recipients as a signal of social acknowledgement (e.g., Schirmer & Adolphs, 2017). Meanwhile, from the perspective of BIS theory, employees continuously scan for any infection-connotating clues that accompany colleagues' behaviors (e.g., Schaller, 2015). Researchers have found that one important cue that aids in determining the likelihood of others' disease-carrying potential is those individuals' social status (Murray & Schaller, 2016). In particular, the protection mechanism to broadly detect any possible infection-connotating clues that is inherent in people's BIS is sensitive to contact with people with lower social status (e.g., Makhanova, Miller, & Maner, 2015; Miller & Maner, 2012). This helps to explain why prior research in health and clinical psychology has consistently shown that to the extent that people have low status, they are more likely to be seen as potential disease carriers (e.g., Adler, Epel, Castellazzo, & Ickovics, 2000; Krantz & McCeney, 2002; Mirowsky & Ross, 2017). Relative to that from high-status coworkers, employees should thus appraise PTB from lower workplace status organizational members as a potential health risk (e.g., Murray & Schaller, 2016), prompting further BIS activation. All in all, we encourage future research to take status into consideration while dissecting the reactions of the PTB recipients.

Fifth, while the primary focus of this monograph is to develop a theory of recipients' sociometer- and BIS-based reactions to PTB at work, we encourage future research to delve into the role that social comparison might play in this dual-appraisal model. Per social comparison theory, it is possible that employees might compare their receipt of PTB with their peers (Suls & Wheeler, 2012). Following the predictions from social comparison

theorists, when the PTB recipients engage in downwards social comparisons (comparing themselves with the peers who have not received PTB), the sociometer system should be more activated (Smith, 2000) and they should experience strong feelings of pride. That said, when the PTB recipients engage in upwards social comparisons (comparing themselves with colleagues who receive high levels of PTB), they might view themselves as missing out on the relational value signaled by PTB, and thus potentially experience the emotion of envy or resentment. As these propositions suggest, we feel that there is a promising research avenue for HRM researchers to consider the direction (upward versus downward) of social comparison while examining the dynamics of how employees respond to PTB.

Finally, regarding the measurement of our proposed moderators, our model opens new avenues for future research to develop and validate measurement scales in assessing employees' shared perceptions of organizational hygienic climate, which may concurrently advance the occupational health literature (e.g., Sonnentag et al., 2017; Wałaszek, Kołpa, Wolak, Różańska, & Wójkowska-Mach, 2017). Meanwhile, with regard to the characteristics of the person who initiates PTB, we primarily focused on the personal, relational, as well as contextual factors, based on their theoretical relevance to both sociometer theory and BIS theory. However, there may be additional characteristics of those who engage in PTB that influence how recipients react to such behavior. For example, the interpersonal perceptions of the person who initiates PTB (i.e., warmth and competence; Fiske, Cuddy, & Glick, 2007) may affect the activation of the sociometer and BIS in the recipients of PTB. It is possible that when PTB is initiated by someone perceived to be warm, recipients' sociometers may react more strongly due to stronger signals of intimacy and social closeness (Cuddy, Fiske, & Glick, 2008). Accordingly, future studies should more fully explore how individual differences of the employee who initiates PTB may influence how employees respond to such behavior.

CONCLUSION

Despite being as important as it has ever been in the work domain, the topic of touch has been left largely untouched by organizational researchers. Perhaps because of the intimacy associated with this form of communication, touch can be a sensitive subject, but that cannot deter HRM practitioners or researchers from giving PTB the degree of examination that it warrants. In this monograph, we put this fundamental form of human communication back in the theoretical spotlight by developing a conceptual model that explains the nature of PTB, and unpacks the complex paths via which it can cause employees on the receiving end of it to either become better organizational citizens or to recede from engagement in the firm. Overall, we hope that this expansion of our understanding of the consequences of PTB in organizations jump starts new research and new conversations among and between HRM academics practitioners that yield additional insights into this emerging yet often neglected phenomenon in the workplace.

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FIGURE 1
 A Theory of Professional Touching Behavior (PTB) from the Perspective of Recipient Employees in Organization

