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Exploring Touch as a Positive Workplace Behavior

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Abstract

Whereas most research has focused on the negative aspects of touch in the workplace (i.e. sexual harassment), this study focuses upon the positive use of touch. In an effort to explain individual differences in the use of workplace touch, three sequential studies are used to introduce the concepts of workplace touch self-efficacy and workplace touch initiation anxiety. In Study 1 we develop scales to assess the constructs. Study 2 provides an initial examination of the construct validity of the measures developed in Study 1. Results of Study 3 indicate that supervisor reports of touch self-efficacy and physiological touch anxiety are related to subordinate reports of supervisor touch. Additionally, results show that supervisor use of touch is related to several indicators

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of supervisor social effectiveness. Finally, sex of the supervisor appears to play a role in workplace touch as female supervisors report less touch anxiety, greater touch self-efficacy and more use of touch than male supervisors.

Keywords

communication, interpersonal influence, job/employee attitudes, management, psychology

From birth humans appreciate and value physical touch. A mother's touch has the ability to soothe a crying infant. A coach's pat on the back can make a 12-year-old beam with pride. A boss's handshake can demonstrate deep appreciation. Though touch is fundamental to our nature, the use of touch as a means of building positive organizational relationships is a phenomenon that remains unexplored (Heaphy, 2007). While some publications in the popular press, such as *The One Minute Manager* (Blanchard and Johnson, 2003), advocate touch as a way for managers to build relationships and to enhance subordinates' performance, little research explores the potential for touch to be used in a positive fashion in the workplace.

Although there may be many reasons for the scarcity of research exploring physical touch in the workplace, the primary factor is likely to be that in many cultures, touch is considered 'taboo' in the workplace. Indeed, sexual harassment laws and policies may make many managers afraid to use physical touch to communicate with their subordinates (Richmond and McCroskey, 2004). However, adults generally have the ability to distinguish between sexually interested behavior and behavior that is simply friendly (Shotland and Craig, 1988). Further, certain types of touch – handshakes, pats on the back, and other common workplace touch – can be used legally and appropriately in the workplace. In fact, there are many examples of acceptable touch encounters among adults in certain situations. Observational research reveals there are ritualized encounters in which individuals have 'license to touch', such as a hairdresser washing a client's hair or a police officer handcuffing a suspect (Morris, 1973). Furthermore, there are clearly acceptable examples of the use of touch in business, such as the handshake. Despite this, there is still a lack of understanding regarding a recipient's responses to such appropriate touch.

Although inappropriate workplace touch has the potential to be harmful, to simply dismiss the possibility that appropriate touch can be used to achieve positive outcomes in the workplace is to ignore the following: 1) touch is a basic human need (Davis, 1999; Montagu, 1986); 2) research indicates touch can have substantial psychological and physiological benefits for adults such as reduced anxiety, fewer depression symptoms, and enhanced mood (Field, 1995); 3) research links touch to important behavioral outcomes such as increased compliance with requests from others (e.g. Kleinke, 1977) and prosocial helping (Goldman and Fordyce, 1983); and 4) touch is considered to be an effective way of communicating many feelings and emotions (Richmond and McCroskey, 2004). Given the many potential positives of touch, there is a need for researchers to offer a counter-argument to the negative view of touch in the workplace. Indeed, we agree with Heaphy (2007) that touch in the workplace is important because of its potential for building positive organizational relationships. Therefore, our objective is to

provide a foundation for the study of positive workplace touch, particularly supervisors' use of touch. Specifically, these questions have driven our research: 1) what factors make some individuals more likely than others to engage in workplace touch?; and 2) can supervisors' use of touch contribute to positive workplace outcomes?

Individual differences in the use of touch: Touch self-efficacy and touch anxiety

Touch is considered to be the most important of all the senses as it is one of the most primitive, yet complex, forms of communication (Henley, 1977; Knapp, 1980). Not only is touch the first sense to develop in children, but it serves as a primary learning tool (Montagu, 1986), and the notion that touch is necessary for normal childhood development is commonly accepted (e.g. Hertenstein et al., 2006). Moreover, touch remains important throughout adulthood (Hertenstein et al., 2006). While research has addressed individual and contextual factors related to touch, very little considers individual dispositions driving the use of touch. Yet, there is evidence that individual differences do indeed influence the use of touch. For example, individuals high in self-esteem tend to engage in more touch than their low self-esteem counterparts (Silverman et al., 1973). Research also indicates touch-related communication anxiety is related to the use of touch. Touch avoidance (Andersen and Leibowitz, 1978), a person's general attitude toward touching and being touched, has been shown to be related to tactile behavior. Unfortunately, no measures exist that are specifically designed to assess tactile dispositions in the workplace. Therefore, we seek to examine individual differences as they relate to touch by developing two workplace situated constructs – *touch self-efficacy* (TSE) and *touch anxiety* (TANX).

Our foundation for these constructs is largely drawn from Social Cognitive Theory (Bandura, 1986) and its central notion of self-efficacy, which is a judgment of 'how well one can execute courses of action required to deal with prospective situations' (Bandura, 1982: 122). Perceived self-efficacy not only influences an individual's choice of behaviors, but also the persistence of effort an individual will expend when confronted with obstacles to a chosen course of action (Bandura, 1986). Accordingly, a substantial amount of research supports the view that self-efficacy is a strong predictor of behavior and task performance (Gist and Mitchell, 1992). Bandura (1986) notes that self-efficacy judgments are task specific, so measures must focus upon the specific domain of interest. In the case of physical touch, this is particularly important because research suggests that context influences the use of physical touch (e.g. Major et al., 1990). Accordingly, our construct of touch self-efficacy focuses upon a distinct form of behavior in a specific context and is a person's belief that he or she can effectively use touch when interacting with other people in a work context. That is, TSE is a person's evaluation of his or her ability to communicate with a particular form of non-verbal behavior. Because touch is most often used to complement or accent a verbal message, and non-verbal messages 'serve primarily an affective or relational function' (Richmond and McCroskey, 2004: 11), TSE essentially reflects a self-assessment of one's ability to use physical touch to enhance his or her interpersonal communication effectiveness at work.

Given that self-efficacy should influence the initiation of behavior (Bandura, 1997), it seems likely that TSE will be related to the use of touch in the workplace. That is, individuals with high TSE will initiate physical contact with other employees more often than individuals with low TSE. Individuals high in TSE are likely to believe that they can use the appropriate type of touch at the right time to achieve successful outcomes such as enhancing their interpersonal communication effectiveness, developing better co-worker relationships, or persuading or gaining compliance from co-workers. For example, if a manager wants to reinforce an employee's behavior, he or she can literally pat the employee on the back for a job well done. On the other hand, the manager may use touch with peers to develop or reaffirm a friendly relationship. The types of touch discussed in praising and reprimanding guidelines outlined in *The One Minute Manager* (Blanchard and Johnson, 2003) are classified as positive affect touch or friendship-warmth touch, which lets other people know that we care for them and feel connected to them (Heaphy, 2007; Richmond and McCroskey, 2004). Touch can also serve other functions such as interaction management (e.g. tapping a shoulder to get attention), persuading others to do something (compliance touching; Jones and Yarbrough, 1985), or providing celebratory congratulations (e.g. high fives; Knapp and Hall, 2002). In short, touch can serve many functions in the workplace for those who feel they have the capacity to use touch effectively.

Social Cognitive Theory suggests that emotional arousal is linked with evaluations of self-efficacy as well as behavior; therefore, we also introduce the construct of *touch anxiety*. Managers may fear the use of touch, because individuals differ in the degree to which they welcome touch. Add to this concerns related to legal issues or sex differences, and it is not surprising that touch might engender feelings of anxiety. Most contemporary conceptualizations of social anxiety acknowledge that anxiety can be recognized on at least two levels – cognitive and physiological. Whereas the cognitive dimension of anxiety reflects fear about potential negative consequences of a situation (i.e. worry), the physiological dimension reflects an individual's perceptions of the body's response to stress (e.g. rapid heartbeat, dry mouth) and unpleasant feelings such as nervousness (Morris et al., 1981). Thus, we define touch anxiety (TANX) as feelings of fearful apprehension about possible negative outcomes and discomfort arising from touching other people at work. *Cognitive touch anxiety* reflects apprehensive thoughts about potential negative consequences of touching others at work. *Physiological touch anxiety* assesses discomforting physical responses to one's touch initiation anxiety. While similar to general forms of tactile communication apprehension such as touch avoidance (Andersen and Leibowitz, 1978), touch anxiety is different in that it is contextualized (i.e. workplace specific), it focuses only on touch initiation rather than both touching and being touched, it does not focus upon the sex composition of the interacting dyad (i.e. same or opposite sex), and it does not assess reactions to observing the use of touch of others.

Just as we anticipate that TSE will be related to an increased use of touch, we believe that TANX will reduce a manager's use of touch. Individuals who experience touch anxiety will be unlikely to initiate physical contact with others and may attempt to avoid touch from others. For instance, a manager with high touch anxiety may be fearful that touching a subordinate on the shoulder could make that person uncomfortable, thereby

damaging their working relationship. This anxiety is likely to inhibit a manager's use of touch in the workplace in most circumstances.

Study I

To explore these touch constructs, both TSE and TANX were developed and validated by the current authors using best practices suggested in the literature (e.g. by DeVellis, 2003; Netemeyer et al., 2003; and Schwab, 1980). We began with item generation, for which we relied on both deductive and inductive processes. For the deductive phase, we conducted a literature review spanning multiple disciplines to understand touch-related concepts. A focus group discussion with working adults (the inductive phase) gave specific examples that could be used for scale instructions and items that we developed. With the information from these two phases, items were brainstormed by the current authors, who then combined, refined, and reduced them. Working together to make judgments on all items, 11 items to measure TSE and 16 items to measure TANX were established. Prior to any analysis, all of the items included in this study were classified by four subject matter experts as being consistent with the definition of TSE or TANX. The subject matter experts were doctoral students in business who had recently completed coursework addressing Social Cognitive Theory and scale development. Substantive Agreement Index scores (Anderson and Gerbing, 1991) indicated that the subject matter experts achieved greater than 96 percent correct coding, providing evidence of content validity of the items.

Working adults contacted through a snowball sampling process were surveyed. Undergraduate and graduate students at two campuses of a US public southern university were offered a small amount of extra credit for giving surveys to two or three different working adults. Additionally, currently employed students could also complete a survey. The sample size was 244, and survey participants were 45 percent male, whose ages ranged from 19 to 68 (mean = 41.69, SD = 12.40), with 97 percent having been raised in the US. The average number of years that respondents had worked in any full-time job was 18.94, and 51 percent of the sample supervised others on a regular basis (average span of control was 6.51 employees).

The survey instructions for all three scales stated, 'For these items, please respond based on your beliefs about the use of touch *in your current workplace*' and 'For this survey, touch is not intimate or sexual, but includes actions such as handshakes, pats on the back, tapping on a shoulder, high-fives, elbowing, hugs, playful punches etc.' Survey responses were on a five-point Likert-type response format ranging from 1 = *Strongly disagree* to 5 = *Strongly agree*.

An exploratory factor analysis (EFA) was conducted to analyze the interrelationships of the items and to suggest additional items for deletion (Ford et al., 1986; Schwab, 1980), using the Maximum Likelihood extraction and the Oblimin rotation for all analyses (recommended for scale development purposes; Conway and Huffcut, 2003). Factors were retained if their Eigenvalue was over 1.0. Items were retained if they did not cross-load on more than one factor and if their factor loading was greater than $\pm .30$. The results of the EFA provide general support for the items generated for the TSE and TANX scales. All TSE items loaded strongly on a single factor. However, one item in the scale that referred to a specific type of touch (i.e. hug) was removed so that no items referenced a specific type of touch. The coefficient alpha reliability for the resulting 10-item scale was .92. Scale items are:

- 1) I can easily use touch to achieve a variety of outcomes.
- 2) I believe I can succeed at communicating a message with touch.
- 3) Compared to other people, I believe I'm better at using touch.
- 4) In a difficult situation, I can use touch to ease the tension of others.
- 5) I believe I can use touch to help others.
- 6) Even when things are tough, I can use touch to help influence others.
- 7) I'm confident that I can use touch effectively in a lot of different situations.
- 8) I feel like I am effective in making others feel better when I touch them.
- 9) I can use touch to form stronger working relationships with others.
- 10) I find I can more effectively convey some messages when I use some form of touch than when I don't use touch.

As expected, the EFA of TANX items produced two factors, which we labeled cognitive touch anxiety (TANX-C) and physiological touch anxiety (TANX-P). After examining the factor loadings and the specific items, seven items for TANX-C, which had a reliability of $\alpha = .90$, were retained. One item was dropped, 'When I'm at work, I don't touch other people', because it assessed behavior rather than apprehension. The TANX-C items are:

- 1) It scares me to think that I could damage my relationship with someone at work if I touch them and they take it the wrong way.
- 2) I hesitate to touch others at work for fear of offending them.
- 3) I hesitate to touch others at work for fear of making the wrong impression.
- 4) I feel apprehensive about touching other people at work.
- 5) When I'm at work, I worry that touching other people may make them uncomfortable.
- 6) I'm careful about who I touch in my workplace.
- 7) I often worry about giving the wrong impression when I touch other people at work.

TANX-P comprised three items and had a reliability of $\alpha = .88$. Items are:

- 1) My heart beats faster than usual if I touch someone.
- 2) My mouth gets dry if I touch others.
- 3) I perspire when I have to touch someone.

In this data set, TSE was negatively correlated with TANX-C ($r = -.31, p < .01$) and TANX-P ($r = -.31, p < .01$). TANX-C was positively correlated with TANX-P ($r = .27, p < .01$), which is consistent with previous research examining cognitive and physiological anxiety.

Study 2

The purpose of Study 2 was to examine the relationship between touch self-efficacy and touch anxiety, as well as to identify antecedents for preliminary construct validity testing. The construct validation approach consisted of two stages: 1) reaffirming dimensionality

and internal consistency of the scales of touch self-efficacy and touch anxiety, and 2) demonstrating high correlations with similar/antecedent constructs and not-too-high correlations with unrelated constructs (Campbell and Fiske, 1959; Schwab, 1980). For the second stage, three individual differences that are likely to be positively associated with touch self-efficacy and three individual differences that are likely to be correlated positively with touch anxiety are proposed. These individual differences can be seen as antecedents to the touch-related variables, because they are broader characteristics that do not address a specific type of behavior.

Social Cognitive Theory's (Bandura, 1986) premise is that emotional arousal is one of the main sources of information that individuals may use to form self-efficacy evaluations, and that anxiety produces negative emotional arousal. Thus, touch anxiety should be negatively related to TSE. In general, Social Cognitive Theory suggests that people tend to believe they are more capable when they experience less anxiety because strong emotional arousal often debilitates performance (Bandura et al., 1977). Consequently, anxiety is thought to lead to negative evaluations of one's task self-efficacy (Bandura, 1986). Research supports the view that anxiety can cause less than optimistic predictions of performance (Shepperd et al., 2005) and that specific forms of anxiety are negatively related to specific types of self-efficacy (e.g. computer anxiety and computer self-efficacy; Marakas et al., 1998; Thatcher and Perrewe, 2002). Social Cognitive Theory also suggests that anxiety may be an outcome of self-efficacy evaluations and that there is a reciprocal relationship between these two variables (Bandura, 1997).

Hypothesis 1: Touch anxiety will be negatively related to touch self-efficacy.

Antecedents of touch self-efficacy and touch anxiety

Research indicates that general self-efficacy is positively related to domain specific measures of self-efficacy. Self-efficacy is considered a motivational construct that is sometimes seen as an aspect of conscientiousness (Gardner and Pierce, 1998). General self-efficacy is a relatively stable expectation that one has the ability to successfully perform in a variety of situations (Gardner and Pierce, 1998). Individuals with a higher overall sense of self-efficacy are more likely to have high self-efficacy related to specific areas, such as touch.

Hypothesis 2: General self-efficacy will be positively related with touch self-efficacy.

Extraversion, one of the 'Big Five' personality traits, should be related to TSE. Extraverts, who tend to be friendly, affectionate, assertive, energetic, and social, are also more emotionally expressive and more effective at non-verbal communication (Buck, 1975; Knapp and Hall, 2002). Extraversion has been found to be related to positive attitudes toward touch (Deethardt and Hines, 1983) and negatively related to touch apprehension (McCroskey et al., 2001). Extraverted individuals are likely to be more experienced with and more interested in using touch for communication.

Hypothesis 3: Extraversion will be positively related to touch self-efficacy.

Finally, positive affect (PA) is anticipated to be a personality antecedent of touch self-efficacy. Individuals high in PA have more positive emotions and moods; they are optimistic and upbeat. Positive affect is predictive of sociability and because it is generally related to greater confidence and self-efficacy (Lyubomirsky et al., 2005); it is likely to engender stronger TSE. Positive affect has been found to be negatively related to social anxiety (Kashdan and Roberts, 2004) and positively related to social self-efficacy. Individuals who are generally more positive in their workplace interactions should feel more comfortable with touch.

Hypothesis 4: Positive affect will be positively related to touch self-efficacy.

Just as touch self-efficacy is anticipated to be related to general self-efficacy, we expect a positive correlation between touch anxiety and trait anxiety. Trait anxiety is defined as a dispositional tendency to experience subjective distress across a broad range of situations (Kanfer and Heggstad, 1997), such as nervousness, tension, and worry. Those high in trait anxiety tend to avoid situations in which failure is possible and to experience discomfort when confronted with these situations (Kanfer and Heggstad, 1997). Since touch in the workplace is fraught with the potential for misunderstanding, it may provoke discomfort in those prone to trait anxiety. Therefore, individuals who have higher trait anxiety are likely to have anxiety related to touch as touch may lead to distress.

Hypothesis 5: Trait anxiety will be positively related to touch anxiety.

Negative affect (NA) reflects ‘pervasive individual differences in negative emotionality and self-concept’ (Watson and Clark, 1984: 465). NA is broader than trait anxiety because it represents a more emotionally intense condition including affective states not necessarily experienced by those high in trait anxiety (e.g. anger, guilt, scorn) (Watson and Clark, 1984). Those high in NA tend to interpret ambiguous stimuli more negatively, more readily accept negative information about themselves, and focus more on their failures than those low in NA (Watson and Clark, 1984). Research indicates NA is positively related with social anxiety (Kashdan and Roberts, 2004), so individuals high in NA should be more inclined to feel anxious regarding workplace touch.

Hypothesis 6: Negative affect will be positively related to touch anxiety.

Shyness may be seen as the counterpart to extraversion. Shyness is a form of social anxiety in which people experience trepidation over failures that have not yet occurred (Miller, 1995). People who are shy are both anxious and inhibited in interactions with others and consequently exhibit less social skill than those who are not shy (Miller, 1995). Shyness may increase an individual’s touch anxiety, because a person who is more uncomfortable with others in general will likely be reluctant to touch or be touched at work.

Hypothesis 7: Shyness will be positively related to touch anxiety.

Method

Participants and procedure

In a data collection that was separate from and subsequent to that of Study 1, we used a similar technique to identify working adults. Participants were identified through a snowball sampling process at two campuses of a public southern US university. Undergraduate and graduate students were offered extra credit for giving surveys to two to three working adults, and working students could complete a survey themselves. This sample of 405 working adults was 43 percent male, with ages ranging from 18 to 67 years (mean = 37.52, SD = 12.99), an average of 15.72 years full-time job experience, with 49 percent of the sample currently supervising others (average span of control = eight employees).

Measures

All of the scales used in this study utilized a five-point Likert-type response format ranging from 1 = *Strongly disagree* to 5 = *Strongly agree*.

Touch self-efficacy (TSE) The 10-item scale described above was used; the coefficient alpha reliability for this scale was .93.

Touch anxiety – cognitive (TANX-C) The seven-item scale developed for this study (see above), was used. The coefficient alpha reliability for this scale was .90.

Touch anxiety – physiological (TANX-P) The three-item scale described above was used. It had a coefficient alpha reliability of .87.

Extraversion This was assessed with Goldberg's (1999) International Personality Item Pool's (IPIP) 10-item scale and had a reliability of $\alpha = .81$.

General self-efficacy This was assessed with Chen et al.'s (2001) eight-item general self-efficacy (NGSE) measure. Reliability was $\alpha = .89$.

Positive and negative affect These were assessed with the two 10-item PANAS scales (Watson et al., 1988). Reliability was $\alpha = .83$ and $\alpha = .86$, respectively.

Trait anxiety This was assessed with Lehrer and Woolfolk's (1982) 11-item cognitive anxiety scale. This scale had a reliability of $\alpha = .86$.

Shyness This was measured with 10 items adapted from the Revised Cheek and Buss Shyness Scale (Cheek, 1983). This scale had a coefficient alpha reliability of .92.

Social desirability This was included for discriminant validity purposes (e.g. McCarthy and Goffin, 2004). Social desirability was assessed with a 10-item version of Crowne and Marlowe's (1964) scale and had a reliability of .64.

Results

A confirmatory factor analysis (CFA) using LISREL 8.50 was used to cross-validate the three-factor solution obtained in the EFA. The one-factor model had a very poor fit to the data (χ^2 (170 d.f.) = 3782.02, χ^2 /d.f. = 22.25, RMSEA = .23, RMSEA 90% CI.22 – .24, SRMR = .18, CFI = .49). While all three possible two-factor models offered a statistically significant improvement over the one-factor model, the best two-factor model was one in which TSE was a single factor and TANX-C and TANX-P were combined into another factor (χ^2 (169 d.f.) = 1059.69, χ^2 /d.f. = 6.27, RMSEA = .11, RMSEA 90% CI.11 – .12; SRMR = .09, CFI = .79). In the three-factor model, all indicators related strongly and significantly on the appropriate factor, and the fit indices indicate the model provides a good fit to the data (χ^2 (167 d.f.) = 497.19, χ^2 /d.f. = 2.98, RMSEA = .07, RMSEA 90% CI.06 – .07, SRMR = .05, CFI = .90). The three-factor model offers a statistically significant improvement over the best fitting two-factor model (i.e. d.f. = 2, $\Delta\chi^2$ = 562.50, $p < .01$), which provides evidence of unidimensionality and discriminant validity for the touch scales (DeVellis, 2003; Gerbing and Anderson, 1988; Netemeyer et al., 2003).

A measure has convergent validity to the extent that it covaries with theoretically relevant measures and a measure has discriminant validity to the extent that it is not related to unrelated constructs (DeVellis, 2003; Schwab, 1980). To assess the construct validity of our touch self-efficacy and touch anxiety scales, we examined the zero-order correlations among the variables (see Table 1). Hypothesis 1 was partially supported, TSE is negatively correlated with TANX-C ($r = -.27, p < .01$). TSE and TANX-P are not correlated ($p > .05$). Hypotheses 2, 3, and 4 were supported as touch self-efficacy is positively correlated with general self-efficacy ($r = .14, p < .01$), extraversion ($r = .21, p < .01$), and positive affect ($r = .16, p < .01$). The results also support Hypothesis 5 as TANX-C and TANX-P were found to be positively related to trait anxiety ($r = .11, p < .05$; $r = .16, p < .01$, respectively). Hypothesis 6 was not supported; negative affect was not related to either of the touch anxiety variables. However, Hypothesis 7 was supported since shyness was found to be positively related to both TANX-C ($r = .15, p < .01$) and TANX-P ($r = .22, p < .01$). The results also indicate the touch scales were unrelated to social desirability.

The results of Study 2 provide evidence for the construct validity of the TSE and TANX measures – the scales are highly reliable, distinct, are correlated with antecedent constructs proposed for each, and uncorrelated with social desirability. Most of the broad individual differences that were investigated as antecedents of our new constructs were related as anticipated. While this correlational analysis provides important information regarding the construct validity of our new measures, the real value of these new measures should be the extent to which they help to understand the use of touch in the workplace. Thus, in Study 3, we will undertake a multisource data collection to investigate the empirical value of TSE and TANX.

Study 3

In Study 3, we investigate the degree to which supervisor TSE and TANX are related to subordinate-reports of the supervisors' use of touch. Further, we explore the relationship between supervisors' use of touch and several indicators of supervisor social effectiveness. Finally, we examine sex differences as they relate to the touch variables.

Table 1 Study 2 descriptive statistics and zero-order correlations

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. TSE	3.46	.76	(.93)													
2. TANX - C	3.06	.81	-.27**	(.90)												
3. TANX - P	1.77	.73	-.06	.32**	(.87)											
4. Gen. self-eff.	3.95	.54	.14**	-.08	-.18**	(.89)										
5. Extraversion	3.32	.60	.21**	-.05	-.15**	.24**	(.81)									
6. Pos. affect	3.64	.57	.16**	-.09	-.13*	.46**	.38**	(.83)								
7. Trait anxiety	2.54	.62	-.10	.11*	.16**	-.30**	.19**	-.21**	(.86)							
8. Shyness	2.40	.75	-.08	.15**	.22**	-.34**	-.63**	-.41**	.52**	(.92)						
9. Neg. affect	1.97	.64	.00	.06	.09	-.28*	-.13**	-.24**	.64**	.44**	(.86)					
10. Race	.75	.46	.06	-.13*	-.05	-.06	.04	-.05	.08	.07	-.05	—				
11. Sex	.58	.56	.01	-.09	-.09	-.04	-.08	-.05	.03	.04	.02	.02	—			
12. Age	37.24	13.01	.02	.04	.02	.02	-.08	-.05	-.14**	.02	-.13**	.15**	.00	—		
13. Yrs worked	15.34	11.93	.00	.03	-.01	.02	-.05	-.06	-.16**	.04	-.13**	.23**	.07	.86**	—	
14. Soc. Desir.	.39	.23	-.01	.04	.07	-.24**	-.04	-.13*	.40**	.26**	.41**	.na	.na	.na	.na	(.64)

Notes: N = 405. Coefficient alpha reliabilities are reported in the diagonals.

*p < .05; **p < .01. Sex is coded 0 = male and 1 = female.

Touch self-efficacy and touch anxiety as antecedents of workplace touch

According to social cognitive theory, self-efficacy should be more predictive of behavioral and cognitive engagement than of the outcomes of this engagement (Bandura, 1997). Luthans and Youssef (2007) also state that, from a positive organizational behavior perspective, it is critical that the impact of positive states like self-efficacy manifest themselves in tangible, measurable behaviors. Therefore, it is critically important to establish that TSE and TANX are related to the use of touch in the workplace. To that end, we explore the degree to which supervisors' own feelings regarding touch in the workplace are related to their subordinates' perceptions of these supervisors' use of touch. That is, if supervisors report higher levels of touch self-efficacy and lower levels of touch anxiety, subordinates should indicate that their supervisors use touch more often in the workplace.

Hypothesis 8: Supervisors' self-reports of touch self-efficacy will be positively related to subordinates' ratings of the supervisors' use of touch in the workplace.

Hypothesis 9: Supervisors' self-reports of touch anxiety will be negatively related to subordinates' ratings of the supervisors' use of touch in the workplace.

Touch as a positive workplace behavior

Touch has been related to a variety of positive outcomes; however, it is important to link it to positive outcomes in the workplace. Heaphy (2007) and others (e.g. Blanchard and Johnson, 2003) suggest that managers are likely to gain a variety of benefits (e.g. positive relationships, perceived support) if they use touch to show subordinates they care about them and are concerned about their success. The general rationale is that 'through touch, people will communicate support and caring to each other and thus feel safer and closer to each other' (Edwards, 1984: 770). Indeed, Fisher et al. (1976) note that 'touch is an essentially positive stimulus for the recipient to the extent that it does not: (a) impose a greater level of intimacy than the recipient desires . . . , or (b) communicate a negative message' (p. 417). Therefore, it seems likely that supervisor touch conveying a positive message (e.g. positive affect) should be related to several indicators of supervisor social effectiveness.

Because touch may be used to persuade (Jones and Yarborough, 1985), obtain compliance with requests (Willis and Hamm, 1980), or generate prosocial behavior (Goldman and Fordyce, 1983), one way to conceptualize touch is as an influence tactic. If touch is conceptualized as an influence tactic, then supervisors who use touch effectively should demonstrate greater interpersonal influence and greater apparent sincerity. Interpersonal influence captures work-related relationship building skill and communication effectiveness, while apparent sincerity assesses the extent to which individuals are honest, open, and forthright (Ferris et al., 2005). Interpersonal influence is an important outcome to consider because it is a reflection of the degree to which the supervisor has correctly adapted their influence behavior to the target of the behavior (i.e. the subordinate). Apparent sincerity is an important outcome to consider

because it is a reflection of the subordinate's evaluation of the supervisor's motives and intentions. Therefore, if a supervisor has been effective in their use of touch, they should be perceived as an influential communicator as well as possessing high levels of integrity and sincerity.

Hypothesis 10: Supervisors' use of touch will be positively related to their interpersonal influence.

Hypothesis 11: Supervisors' use of touch will be positively related to their apparent sincerity.

We also sought to determine the degree to which use of touch was linked to a supervisor's likeability. Previous research has demonstrated a relationship between touch and liking. In Fisher et al.'s (1976) study, library clerks who touched a patron's hand when returning change received higher ratings of liking by the patron. There are several reasons as to why liking is associated with touch. Touch may indicate affection (Heaphy, 2007) and affection is a universal social reward that makes the recipient feel valued (Buss, 1983). Further, people tend to like those individuals who also like and appreciate them (Kenny and Nasby, 1980). Thus, supervisors who use touch more frequently in the workplace will be perceived to be more likeable by their subordinates.

Hypothesis 12: Supervisors' use of touch will be positively related to their likeability.

In a workplace context, a supervisor's use of touch should be related to employees' perceptions of their supervisors' support. Perceived supervisor support is an employee's perception that the supervisor values his or her contributions and well-being and is a reflection of the relationship quality between the supervisor and the subordinate (Kottke and Sharafinski, 1988). Research indicates perceived supervisor support not only increases perceptions of support from the organization as a whole, but also increases task and extra-role performance (Eisenberg et al., 2002; Shanock and Eisenberger, 2006). Thus, this variable has important implications for increased workplace effectiveness. In the workplace, a supervisor's appropriate use of touch is likely to send the message that the supervisor genuinely cares about the subordinate. Thus, subordinates should experience increased perceptions of supervisor support when the supervisor engages in supportive touch.

Hypothesis 13: Supervisors' use of touch will be positively related to their perceived supervisor support.

Need for touch

One factor to consider in a model of workplace touch is an individual's general motivation to seek out tactile interaction – their 'need for touch'. The concept of need for touch is based upon the idea that physical contact with others helps to fulfill a basic need for closeness and sociability and that people vary in these types of affiliation needs (Cheek and Buss, 1981; Richmond and McCroskey, 2004). As Richmond and McCroskey (2004)

note 'touching others can help fulfill our need for closeness' (p. 137). Thus, need for touch reflects a general motivation to seek out social contact and is an aspect of sociability (Cheek and Buss, 1981). Therefore, it seems likely that for individuals with high touch needs, the relationship between supervisor touch and supervisor evaluations (i.e. communication effectiveness, sincerity, likeability, and support) will be positive because these individuals value the tactile interaction. However, for individuals with low touch needs, the relationship between supervisor touch and supervisor evaluations should be relatively weaker because these individuals do not value tactile interaction.

Hypothesis 14: Subordinates' need for touch will moderate the relationship between subordinate perceptions of the supervisors' use of touch and subordinate perceptions of the supervisors' a) interpersonal influence, b) apparent sincerity, c) likeability, and d) supervisor support, such that there will be stronger positive relationships for subordinates with a high need for touch.

Sex differences

While there is little research on sex differences in touch in the workplace, there is abundant literature on the general phenomenon of sex differences in adult touch. Studies have been conducted to determine which sex is more likely to initiate touch, whether same-sex or opposite sex touch is more prevalent, and whether males or females are more likely to initiate (and to accept) touch. While results from touch research have not always been consistent, there are some findings that have been replicated more often than others. There is some consensus regarding who receives touch – in general, females are touched more than males (Crusco and Wetzel, 1984; Henley, 1977; Major, 1981; Major et al., 1990). There is debate as to the frequency of same-sex versus opposite-sex touch, with some concluding that opposite-sex is more prevalent (Major et al., 1990; Willis et al., 1978), and others concluding that same-sex is more prevalent (e.g. Stier and Hall, 1984). Yet, when there is same-sex touch, there is evidence that males are less comfortable with same-sex touch than are females (Martin and Anderson, 1993; Stier and Hall, 1984; Willis and Rawdon, 1994).

Hypothesis 15: Females will be recipients of touch more often than males.

Hypothesis 16: Same sex touch between females will occur more frequently than same sex touch between males.

In addition, we also explore the following: 1) touch initiation of male versus female supervisors, regardless of subordinate sex, and 2) frequency of touch in same-sex versus opposite-sex pairings. The findings in prior research regarding these two questions have been equivocal. While some authors have concluded that females are as likely or more likely to initiate touch than are males (Jones, 1986; Smith et al., 1980; Stier and Hall, 1984), others have concluded that males engage in touch more often than women (Henley, 1977) or that there is little difference in touch initiation between the sexes (Hall, 1996). And, as noted above, there is conflicting evidence as to whether same-sex or opposite-sex touch occurs more often.

Method

Participants and procedure

Participants in this study were 234 matched pairs of supervisors and subordinates recruited in a data collection that was separate from that of both Study 1 and Study 2. Working students in nine management courses at four public southern universities in the US were asked to participate for extra credit if they were currently working and had a supervisor who could complete a separate survey. *T*-tests indicate that there were no significant differences in the outcome variables based on which university each student attended. After being contacted by the course instructor via email, participants emailed a research assistant and provided their own email address and their supervisor's email address. The research assistant assigned a four-digit code to each student/supervisor pair and sent separate emails to each which included links to separate online surveys. The resulting sample of supervisors was 60 percent male, with an average age of 41.53 (minimum = 23, maximum = 79). The average number of employees supervised was 21. The matched sample of subordinates had an average age of 29.67 and was 49 percent male.

Measures

The *Touch self-efficacy* ($\alpha = .93$), *Touch anxiety – cognitive* ($\alpha = .92$), and *Touch anxiety – physiological* ($\alpha = .92$) scales described previously were used to measure these variables. Supervisors provided self reports for each of these measures.

Use of touch Subordinates were asked to assess the frequency with which their supervisor touched them. The scale consisted of six items reflecting supervisor's use of touch to convey positive affect: 'How often does your supervisor touch you?', 'How often does your supervisor use touch to give you encouragement?', 'How often does your supervisor use touch to show his/her approval?', 'How often does your supervisor use touch to show that s/he cares about you?', 'How often does your supervisor use touch to apologize to you?', and 'How often does your supervisor touch you out of friendship?' The responses for these items ranged from 1 = *Never* to 5 = *Frequently* ($\alpha = .93$). Supervisors were also asked to respond to the same questions framed as self-reports of touching their subordinate (e.g. 'How often do you use touch to encourage this subordinate?' ($\alpha = .93$).

Interpersonal influence Ferris et al.'s (2005) four-item scale was used to assess interpersonal influence ($\alpha = .92$). Subordinates completed this scale in regards to their supervisors. An example item is 'My supervisor is able to communicate easily and effectively.'

Apparent sincerity Subordinates completed Ferris et al.'s (2005) three-item scale to assess their supervisors' apparent sincerity. This scale had a reliability of $\alpha = .85$. A sample item is 'My supervisor tries to show a genuine interest in other people.'

Perceived supervisor support This 16-item scale from Kottke and Sharafinski (1988) had a reliability of $\alpha = .93$. Subordinates completed this scale in regards to their supervisor.

Likeability Seven positively framed items were used to assess supervisor likeability ($\alpha = .92$). Subordinates were asked to indicate how characteristic seven descriptors were of their supervisor (i.e. warm, likeable, kind, sympathetic, thoughtful, friendly, warm-hearted). This scale utilized a seven-point response format ranging from 1 = *Definitely not to* 7 = *Definitely*.

Need for touch Four items were developed to assess need for touch: 'I touch others more than most people do', 'I consider myself as a touch-feely person', 'I generally seek physical contact from others', and 'People think of me as someone who hugs a lot.' Both supervisors and subordinates were asked to respond to these items (supervisors $\alpha = .89$; subordinates $\alpha = .89$).

Sex The sex of the supervisor and the subordinate were collected via self-report on their respective surveys. Sex was coded 0 = *male* and 1 = *female*.

Results

The descriptive statistics and correlations for Study 3 are presented in Table 2. The positive correlation between supervisor-reported use of touch and subordinate reports of supervisor touch provides evidence supporting of the validity of the subordinate reports. Hierarchical multiple regression was used to test Hypotheses 8 and 9 with supervisor sex and supervisor need for touch being used as a control variables. Results indicated that supervisor sex is unrelated to subordinate-reported supervisor touch ($\beta = .04, p > .05$), although supervisor need for touch is positively related to subordinate reported supervisor touch ($\beta = .17, p < .05$). When TSE, TANX-C and TANX-P were added to the equation, the analysis indicated only TSE ($\beta = .18, p < .05$.) and TANX-P ($\beta = -.19, p < .01$) are related to subordinate-reported supervisor touch (supervisor sex, $\beta = .01, p > .05$; supervisor need for touch $\beta = .06, p > .05$; TANX-C, $\beta = -.04, p > .05$). We also used hierarchical multiple regression to assess the relationship between supervisors' use of touch and the four outcome variables. Consistent with Cohen et al.'s (2003) suggested procedure, we centered both main effects variables prior to creating the interaction term in order to reduce the potential for multicollinearity among main effect variables to bias the interaction term and its interpretation (i.e. its statistical significance). Results in Table 3 indicate support for Hypotheses 10–13. After controlling for subordinate sex, subordinate ratings of their supervisors' use of touch is positively related to subordinate ratings of interpersonal influence, apparent sincerity, likeability, and perceived supervisor support.

There is some support for Hypothesis 14 – subordinate need for touch moderates the relationship between supervisor touch and interpersonal influence, but not the other three relationships (see Table 3). Although the additional amount of variance accounted for by the interaction term is small, it is consistent with the amount of variance explained in most field studies (i.e. 1–3%; McClelland and Judd, 1993). Figure 1 illustrates that the positive relationship between subordinate perceptions of supervisor touch and interpersonal influence is strengthened by high subordinate need for touch and fully suppressed when subordinate need for touch is low.

Table 2 Study 3 descriptive statistics and zero-order correlations

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Touch self-efficacy ^a	3.26	.79	(.93)													
2. Touch anxiety – cog ^a	3.37	.88	-.48 ^{**}	(.92)												
3. Touch anxiety – phys ^a	1.75	.75	-.06	.32 ^{**}	(.92)											
4. Need for touch ^a	2.22	.85	.59 ^{**}	-.46 ^{**}	.07	(.89)										
5. Use of touch ^a	2.42	1.03	.61 ^{**}	.58 ^{**}	.14 [*]	.50 ^{**}	(.93)									
6. Use of touch ^b	1.95	.89	.24 ^{**}	-.22 ^{**}	-.22 ^{**}	.17 ^{**}	.33 ^{**}	(.93)								
7. Interpersonal influence ^b	4.17	.79	.03	-.03	-.11	.06	.02	.20 ^{**}	(.92)							
8. Apparent sincerity ^b	4.16	.75	.01	-.04	-.12	-.01	.05	.22 ^{**}	.80 ^{**}	(.85)						
9. Supervisor support ^b	4.04	.60	.06	-.06	-.01	.06	.10	.19 ^{**}	.61 ^{**}	.61 ^{**}	(.93)					
10. Likeability ^b	6.01	1.04	-.01	-.08	-.08	.04	.05	.18 ^{**}	.65 ^{**}	.57 ^{**}	.72 ^{**}	(.92)				
11. Need for touch ^b	2.26	.96	.02	-.15 [*]	-.09	.03	.19 ^{**}	.37 ^{**}	.04	.08	.01	.04	(.89)			
12. Sex – subordinate ^b	.51	.50	.11	-.10	-.01	.16 [*]	.14 [*]	-.01	.01	.01	.08	.10	.09	—		
13. Sex – supervisor ^a	.40	.49	.10	-.21 ^{**}	-.12	.20 ^{**}	.17 ^{**}	.07	.04	.07	.05	.08	.05	.26 ^{**}	—	
14. Age – subordinate ^b	29.67	9.13	-.10	-.05	-.06	.00	-.11	-.02	.01	.03	-.01	.10	.18 ^{**}	-.10	-.03	—
15. Age – supervisor ^a	41.53	10.49	.06	-.15 [*]	-.02	.10	-.02	.04	.01	.06	.20 ^{**}	.13 [*]	.07	.14 [*]	.17 ^{**}	.26 ^{**}

Notes: N = 234. Coefficient alpha reliabilities are reported in the diagonals.

* $p < .05$; ** $p < .01$. ^aSupervisor report. ^bSubordinate report. Sex is coded 0 = male and 1 = female.

Table 3 Regression results for Hypotheses 10–13

	Interpersonal influence		Apparent sincerity		Likeability		Perceived supervisor support	
	β (Step 2)	β (Step 3)	β (Step 2)	β (Step 3)	β (Step 2)	β (Step 3)	β (Step 2)	β (Step 3)
<u>Step 1: Control variable</u>								
Subordinate sex	-.01	.02	.01	.01	-.13*	.13	.09	.09
<u>Step 2: Main effects</u>								
Perceived use of touch	.21**	.18**	.23**	.22*	.22**	.22**	.21**	.22**
Sub. need for touch	-.04	-.06	.00	-.04	-.04	-.04	-.07	-.07
ΔR^2	.04**		.05**		.04**		.04**	
<u>Step 3: Interaction term</u>								
Use of touch X need for touch		.13*		.04		-.01		-.05
ΔR^2		.02*		.00		.00		.00
F-value (total d.f.)		3.35 (233)		3.12 (233)		3.43 (233)		2.87 (233)
Total R^2		.06*		.05*		.06*		.05*

Notes: β is standardized beta coefficient. * $p < .05$; ** $p < .01$. All variables were reported by subordinates.

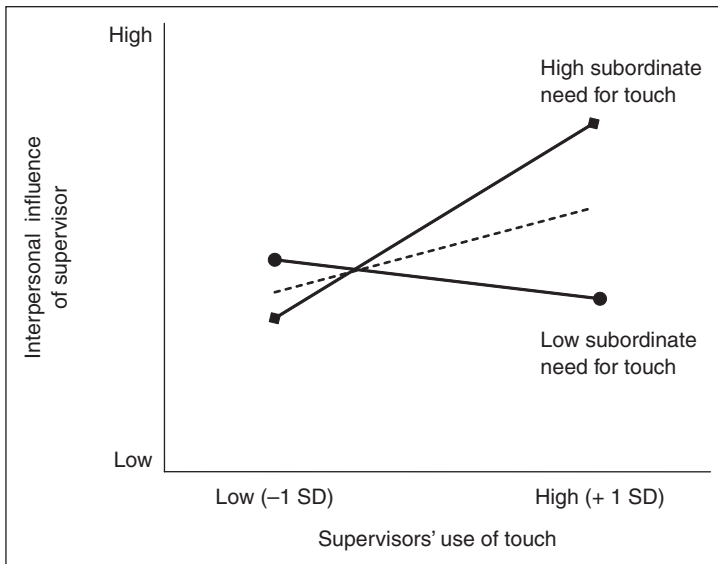


Figure 1 Interaction plot for Hypothesis 14

Sex differences

Hypothesis 15, which predicted that females would be more frequent recipients of touch than males, was supported. A t -test indicated that supervisors of both sexes reported touching female subordinates more than male subordinates ($t(221) = -2.09, p < .05$). Hypothesis 16 was also supported. Male supervisors reported touching male subordinates less frequently than female supervisors reported touching female subordinates ($t(108) = -3.12, p < .01$). Additionally, male supervisors with male subordinates reported lower levels of TSE ($t(120) = -.2.0, p < .05$) and higher levels of TANX-C ($t(112) = 3.0, p < .01$) than did female supervisors with female subordinates. As described previously, we did not make predictions regarding touch initiation and supervisor sex. However, our data indicate that female supervisors reported touching subordinates, regardless of their sex, more frequently than male supervisors did ($t(163) = -2.40, p < .05$). Females also reported experiencing less cognitive and physiological touch anxiety than male supervisors (TANX-C: $t(169) = 3.17, p < .01$; TANX-P: $t(194) = 1.82, p < .10$). We also sought to determine whether same-sex or opposite-sex touch was more prevalent in our sample; however, there was no statistically significant difference in supervisor reported use of touch, TSE, or TANX between same-sex versus opposite-sex pairings.

Discussion

Although Heaphy (2007) noted that physical touch is an important component of positive organizational relationships and therefore a promising area for future research, empirical research exploring the antecedents and outcomes of the use of touch in the workplace is virtually nonexistent. The studies presented here were designed to begin

filling this void by investigating several factors hypothesized to affect touch in the workplace. To begin to understand workplace touch, one must determine what psychological manifestations influence its use and effectiveness. Introducing the concepts of workplace touch self-efficacy and workplace touch anxiety represents a significant contribution to the literature in that they provide the means for researchers to explore further the use of touch in the workplace.

The results of these three studies provide evidence that supports the construct validity of the TSE, TANX-C, and TANX-P scales. We first established and then cross-validated with a separate sample the distinct, internally consistent constructs of TSE, TANX-C and TANX-P. As expected, there was a consistent negative correlation between TSE and TANX-C. Additionally, there was a positive relationship between TANX-C and TANX-P in all three separate datasets, which is consistent with research in other domains (e.g. test anxiety, performance anxiety). However, it is important to note that this correlation was not so high as to suggest that these are not distinct constructs. In contrast, the relationship between TSE and TANX-P ranged from negative to statistically non-significant. Some researchers suggest that people acquire efficacy information from physiological indicators; symptoms such as increased sweating and heart rate may signal anxiety and a lack of skill, and an absence of these symptoms can decrease anxiety and raise self-efficacy (Schunk, 2003). Yet, others (e.g. Eysenck, 1997) suggest that physiological symptoms might influence self-efficacy based upon how it is interpreted – that is, physiological symptoms interpreted negatively would result in cognitive anxiety, which would subsequently negatively affect self-efficacy evaluations. Given that our results do not clearly support either perspective discussed in the literature, future research should focus on this issue in order to provide a clearer understanding of the relationship between touch self-efficacy and physiological touch anxiety. Additionally, future research may benefit from exploring the relationship between TANX-P and other negative physiological constructs, such as physical strain.

Several individual differences that are commonly measured in organizations were found to be related to TSE, TANX-C, and TANX-P supporting the construct validity of these scales. As expected, individuals high in general self-efficacy, extraversion, and positive affect reported high levels of TSE. With the exception of negative affect, the results supported the hypothesized TANX relationships; individuals high in trait anxiety and shyness reported high levels of both TANX-C and TANX-P. These findings suggest that individuals not only use touch in the workplace, but that their personality affects their perceptions of their ability to use workplace touch. TSE and TANX may also impact how employees interpret workplace touch. For example, an extrovert may find touch in the workplace more acceptable than an introvert. Consistent with Heaphy's (2007) suggestion that research focus upon 'leaders' use of touch to convey affection to subordinates' (p. 65), the results indicate that supervisor TSE and TANX-P are related to subordinate perceptions of supervisor touch that convey positive affect. Our results also indicate that subordinates' reports of their supervisors' use of touch communicating positive affect are positively related to perceptions of the supervisors' likeability, support, sincerity, and interpersonal effectiveness. These findings represent a significant contribution to the literature because they suggest that supervisors can use touch to build relationships at work. However, it is important to note that our results provide some indication that the extent to

which supervisor touch is related to positive outcomes may depend upon the subordinate's need for touch. While need for touch only moderated the relationship between supervisor use of touch and perceived interpersonal influence, it does provide an indication that supervisor sensitivity to the touch needs of different subordinates may be a critical aspect of the social effectiveness of the supervisor. This finding is particularly intriguing because it also suggests that even touch conveying care and concern for a subordinate may not always yield positive relational benefits.

Our multisource data also allowed an examination of sex differences in touch. Prior research on sex and touch has not always produced consistent results, but in areas where it has, the findings are consistent with those of Study 3. Specifically, the general pattern of sex differences in these data indicates that workplace touch is more often a female activity. In our sample, women not only reported higher levels of TSE and lower levels of TANX than men, they also reported using touch more than men. Further, female subordinates were more likely to receive touch than were male subordinates. Finally, female-female touch was more prevalent than male-male touch. Because there is little research into sex differences in touch in the workplace, our findings offer a contribution and indicate that this is an area that would benefit from future research.

As with all research, there are limitations to consider. First, the correlations between individual dispositions and the touch-related variables in Study 2 may be considered by some to be low. However, DeVellis (2003: 54) indicates that, for effect sizes, 'there is no cutoff that defines construct validity'. While these correlations were statistically significant in the predicted direction, replication of these results could be beneficial. Another limitation of this particular study is that it does not examine possible cultural differences or norms related to the use of touch in the workplace. Certainly these differences must be considered in future studies of workplace touch.

Because research on touch in the workplace is in its infancy, there are many areas to consider for future studies. There is a need to explore other antecedents and outcomes of the use of touch. For example, contextual factors such as workplace norms regarding touch are likely to influence the use of touch in the workplace. That is, individuals are more likely to use touch in a workplace where touch is considered appropriate and commonplace rather than in a workplace where touch is discouraged. Touch may also play an important role in the apologies and forgiveness of work transgressions (Marler, 2006) or in conveying the sincerity, genuineness, and psychological closeness thought to characterize Authentic Leadership (Luthans and Avolio, 2003). There may also be factors that play a moderating role in the relationship between touch and work-related outcomes. The relationship between touch and any outcome is likely to be dependent upon a variety of factors such as the type of touch, the meaning the individual being touched gives to the physical contact, or how receptive the individual is to being touched.

Our research has a number of managerial implications, primarily because it is one of very few studies to examine workplace touch dispositions, supervisor use of touch and outcomes of the use of touch. Our results suggest that some managers believe they are capable of using touch effectively in the workplace and subordinates report that these managers are more likely to make physical contact with them at work. Further, supervisors can use touch to convey affect and concern for their subordinates, which contributes to building positive relationships with subordinates. However, one implication of our

study is that managers who tend to make physical contact with others at work should be keenly aware that people differ in their need for touch and that this may play a critical role in determining the extent to which positively intended physical contact leads to positive outcomes.

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