

Perceived cultural acceptability and comfort with affectionate touch: Differences between Mexican Americans and European Americans

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Abstract

Ethnographic descriptions suggest that cultures differ in the extent to which they value physical touch and its acceptability in different kinds of social relationships. For example, compared to European American (EA) culture, Mexican culture is described as placing greater emphasis on warm interpersonal interactions, in which touch may play an important part. We tested this notion empirically by assessing attitudes about touch among 271 Mexican American (MA; 208 female) and 578 EA (434 female) college students. Specifically, we examined potential ethnic group differences in (1) participants' perception of the acceptability of affectionate touch (AT) within their cultures, depending on the relationship (close others vs. acquaintances) and setting (private vs. public) in which the touch occurs; and (2) participants' own personal comfort with AT. Among MAs, we examined associations between touch attitudes and acculturation. As predicted, MAs reported greater cultural acceptability of AT with acquaintances (but not close others) and in public (but not private) settings than did EAs. Participants' own comfort with AT was greater for both MA men and EA women than for EA men. Further, higher perceived cultural acceptability of AT predicted greater personal

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comfort with AT in both ethnic groups. Finally, among MAs, greater acculturation predicted less comfort with AT. Together, these results lend support to the notion that MA ethnocultural norms encourage AT in nonintimate contexts to a greater degree than EA norms, particularly for men, and that personal attitudes about AT are largely congruent with these norms. They also call attention to cross-cultural similarities in attitudes about touch in more intimate contexts.

Keywords

Affectionate touch, cultural norms, ethnicity, Mexican, Mexican American, physical contact, relationships, social touch

Interpersonal touch is central to social relationships and emotional health. It is vital for normal human development (Montagu, 1971; Stack, 2010). It promotes close relationships across the life span and can stimulate, communicate, and help regulate emotion (Gallace & Spence, 2010; Jakubiak & Feeney, 2016). Attachment theorists and other relationship scholars argue that evolution has shaped a crucial role for physical affection and touch in the formation and maintenance of social bonds, particularly between infants and caregivers (e.g., Ainsworth, 1979) and between mates (e.g., Hazan & Zeifman, 1999). Similar roles for touch in these critically important bonding processes have been demonstrated across cultures (Konner, 1982; Suvilehto, Glerean, Dunbar, Hari, & Nummenmaa, 2015)—even across species (Depue & Morrone-Strupinsky, 2005; Dunbar, 2010)—suggesting that to some degree, they may transcend culture.

Even outside intimate relationships, however, affectionate touch (AT) is consequential and can be beneficial (Gallace & Spence, 2010; Jakubiak & Feeney, 2016). We posit that AT in less intimate social contexts may be more amenable to influence by ethnocultural norms, because it serves important social functions beyond mating and infant bonding. These functions may include conveying prosocial emotion (Hertenstein, Keltner, App, Bulleit, & Jaskolka, 2006), promoting trust and cooperation (Kraus, Huang, & Keltner, 2010), giving momentary comfort in difficult situations (Coan, Schaefer, & Davidson, 2006), or providing social support, which itself shows cultural variability in its provision and interpretation (Soto, Chentsova-Dutton, & Lee, 2013). Surprisingly, given the importance of AT, attitudes about its desirability and appropriateness have received little empirical attention, either within or across cultures. More knowledge of these attitudes may both enhance relationship science and contribute to intercultural communication.

In this study, we assessed perceptions and attitudes about AT among women and men from two ethnocultural backgrounds that, based primarily on ethnographic data, are widely believed to differ in touch attitudes and behaviors: White European Americans (EAs) and Mexican Americans (MAs). Participants reported their own comfort with AT and their perceptions of its acceptability within their respective cultures. We focused on AT, which conveys liking and other positive feelings, because it is critical for developing and maintaining interpersonal relationships (Clark & Reis, 1988; Floyd & Deiss, 2012). A sense of social connection is essential for well-being (Baumeister & Leary, 1995) and

promotes both mental (Cacioppo et al., 2006) and physical (Cacioppo et al., 2002) health. For example, AT between intimate partners has been associated with positive emotion (Burlleson, Trevathan, & Todd, 2007; Debrot, Schoebi, Perrez, & Horn, 2013) and reduced biomarkers of stress (Grewen, Anderson, Girdler, & Light, 2003; Holt-Lunstad, Birmingham, & Light, 2008; reviewed in Jakubiak & Feeney, 2016). Even AT in other contexts, ranging from handshakes to literal pats on the back, can promote cooperation and enhance feelings of connection (Klein, 1995; Kraus et al., 2010). However, the extent to which effects of touch, both between close others and between nonclose others, generalize across ethnocultural groups is not well-understood (e.g., Rothbaum, Weisz, Pott, Miyake, & Morelli, 2000).

Ethnocultural influences on touch attitudes

There is ample reason to believe that ethnic and cultural background predict attitudes about AT, as cultures and subcultures differ in normative social behavior. Furthermore, many nonverbal behaviors are culturally regulated, with different cultural scripts for interpersonal contact (e.g., Matsumoto, Yoo, & Fontaine, 2008; Triandis, Marín, Lisansky, & Betancourt, 1984), depending on the setting and relationships of the people involved. Evidence suggests that norms can shape attitudes about social behavior as well as behavior itself (Terry & Hogg, 1996); therefore, when norms about touch behavior differ between cultures, corresponding attitudes of cultural group members likely differ as well. As discussed below, Latino cultures are thought to encourage open expressions of affection; therefore, members of these cultures might arguably be expected to hold more positive attitudes about AT. Conversely, if mainstream American cultural contexts encourage AT to a lesser extent, members of this culture may espouse less positive attitudes.

Cultural influences in Latino and non-Latino groups

Much research suggests that Latino cultures are more collectivist than EA culture and characterized by interrelated values emphasizing warm interpersonal relationships that may foster AT (Díaz-Loving & Draguns, 1999).¹ These values include *simpatía*, a constellation of personal qualities encouraging interpersonal harmony, respect, affection, and positive emotion (Ramírez-Esparza, Chung, Sierra-Otero, & Pennebaker, 2012; Triandis et al., 1984); *familismo*—identification, connection, and solidarity with both nuclear and extended family; and *personalismo*, where personal rather than impersonal interactions are favored (Castillo & Cano, 2008), even in workplace relationships (Sanchez-Burks, Nisbett, & Ybarra, 2000). Research suggests that these qualities describe MAs more so than non-Hispanic White EAs. For example, a study of open-ended personality self-descriptions from over 1,000 Mexican and U.S. American students found *simpatía* was a defining self-schema only among Mexicans (Ramírez-Esparza et al., 2012). Similarly, Latinas endorsed *familismo* more strongly than EA women (Campos et al., 2008). Thus, Latinos may integrate both immediate and extended family, as well as nonkinship networks (family-like others), into their daily lives to a greater extent than EAs, and make use of AT in these extended relationships. This could

contribute to more positive attitudes toward AT in a wider range of settings and relationships.

In contrast to Latino cultures, mainstream U.S. culture is highly individualistic (Hofstede, 2001), emphasizing the self as a separate, unique entity. The self-determination of early colonists and later generations of Anglo-Americans has been described as fostering “hyperindividualism,” with detachment or distance in relationships as a possible consequence (McGill & Pearce, 2005). Due in part to their reformation protestant origins, norms within many non-Hispanic White/EA subcultures (e.g., those with German, English, or Scandinavian roots) are characterized as more temperate regarding expressions of both emotion and affection (Erickson, 2005; McGill & Pearce, 2005; Winawer & Wetzel, 2005), including AT (Montagu & Matson, 1979). Because these groups constitute a major historical and contemporary influence in the U.S., attention to and expression of socioemotional concerns is relatively devalued in mainstream U.S. culture compared to much of the rest of the world (Sanchez-Burks, 2002). We speculate that any such difference may be most apparent outside of close relationships and in more public settings.

Culture and context in social behavior

Research supports the expectation that contrasting cultural values and scripts described for EA and MA groups would interact differently with social contexts to influence behavior. For example, Mexicans socialize more (e.g., spend less time alone, talk more in person, and recreate together more), and socialize more in public, than U.S. Americans (Ramírez-Esparza, Mehl, Alvarez-Bermudez, & Pennebaker, 2009). Furthermore, Mexicans and MAs typically are more concerned with socioemotional aspects of their workplace relationships than are their EA colleagues, who may believe that a socioemotional orientation interferes with work goals (Sanchez-Burks et al., 2000) or should be attended to after work goals are accomplished (Gibbs, 1980).

Based on the conceptualization of *simpatía* as a cultural script that mandates interpersonal warmth toward both familiar and unfamiliar individuals, Holloway, Waldrip, and Ickes (2009) predicted and found that the presence of one Latino dyad member promoted more satisfying and engaging initial interactions between strangers. Both dyad members, regardless of ethnicity (Latino, White, or Black), reported more involvement and better interaction quality when one was Latino. Furthermore, Latinos reported approximately twice as many *simpatía*-related thoughts as did Whites or Blacks, which accounted for most ethnicity effects. All of these findings suggest that Latinos focus more than do EAs on friendliness and affection outside of private life and beyond their primary circle of relationships.

Empirical studies of interpersonal touch in Latino and non-Latino cultures

The cultural values and norms described above conform with the expectation that MAs would hold more positive attitudes about and engage more in AT than EAs, both in public and with a wider range of interaction partners. Indeed, Latino and other cultures with Mediterranean origins often have been categorized in previous ethnographic

accounts as “high contact” (e.g., Hall, 1966). Nevertheless, very few empirical studies have addressed this topic directly. Furthermore, the handful of studies comparing various Latino groups to non-Latino groups reveal mixed findings. For example, in a study of 90 male U.S. Navy recruits, Triandis and colleagues (1984) found that Hispanic recruits were more likely to endorse embraces to show affection than were non-Hispanic recruits. Similarly, couples in bars in Puerto Rico were observed to touch much more frequently than couples in Britain (Jourard, 1966). On the other hand, a study of touch observed during airport farewells found no differences among Caribbean Latinos, Southeast Asians, Northern Europeans, and U.S. Americans (McDaniel & Andersen, 1998). Both the small number of studies and their apparently disparate findings underscore the need for more research.

In sum, there is broad agreement regarding the general idea that cultural and sub-cultural differences in touch behavior are widespread (e.g., Jones, 1994), but empirical information about differences in behavior or attitudes between particular cultural groups is sparse. Such information is necessary for a complete picture of social relationships within and across cultures and to facilitate cross-cultural communication. We sought to augment what is known about cross-cultural differences in attitudes about touch, particularly physical affection, by comparing MA and EA participants. In this initial study, we assessed participants’ perceptions of the acceptability of AT in their respective cultures, as well as their own comfort with AT.

Gender influences on touch behaviors and attitudes

Comparisons of cultural norms about touch intersect with comparisons based on gender. Within U.S. EA samples at least, women and men hold different attitudes about AT and are likely to give, receive, and interpret it differently across a range of contexts (e.g., Barber & Thomas, 1986; Derlega, Catanzaro, & Lewis, 2001). Furthermore, any ethnocultural differences may vary between genders due to between-culture dissimilarities in gender roles and gender role differentiation (DiBiase & Gunnoe, 2004). Related to the current study, in Mexican culture, there are distinct gender role expectations (Castillo & Cano, 2008), whereas gender role differentiation may not be as pronounced among non-Hispanic White EAs. To explore these nuances, we included gender as a predictor of touch attitudes.

Current study

In this study, we were interested in our participants’ perceptions of their culture’s norms about the acceptability of AT, their own personal comfort with AT, how perceived cultural acceptability of AT related to personal comfort with AT, and for MA participants, how acculturation to mainstream U.S. culture related to these attitudes. We also explored how possible gender differences in cultural and personal perceptions of touch intersected with ethnic group membership to predict these attitudes.

With respect to perceived cultural acceptability of AT, we hypothesized that MA participants would report more favorable attitudes than EA participants, based both on Mexican culture’s relatively greater emphasis on warm interpersonal relationships (e.g., *simpatía*) and on ethnographic descriptions regarding Latino cultures in general (e.g.,

Hall, 1966). More specifically, we predicted that MA participants would rate AT as more culturally acceptable than EA participants (H1a) in public (but not private) settings and (H1b) with acquaintances (but not close others). We also expected that (H2) for MAs, stronger acculturation to U.S. culture would predict lower perceived cultural acceptability of AT, reflecting greater influence of EA norms.

With respect to personal comfort with AT, we hypothesized that (H3) MA participants would report greater personal comfort with AT than would EA participants, and (H4) for MAs, stronger acculturation to U.S. culture would predict lower personal comfort with AT.

Finally, because cultural norms may both shape and reflect personal attitudes, we expected that (H5) for both groups, greater perceived cultural acceptability of AT would predict greater personal comfort with AT.

Method

Participants

The full sample included 849 college students from 18 to 30 years old ($M = 21.7$, $SD = 2.8$), recruited to participate in a large survey regarding attitudes about touch. All were raised in the U.S. (75.1% in the Southwest). All attended U.S. high schools; 27.5% had an Associate's degree and 6.8% had a bachelor's degree. Median annual household income was \$40,001–\$60,000 (85.3% reported between \$10,000 and \$140,000); the median number of persons supported was three. Regarding relationship status, 21.5% were in committed cohabiting relationships (married or unmarried), 35.3% were in noncohabiting relationships, and 42.9% were single, separated, or divorced. The ethnicity and gender makeup, described below, mirrored that of the participant pool.

Participants comprised two subsamples: Mexican/MA and non-Hispanic White/EA. To determine MA group membership, participants were asked whether they identified as Hispanic or Latino; if yes, they were asked their ancestry. The MA group included 208 women and 63 men who identified Hispanic/Latino ethnicity and Mexican ancestry. Participants were then asked their racial identity using the U.S. Census categories. Racial proportions within the MA group were 44.0% Caucasian/White/EA; 2.2% African-American; 1.6% Asian-American; 1.0% Arab-American; 0.5% Native American; 0.5% Pacific Islander; 31.5% selected "other" and wrote in Hispanic, Latino, or Mexican; 5.4% selected "other" without providing additional information; and 13.6% entered no racial category (consistent with criticisms of the U.S. Census categories; Cohn, 2017). Generational status for MA participants was as follows: 7.6% born in another country, 53.3% born in the U.S. and one or both parents born elsewhere, 3.3% self and both parents born in the U.S. and all grandparents born elsewhere, 19.0% self and both parents born in the U.S. and at least one grandparent born elsewhere, and 16.8% self, both parents, and all grandparents born in the U.S.

The EA group included 434 women and 144 men who reported that they did not consider themselves to be Hispanic or Latino and selected Caucasian/White/EA as their race. As a further criterion to increase within-group homogeneity, participants in the EA group had to report that they, their parents, and all of their grandparents were born in the

U.S. This criterion ensured adequate long-term family exposure to mainstream U.S. culture, reducing variability due to possible multiple ethnic origins within this group.

Procedure

All procedures were approved by the university's Institutional Review Board and carried out according to APA ethical guidelines. Participants completed an online survey through SurveyMonkey.com and received credit toward course research requirements.

Measures

Acculturation of MA sample. Participants who self-identified as Hispanic/Latino completed the Brief Acculturation Rating Scale for Mexican Americans-II (ARSMA-II; Bauman, 2005), which comprises 12 items primarily related to language use (English vs. Spanish) in different contexts (e.g., "I enjoy Spanish language TV"). Ratings were made on a scale of 1 (*not at all*) to 5 (*almost always*). There are two 6-item subscales, the Anglo-Oriented Scale (AOS) and the Mexican-Oriented Scale (MOS). For the AOS, Cronbach's α coefficient was initially .55; based on item analysis, we omitted the 2 items regarding social association with Anglos, raising α to .61 for the AOS. Cronbach's α was .94 for the MOS. An overall acculturation score was obtained by subtracting MOS from AOS (Cuellar, Arnold, & Maldonado, 1995).

Perceived cultural acceptability of AT. Because no validated measure exists for perceived acceptability of AT within one's culture (as opposed to one's personal comfort with AT; see below), we created a short questionnaire to assess these perceptions (see Appendix 1). The questionnaire gave a brief definition of "culture" and several examples of AT, then presented 4 items assessing the participant's perception of the acceptability of AT in his or her culture—with either close others or acquaintances and in public or private settings.² Ratings were made on a scale of 1 (*not at all acceptable*) to 5 (*very acceptable*).

Participants' own comfort with AT. We used a modified version of the Social Touch Questionnaire (STQ; Wilhelm, Kochar, Roth, & Gross, 2001). The full scale comprises 20 statements of touch attitudes or behaviors in various social situations, such as "I generally like when people express their affection towards me in a physical way." Participants rated the items using a scale of 0 (*not at all true*) to 4 (*extremely true*). We reverse-scored the items such that higher scores indicated comfort with giving, receiving, and observing social touch.

Although the original STQ had no identified subscales, factor analysis in our sample revealed two interpretable constructs: discomfort with touch, primarily casual, impersonal, or incidental touch; and comfort with touch, particularly affectionate, personal, or intentional touch. Because our goal was to assess comfort with AT, we focused on the 9 items that loaded strongly on the second factor. Following van de Schoot, Lugtig, and Hox (2012), we tested these items for measurement invariance between ethnic groups using confirmatory factor analysis under Mplus 7.4. Deletion of 2 items left a 7-item subscale (see Appendix 1) for which both metric and scalar invariance were confirmed ($\alpha = .77$).

Data analysis

H1a, H1b, and H3 (proposed group differences) were tested using mixed analysis of variance (ANOVA). The ratio of EA to MA students on our campus is approximately 2:1, so we expected unequal cell numbers. We used G*Power (v. 3.1.9.2; assuming small effect size) to determine the need for 189 to 295 MAs and 379 to 591 EAs to achieve power of .80 with $\alpha = .05$; we therefore ran our study semester by semester until reaching the current sample. After including gender as an exploratory factor, between-group cell sizes were very unequal (ratio of largest to smallest = 6.89). Using F_{\max} (ratio of largest cell variance to smallest cell variance) to evaluate homogeneity of variance, F_{\max} values for the four dependent variables were acceptable (Milligan, Wong, & Thompson, 1987). H2, H4, and H5 (proposed associations between variables) were tested using regression.

Results

Preliminary analyses

Demographics. The MA and EA groups did not differ in number of persons supported by income (MA: $M = 3.4$, $SD = 1.6$; EA: $M = 3.2$, $SD = 1.5$), education (both *medians* = “some college”), relationship status (both *modes* = “single, never married”), or age (MA: $M = 21.9$, $SD = 2.9$; EA: $M = 21.6$, $SD = 2.7$). They did differ in financial status, $\chi^2(3) = 11.659$, $p = .009$, such that MA participants reported fewer financial resources; household yearly income, $\chi^2(10) = 45.785$, $p < .001$, such that MA participants were lower (MA: *median* = \$30,000–\$50,000; EA: *median* = \$50,000–\$70,000); and region of upbringing, $\chi^2(1) = 12.36$, $p = .001$ (a higher proportion of MA than EA participants were raised in the Southwestern U.S. versus other regions). Variables that differed between groups were initially included as covariates in main analyses but were nonsignificant and did not change the major findings, so were dropped.

Acculturation of MA sample. ARSMA-II scores and generational status together suggested a moderately to highly acculturated MA group. Only one MA participant scored less than 3 (the scale midpoint) on the AOS ($M = 4.79$, $SD = .38$; range: 2.50–5.00), but there was a wide range of MOS scores ($M = 2.74$, $SD = 1.19$; range: 1.00–5.00) and acculturation scores ($M = 2.04$, $SD = 1.33$; range: –1.83 to 4.00). As expected, AOS and MOS were negatively related, $r = -.23$, $p < .001$. Generational status of the MA group ranged from first to fifth; second generation was most common.

Touch attitudes and acculturation. Means, standard deviations, and correlations, separately for MAs and EAs, are shown in Table 1. For correlations among the 4 items measuring perceived cultural acceptability of AT, the pattern of magnitudes was similar between groups; closeness of the relationship (acquaintances vs. close others) was a stronger determinant of the correlation than was the public or private nature of the setting. Higher ratings of AT cultural acceptability, both in public and private and for both close others

Table 1. Mean (SDs) and Pearson correlations for touch attitudes and acculturation, separately for Mexican/MA and White/EA participants.

	Mean(SD)		1a	1b	1c	1d	2
	MA	EA					
1) Perceived cultural acceptability of AT							
a) In public; with acquaintances	2.61(1.27)	2.18(1.03)	–	.28***	.72***	.11**	.20***
b) In public; with close others	4.00(1.07)	3.98(0.90)	.42***	–	.21***	.62***	.19***
c) In private; with acquaintances	2.76(1.26)	2.50(1.11)	.79***	.33***	–	.20***	.19***
d) In private; with close others	4.26(1.01)	4.42(0.81)	.18**	.73***	.29***	–	.20***
2) Personal comfort AT	1.89(0.79)	1.98(0.80)	.20**	.27***	.21**	.19**	–
3) Acculturation (MAs only)	2.04(1.33)	–	–.06	.03	–.04	.07	–.14*

Note. AT = affectionate touch; MA = Mexican/Mexican American; EA = White/European American. Lower triangle displays r values for MA group (N s range from 267 to 275); upper triangle displays r values for EA group (N s range from 575 to 582).

* $p < .05$. ** $p < .01$. *** $p < .001$.

and acquaintances, were related to higher ratings of AT comfort. Among MAs, greater acculturation was associated with less AT comfort but was not related to any cultural acceptability item.

Perceived cultural acceptability of AT

To investigate ethnic group and gender differences in cultural acceptability ratings, we conducted a mixed ANOVA using GLM in SPSS 23. Two repeated factors were specified: setting and partner closeness. Ethnic group and gender were between-subject variables, yielding a 2 (public, private) \times 2 (close others, acquaintances) \times 2 (MA, EA) \times 2 (men, women) design.

ANOVA results, including partial eta squared (η_p^2) effect sizes, are displayed in Table 2. Main effects were qualified by four significant two-way interactions, two of which were hypothesized (described below). Neither the four-way nor any three-way interaction was significant.

Hypothesis 1a: Effect of ethnicity by setting. The hypothesis that MA participants would rate AT as more culturally acceptable than EA participants in public (versus in private) was supported by the significant ethnicity \times setting interaction (see Table 2). Figure 1 shows that MA participants rated AT as more culturally acceptable than EA participants in public settings, $F(1,845) = 16.76$, $p < .001$, $\eta_p^2 = .019$, but there was no difference between ethnic groups for private settings, $F(1,845) = 1.31$, $p = .254$, $\eta_p^2 = .002$.

Table 2. Analysis of variance results for perceived cultural acceptability of AT.

Source	η_p^2	F^a	p
Between-subject effects			
Ethnicity	.010	8.24	.004
Gender	.000	.38	.540
Ethnicity \times Gender	.003	2.52	.112
Within-subject effects			
Setting	.106	100.41	.000
Setting \times Ethnicity	.019	16.56	.000
Setting \times Gender	.002	1.39	.238
Setting \times Ethnicity \times Gender	.003	2.41	.121
Closeness	.546	1015.60	.000
Closeness \times Ethnicity	.019	16.12	.000
Closeness \times Gender	.010	8.93	.003
Closeness \times Ethnicity \times Gender	.001	.52	.471
Setting \times Closeness	.005	3.85	.050
Setting \times Closeness \times Ethnicity	.001	.46	.498
Setting \times Closeness \times Gender	.004	3.33	.068
Setting \times Closeness \times Ethnicity \times Gender	.002	2.04	.153

Note. Setting = public versus private; closeness = close others versus acquaintances; AT = affectionate touch.
^aDegrees of freedom for F statistics = 1, 845.

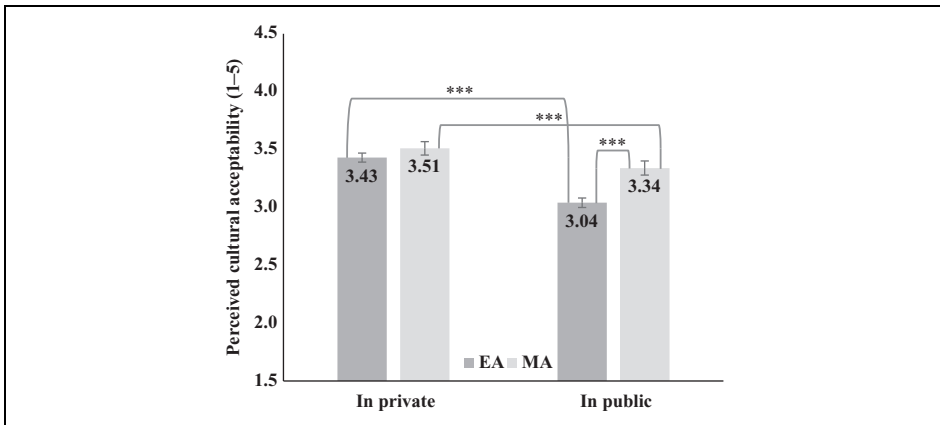


Figure 1. Perceived cultural acceptability of AT by ethnic group and setting of touch. Error bars represent standard errors. AT: affectionate touch.

Hypothesis 1b: Effect of ethnicity by relationship closeness. The hypothesis that MAs would rate AT with acquaintances (versus close others) as more culturally acceptable than would EAs was supported by the significant ethnicity \times closeness interaction (see Table 2). Figure 2 shows that MA participants rated AT with acquaintances as more culturally acceptable than EA participants, $F(1,845) = 17.84$, $p < .001$, $\eta_p^2 = .021$, but there was no difference between ethnic groups in

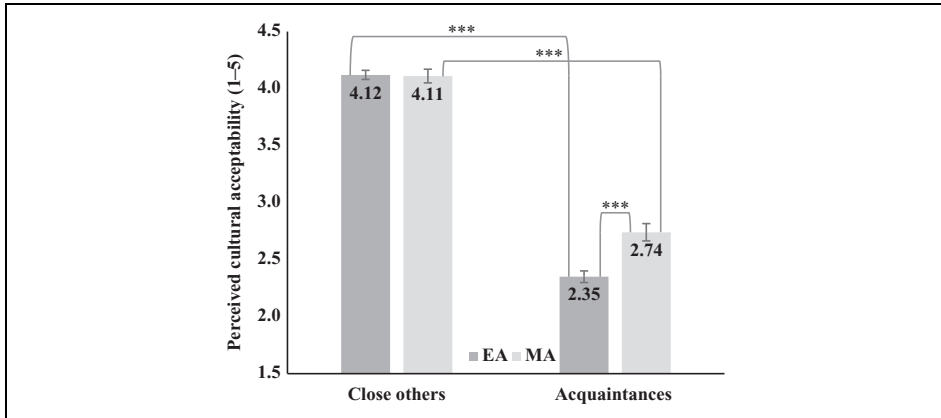


Figure 2. Perceived cultural acceptability of AT by ethnic group and closeness of touch partner. Error bars represent standard errors. AT: affectionate touch.

rated cultural acceptability of AT with close others, $F(1,845) = .01$, $p = .910$, $\eta_p^2 = .000$.

Other effects on perceived cultural acceptability. The closeness \times setting interaction was significant (see Table 2). Specifically, AT was rated more culturally acceptable in private settings than in public. This public/private difference was greater for touch with close others, $F(1,845) = 91.85$, $p < .001$, $\eta_p^2 = .098$, than for touch with acquaintances, $F(1,845) = 44.01$, $p < .001$, $\eta_p^2 = .049$ (close others, public: $M = 3.96$, $SD = 1.19$; close others, private: $M = 4.27$, $SD = 1.11$; acquaintances, public: $M = 2.43$, $SD = 1.40$; acquaintances, private: $M = 2.66$, $SD = 1.46$).

The gender \times closeness of touch partners interaction also was significant (see Table 2); perceived cultural acceptability of AT with close others was rated higher by women than by men, $F(1,845) = 6.82$, $p = .009$, $\eta_p^2 = .008$, but there was no gender difference for cultural acceptability of touch with acquaintances, $F(1,845) = 1.36$, $p = .245$, $\eta_p^2 = .002$ (close others, women: $M = 4.21$, $SD = .89$; close others, men: $M = 4.02$, $SD = .90$; acquaintances, women: $M = 2.49$, $SD = 1.14$; acquaintances, men: $M = 2.60$, $SD = 1.15$).

Finally, main effects of ethnicity, closeness, and setting all were significant. Overall, MAs rated AT as more culturally acceptable than did EAs ($M = 3.42$, $SD = .90$ vs. $M = 3.23$, $SD = .89$, respectively). Across ethnic groups, AT in private was rated as more culturally acceptable than AT in public ($M = 3.47$, $SD = 1.02$ vs. $M = 3.19$, $SD = 1.08$, respectively), and AT with close others was rated as more culturally acceptable than AT with acquaintances ($M = 4.12$, $SD = 1.05$ vs. $M = 2.54$, $SD = 1.34$, respectively).

Hypothesis 2: Relation to acculturation. As can be seen in Table 1, acculturation was not significantly correlated with any of the cultural acceptability items. Thus, H3, that for MAs acculturation to mainstream U.S. culture would predict lower cultural acceptability ratings of AT, was not supported.

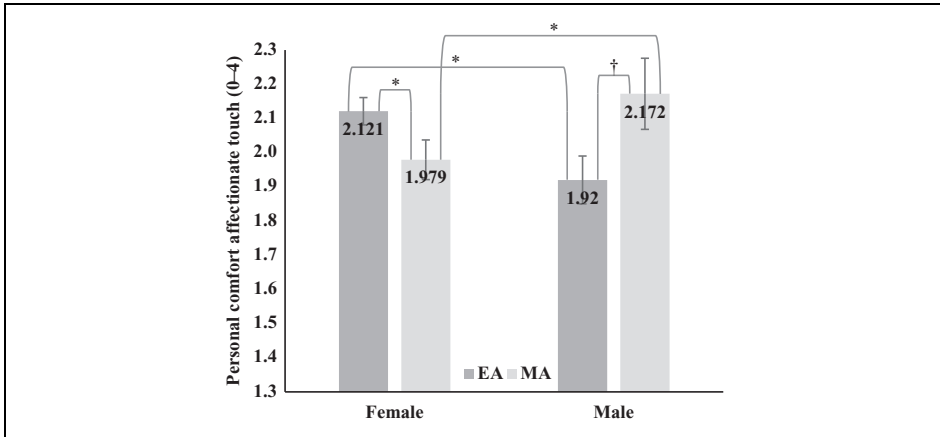


Figure 3. Personal comfort with AT by ethnic group and gender. Error bars represent standard errors. AT: affectionate touch.

Personal comfort with AT

We used a between-subjects ANOVA (2 [MA, EA] \times 2 [male, female]) to investigate ethnic group and gender differences in the participants' AT comfort.

Hypothesis 3: Effect of ethnicity. We hypothesized that MA participants would report greater AT comfort than would EA participants. This hypothesis was not supported, as the effect of ethnic group was not significant, $F(1,845) = .07, p = .794, \eta_p^2 = .000$.

Other group differences. The main effect of gender was not significant, $F(1,845) = .23, p = .632, \eta_p^2 = .000$. The ethnicity \times gender interaction, however, was significant, $F(1,845) = 7.83, p = .005, \eta_p^2 = .009$ (see Figure 3). Exploratory simple effects tests of ethnic differences within genders revealed that EA women endorsed greater AT comfort than did MA women, $F(1,845) = 6.70, p = .010, \eta_p^2 = .008$. MA men reported greater AT comfort than did EA men, but the difference was only marginally significant, $F(1,845) = 3.08, p = .080, \eta_p^2 = .004$.

Hypothesis 4: Relation to acculturation. We hypothesized that among MAs, greater acculturation to mainstream U.S. culture would be associated with lower reported personal comfort with AT. Supporting this hypothesis, the correlation between acculturation and AT comfort was negative and significant (see Table 1). To explore in context with gender, we used regression with acculturation score, gender, and their interaction as predictors of AT comfort. The model was significant, $F(3, 244) = 3.36, p = .019$, accounting for 4.0% of variance. Greater acculturation to American culture was associated with less AT comfort, $B = -.084, SE(B) = .037, \beta = -.111, p = .025$; therefore, H4 was supported in this analysis as well. MA men reported greater AT comfort than MA women, $B = .128, SE(B) = .057, \beta = .110, p = .025$ (women coded as 0, men as 1). The gender \times acculturation interaction was not significant, $B = -.023, SE(B) = .041, \beta = -.026, p = .577$.

Perceived cultural acceptability as predictor of personal comfort with touch

Hypothesis 5. This hypothesis proposed that for both groups, greater perceived cultural acceptability of AT would predict greater personal comfort with AT. Examination of the correlation matrix (Table 1) confirmed that each of the four cultural acceptability items was significantly positively associated with AT comfort in both ethnic groups. As noted above, the pattern of correlations suggested that closeness was a stronger determinant of the association between cultural acceptability items than was setting. Therefore, to reduce multicollinearity and the number of predictors, we averaged the two “close other” items and the two “acquaintance” items (i.e., collapsed across setting), then used these composites as predictors in regression, along with ethnicity, gender, and their two-way interactions with the composites. We used the Process macro (v. 2.16) under SPSS 23 for this analysis (Hayes, 2013).

The model was significant, $F(8,839) = 9.75, p < .001$, and accounted for 8.5% of variance. As predicted, higher cultural acceptability ratings of AT, both with acquaintances, $B = .115, SE(B) = .026, \beta = .123, p < .001$, and with close others, $B = .193, SE(B) = .035, \beta = .162, p < .001$, predicted greater personal comfort with AT. Therefore, H5 was supported.

Other effects. Both effects described above were qualified by exploratory interactions with gender. For gender \times acceptability of AT with acquaintances, $B = .058, SE(B) = .029, \beta = .054, p = .050$, the slope for men, $B = .202, SE(B) = .051, \beta = .216, p < .001$, was steeper than the slope for women, $B = .086, SE(B) = .031, \beta = .092, p = .005$, suggesting that cultural acceptability of AT with acquaintances was a stronger predictor of AT comfort for men than for women. For gender \times acceptability of AT with close others, $B = -.083, SE(B) = .036, \beta = -.059, p = .021$, the slope for women was significant, $B = .234, SE(B) = .042, \beta = .196, p < .001$, whereas the slope for men was not, $B = .069, SE(B) = .058, \beta = .058, p = .239$, suggesting that cultural acceptability of AT with close others predicted AT comfort only in women. Therefore, although H5 was supported, the proposed relation between cultural acceptability ratings and personal comfort with AT may differ between men and women. Gender was not a significant predictor, $B = -.013, SE(B) = .031, \beta = -.011, p = .671$, nor was ethnic group, $B = -.100, SE(B) = .058, \beta = -.047, p = .082$, or its two-way interactions with cultural acceptability of AT with acquaintances, $B = -.025, SE(B) = .053, \beta = -.013, p = .642$, or with close others, $B = -.043, SE(B) = .068, \beta = -.018, p = .522$.

Discussion

The present study is the first to report differences in perceived cultural acceptability of and personal comfort with AT between ethnic groups. We compared attitudes between MA and non-Hispanic White EA college students. We also conducted exploratory analyses including gender.

Perceived cultural acceptability of AT

We hypothesized that Mexican culture’s emphasis on warm, harmonious interpersonal relationships—exemplified by familismo, personalismo, and simpatía—would translate

into greater perceived cultural acceptability of AT among MA participants with acquaintances and in public settings. These hypotheses were supported. The findings are consistent with descriptions of Mexican cultural norms, suggesting that compared with EAs, MAs perceive that it is culturally acceptable to show affection in more open settings and to a wider range of people. Indeed, affectionate greetings such as hugs and cheek kisses are normative in many Latin American countries, even with acquaintances (Benitez, 2007), whereas stricter emotional boundaries with acquaintances are normative in mainstream U.S. culture (Sanchez-Burks, 2002). Acculturation was not associated with ratings of cultural acceptability of AT among MAs.

Both ethnic groups rated AT with close others as highly culturally acceptable (mean ratings above 4.1 on a 1–5 scale), as more acceptable than AT with acquaintances, and as more acceptable in private than public settings. This makes intuitive sense and suggests that norms for physical affection within families and between close friends in private settings do not differ between these ethnic groups. This outcome was expected, given the critical and potentially universal importance of touch in attachment, pair-bonds, and other close relationships (Jakubiak & Feeney, 2016). Also for both groups, acceptability of AT in private was greater for close others than for acquaintances. Finally, exploratory analysis of gender effects suggested that women rated AT with close others as more culturally acceptable than did men, perhaps reflecting cross-cultural gender roles that cast women as primary caregivers and providers of emotional support.

Personal comfort with AT

As there were no overall ethnic group differences in reports of personal comfort with AT, our hypothesis that AT comfort would be stronger among MA than EA participants was not supported. We speculate that this lack of difference may be akin to the lack of difference noted above for cultural acceptability of AT with close others. Although many of the items on our measure of AT comfort did not mention close relationships, two of them did, which may have foregrounded that context for the participants. It also may be the case that without a specific context, thinking about AT automatically engenders thoughts about close others.

Nevertheless, within the MA group, a lower level of acculturation was associated with greater AT comfort among both men and women. This finding supports the hypothesis that a stronger Mexican cultural orientation is linked to more positive attitudes about physical affection in one's own life and suggests that the lack of difference between ethnic groups may be accounted for, at least partially, by the high level of acculturation of the MA participants.

Overall, we found more gender similarities than differences in touch attitudes, which is consistent with prior research on gender communication (MacGeorge, Graves, Feng, Gillihan, & Burleson, 2004) and culture and emotion (Roberts & Levenson, 2006). At the same time, exploratory analyses revealed an interaction between gender and ethnicity, suggesting that ethnic differences in AT comfort may diverge between men and women. MA women reported feeling less comfortable with AT than EA women, and there was a trend toward MA men feeling more comfortable with AT than EA men. These findings may be partially explained by differences in gender-based expectations between these ethnic groups. For example, mainstream U.S. gender roles prescribe qualities of understanding and emotional supportiveness for women but also encourage

expressive and assertive behavior (Spence & Buckner, 2000), whereas for women of Mexican background, cultural prescriptions of *marianismo* similarly encourage nurturance and caring but also call for physical modesty and restraint (Castillo, Perez, Castillo, & Ghosheh, 2010). Further, some of the cultural norms for MA men (Klein, 1995) may create space for AT to be deemed appropriate, whereas EA men are expected to be unemotional and relatively less attuned to others' feelings (Haines, Deaux, & Lofaro, 2016). Before conclusions can be drawn, however, these gender-related findings require replication.

In sum, effects of both acculturation and gender (as an interaction with ethnicity) were found for personal comfort with AT but not for perceptions of AT acceptability in one's culture. Thus, while cultural attitudes may help to shape personal attitudes, considering how one feels about touch on a personal level may be shaped in a more nuanced way by aspects of one's identity (e.g., gender, extent of cultural integration) than when evaluating one's cultural norms through a more objective lens.

Link between perceived cultural acceptability and personal comfort with touch

Irrespective of ethnic background, greater AT comfort was associated with higher perceived cultural acceptability of AT with acquaintances and AT with close others (collapsed across settings); exploratory analyses suggested that the latter association was limited to women. Although cultural values and ideals translate into personal attitudes to varying degrees (Tsai, Knutson, & Fung, 2006), our results suggest that people's beliefs about cultural acceptability of AT in relationships do in fact correspond with how comfortable they feel about personal touch and physical affection in their own lives. This correspondence likely arises through multiple paths. For example, the belief that one's culture approves of AT may influence one's own comfort with it. Reciprocally, perceptions of cultural attitudes may be shaped by personal attitudes, which may be influenced earlier in life by genetics, temperament, and attachment-related experiences. Although the cross-sectional nature of our design prevents us from distinguishing these alternatives, longitudinal studies may reveal how cultural and personal attitudes about touch interact and develop over time.

Implications for health and relationships

Within appropriate contexts, AT is inherently reinforcing and promotes social bonds by activating affiliative reward pathways mediated by oxytocin, endogenous opioids, and autonomic nervous system responding (Depue & Morrone-Strupinsky, 2005). It can thereby foster successful adaptation to adversity by enhancing both resilience resources (e.g., positive emotion, social connection) and resilience processes (e.g., reduced stress responses, enhanced physical and mental recovery; Burlison & Davis, 2014). Many studies have revealed links between AT behaviors and better psychological, physical, and relationship well-being (Jakubiak & Feeney, 2016). Although we measured attitudes rather than behavior, we suggest that our findings also have implications for well-being.

To the extent that MA individuals may cast a wider net in terms of physical affection than do EAs, potential benefits might include more positive interactions with a larger

number of social partners, and in turn fewer daily stressors, increased social support, and enhanced social reciprocity, all of which previously have been linked with better health and relationships.

Strengths and limitations

The current study employed careful inclusion criteria regarding ethnic background, yielding relatively homogenous groups for comparison. We also assessed acculturation among the MA participants, allowing us to test links between cultural orientation and touch attitudes. However, we did not directly assess how specific cultural values (e.g., *simpatía* and *familismo*) contribute to touch attitudes. Follow-up studies will examine specifically the extent to which these cultural values are endorsed by participants and how they relate to AT attitudes.

For this initial survey, our measure of perceived cultural acceptability of AT employed only two indicators for each level of closeness of relationship and two indicators for each level of privacy of setting, limiting our ability to assess its reliability and preventing us from assessing between-culture measurement invariance. We also collapsed across multiple behaviors and relationships. For example, mainstream U.S. touch norms differ for same-gender and cross-gender touch (Major, Schmidlin, & Williams, 1990), which we did not assess separately. In future studies, it will be important to explore these complexities, as well as to examine how touch attitudes map onto actual touch behaviors within and across different ethnocultural groups. The present study did reveal cultural group differences in acceptability when considering AT with acquaintances, underscoring the importance of going beyond previous studies focusing on AT primarily in intimate partner or infant–caregiver relationships.

Because our measure of personal comfort with AT did not distinguish among different levels of closeness and different settings, we were unable to assess the context of reported personal comfort with AT. This also limited our ability to evaluate how cultural acceptability predicted reports of personal comfort with AT in different domains.

Our sample also was restricted to individuals between 18 and 30 years old; mean age was under 22. Therefore, we cannot rule out the possibility that age or cohort may be important predictors of touch attitudes. Another drawback was the unequal gender ratio, with three times more women than men in the study. Although this reflected the gender distribution of our population, future studies should obtain a larger sample of men to enhance confidence in these results and to further evaluate gender differences and their interactions with ethnicity.

Despite these limitations, we suggest that our study provided conservative tests of differences between MA and EA groups for several reasons. First, assessment of group differences in attitudes using ratings is complicated by the fact that when making such ratings, individuals implicitly compare themselves to members of their own groups. Therefore, even if norms are truly different between the groups, this bias can obscure the difference (Heine, Lehman, Peng, & Greenholtz, 2002). For example, even though an outside observer might conclude that MA culture is more favorable toward social touch in a particular context, EA and MA participants could give similar ratings because members of each subsample use their own group as the reference point.

Second, our sample comprised relatively acculturated college students. This limits generalizability, but at the same time, the fact that we detected any ethnic group difference is noteworthy. Given that cultural differences decrease as individuals adapt to the mainstream context, culture-based dissimilarities in attitudes about touch should become harder to detect. Indeed, Hispanic Americans living in the U.S. have shown some similarities in this regard to non-Hispanic White Americans. For example, compared with Mexicans, Chileans, or Spaniards living in their countries of origin, both Hispanic Americans and Caucasian Americans were less likely to endorse greeting with a kiss as important for good communication (Johnson, Lindsey, & Zakahi, 2001). This is consistent with our findings that greater acculturation was associated with less personal comfort with AT.

Conclusions

AT is central to interpersonal relationships, and culture may influence it in both subtle and powerful ways. Our findings offer several potentially relevant contextual factors to consider, including setting, type of relationship, gender, and cultural orientation, which may in part explain mixed findings regarding ethnic differences in touch in previous research.

The current study is the first to explicitly compare touch attitudes between MA and EA participants. As such, it contributes to a growing literature on social touch and adds to ethnographic accounts of cultural differences in touch-related norms and behaviors. Given the subtlety and impact of nonverbal behavior in communication, the potential for intercultural misunderstandings, and the increasing diversity of populations worldwide, a better grasp of cultural influences on such behavior is invaluable. If intercultural misunderstandings are most likely to occur outside intimate or family settings, which seems probable, empirical data of this kind may help to prevent them. Indeed, greater awareness of one's own and others' attitudes about touch can help balance intimacy and comfort in relationships. By promoting a clearer understanding of cultural norms and attitudes surrounding touch behavior, the current study provides a window into behavior patterns that can impact everyday interactions fundamental to social relationships.

Authors' note

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Notes

1. We note that although these values characterize Latino cultures more broadly, much of the research focuses on people from Mexican/Mexican American (MA) backgrounds, as this is the

largest Hispanic group in the U.S. (Flores, 2017). This fact, combined with our geographic location in the Southwest, led us to focus specifically on MAs.

2. We pilot-tested ($N = 458$) an initial version of the questionnaire including four additional items identical to the current items, except that "...how acceptable is it for each of the following to occur..." was replaced with "...how frequently does each of the following occur..." Correlations between the corresponding acceptability and frequency items were large and highly significant; we therefore dropped the frequency items for the current study to reduce participant burden.

References

- Ainsworth, M. D. S. (1979). Infant-mother attachment. *American Psychologist*, *34*, 932–937. doi:10.1037/0003-066X.34.10.932
- Barber, B. K., & Thomas, D. L. (1986). Dimensions of fathers' and mothers' supportive behavior: The case for physical affection. *Journal of Marriage and Family*, *48*, 783–794. doi:10.2307/352571
- Bauman, S. (2005). The reliability and validity of the Brief Acculturation Rating Scale for Mexican Americans-II for children and adolescents. *Hispanic Journal of Behavioral Sciences*, *27*, 426–441. doi:10.1177/0739986305281423
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*, 497–529. doi:10.1037/0033-2909.117.3.497
- Benitez, C. (2007). *Latinization: How Latino culture is transforming the U.S.* Ithaca, NY: Paramount Market Publishing, Inc.
- Burleson, M. H., & Davis, M. C. (2014). Social touch and resilience. In M. Kent, M. C. Davis, & J. W. Reich (Eds.), *The resilience handbook: Approaches to stress and trauma* (pp. 131–143). New York, NY: Routledge.
- Burleson, M. H., Trevathan, W. R., & Todd, M. (2007). In the mood for love, or vice versa? Understanding the relations among physical affection, sexual activity, mood, and stress in the daily lives of mid-aged women. *Archives of Sexual Behavior*, *36*, 357–368.
- Cacioppo, J. T., Hawkey, L. C., Crawford, L. E., Ernst, J. M., Burleson, M. H., Kowalewski, R. B., ... Berntson, G. G. (2002). Loneliness and health: Potential mechanisms. *Psychosomatic Medicine*, *64*, 407–417. doi:10.1097/00006842-200205000-00005
- Cacioppo, J. T., Hawkey, L. C., Ernst, J. M., Burleson, M. H., Berntson, G. G., Nouriani, B., & Spiegel, D. (2006). Loneliness within a nomological net: An evolutionary perspective. *Journal of Research in Personality*, *40*, 1054–1085. doi:10.1016/j.jrp.2005.11.007
- Campos, B., Dunkel-Schetter, C., Abdou, C. M., Hobel, C. J., Glynn, L. M., & Sandman, C. A. (2008). Familism, social support, and stress: Positive implications for pregnant Latinas. *Cultural Diversity and Ethnic Minority Psychology*, *14*, 155–162. doi:10.1037/1099-9809.14.2.155
- Castillo, L. G., & Cano, M. A. (2008). Mexican American psychology: Theory and clinical application. In C. Negy (Ed.), *Cross-cultural psychotherapy: Toward a critical understanding of diverse clients* (2nd ed., pp. 85–102). Reno, NV: Bent Tree Press.
- Castillo, L. G., Perez, F. V., Castillo, R., & Ghosheh, M. R. (2010). Construction and initial validation of the Marianismo Beliefs Scale. *Counseling Psychology Quarterly*, *23*, 163–175. doi:10.1080/09515071003776036

- Clark, M. S., & Reis, H. T. (1988). Interpersonal processes in close relationships. *Annual Review of Psychology, 39*, 609–672. doi:dx.doi.org/10.1146/annurev.ps.39.020188.003141
- Coan, J. A., Schaefer, H. S., & Davidson, R. J. (2006). Lending a hand. *Psychological Science, 17*, 1032.
- Cohn, D. (2017, April 20). Seeking better data on Hispanics, Census Bureau may change how it asks about race. Retrieved from <http://www.pewresearch.org/fact-tank/2017/04/20/seeking-better-data-on-hispanics-census-bureau-may-change-how-it-asks-about-race/>
- Cuellar, I., Arnold, B., & Maldonado, R. (1995). Acculturation Rating Scale for Mexican Americans-II: A revision of the original ARSMA scale. *Hispanic Journal of Behavioral Sciences, 17*, 275–305. doi:10.1177/07399863950173001
- Debrot, A., Schoebi, D., Perrez, M., & Horn, A. B. (2013). Touch as an interpersonal emotion regulation process in couples' daily lives: The mediating role of psychological intimacy. *Personality and Social Psychology Bulletin, 39*, 1373–1385. doi:10.1177/0146167213497592
- Depue, R. A., & Morrone-Strupinsky, J. V. (2005). A neurobehavioral model of affiliative bonding: Implications for conceptualizing a human trait of affiliation. *Behavioral and Brain Sciences, 28*, 313–395.
- Derlega, V. J., Catanzaro, D., & Lewis, R. J. (2001). Perceptions about tactile intimacy in same-sex and opposite-sex pairs based on research participants' sexual orientation. *Psychology of Men and Masculinity, 2*, 124–132. doi:10.1037/1524-9220.2.2.124
- Díaz-Loving, R., & Draguns, J. G. (1999). Culture, meaning, and personality in Mexico and in the United States. In Y.-T. Lee, C. R. McCauley, & J. G. Draguns (Eds.), *Personality and person perception across cultures* (pp. 103–126). Mahwah, NJ: Lawrence Erlbaum.
- DiBiase, R., & Gunnoe, J. (2004). Gender and culture differences in touching behavior. *Journal of Social Psychology, 144*, 49–62. doi:10.3200/SOCP.144.1.49-62
- Dunbar, R. I. M. (2010). The social role of touch in humans and primates: Behavioural function and neurobiological mechanisms. *Neuroscience and Biobehavioral Reviews, 34*, 260–268. doi:10.1016/j.neubiorev.2008.07.001
- Erickson, B. M. (2005). Scandinavian families: Plain and simple. In M. McGoldrick, J. Giordano, & N. Garcia-Prieto (Eds.), *Ethnicity and family therapy* (3rd ed., pp. 641–653). New York, NY: Guilford Press.
- Flores, A. (2017, September 18). How the U.S. Hispanic population is changing. Retrieved from <http://www.pewresearch.org/fact-tank/2017/09/18/how-the-u-s-hispanic-population-is-changing/>
- Floyd, K., & Deiss, D. M. (2012). Better health, better lives: The bright side of affection. In T. J. Socha & M. Pitts (Eds.), *The positive side of interpersonal communication* (pp. 127–142). New York, NY: Peter Lang Publishing.
- Gallace, A., & Spence, C. (2010). The science of interpersonal touch: An overview. *Neuroscience and Biobehavioral Reviews, 34*, 246–259. doi:10.1016/j.neubiorev.2008.10.004
- Gibbs, J. T. (1980). The interpersonal orientation in mental health consultation: Toward a model of ethnic variations in consultation. *Journal of Community Psychology, 8*, 195–207. doi:10.1002/1520-6629(198007)8:3<195::AID-JCOP2290080302>3.0.CO;2-9
- Grewn, K. M., Anderson, B. J., Girdler, S. S., & Light, K. C. (2003). Warm partner contact is related to lower cardiovascular reactivity. *Behavioral Medicine, 29*, 123–130.
- Haines, E. L., Deaux, K., & Lofaro, N. (2016). The times they are a-changing . . . or are they not? A comparison of gender stereotypes, 1983–2014. *Psychology of Women Quarterly, 40*, 353–363. doi:10.1177/0361684316634081

- Hall, E. T. (1966). *The hidden dimension*. Garden City, NY: Anchor Books/Doubleday.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York, NY: Guilford Press.
- Hazan, C., & Zeifman, D. (1999). Pair bonds as attachments: Evaluating the evidence. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 336–354). New York, NY: Guilford Press.
- Heine, S. J., Lehman, D. R., Peng, K., & Greenholtz, J. (2002). What's wrong with cross-cultural comparisons of subjective Likert scales? The reference-group effect. *Journal of Personality and Social Psychology, 82*, 903–918. doi:10.1037//0022-3514.82.6.903
- Hertenstein, M. J., Keltner, D., App, B., Buleit, B. A., & Jaskolka, A. R. (2006). Touch communicates distinct emotions. *Emotion, 6*, 528–533.
- Hofstede, G. H. (2001). *Culture's consequences* (2nd ed.). Thousand Oaks, CA: Sage.
- Holloway, R. A., Waldrip, A. M., & Ickes, W. (2009). Evidence that a simpatico self-schema accounts for differences in the self-concepts and social behavior of Latinos versus Whites (and Blacks). *Journal of Personality and Social Psychology, 96*, 1012–1028. doi:10.1037/a0013883
- Holt-Lunstad, J., Birmingham, W., & Light, K. C. (2008). Influence of a “warm touch” support enhancement intervention among married couples on ambulatory blood pressure, oxytocin, alpha amylase, and cortisol. *Psychosomatic Medicine, 70*, 976–985.
- Jakubiak, B. K., & Feeney, B. C. (2016). Affectionate touch to promote relational, psychological, and physical well-being in adulthood: A theoretical model and review of the research. *Personality and Social Psychology Review, 21*, 203–227. doi:10.1177/1088868316650307
- Johnson, P., Lindsey, A. E., & Zakahi, W. R. (2001). Anglo American, Hispanic American, Chilean, Mexican and Spanish perceptions of competent communication in initial interaction. *Communication Research Reports, 18*, 36–43. doi:10.1080/08824090109384780
- Jones, S. E. (1994). *The right touch: Understanding and using the language of physical contact*. Cresskill, NJ: Hampton Press, Inc.
- Jourard, S. M. (1966). An exploratory study of body-accessibility. *British Journal of Social and Clinical Psychology, 5*, 221–231. doi:10.1111/j.2044-8260.1966.tb00978.x
- Klein, A. M. (1995). Tender machos: Masculine contrasts in the Mexican Baseball League. *Sociology of Sport Journal, 12*, 370–388. doi:dx.doi.org/10.1123/ssj.12.4.370
- Konner, M. (1982). Biological aspects of the mother-infant bond. In R. N. Emde & R. J. Harmon (Eds.), *The development of attachment and affiliative systems* (pp. 137–160). New York, NY: Plenum Press.
- Kraus, M. W., Huang, C., & Keltner, D. (2010). Tactile communication, cooperation, and performance: An ethological study of the NBA. *Emotion, 10*, 745–749. doi:10.1037/a0019382
- MacGeorge, E. L., Graves, A. R., Feng, B., Gillihan, S. J., & Burleson, B. R. (2004). The myth of gender cultures: Similarities outweigh differences in men's and women's provision of and responses to supportive communication. *Sex Roles, 50*, 143–175. doi:0360-0025/04/0200-0143/0
- Major, B., Schmidlin, A. M., & Williams, L. (1990). Gender patterns in social touch: The impact of setting and age. *Journal of Personality and Social Psychology, 58*, 634–643. doi:0022-3514/90/S00.75
- Matsumoto, D., Yoo, S. H., & Fontaine, J. (2008). Mapping expressive differences around the world: The relationship between emotional display rules and individualism versus collectivism. *Journal of Cross-Cultural Psychology, 39*, 55–74. doi:10.1177/0022022107311854

- McDaniel, E., & Andersen, P. A. (1998). International patterns of interpersonal tactile communication: A field study. *Journal of Nonverbal Behavior*, *22*, 59–75. doi:10.1023/A:1022952509743
- McGill, D. W., & Pearce, J. K. (2005). American families with English ancestors from the colonial era: Anglo-Americans. In M. McGoldrick, J. Giordano, & N. Garcia-Prieto (Eds.), *Ethnicity and family therapy* (3rd ed., pp. 520–533). New York, NY: Guilford Press.
- Milligan, G. W., Wong, D. S., & Thompson, P. A. (1987). Robustness properties of nonorthogonal analysis of variance. *Psychological Bulletin*, *101*, 464–470. doi:10.1037/0033-2909.101.3.464
- Montagu, A. (1971). *Touching: The human significance of the skin*. New York, NY: Columbia University Press.
- Montagu, A., & Matson, F. (1979). *The human connection*. New York, NY: McGraw-Hill Book Company.
- Ramírez-Esparza, N., Chung, C. K., Sierra-Otero, G., & Pennebaker, J. W. (2012). Cross-cultural constructions of self-schemas Americans and Mexicans. *Journal of Cross-Cultural Psychology*, *43*, 233–250. doi:10.1177/0022022110385231
- Ramírez-Esparza, N., Mehl, M. R., Alvarez-Bermudez, J., & Pennebaker, J. W. (2009). Are Mexicans more or less sociable than Americans? Insights from a naturalistic observation study. *Journal of Research in Personality*, *43*, 1–7. doi:10.1016/j.jrp.2008.09.002
- Roberts, N. A., & Levenson, R. W. (2006). Subjective, behavioral, and physiological reactivity to ethnically matched and ethnically mismatched film clips. *Emotion*, *6*, 635–646. doi:10.1037/1528-3542.6.4.635
- Rothbaum, F., Weisz, J., Pott, M., Miyake, K., & Morelli, G. (2000). Attachment and culture: Security in the United States and Japan. *American Psychologist*, *55*, 1093–1104. doi:10.1037//0003-066X.55.10.1093
- Sanchez-Burks, J. (2002). Protestant relational ideology and (in)attention to relational cues in work settings. *Journal of Personality and Social Psychology*, *83*, 919–929. doi:10.1037//0022-3514.83.4.919
- Sanchez-Burks, J., Nisbett, R. E., & Ybarra, O. (2000). Cultural styles, relational schemas, and prejudice against out-groups. *Journal of Personality and Social Psychology*, *79*, 174–189. doi:10.1037//0022-3514.79.2.174
- Soto, J. A., Chentsova-Dutton, Y., & Lee, E. (2013). The role of cultural fit in the connection between health and social relationships. In M. L. Newman & N. A. Roberts (Eds.), *Health and social relationships: The good, the bad, and the complicated* (pp. 189–212). Washington, DC: APA Books.
- Spence, J. T., & Buckner, C. E. (2000). Instrumental and expressive traits, trait stereotypes, and sexist attitudes: What do they signify? *Psychology of Women Quarterly*, *24*, 44–62. doi:10.1111/j.1471-6402.2000.tb01021.x
- Stack, D. M. (2010). Touch and physical contact during infancy: Discovering the richness of the forgotten sense. In J. Bremner & T. Wachs (Eds.), *The Wiley-Blackwell handbook of infant development, basic research* (2nd ed., pp. 532–567). Chichester, England: Wiley Blackwell.
- Suvilehto, J. T., Glerean, E., Dunbar, R. I. M., Hari, R., & Nummenmaa, L. (2015). Topography of social touching depends on emotional bonds between humans. *Proceedings of the National Academy of Sciences of the United States of America*, *112*, 13811–13816. doi:10.1073/pnas.1519231112

- Terry, D. J., & Hogg, M. A. (1996). Group norms and the attitude-behavior relationship. *Personality and Social Psychology Bulletin*, *22*, 776–793. doi:10.1177/0146167296228002
- Triandis, H. C., Marin, G., Lisansky, J., & Betancourt, H. (1984). Simpatía as a cultural script of Hispanics. *Journal of Personality and Social Psychology*, *47*, 1363–1375. doi:10.1037/0022-3514.47.6.1363
- Tsai, J. L., Knutson, B., & Fung, H. H. (2006). Cultural variation in affect valuation. *Journal of Personality and Social Psychology*, *90*, 288–307. doi:10.1037/0022-3514.90.2.288
- van de Schoot, R., Lugtig, P., & Hox, J. (2012). A checklist for testing measurement invariance. *European Journal of Developmental Psychology*, *9*, 486–492. doi:10.1080/17405629.2012.686740
- Wilhelm, F. H., Kochar, A. S., Roth, W. T., & Gross, J. J. (2001). Social anxiety and response to touch: Incongruence between self-evaluative and physiological reactions. *Biological Psychology*, *58*, 181–202. doi:10.1016/S0301-0511(01)00113-2
- Winawer, H., & Wetzell, N. (2005). German families. In M. McGoldrick, J. Giordano, & N. Garcia-Preto (Eds.), *Ethnicity and family therapy* (3rd ed., pp. 555–572). New York, NY: Guilford Press.

Appendix I

Perceived cultural acceptability of affectionate touch

We are interested in your perceptions about how most people from your cultural background (e.g., Mexican American, African American, Chinese American, Midwesterner, Southerner, etc.) generally think about the acceptability of certain types of physical contact. By culture, we mean a general way of life of a population or group, including their shared knowledge, beliefs, values, attitudes, and rules of behavior.

There are no right or wrong answers. You may think or behave similarly or differently than others from your culture, but we are interested in your perceptions of how most people in your culture think and behave.

Please note: Please read each question carefully. While the types of physical contact are repeated, the questions vary regarding private versus public settings and close relationships versus acquaintances and other people you do not know very well.

Affectionate physical contact includes the following examples: touching or patting someone, hugging, holding hands, or kissing.

In general, in YOUR CULTURE, how acceptable is it for each of the following to occur IN PRIVATE?

	Not at all acceptable	Barely acceptable	Sometimes acceptable	Fairly acceptable	Very acceptable
1. Affectionate physical contact with family members, significant others, or close friends	1	2	3	4	5
2. Affectionate physical contact with an acquaintance or someone you don't know very well	1	2	3	4	5

In general, in YOUR CULTURE, how acceptable is it for each of the following to occur IN PUBLIC?

	Not at all acceptable	Barely acceptable	Sometimes acceptable	Fairly acceptable	Very acceptable
3. Affectionate physical contact with family members, significant others, or close friends	1	2	3	4	5
4. Affectionate physical contact with an acquaintance or someone you don't know very well	1	2	3	4	5

Personal comfort with affectionate touch

Please indicate how characteristic or true each of the following statements is of you.

	Not at all	Slightly	Moderately	Very	Extremely
1. I consider myself to be a 'touchy-feely' person.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I generally seek physical contact with others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I generally like when people express their affection towards me in a physical way.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I'd be happy to give a neck/shoulder massage to a friend if they are feeling stressed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. As a child, I was often cuddled by family members (e.g., parents, siblings).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. If I had the means, I would get weekly professional massages.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I feel comfortable touching people I do not know very well.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>