Introduction

People do not communicate only by words; there is more to human communication than speech. In public and private settings, people look at each other, stand close or far apart, face each other more or less directly, and move their faces and bodies. Sometimes, they smile, kiss, touch and sense each other’s breath and warmth. All these behaviors have been included under the subject of nonverbal communication and have been given increasing research attention by the social scientists in the past fifty years.

One of the most powerful forms of nonverbal communication occurs when two people touch (Knapp & Hall, 1992). Touch is the first of the five human senses to develop, and it provides us with our most fundamental means of contact with the external world (Hickson & Stacks, 1993; Knapp & Hall, 1992). Interpersonal touch plays a very important role in our early social interactions; newborns gain knowledge of the world around them through tactile expressions (Knapp & Hall, 1992). According to Harlow (1958, as cited in Gallace & Spence, 2010) our first lessons in loving mainly come through the cuddling and caressing we receive as infants. Moreover, interpersonal touch plays an essential role in regulating our emotional and psychological well-being (Field, 2001; Spence, 2002, as cited in Gallace & Spence, 2010). Recent research suggests touch has health benefits for adults such as lowering blood pressure, reducing stress and providing positive emotions (Fanslow, 1990, as cited in Anderson & Guerrero, 2005).
We use touch to share our feelings with others, communicate interpersonal attitudes, send information about personality, regulate the flow of social interaction, and to enhance the meaning of other forms of verbal and nonverbal communication (Gallace & Spence, 2010; Morrison, Löken & Olausson, 2010). Whether it is a strong handshake, an encouraging pat on the back, a sensual caress, a nudge for attention, a tender kiss, an intense embrace, or a gentle brush of the head, physical contact can express intimacy and vitality even more powerful than language (Jones and Yarbrough, 1985, as cited in Gallace & Spence, 2010). As Andersen (1999, as cited in Andersen & Guerrero, 2005, p. 83) points out “Perhaps no mode of human interaction has the same potential to communicate love, warmth, and intimacy as actual body contact.”

Touch is a universal aspect of human interaction. All people touch and are touched by others; however, there are huge differences in the amount of touching people do (Hall & Knapp, 1997; LaFrance & Mayo, 1978). These variations depend on many environmental, personal and contextual variables (Hall & Knapp, 1978). It is important to pay attention to these variables because, for example, a specific touching behavior may be misinterpreted as an indication of a person’s inner feelings when it is only an expression of cultural tradition.

Factors Influencing Touching Behavior in Public

Hickson and Stacks (1993) reports that there are many variables that affect our use of personal space and touch as a means of interpersonal communication, which include sex, race, familiarity, stage of relationship, status, interaction setting, topic of interaction, physical appearance, personality and desire for approval. For example, Anastasi and Mehrabian (1958, 1970 & 1971, as cited in Hickson & Stacks, 1993) have concluded that the tendency to have more body contact is consistent with the intimacy in the relationship and the extent of liking. Guerrero and Anderson (1994) observed 196 opposite-sex couples waiting in movie theatres and
zoo lines by using pre-coded sheets. Similarly, the findings indicate that patterns of touch initiation may vary as a function of relationship stage.

LaFrance & Mayo (1978) supports Hickson and Stacks’ suggestion that race affects proximity and touching behavior. Willis and Hoffman (1975, as cited in LaFrance & Mayo, 1978) observed touching among black and white school children in cafeteria lines. In same-sex pairs, both black and white girls and boys showed a reduction of touching from kindergarten to sixth grade in predominantly white or integrated schools, but no such reduction was found in the predominantly black school. Only a single instance of cross-racial touch was observed.

Touch means different things in different environments (Knapp & Hall, 1992). Research shows that the setting where the interaction occurs influences touching behavior (reviewed by Gallace & Spence, 2010). For example, it has been demonstrated by McDaniel and Andersen (1988) that at airport departure and arrival lounges, individuals exchange interpersonal touch relatively more than in coffee shops and other public places.

Moreover, Gallace & Spence (2010) also suggest that age and gender are factors which affect interpersonal touch. For example, Berkowitz (1971) shows that in six nations, children were more likely to be in contact with another person than adolescents and adults. Another study by Williams and Willis (1978, as cited in Gallace & Spence, 2010) report that during the preschool years and up to high school, same-sex pairs tend to touch more frequently than cross-sex pairs. This effect is greater among female pairs than among male pairs. Interestingly, this relationship appears to change as a function of maturation. Indeed, Willis, et al. (1978, as cited in Gallace & Spence, 2010) has found among college students and adults in public shopping centers, that cross-sex touching rates exceed those observed in same-gender touching.

Furthermore, in a study of Hall & Veccia (1990), 4500 dyads in their teens and older dyads were
observed in public places in Boston. The results indicated that among dyads in their teens, males touched females more often, whereas the reverse was true for older dyads. Hall and Veccia also found that female-female pairs exchanged touch more frequently than male-male pairs, and among adults, mixed-sex pairs exchanged touch more than same-sex pairs. From this research, it seems clear that sex and age affect public interpersonal touching.

Andersen et al. (1990, as cited in McDaniel & Andersen, 1998) suggest that interpersonal communication predispositions are a function of climate. Only Hofstede (1980, as cited in McDaniel & Andersen, 1998) demonstrated a statistically significant relationship between social behavior characteristics and climate. Using a population's reported tactile inclinations, Hecht et al. (1989) categorized societies into different geographical areas. Frequent tactile interactions appeared to occur in places with warm and temperate climates, while people from colder climates were less likely to touch. However, Hetch’s findings were not statistically significant and his study was not replicated.

Furthermore in addition to the factors mentioned above, there also seem to be huge cultural differences in tactile behavior (reviewed by Dibiase & Gunnoe, 2004). Recent research has shown that culture and background also affect touching behaviour (reviewed by Gallace & Spence, 2010). The following section presents results relevant to several hypotheses about culture’s influence with regard to interpersonal touching.

Culture and Touching Behavior

Anthropologists have categorized culture into two types: “contact” and “non-contact”. Throughout the intercultural communication literature, Latin Americans, Middle Easterners, southern Europeans (Turks, Greeks), Arabs and a number of African cultures are considered to be contact cultures, and North American, Northern European and Asian societies are included in
CULTURE AND GENDER DIFFERENCES IN TOUCH

the non-contact group (e.g., Argly, 1988; Hall, 1966; Dodd, 1987, as cited in McDaniel & Andersen, 1998; Jandt, 1995, as cited in McDaniel & Andersen, 1998; Lustig & Koester, 1966, as cited in Dibiase & Gunnuo, 2004; Patterson, 1983, as cited in McDaniel & Andersen, 1998).

Researchers have found significant differences between contact and non-contact cultures; cultures differ in their expectations and acceptance of touching behaviour (Hall, 1966; Hicksons & Stacks, 1993). Hall’s (1966) notions regarding the expressive styles of contact and non-contact cultures have received special attention from social scientists over the years. Hall suggests that cultures can be distinguished by members’ preferences regarding interaction distances and frequency of touch. According to this view, contact cultures prefer more immediate or involving behaviors such as touch and close distances, than non-contact cultures. Hall states that contact cultures are characterized by an emphasis on tactile mode of communication, whereas non-contact cultures rely primarily on the visual mode.

Culture can play a role in modulating people’s interpretation of and their response to interpersonal touch; there are also differences among cultures regarding who touches whom, when and where (Hickson & Stacks, 1993; Jourard, 1966; Shuter, 1977). Most people’s personal experiences provide numerous examples that people belonging to certain cultures touch each other more frequently than those belonging to other cultures. For example, in Italy, a kiss on each cheek and hugging are considered a common and acceptable form of greeting. In contrast, in Japan the proper greeting consists of a respectful bow and the absence of any tactile contact (McDaniel & Andersen, 1998).

Cultural Differences in Touching Behavior

Argly (1988), and Hickson and Stacks (1993) support Hall’s theory and state that people in the contact countries seem to interact at closer distances and touch each other much more
during social conversations than people in non-contact countries. Jourard’s study (1966, as cited in Argly, 1988) of the frequency of body contact between couples in various cafes in different countries supports this; in San Juan, Puerto Rico couples touched each other 180 times per hour, in Paris, France 110, in Gainsville, Florida 2 and in London, England 0. Also, McDaniel & Andersen (1998) observed the greeting and farewell behaviors of 154 opposite-sex dyads from 26 nations in an international airport by using a body chart. The results also demonstrated that nationality affects variation in interpersonal touch.

Shuter (1977) compared nonverbal behaviors of Germans, Italians, and individuals from the United States. Supporting Hall’s theory, the results show that Italians displayed a significantly higher level of tactile activity. Touch between German pairs and American couples varied only slightly. In addition, Watson and Graves (1966, as cited in Remland, Johns & Brinkman, 1991) noted in laboratory conditions that Americans, English, and Australians were much less tactile than were Arabs and Middle Easterners. Barnlund (1975, as cited in Knapp & Hall, 1992) conducted a comparative study of American and Japanese touching patterns using 120 college students in each culture. Consistent with Hall’s view, the results showed that the amount of tactile contact reported in the United States was twice that reported by Japanese.

**Cultural Similarities in Touching Behavior**

However, there is also research contradicting Hall’s hypothesis regarding the haptic (human’s use of touch as a way of communication) and proxemic (human’s use of personal space as a way of communication) norms of contact and non-contact cultures. Berkowitz (1971) observed urban pedestrians interacting in shopping, park and entertainment areas in six national groupings (England, Germany, Sweden, Italy, the United States and 3 Muslim countries - Turkey, Iran and Afghanistan). The result demonstrates that English, Germans and Italians
interacted more than Americans, Muslims and Swedish, failing to support Hall’s idea that people in Muslim countries (high-contact culture) have higher predispositions to tactile contact than North Americans and North Europeans.

A study comparing touch behavior in the Netherlands and England (Northern European low-contact nations) with that in France (a Southern European, high-contact country) also failed to support Hall's position that Southern European nations are disposed toward high-contact (Remland et al., 1991). The complex relationship between culture and interpersonal touching behavior are evident in the results of a study by Shuter (1977) in which although Italians touched more than Germans and Americans, it was only true for male and mixed-sex dyads.

Taken collectively, however, the literature suggests most North Americans and Northern Europeans should exhibit little or no public interpersonal touch, and subjects from Southern European societies should display a higher degree of tactile interaction (McDaniel & Andersen, 1998). Although there is little doubt that cultural norms influence touching behavior, more empirical data are needed from other countries to definitively conclude that there are distinctions between contact and non-contact cultures.

**Gender, Dominance and Touching Behavior in Public**

One of the cornerstones of the study of gender differences in touching behavior is Henley's (1973) article reporting an asymmetry in the touches exchanged between the male and female in the United States. Henley proposed that men initiate touch with women more often than do women with men in public, and that such asymmetry is due to a status difference between men and women. Henley maintained that this status difference gives men a touching privilege that, in turn, contributes to their domination of women. In addition, according to
Henley (1977), women like being touched more than men do, and when men touch women it may be because they know this.

Two literature reviews of gender and social touch are available. In one, Major (1981, as cited in Willis & Briggs, 1992) concluded that men are more likely to initiate touch in opposite-gender encounters thus supporting Henley's hypothesis. On the other hand, Stier and Hall (1984), using a meta-analysis of 25 observational studies, failed to find support for Henley's gender asymmetry hypothesis. Major, Schmidlin and Williams (1990, as cited in Willis & Briggs, 1992) argued that the different conclusions in the two reviews are due to four factors: the age of the participants, the relationships between the participants, the intentionality and the interaction setting. Henley's hypothesis would apply only if the touch was intentional and if it referred only to adults. Major, et al. also argued that Henley's hypothesis would not apply to settings such as airports where touch (greetings) is regulated by habit, or to settings such as parties where touch is affiliative. Another possible explanation for the different findings in the two reviews might be that, there are some particular types of touches that imply dominance, and men may touch women more in some certain ways, whereas women may touch men in others. Yet, there is some consistency with both studies that no matter who initiates the touch, observers seem to perceive the initiator as the person with greater power if the touch is non-reciprocated, regardless of gender, status and age of the participants (Knapp & Hall, 1982).

Henley (1977) suggests that dominance (e.g. trying to force their will on others) is associated with more touching. Situations, in which people happen to be in dominant positions, as well as in relationships involving dominance, affect the probability of their using touch. Henley also discusses the idea that the behavior of men and women might be described in terms
of dominance and submission. Other things being equal, females generally portray themselves being nonverbally submissive to men.

Goffman (1956, as cited in Willis & Briggs, 1992) in support of Henley’s interpretation, has said that touch is a status privilege with employers touching employees and older persons touching younger ones. In addition, Richmond et al. (1991, as cited in Willis & Briggs, 1992) concluded that social touch is a mode of tactile behavior that neutralizes the status differences between two persons. On the other hand, Pisano, Wall, and Foster (1986, as cited in Willis & Briggs, 1992) examined the perceptions of 31 types of touch in opposite-sex romantic relationships and found that people most often perceived the various touches as expressing warmth/love and rarely as expressing dominance/control.

Knapp and Hall (1982) address the idea that sex differences in nonverbal communication also reflect the different identities of males and females. They state that ‘gender roles’ are collections of attitudes, behaviors and traits assumed to be desirable for each sex, and they are reflected even in the early-appearing nonverbal variations in life. In our society, the male sex roles include autonomy, dominance, assertiveness and task orientation, whereas empathy, gentleness, nurturing, and interpersonal orientation are prescribed for the female (Knapp & Hall, 1982). Social display of sexual identity and gender roles have special importance for men and women in our society. Therefore, especially in patriarchal cultures, men and women want to show others not only that they are a man or woman, but also that they behave as a man or a woman is expected to behave (Knapp & Hall, 1982).

For example, it is reported by Hall and Veccia (1990) that in people under 30, men touched women significantly more than women touched men and the reason for that is explained by how young adults who are trying to attract each other perceive power and traditional gender
roles. This finding was emphasized by Willis and Briggs (1992) who discovered that in dating relationships men touch women more than women touch men, but that this pattern was altered in married couples. Also, Willis and Briggs (1992) observed opposite-gender pairs in restaurants, parks, theaters, and sporting events in the United States, and then the couples were asked to identify their relationship. In support of Henley’s theory, the study demonstrated that a gender asymmetry exists with men touching women more than women touching men. Moreover, Hall and Veccia (1990) found that there was a tendency for men to use their hands to touch women more than women used their hands to touch men, and women generally used other parts of their bodies to touch men more than men used other parts of their bodies to touch women. However, all of these studies were conducted in the United States, and it may be that only hand-touching expresses dominance there. In other countries, dominance might be expressed by other certain types of touching. Hall and Veccia’s study also shows that female-female pairs exchanged touch more frequently than male-male pairs, and among adults, mixed-sex pairs exchanged touch more than same-sex pairs.

Other researchers conclude that how we touch is conditioned by the situation and power, but usually it is the person with superior status who initiates the touch (Hickson & Stacks, 1993). For example, Henley’s (1977) observations suggests that people are more likely to touch when trying to persuade rather than being persuaded; asking for a favor rather than agreeing to give one; giving information or advice rather than asking for it; giving an order rather than responding to it; when the conversation is deep rather than casual; communicating excitement rather than receiving it from another; receiving messages of worry from another rather than sending such messages; at a party rather than at work. Moreover, touch is discussed as a status-reflecting variable.
To summarize, there is universal agreement that clear gender differences exist in social touch. Men and women differ in the frequencies with which they touch and are touched (Henley, 1977; Willis & Briggs, 1992). One aim of the present study is to examine Henley’s dominance theory in light of the empirical findings.

The Present Study: Comparing Turkey and Canada

The observations will be conducted in Turkey and Canada, about which countries there has been little research on touching behavior. These two countries have different cultural standards regarding social touching in general. There has been little research on touching behavior in Turkey and Canada. Turkey’s location (in the Mediterranean, spanning South East Europe and the Middle East) and the research on the proxemic behavior of Turkish people (see Celik, 2005 and Ozdemir, 2008) suggest that it is a high-contact country, whereas the proxemic research on Canadians suggests that it is typically considered a low-contact country (Gudykunst & Mody, 2001). Also, it is clear that Turkey and Canada have different expectations regarding gender roles and appear to have different commitments to legislating equality for men and women. People in Turkey especially have highly traditional gender role expectations relative to Canadians. There continues to be substantial gender segregation and perceived male-dominance in Turkey; however, in Canada, changing gender roles and gender equality are occurring (see Fifek, 1993 and Davis, 1993 for more information on the sex roles of Turkey and Canada).

One purpose of the present study is to examine culture’s effect on touching behavior. Touching should be relative to the particular culture being examined in the sense that both men and women in a high-contact culture are expected to do more overall touching than people in a low-contact culture. The second purpose of the study is to concurrently examine cultural and
gender influences on touching behavior. Doing so will allow us to examine the dominance issue from a cultural context. In general, if Henley’s dominance theory is supported, then we should expect men in male-dominated, traditional cultures initiating more of certain kinds of touching than women. To explore how these culturally derived differences in gender roles may be related to touching behavior, the gender of the initiator of a specific type of touching, “mutual touch” (includes embraces, kisses, handshakes, hand-holding, arms linked and arm around shoulder) will be examined in Turkey and Canada. If “mutual touch” is a function of dominance, as Henley suggests, then it is expected that men in a high contact, highly traditional, male-dominant country will initiate “mutual touch” more than men in a low-contact, nontraditional country.

There are four hypotheses in the present study. First, the researcher predicts that pairs (male-female, female-female and male-male) in Turkey will exchange touch more frequently than the pairs in Canada. (If there will be enough data collected, then the first hypothesis will be expanded such that touch exchange will be examined separately for each gender composition of the pair (male-female, female-female, male-male). Thus, the hypothesis will be: the researcher predicts that male-female, female-female and male-male pairs in Turkey will exchange touch more frequently than the male-female, female-female and male-male pairs in Canada, respectively.) Second, it is predicted that among opposite-sex couples, men in Turkey will initiate “mutual touch” more than women will. Third, it is predicted that among opposite-sex couples in Canada, there will be less or no difference between the number of males and the number of females initiating “mutual touch”. Forth, among opposite-sex couples, men in Turkey will initiate “mutual touch” more frequently than men in Canada.

Method

Participants
There will be approximately 240 participants, all white, whose ages will be visually
judged to be between 16 and 50. There will be 120 individuals in Istanbul (20 opposite-sex, 20
same-sex female and 20 same-sex male pairs) and 120 individuals in Toronto (20 opposite-sex,
20 same-sex female and 20 same-sex male pairs). The pairs will be observed in public settings
consisting of outdoor and indoor cafes, movie theatres, shopping centers and street corners in the
cities of Istanbul and Toronto. The neighbourhoods of the public settings will be: Taksim,
Besiktas, Bakirkoy, Bogazici University campus in Istanbul and The Annex, Little Italy, Dundas
Square, York University campus in Toronto. These neighbourhoods in both cities are expected to
be sufficiently populated primarily by locals rather than tourists, and they are expected to
primarily attract individuals of mid-to-high socioeconomic status. In order to ensure that the
participants are of the expected nationality, the observer will choose the pairs that are speaking
the national language without an accent. Pairs will be selected by availability sampling. An
attempt will be made in the sampling procedure to obtain roughly equal numbers of pairs
according to: physical position (seated or standing) and age.

**Variables List**

**Hypothesis Variables.**

1. Culture (*Turkey, Canada*)

2. Touch exchange (*first, second, third and fourth hypotheses variable*)

3. Gender (*second and third hypotheses variable*)

4. Male initiating “mutual touch” (*second, third and fourth hypotheses variable*)

5. Female initiating “mutual touch” (*second and third hypotheses variable*)

**Sample Variables**

1. Culture (*Turkey, Canada*)
2. Gender composition of the pair (Male-Female, Female-Female, Male-Male)

3. Gender (Male, Female)

4. Age (16-50)

**Confounding Variables.**

1. Age (Age affects touching behavior (Berkowitz, 1971; Hall & Veccia, 1990). - will be mentioned in Disussion section)

2. Socio-economic status (somewhat controlled by selection of pairs – will not be measured)

3. Race (black/white) (Race affects touching behavior (Knapp, 1972, as cited in Celik, 2005; Stier & Hall, 1984) – Race is controlled in this study. As mentioned in the participants section, only white individuals will be observed. – will not be measured)

4. Type of relationship (cannot be controlled in this field study – will not be measured, but will be mentioned in Discussion section)

5. Alcohol (Alcohol may increase touching behavior (Argly, 1988, McClelland et al., 1972, as cited in Henley, 1977) - will not be measured, but will be mentioned in Discussion section)

6. Crowding (Crowding may increase proximity and touching behavior (Ozdemir, 2008) – if possible will be measured by some method and will be mentioned in Discussion section)

7. Weather/Climate (Observations will be made in winter in both countries; temperatures can vary, so climate may affect touching behavior (McDaniel & Andersen, 1998) – will not be measured)

8. Time of observation (11:00 am – 8:00 pm in both cities)

9. Interaction setting (Setting (e.g. indoor vs. outdoor cafes) may affect touching behavior (Williams & Willis, 1978, as cited in Gallace & Spence, 2010) – will not be measured, but will be mentioned in Discussion section)
10. Topic of interaction (Interaction topic may affect touching (Hickson & Stacks, 1993) — will not be measured, but will be mentioned in Discussion section)

Description of Variables

Demographic and factual variables.

Age will be visually judged by the researcher according to the following categories: teens, 20-30, 30-40 and 40-50.

Variables defined by the researcher’s own scale.

Interpersonal Tactile Communication Coding Sheet.

The coding will be done using code sheets containing space for where the couple is observed, gender composition of the couple, visually judged age, total number of touches, number of male initiators of “mutual touch”, number of female initiators of “mutual touch” and total number of “mutual touches”.

Touch frequency. The researcher will review all the literature that deals with ‘touch frequency’. Touching includes any kind of tactile response between two people (when one person touches with any part of their body to the other person’s body). Tactile data will be recorded only when spontaneously generated touch is observed. Accidental touch will not be recorded. A tick will be placed in the code sheet for each touch type. This includes “mutual touches” as well. Total absence of touch will be recorded as zero and will be included in the data. Continuous touch will be tallied once for each 10-second interval, so that if a member of the pair touches the other person’s arm with his hand for over one minute, the researcher will place six tally marks in the field of ‘number of touch’. Frequency of touch will be measured for each pair regardless of gender by counting the total number of ticks. Thus, touch frequency will be a
function of the summed number of body areas touched by each member of the pair. (See the attached code sheet in the last page)

**Frequency of male or female initiating “mutual touch”**. From the literature review, the researcher will take a list of words and phrases that describe “mutual touch”. “Mutual touch” will include five types of touching behavior: kissing, hugging, handshaking, hand-holding, linking arms and arm around shoulder. The code sheet will have a separate field for each of these items. The frequency of males initiating “mutual touch” and the frequency of females initiating “mutual touch” will be measured only for opposite-sex couples. While observing a male-female pair, for each “mutual touch” type, the gender of the initiator will be recorded by placing ‘M’ if the initiator is male, placing ‘F’ if the initiator is female. The frequency of males initiating “mutual touch” will be measured by counting the letter M’s and the frequency of females initiating “mutual touch” will be measured by counting the letter F’s. Again, total absence of “mutual touch” will be recorded as zero and will be included in the data. Continuous “mutual touch” will be tallied once for each 10-second interval, so that if a “hand holding” lasts over one minute, the researcher will place six tally marks in the field of number of “mutual touch”. (See the attached code sheet in the last page)

Pilot observations were done in Canada on November 15 and 16, 2010, on a small sample of three male-female, two male-male and two female-female pairs using the code sheets created by the researcher. The observations each took three minutes and were done during a two-day period. An assistant (male, 53 years of age, university educated) was there to time the interaction while the researcher did the observations. Two opposite-sex couples were observed while they were sitting in a coffee shop (Tim Hortons) in the Annex area and one opposite-sex couple was observed while they were sitting on a bench in a shopping mall (Eaton Center) in
Dundas Square. The total number of touches between the couples were 3, 7 and 9 and the total number of “mutual touches” was respectively 0, 2 (M initiating: 1, F initiating: 1) and 1 (M initiating). Two same-sex male pairs were observed in the same shopping center, one of them standing in a corner of a shop and the other sitting on a bench. The total number of touches was 0 for both pairs. Two same-sex female pairs were also observed in the same shopping center while waiting in a cafeteria line in the food court area. The total number of touches was respectively 1 and 0.

The “mutual touch” scale has content validity because its items are drawn from a literature review that cover touching behavior and each pair will be observed by the same person; the researcher.

**Procedure**

The researcher will make observations in Turkey between December 24, 2010 and January 3, 2011, and in Canada between January 15 and 25, 2011. The observations will be done according to the table below. The researcher will assume observationally advantageous positions in the cafes, movie theatres, shopping centers and street corners. In order to have unobtrusive observations, the researcher will bring with her a magazine to hide the code sheets. The researcher will continuously monitor pairs sitting and standing in the cafes, waiting in the queues for movies, standing on the street corners and strolling in the shopping centers, and will identify potential cases. In order to prevent experimenter bias, the order of the pairs observed will be counterbalanced. Each pair will be observed for a period of three minutes. There will be an assistant who will time the interaction while the researcher will be observing the pairs. The duration of breaks between each recording may vary. The recordings will be done as soon as an
available pair is chosen for observation. The pairs that leave each other before three minutes will be eliminated from the data.

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<th>Day 4</th>
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Date and Time Schedule Table for the Observations
| Var Id Pairs | Culture (Canadian: 0 Turkish: 1) | Gender Composition of the Pair (MF: 2 FF: 0 MM: 1) | Age (teens: 1 20-30: 2 30-40: 3 40-50: 4) | Frequency of Touch (0 - 20) | Frequency of Males Initiating “mutual touch” (0 - 18) | Frequency of Females Initiating “mutual touch” (0 - 18) |
Note: The mock data for frequency of males initiating “mutual touch” and frequency of females initiating “mutual touch” are empty for female-female and male-male pairs, because the researcher is only interested in measuring “mutual touch” for male-female pairs.

Analysis

Statistics Describing the Data

Discontinuous variables.

Culture (Two categories: Canadian, Turkish)
**Gender composition of the pair** (Three categories: Male-Female, Female-Female, Male-Male. The number and percentage of participants in each category will be reported.)

**Gender** (Two categories: Male, Female. The number and percentage of participants in each category will be reported.)

**Age** (Four categories: teens, 20-30, 30-40 and 40-50. The number and percentage of participants in each category will be reported)

**Continuous variables.**

**Frequency of touch**

**Frequency of males initiating “mutual touch”**

**Frequency of females initiating “mutual touch”**

Each variable will be analyzed for:

- Measurement of central tendency with mean, mode and median
- Measurement of dispersion with range, standard deviation
- Measurement of normality of distribution with a histogram and tests of normality (Kolmogorov-Smirnov and Shapiro-Wilk)

For predicting differences, the above analysis will be performed for each culture group (Canadian and Turkish) separately. Frequency of touch will be performed for Canadian and Turkish pairs separately. The frequency of males initiating “mutual touch” and the frequency of females initiating “mutual touch” will be measured for Canadian and Turkish opposite-sex pairs separately.

**Statistics Addressing the Hypothesis**
2 (culture) X 3 (gender composition of the pair) ANCOVA (Analysis of Covariance) will be used to test the first hypothesis, that male-female, female-female and male-male pairs in Turkey will exchange touch more frequently than the pairs in Canada. Here, the researcher is interested in predicting differences between more than three groups. There are two categorical independent variables (culture and gender composition of the pair) with levels respectively two (Turkish and Canadian) and three (male-female, female-female, male-male), and there is only one continuous dependent variable (frequency of touch). This statistical test will be chosen to examine ‘gender composition of the pair’ and culture together. A post hoc test will be used to determine where the differences between individual means will be significant. The data will be converted into ranks, and then a regular ANCOVA on the ranks will be done if the data happen to be nonparametric (see Conover & Iman, 1982 for details). There are several other versions of nonparametric ANCOVA (see The Quade, 1967). More research will be done to choose the most suitable and equivalent nonparametric test.

Independent Samples T-Test will be used to test the second hypothesis, that among opposite-sex couples in Turkey, men will initiate “mutual touch” more than women. With this hypothesis, the researcher is interested in predicting differences between two groups (Turkish males and Turkish females), and the data are described by interval or ratio scale. The Mann-Whitney Test will be used to test the second hypothesis if the data happen to be non-parametric.

Independent Samples T-Test will be used to test the third hypothesis, that men and women in Canada will initiate “mutual touch” equally frequently or with a small difference in the frequencies. With this hypothesis, the researcher is interested in predicting differences between two groups (Canadian males and Canadian females), and the data are described by
interval or ratio scale. **Mann-Whitney Test** will be used to test the third hypothesis if the data happen to be non-parametric.

**Independent Samples T-Test** will be used to test the fourth hypothesis, that among opposite-sex couples, men in Turkey will initiate “mutual touch” more frequently than men in Canada. Here, the researcher is interested in predicting differences between two independent groups (Turkish males and Canadian males), and the data are described by interval or ratio scale. The **Mann-Whitney Test** will be used to test the fourth hypothesis if the data happen to be non-parametric.

References


