

## Sensory Experience in Interpersonal Physical Attraction: Cross-Cultural Comparison

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### Abstract

The purpose of the study is to explore the role of visual, auditory, tactile-kinesthetic, and olfactory factors in determining physical attraction to another person in romantic love. Participants from three regions (the USA, Russia, Caribbean countries) completed the survey evaluating the role, which senses play in their attraction to a romantic partner. The questions that were asked were about the importance of the impressions for physical attraction to a partner, rather than the specific physical characteristics, which make a person attractive. Factor analysis identified several factors, which cluster together various sensory experiences, such as expressive behavior, dancing, singing, facial structure, body characteristics, hair and eyes features, voice, expressive manner of speaking, skin, dressing, lips. In all three cultural groups, people value the expressive behavior and smile, expressive speaking, body characteristics and facial structure in their romantic partners. In addition, the participants revealed cross-cultural differences.

### Introduction

Attraction is a positive attitude displayed by the desire to approach and be closer to another person. Physical attraction is based on their physical characteristics. Physical attraction plays a key role in a passionate love. What is this subjective experience, and does it differ cross culturally?

The purpose of the study is to explore the role of visual, auditory, tactile-kinesthetic, olfactory factors in determining physical attraction to another person in romantic relationships. The visual factor of attraction is based on the physical characteristics of a partner that are visually appealing. This includes, but is not limited to, body type, shape, face, how appealing the eyes are, and the shape of the partner's lips. The auditory factor

of attraction, then, is the attraction to a partner most prominently through the sense of audition. The characteristics would be the tone of the partner's voice, the pitch in which they speak, the sound of their laugh, and the voice in which they sing. The tactile-kinesthetic factor of attraction would include the way in which a person feels the partner's body moves, the way their hands feel and touch, or performing physical activities with the partner. The olfactory factor of attraction would consist of the smell of the partner's breath, the taste of their lips, the smell of their perfume or cologne and skin.

Visual senses yield research data about various aspects of the body which people find attractive as humans. Many studies have revealed the value of facial symmetry, a low hip-to-waist ratio, long hair, clear skin, and muscular builds (Miller & Perlman, 2009). Other investigations showed that this sense is the most important to males when referring to physical attractiveness. Males place a great amount of emphasis on the physical characteristics of their prospective female partners, such as body shape, weight, and hair length (Nevid, 1984). Hönekopp, Rudolph, Beier, Liebert and Müller (2007), showed that physical fitness determined perceptions of physical attractiveness. Patzer (1985) explains that people are predisposed to be attracted to people with facial symmetry and certain body types even before an initial meeting takes place.

As for the role of olfaction in physical attraction, the studies showed the effect of biological factors that influence our olfaction, thus affecting our attraction toward others. Furlow (1996) showed that women use olfaction to choose mates whose genes, combined with theirs, will provide more variety for their offspring. Another study (Pierce, Cohen, & Ulrich, 2004) used two kinds of chemicals on two separate subject groups, one being pleasant and one being noxious. Results showed that we generally judge people to be more attractive when in the presence of a pleasant scent than in the presence of a noxious one. The study of Thornhill and Gangestad (1999) found that facial attractiveness correlates with body scent attractiveness to the opposite sex for both men and women.

We further reviewed the role of gustation, audition, and tactile senses in physical attraction. In the study conducted by Saegert, Swap and Zajonc (1983), subjects were given a pleasant or noxious taste just before having an encounter with a person of the opposite sex. Results showed that there was a positive correlation between attraction and pleasant taste. Furthermore, a study done by Gallup and Frederick (2010) showed the relationship between having an attractive voice and number of sexual encounters and one performed by Roberts, Kravovich, Ferdenzi, Saxton, and Jones (2011) demonstrated the correlation between nonverbal kinesic cues and mate quality.

The purpose of our study was to investigate the role of various senses in physical attraction to a romantic partner in different cultural contexts. We performed cross-cultural comparisons based on the assumption that some sensory factors of attraction may be universal, yet others are culturally specific. We expected that the role of these senses

may have differed among cultures because of their cultural traditions.

## Method

A quantitative survey design was utilized in this research. The participants were from three regions: the USA (various states) (96), the Caribbean (Bahamas and Trinidad) (89), and Russia (Siberia) (99), females (203) and males (76). They completed the survey either online or in paper-pencil format. We studied only heterosexual romantic attraction. The survey contained 127 items pertaining to the role played by the senses in a person's attraction to a romantic partner. The questions ask about importance of the impressions for the physical attraction to a partner. The variables of interest and corresponding survey questions were:

(1) Importance of some visual, auditory, tactile, and olfactory impressions from a partner, as well as specific physical characteristics within these modalities, *e.g.* body, sound of voice, touch, and so on;

The question was "Which impressions of the physical appearance of your romantic partner are important to you, and which impressions are less important? Your task is to rate how important each listed impression is for your physical attraction to your romantic partner from not important (1) to most important (5)."

Examples of items for rating are:

- Facial impression of this person;
- The sound of this person's voice;
- The smell of this person's breath;
- The physical feeling of this person's lips.

(2) Degree of behavioral and emotional attraction; the question was "How physically attracted are you to your partner? Please use the following rating scale to rate your attraction toward your partner" (from disagree - 1 to strongly agree - 5)

Examples of items for rating are:

- I want to kiss this person often (behavioral).
- I adore the physical appearance of this person (emotional).

(3) Background information on the length and stage of relationships, age, gender, ethnicity, place where participants grew up and spent most of their life, and education were solicited.

## Results

Principal component analysis (with varimax rotation) and scale analysis allowed us to identify 13 major dimensions with good and excellent reliability ( $0.7 \leq \alpha < 0.9$ ). These 13 dimensions in combination explained 68 % variance. The factors brought together various sensory experiences: expressive behavior, dancing, singing, facial structure, body

characteristics, hair and eyes features, voice, expressive manner of speaking, skin, dressing, lips are among those.

Analysis of variance revealed cultural similarities and differences across the dimensions of sensory factors. Table 1 illustrates the results of ANOVA for cross-cultural analysis and highlight differences among cultural groups as they relate to sensory factors. This table presents several dimensions in which participants in three regions differ in their rating of importance for physical attraction, including smell, dancing, hair, voice, skin, dress, and singing. Some of these differences exhibit among all three regions, others between two regions, but not the other. In many cases there are no differences at all.

**Table 1**

*Results of ANOVA on important sensory experience in interpersonal physical attraction for three cultural regions*

| Dimensions                   | ANOVA        |            | Mean Scores             |                         |                         |
|------------------------------|--------------|------------|-------------------------|-------------------------|-------------------------|
|                              | F            | p          | USA<br>(n = 93)         | Caribbean<br>(n = 89)   | Russia<br>(n = 98)      |
| Expressive face and Speaking | .13          | .87        | 3.48                    | 3.43                    | 3.43                    |
| Smile and Laughter           | 2.09         | .12        | 3.84                    | 3.66                    | 3.62                    |
| Smell                        | <b>18.12</b> | <b>.00</b> | <b>3.06<sub>a</sub></b> | <b>3.72<sub>b</sub></b> | <b>3.37<sub>c</sub></b> |
| Dancing                      | <b>8.44</b>  | <b>.00</b> | 2.29 <sub>ac</sub>      | <b>2.56<sub>b</sub></b> | 2.05 <sub>ac</sub>      |
| Facial structure             | .63          | .53        | 2.75                    | 2.77                    | 2.65                    |
| Hair                         | <b>9.05</b>  | <b>.00</b> | 2.36 <sub>ab</sub>      | 2.44 <sub>ab</sub>      | <b>2.85<sub>c</sub></b> |
| Eyes                         | .21          | .80        | 3.02                    | 2.93                    | 2.97                    |
| Voice                        | <b>27.31</b> | <b>.00</b> | <b>2.98<sub>a</sub></b> | <b>3.42<sub>b</sub></b> | <b>2.59<sub>c</sub></b> |
| Skin                         | <b>5.56</b>  | <b>.00</b> | <b>2.66<sub>a</sub></b> | 3.06 <sub>bc</sub>      | 3.00 <sub>bc</sub>      |
| Body characteristics         | 1.34         | .26        | 3.13                    | 3.27                    | 3.29                    |
| Dress                        | <b>10.15</b> | <b>.00</b> | 2.77 <sub>ac</sub>      | <b>3.29<sub>b</sub></b> | 2.84 <sub>ac</sub>      |
| Singing                      | <b>8.40</b>  | <b>.00</b> | 1.90 <sub>ac</sub>      | 2.21 <sub>b</sub>       | 1.72 <sub>ac</sub>      |
| Lips                         | 2.03         | .13        | 3.49                    | 3.70                    | 3.48                    |

*Note:* Cultures with different subscripts in a column differ significantly from one another,  $p < .05$ , 1-tailed.

The Tukey HSD post hoc tests were used for multiple comparisons among three regions. Table 1 presents more details on the significant cultural differences based on Post Hoc results.

In the cases of no significant differences among all three regions, we omit the subscripts; the results look like this:

|      |      |      |
|------|------|------|
| 3.48 | 3.43 | 3.43 |
|------|------|------|

In the case of statistically significant differences among all three regions, the results look

like this:

|        |        |        |
|--------|--------|--------|
| 3.06 a | 3.72 b | 3.37 c |
|--------|--------|--------|

In the case when the first and third columns are not statistically different (subscripts *ac* and *ac* in both columns), but the second one (subscript *b*) is statistically different from the first and third ones, the results in the table look like this:

|         |        |         |
|---------|--------|---------|
| 2.29 ac | 2.56 b | 2.05 ac |
|---------|--------|---------|

In the case when the first and second columns are not statistically different (subscripts *ab* and *ab* in both columns), but the third one (subscript *c*) is statistically different from the first and second ones, the results in the table look like this:

|         |         |        |
|---------|---------|--------|
| 2.36 ab | 2.44 ab | 2.85 c |
|---------|---------|--------|

In the case when the second and third columns are not statistically different (subscripts *bc* and *bc* in both columns), but the first one (subscript *a*) is statistically different from the second and third ones, the results in the table look like this:

|        |         |         |
|--------|---------|---------|
| 2.66 a | 3.06 bc | 3.00 bc |
|--------|---------|---------|

First, we analyzed the table 1 vertically comparing the value which participants place on different sensory experiences. In all samples, people place high value in their romantic partners on expressive face and speaking, smile and laughter, lips, smell, eyes, body characteristics, a little less – on facial structure, hair, skin, dress, and voice. Dancing and singing are even less of a priority with some cross-cultural differences.

Second, we analyzed the table 1 horizontally comparing the value which participants from different cultures place on the same sensory experiences. How specific cultural characteristics of sensory experience affect interpersonal physical attraction? In three samples, people equally value in their romantic partners the expressive face and speaking, smile and laughter, lips, smell, facial structure and eyes, body characteristics. The participants also revealed cross-cultural differences. In particular, Caribbean participants considered voice, dancing and singing, smell, and dressing as more important characteristics of attraction to a partner than Americans and Russians do. Russian participants value hair much higher in their attraction to a partner than Americans and Caribbean.

## Discussion

The results of this study have demonstrated that interpersonal physical attraction is a multisensory process that consists of various experiences including visual, auditory, tactile-kinesthetic, and olfactory. The findings revealed the culturally specific role of various senses in physical attraction to a romantic partner as well as many commonalities.

### Sensory experiences in attraction, which are common to all three cultures

The results show that, in spite of cultural differences, an expressive face and way of speaking, are rated high by all participants. This is consistent with the research conducted by Cunningham *et al.* (1995) who showed that expressive features such as (higher

eyebrows, larger pupils, larger smile) was evaluated as more attractive. Knappmeyer *et al.* (2002) also demonstrated that facial motion and moving expressive faces are evaluated as more attractive than static faces. Authors suggest that moving faces seem to be more natural to observers. Higher attractiveness of moving faces may be accounted for providing more information about a partner (Hill & Johnston, 2001). Post *et al.* (2012) provided a possible explanation. They argued that evolutionarily, humans get used to recognizing dynamic facial expressions. Singh (1993) considered that facial expressions may have been important for attractiveness because facial expressions of interest and affection to a person may lead to courtship and mating (Singh, 1993, p. 305). For sexual pairing, facial gestures that convey interest and willingness to another person may lead to initial courtship and eventual mating.

Lips are also evaluated as important among all participants. It is coherent with the study of D. Buss who concluded that full lips and clear skin are signals of female fertility and reproductive potential and that is why such features are highly valued in many cultures (Buss, 2006, p.246).

Smile and laughter are rated as highly important by all participants. Smiling is recognized by a partner of conversation as a sign of liking (Ray & Floyd, 2006), favorable judgments about a conversation are also associated with smiling (Burgoon, Buller, Hale, & deTurck, 1984; Palmer & Simmons, 1995). J.A. Bachorowski and M.J. Owen (2001) showed that the voiced, songlike laughs were significantly more liked than were unvoiced laughs. Laughter and smiles seem to be highly appreciated in all cultures which we investigated.

### Cultural differences in sensory experiences in attraction in three cultures

The current study demonstrates that some differences in importance of sensory experiences for interpersonal physical attraction can be explained by cultures. Smile and laughter are more important for physical attraction among American participants. It seems to be related to the high value of smiles in American culture. Smile is an indispensable part of nonverbal behavior marking that everything is all right; smile is also a sign of success (Ter-Minasova, 2000, Sternin, 2000). Smiling is even a social expectation as evidenced by a popular saying “Keep smiling!” In Russia smile is not a sign of politeness, it is a genuine sign of a good mood and a good relationship (Sternin, 2000). Popular Russian sayings such as “Keep smiling, our chef likes idiots” and a proverb “Laughter without a cause is a sign of stupidity” evidence that the smile has a different meaning in American and Russian cultures. In American culture a smile means non-aggressiveness, communicative interest and willingness to cooperate, respect, success and welfare (Tokareva, 2007, p.38). In Russian culture a smile may have such meanings as good mood, carelessness, flirt, mockery, stupidity when the smile is consistent (op. cit.). Russians seem to smile less often and express less life satisfaction than Americans; it was referenced in many research publications (Sternin, 2000, Ter-Minasova, 2000,

Tucker *et al.*, 2006). That may explain why smiling is less important for Russian respondents than for American and Caribbean participants. A common Russian belief is that a real man is a serious unsmiling man and these data are in line with earlier studies demonstrating that smiling males are evaluated as less effective than non-smiling ones in the context of a professor-student interaction (Kierstead, D'Agostino, & Dill, 1988) and less physically dominant in the context of a professional fight (Kraus & Chen, 2013).

Russian participants, especially males, value hair much higher in their attraction to a partner than Americans and Caribbeans. Many Russian men value feminine features in women such as physical attractiveness, domesticity, sensitivity ("Good and evil: ethics and mindset of Russians", 2014, "Ideal man and ideal woman", 2014). Long hair in women may be associated with these features by Russian male participants. Studies of attractiveness conducted in Russia show that thick hair is one of the important features in female descriptions of their own or ideal appearance (Cherkashina, 2008, Pogontseva, 2010), and the appearance of an advertising personality as described by male and female participants (Bundugova, 2008).

For Russian participants dancing is less important for physical attraction than for Caribbean and American participants because of the little popularity of dancing in Russian everyday communication. The survey of public opinion showed ("Leisure of Russians: Entertainment and Hobby", 2012) that dancing is not a popular hobby.

The opposite is true for Caribbean respondents: they value dancing more than the others. The music and dancing are part of Caribbean cultural traditions (Manuel *et al.*, 2006). Romantic liaisons are formed at music festivals and dances. In the Caribbean the dance tradition has a historical legacy. Dance is considered an important aspect in community festivities. For example, Carnival, one of the primary festivals in many Caribbean islands, centers around dance. It is important to note that women who are very good dancers are considered sexy. Additionally a man is considered attractive if he is a good dancer. As a consequence Caribbean people are very attracted to great dancers.

Caribbean male participants evaluate skin as a more important feature than Caribbean female participants. This finding is relevant to a study of Buss (2007) who showed that indicators of youth and health such as smooth and clear skin and some others are more important for males than for females, because youth and health of women are correlated with fertility. The Caribbean people are conscious of their health and a healthy skin seems to be an indication of good health. A Pigmentocracy (coined by Middleton, 2008) describes race salience in terms of shades of color, where people place values on the shade of a person's skin as opposed to their race. A person could slide on a continuum to a more favored social status by having a lighter skin tone, for example and he found this practice to be much greater in the Caribbean when compared to the United States. This may be another explanation for the higher importance placed on skin by Caribbean males.

The findings suggest that smell was more important in the Caribbean sample than in

any other sample. This may be attributed to climate and temperature. In more temperate countries, the frequency of showering tends to be once or fewer times per day. This is much lower than it is in tropical climates. The current study has highlighted areas for further research including Caribbean people having preferences for tactile experiences of softer skin in romantic relationships, and the importance placed on the smell of their partners.

### Limitations and Future Research

The results on gender differences were not analyzed this time because we had a sample with much fewer males than females. More data will be collected in the next round of this project. This will give us more representative cultural samples and comparisons.

Another limitation was that the data collected in the Caribbean came from only two Anglophone Caribbean territories, the Bahamas and Trinidad; therefore it cannot be generalized to the other non-English speaking territories. We must also note that each island is unique and has special traditions that are not shared with the other.

The study also did not include people who experience same sex attraction. This is another interesting element of human sensory experiences of attraction and may produce insights on gender differences. It may be possible to utilize comparisons of same sex sensory experiences of attraction with gender-segregated samples to determine differences based on biology and socialization or sexual orientation.

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