

# Kinesics Pattern Study in Social Interactions

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## Abstract

*Nonverbal Communication plays an important role in communicating varied meanings as cues to the receiver. It is the basic and primitive form of conveying information from one person to another. It regulates relationships by supporting or replacing verbal communication. Of all, the facial expressions are the major senders of nonverbal cues. The expression in the eyes, the eye gaze, and aversion conveys both positive and negative messages of friendliness, intimacy, honesty, credibility and much more. Physical appearance of a person makes an obvious impression about the personality and the behavior of the individual. Smile, a part of facial expression, show enjoyment, and can be used as a channel for feedback also. Apart from these clues, eyebrow and mouth gestures, hand and leg movements also convey significant meaning in social interaction. More over, studies show that women are better communicators than men. Studies also show that there are areas like technological advancements and neuropsychological factors, which help in identifying the nonverbal cues. Key Words: Nonverbal communication, facial expression, smile, gestures, posture, appearance, and social interaction.*

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## Introduction

Communication is a process of sending and receiving verbal and nonverbal messages. It is a complex and dynamic system, which involves all modes of sending, receiving and feedback. It is used in everyday life, from greeting a stranger to passing signs to close ones. It has been estimated that in a normal communication between two people, only one-third of the meaning is transmitted on a verbal level and nearly two-thirds on a nonverbal level. So it is a communication beyond words, which builds relationship. Hence a basic understanding is required

to enhance a favorable communication climate. Kinesics study of nonverbal communication includes facial expressions, gestures, postures, hand and leg movements, smile and appearance. Each component of nonverbal behavior affects the interpersonal relationship in a different pattern. When there is a contradiction between the verbal and nonverbal messages, the silent message speaks the loudest. Nonverbal cues study provides an insight as to how it is perceived and understood by others.

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## **Facial Expression in Social Interaction**

Facial expressions provide observers with sufficient information. The human face is the richest and versatile instrument in serving meaning. It serves as the window in order to display one's emotions and emotional feelings. Emotional expression is more than an observable correlate of internal affective states: it also serves important functions in social comparison and social influence processes (Friedman & Miller, 1991). Human beings are born with an emotional outburst. The baby cries as soon as it comes out of its mother's womb. This is very first, basic and natural emotional expression. Infants are born with the necessary physiological equipment to express emotion (Ekman & Oster, 1979) but there are individual differences in expressing emotions. In adults, the regulation of emotional expression is just as important as expression itself to social interaction. Socialization heavily proscribes the unregulated expression of emotion by adults in society (Friedman & Miller, 1991). The presence of a person always makes the individual to inhibit expression. The article 'Nonverbal Display of Emotion in Public and in Private: Self-Monitoring, Personality, and Expression Cues' (Friedman & Miller, 1991), focuses on the concealing of spontaneous expressions of happiness after winning in a competitive situation among peers. The spontaneous expressive behaviors in response to triumph were secretly videotaped when the subjects were in a room and when they

were with fellow competitors. As was predicted by the researchers, the social context strongly influenced the expressive behaviors of the subjects. It is likely that the degree of inhibition of emotional expression depends on the social consequences of the expression (Friedman & Miller, 1991).

The presence of another person not only decreases the facial expressions, but also body movements. Guerin's (1989) study proves this statement. His research shows a dramatic decrease in the number of body movements, hand movements, and vocalizations when another person was present. The subjects were exposed to different tests. In the first, they were shown a series of slides, which they watched alone and in the second they watched it along with another person who seemed to pay no attention to the subject. In the next test the person sat along with the subject. The videotapes showed the number of large body movements, such as moving the torso or sitting back in the chair, the number of smaller movements, such as moving the head or hands, and the number of noises or vocalizations such as laughing, talking, and sighing. There was a decrease in the body movements and talking during the presence of another person. Especially the large body movements were very less when compared to small body movements.

## **Intimacy in Social Interaction**

Eye is the most expressive part in the face. It is called the windows of the soul. The eye of a person can reveal the true inner self as clear as a crystal. During

social interactions eye gaze plays an important role in building relationship between people. The article "Eye contact, facial expressions and the Experience of Time" (Thayer & Schiff, 1975) emphasizes the importance of eye contact in social interactions, which leads to intimacy. Prolonged eye-gaze conveys intense feelings about the other person and improves relationship among the communicators. But the facial expression surrounding the eyes conveys the nature of the feelings being communicated. Hence face is called the index of the heart. Facial cues primarily communicate the quality or the nature of an emotion while the body cues primarily communicate information about the intensity of the emotion (Ekman, and Friesen, 1967).

During eye contact it has been found out that if it were a happy situation the facial expression would be positive and pleasant supported by eyebrows in a normal resting position and closed lips in a broad smile. If the social interaction is not a happy one then the facial expression found is negative-unpleasant (scowling-angry) supported by slightly lowered eyebrows and tight compressed lips.

Nonverbal signals are able to change the judgment of the social encounter. The expression shown in the eyes and the surrounding parts of the eyes reveal whether the person is pleasant and happy about the interaction. If eye contact conveys the intensity of the feelings, the overall facial expressions show the quality and nature of the emotional feelings. So eye contact and facial expression are the important cues in any face-to-face interactions.

## **Appearance and Physical Attractiveness in Social Interaction**

Not only facial expressions convey nonverbal cues but physical features and appearance of the person also conveys important cues during social interactions. This article "Physical Attractiveness in Social Interactions" (Reis, et. al, 1980) reports about the relationship between physical attractiveness and the everyday social interactions. Assumptions are made that physically attractive people should have more social encounters with others. This study included subjects of 35 males and 36 females of first year psychology students in a university.

One of the major questions was, do normal levels of physical attractiveness affect quantitative and qualitative aspects of social participation. The study shows that physically attractive males socialized with more females, more frequently, longer per interaction and per day and as a greater proportion of their total social participation. With other males, less often and as a smaller proportion of their daily socializing, the length of these encounters was unaffected. For males initiation did relate to attractiveness mainly in opposite sex. For females, no meaningful tendencies appeared. Thus we can understand that physical attractiveness plays an important role in social participation.

Another, similar study (Reis, et. al, 1982) was conducted by the same authors with final year students. The results reconfirmed the previous study emphasizing that physical attractiveness is very important during social interactions.

## Smile in Social Interaction

Decoding the nonverbal messages in the same sense as the encoder conveys it is a skill in the communication process. It all depends on the perception of the receiver. The article 'The Eye of the Beholder': A Neglected Variable in the Study of Physical Attractiveness' (Stanley, 1976) discusses about how physical attractiveness is perceived by others in social interaction. This study was conducted with introductory psychology students. All students were rated independently on physical attractiveness by two judges using zero (not attractive) to ten (extremely attractive). Students were asked to stand in front of the class for thirty seconds each, on the second day itself so that they had not known each other much and others were asked to fill out an evaluation form on each person. The subjects were told to maintain neutral facial expression during the time they faced the audience. Then the analysis was done and it revealed that males gave much importance to the physical characteristics like hair, shape, face and weight, but females were more concerned with the personality and social relationship. So while socializing in a mixed group with both genders, the judgments made of a person's physical features, facial expressions and other nonverbal messages will differ according to each individual. Thus such cues will change the evaluative dimensions as per the 'eye of the beholder'.

"Smile" is one of the common expressions of the facial behavior. In 1862, the French anatomist G.B. Duchene noted that the orbicularis oculi muscle, which surrounds the eye, is recruited in smiles that occur with spontaneously experienced enjoyment but not in smiles that are posed (Duchenne, 1862/1990). This study argues that smiles, which express enjoyment, would be marked by smoother zygomatic actions of more consistent duration than the zygomatic actions of nonenjoyment smiles. The hypothesis based on Ekman's theory for this study is that emotions are brief, episodic events that last only for 0.4 to 5 seconds. The study measured the duration and smoothness of smiles shown by the subjects in response to positive emotion films while alone and in a social interaction, enjoyment smiles in both the situations were of more consistent duration and smoother than nonenjoyment smiles. In study two; observers who were, shown videotapes of enjoyment and nonenjoyment smiles were able to accurately identify enjoyment smiles greater. In study three, another group of observers were asked to record their impressions of the smiling women shown in study two. The subject's smile was scored using the Facial Action Coding System.

The mean duration of smiles with the Duchene marker in the solitary situation was considered to be longer at 6.18 s. Moreover the results showed that there are multiple differences between enjoyment smiles and nonenjoyment smiles, and also

these differences are observable and influence subjective impressions. Also the difference between the smiles is that enjoyment smiles have distinctive social signals and can be identified in interpersonal situations.

There is a doubt that if people are not asked to identify the type of smile, it is difficult to notice whether the smile is really an enjoyment smile or nonenjoyment smile. It is only the duration that makes the difference. Attention will not only be focused on this aspect during an interaction but also on tone of voice, word choice, body motions, and other facial expressions.

Another interesting aspect of smile is that it could be used as back channel responses such as "yeah", "uh-huh" and head nods during conversations. When used as feedback or as a sign of agreement, it makes the interaction more efficient. Yngve agrees that 'smile' during an interaction is very important in making it a quality of communication. Here the subjects who knew each other for 10 years were asked to converse with each other in front of a video camera. It was obvious that smile was exchanged as back channel responses many a times during their conversations.

### **Gestures and Posture in Social Interaction**

Apart from smile, other facial expressions like eyebrow and mouth gestures could also be identified as dominant gestures in social interactions. These gestures help to regulate relationships by forecasting the nature of

interactions. Human beings possess powerful nonverbal expressive abilities along with verbal messages. These nonverbal cues sent by individuals convey certain meaning.

This research, 'Cultural and the Perception of Social Dominance From Facial Expression' (Keating. et. al., 1981) claims that the universality of brow and mouth gesture as expressions of social dominance/submission without presuming underlying emotional correlates. The subjects were college students from different countries like USA, China, Germany, Brazil, Colombia, Kenya, Zambia and Thailand. Black and white portrait photographs serving as stimuli were taken by a photographer who was unaware of the experimental hypothesis. Some were instructed to pose with eyebrows lowered, and then raised. Others were instructed to pose with mouth relaxed, then slightly smiling. Only difference between each model's two poses was brow or mouth position.

From the result we can infer that there is a universal acceptance in identifying the nonsmiling mouths as a dominance cue. The evidence supported strongly a universal association between smiles and happiness and weakly supported universal nonsmiling/dominance association but restricted the lowered-brow/dominance association.

The presence of another person not only decreases the facial expressions, but also body movements, hand movements,

and paralinguistic vocalizations. This is supported by a study 'Social Inhibition of Behavior' (Guein, 1989), in which the test is conducted in two different settings; one in the laboratory and the other in a field-library. In both the places, a confederate observed the subjects. They were randomly assigned to one of four conditions: alone, mirror, low evaluation or high evaluation. In the later two conditions a confederate greeted the subjects, whereas in the first two conditions only the experimenter took care of the sessions. Though the subjects were briefed about the experiment, the four manipulations had a significant difference in the subject's behavior. When they were alone they showed large body movements such as moving the torso or leaning back in the chair, and some small movements like moving the head or hand. But during the presence of the confederate who seemed to be watching them, their body movements decreased significantly. So this result suggests that the behavior change in the presence of another person is less.

### **Communicating Credibility in Social Interaction**

The article 'It's not what you say it's how you say it' deals with the influence of nonverbal communication on a person's credibility. Credibility of an individual is measured by the persons with whom the interaction takes place. Maintaining eye contact while communicating will increase the credibility. So through the use of continuous eye gaze, a communicator can raise the credibility with the interactor. The overall facial expressions should be

given more importance to build credibility. An expression of interest and attention increases the credibility rating among others.

Not only eye contact increases credibility but appearance of a person can also assure credibility. Appearance gains importance in building credibility. It is common stereotypic notion that people who are well dressed and hair properly done pose a credible appearance than who are less attractive. 'Accuracy in Face Perception: A View from Ecological Psychology', (Berry & Finch Wero, 1993), documents that people form strong impression about what they are on the basis of their facial appearance and personality. In this research, individuals were asked to judge the personalities of strangers without having an opportunity to interact with them. So the only clue they can get for assessment is through their physical appearance. In a recent meta-analysis of research assessing links between attractiveness and individual difference measures (Feingold, 1992) found that attractive persons are more popular, more sexually experienced, less lonely, less socially anxious, and have better social skills than less attractive people. Thus the result proved that there is some validity between the appearance and impression.

In social interactions, the changes in body posture and gestures can reveal the truthfulness of the message conveyed. The individual will be distracted and unfocussed and show aversion of eye gaze if the message conveyed is a manipulation.

Observers exposed to such deceptive messages can read the non-verbal clues clearly. The study "Explanations for Visual Cue Primacy in Judgments of Honesty and Deceit" (Stiff, et. al, 1989) examines verbal and non-verbal cues which helps the interactor to identify whether the words uttered by the other person are true or not. This study involved 10 participants in one session, who were made to watch an interview. The interview was between a communication professor and a student who was asked to answer about a cheating incident that occurred during a final exam. She was trained to simulate truthful and deceptive behaviors by displaying different degrees of non-verbal clues and manipulating the verbal responses. The verbal content of the true messages was manipulated so that the message is more consistent and clear than the content of the deceptive messages. When the subject replied the true messages, there was more direct eye gaze towards the interviewer. But, when the subject replied to the manipulated messages, there was indirect eye gaze, posture shifts, hand shrugs and more adaptations of body movements. Moreover, when the interviewee paused in between and stammered for words, the participants perceived deceptiveness.

### **Social Power in Interaction**

Nonverbal communication also has a relationship with social power. Social power is defined as rank in an organization, experimentally assigned roles, or a score on a self-reported dominance scale. (Dana et. al.) Nonverbal behavior might be defined

in terms of the ratings, counts, or timings of behavior provided by coders (Dana et al.). Two studies were conducted with 124 psychology students. A within-participant design was adopted where the participants were randomly assigned to imagine any of the six-power/gender combinations. Participants were made to rate the individuals on 70 nonverbal behaviors which were grouped for convenience, into nine categories: detection, distance, facial expression, hands and arms, head, legs and feet, posture, qualities of behavior, and vocal behavior.

The result shows that high powered people paid less attention to their partners and showed more of nonverbal clues like eye contact, head movement, positive gestures, confident hand shake, more self assured expressions and less unsuccessful interruptions and fewer pauses, when compared to low powered people. This study assured the stereotyped notion about high power people being expressive in nonverbal cues.

### **Shyness and Sociability**

As there are some people who show dominance and power in social interaction through nonverbal communication, some show shyness. This study 'Shyness and Sociability' (Cheek and Buss, 1981) investigates about the relationship between shyness and sociability. Shy people tend to be more self-conscious about their presence in a social gathering and try to avoid eye gaze. But avoiding eye gaze

doesn't mean that they are guilty or dishonest. Shyness is a reaction to being with strangers or casual acquaintances: tension, concern, feelings of awkwardness and discomfort, and both gaze aversion and inhibition of normally expected social behavior (Cheek and Buss, 1981). Shyness could be an outcome of insecurity or due to being over self-conscious. Four groups of subjects were taken for the study: shy-sociable, shy-unsociable, unshy-sociable, unshy-unsociable. They were taken to a big room and were made to sit and interact to each other. They were told that their conversation is going to be recorded. After five minutes, they were asked to fill a questionnaire about their feelings and behavior during the interaction. Three kinds of nonverbal behavior like, time taken to move hands to touch the body or face, time taken to face the other person, the number of head nods made by the subject was coded with the help of a video camera and a stop watch. It was found out that shy-sociable subjects showed more gaze aversion than shy-unsocial subjects. Even unshy-sociable subjects were not more relaxed than unshy-unsociable subjects. Hence, shyness and sociability could be independent and the outcome of nonverbal cues from such individuals could be due to the presence of a stranger and hence, should not be correlated with guilt or dishonesty.

There could be avoidance of eye gaze not only because of shyness but also some times because of uninteresting conversations. In most of the social interactions, people think their

conversations interests others and they seemed to be least concerned about knowing it. The lesser the nonverbal movements the less interesting the conversation would be. The study (Fichten, et, al., 2001) explores the verbal and nonverbal clues of interest and lack of interest during daily interactions. The subjects were asked to respond to a structured interview concerning with expressing and interpreting others' verbal and nonverbal communication. It was found that subjects decoded more nonverbal cues than expressed. Moreover the results revealed that respondents showed more boredom than interesting. This was because the verbal cues expressed were more when compared to nonverbal cues. The listener established eye contact, looked at the other person, nodded head, moved closer, smiled and looked intently when the conversation was found to be interesting. So the study confirmed the notion that nonverbal communication during conversations interests the listeners.

### **Women as better Communicators**

There is a general notion that women can understand the feelings, emotional expressions, and communicate better than men. 'Communication of Individual Emotions by Spontaneous Facial Expressions' (Wagner, et, al., 1986) examines whether spontaneous facial expressions provide the observers accurate and sufficient information. In the result they also found out that female subjects were better receivers than male subjects.



Six subjects were selected as senders who were videotaped while watching emotionally loaded photographic slides. The subjects were briefed before, that they should watch the slides and later match their emotional response to some of them with the list given to them (anger, happiness, fear, neutral, sadness, surprise, disgust). The first clip for each subject was the neutral clip, which intended to provide baseline expression. Receiver subjects were also informed that the facial expression of six subjects had been video taped and will be shown to them for which they have to indicate the right emotional response. The emotions sent by the sender were very much matching accurately with the receivers', yet overall, female subjects were found to be better senders and receivers as well than male subjects. Another study (Thayer, 1975) also identifies that, females more so than men engage in eye-contact, and for longer periods involve in pleasant interactions, also less frequently and shorter periods involve in negative interactions.

### **Technology in detecting Nonverbal Cues**

Technology has scanned through all the fields and communication is not an exception. It has spread even in identifying human communication and social interaction. Though there is vast development of technological advancements in the area of communication, video conferencing is gaining much importance in recent years. This video conferencing enhances the

communication process to be smooth and better because it provides multimodal information like words, interaction, sounds, facial expressions, and eye gaze, body posture and gesture. Multimodal Transformed Social Interaction (TSI) is used as a persuasion tool during social interactions.

In a study (Turk et. al., 2004) two subject variables 'participant gender' and 'presenter gaze' condition is taken into account. The participants were taken to a separate room and were asked to read a paragraph about the environment and were told about the interaction they would be facing in the virtual conference room. The presenter read some persuasive passage, which was broken into four sections. In between each section, the participant was asked to follow some instructions given by the presenter and finally a questionnaire regarding the social presence of the presenter. Then the participants were asked to write three paragraphs one about the presenter, one about the other participant, and one about the virtual conference experience.

All the participants felt that they received more eye gaze than the other. Even in augmented gaze condition, female participants felt persuaded by the visual input on a low level. But they could judge that the presenter's behavior was not socially appropriate. Though the participants were not able to detect the manipulated gaze condition and other facial expressions of the presenter, when the collaborative Virtual Environment (CVE)

becomes widespread, people will become aware of the manipulations done through this technology. So, even though technologically it is challenging, it has its own limitations, security agencies are eager to implement the results in their counters.

### **Neuropsychological factors in Communication**

The emotional expressions showed by an individual are backed up by particular neural mechanisms. What Darwin found earlier in 1898, has been reconfirmed in the studies by Bryden and others that the right hemisphere plays an important role in expressing emotion, than the left hemisphere (Browndyke, 2002). Recent studies shows that using a tachistoscope (an apparatus for differentially exposing visual fields, and different cerebral hemisphere) researchers were able to identify that right hemisphere judges emotions more accurately than left hemisphere. Yet the impact of how facial asymmetry affects in recognizing emotion, needs further investigation.

### **Conclusion**

Thus the confusing nature of emotional expressions and emotions creates a wide variety of interpretations for both sender and receiver. Difficulties arise if the receivers are unaware of the type of nonverbal messages senders are encoding. Such researches in nonverbal communication provide awareness and possible solutions and interpretations of

different nonverbal cues conveyed by others. It also creates a healthy communication to maintain a better relationship between individuals at any and every point of life. These researches were done under certain conditions, with particular variables, and with a limited number of subjects exposed to specific environment. So there is a chance to find out the possibilities of variations in the findings, if the conditions, variables, subjects and environment are changed.

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