

## EFFECT OF CAPTIONS ON THE INTERPRETATION OF NON-VERBAL ATTITUDES SHOWN IN IMAGES

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### ABSTRACT

*An image illustrating an emotional condition may be interpreted differently depending on the perception of the viewer. In such conditions, image captions offer a solution to get the focus of viewer confined to one point. Drawing upon the hypothesis that images without captions have a different capacity to effect the audience than the Images with given captions, the paper intends to measure the impact of verbal information (captions) on the perception of nonverbal communication (images) by following a posttest-only experimental design. Responses of two groups (n=50) exposed to stimulus material of images with captions (M= 98.88, SD= 6.89), and without captions (M= 55.92, SD= 3.55) are measured through a questionnaire developed on 7 points semantic differential scale. There was a statistically significant difference between two groups [ $t(35.871) = -27.707, p=.000$ ] with a large magnitude effect as [ $\eta^2 = 0.941$ ] that confirmed the hypothesis.*

**Keywords:** Captions, Verbal Communication, Non- verbal; Communication

### INTRODUCTION

The study aims at presenting how written verbal information in the form of captions effects the perception of a viewer about an image. The basis of communication is human body and two main genres; verbal and non-verbal are coined to analyze communication process (Mehribian, 1972; Birdwhistell, 1970, Bukhari, 2004). While verbal communication is distinguished on the basis of words, nonverbal communication is taken as a process of sharing by means of gestures. A large body of literature exists discussing the nature, form, and types of nonverbal communication (Khan, 2001; Devito, 1996; Fast, 1971; Mehribian, 1972; Birdwhistell, 1970, Bukhari, 2004). Continued research suggests that consciously or unconsciously, spoken or written language is associated with the expression of nonverbal expression (Ruthrof, 2000; Armstrong, 1999; Gilroy, 1996; Armstrong, Stokoe & Wilcox, 1995). Khan (2001), Argyle (1981), and Devito (1996) research and find that 'intimate-bodily-processes' cannot be isolated from verbal processes as act of communicating or interchanging thoughts. Since the communication mode on which individuals rely most often is verbal (Devito, 1996) including key components such as sounds and words. According to semantics, verbal language is defined as a group of representative labels through 'vocal' as well as 'written' cues (Khan, 2001).

Verbal and nonverbal communication is linked together by forming a comprehensive appearance to the receivers or observers (Birdwhistell, 1970, 1975). Humans share the meanings of their daily lives intersubjectively through verbal and nonverbal communication. Messages of emotional feelings are often transmitted through nonverbal expressions and motions and are more reliable indicators than verbal expressions. However, humans communicate with one another by combining

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spoken or written language with body language, this verbal and nonverbal interface must exist for human beings to communicate fully. (Mehrabian, 1981). The perception of a nonverbal message is also effected by verbal or written information about it. Verbal information has the capacity to shape the perception of a viewer about a nonverbal message. The purpose of the study is to measure the effect of captions on viewing the image of a stranger, and how an individual interprets the gestures, posture, gaze, and facial expressions. And if he/she is provided with the background verbal information about the stranger in the form of captions, then verbal or nonverbal communication, which forms of communication, dominates the other. So, the study analyses effect of caption reading of an image on its nonverbal interpretation. In all aspects of verbal communication, there are nonverbal angles. These viewpoints add to rising the subjective level of data conveyed (Beckman, 1963).

## **REVIEW OF LITERATURE**

### **Media and Captions**

In discussing media, written words on TV screens or explaining a printed image also contribute to the perception of a visual message. Verbal information about any visual message is provided through captions. The research work by Boyd and Vader (1992), Davila (1972), Fischer (1971) as well as Nix (1972) explored in the previous research that the 'captioned transformation' of video presentations has a highly profound and subjective result for listening to weakened viewing habits among users. Now and again accurate interpretation of the sound part is made and afterward shown as a caption. The act of rephrasing caption materials for use with hard-hearing learners would deliver more elevated amounts of understanding than would utilizing the first materials. This hypothesis is upheld by the scholar Bornstein (1971), who argued that research about hard of hearing understudies (on a state-administered test) expanded when the test was rephrased in less complex dialect, paying little respect to the understudy's perusing capacity (Harrison, Bowker, & Hertzog, 1981).

Seeing a subtitled film or TV show is a more convoluted assignment than basically preparing writing material. The viewer is relied upon to handle the while two typical codes: the pictorial images (the video) and the visual-verbal message (caption) translated from the soundtrack. The soundtrack itself could be viewed as a third typical code, particularly if the captions have been altered (Harrison, Bowker & Hertzog, 1981, Boyd, & Vader, 1972).

The correlation between the video and subtitle is one of much surplus; the video indicates what the caption portrays. In numerous movies, the caption video relationship is integral: the two segments contribute interrelated. Another condition, in which the video and the captions are sufficiently random to genuinely isolate the viewer's consideration, more often than not does not happen in an all-around created presentation, unless it is done deliberately to deliver a specific psychological impact (Harrison, Bowker, & Hertzog, 1981).

Ackerman (1977) verify that with dynamic things, subjects adapted more when given pictorial intercession than when anticipated that would create intervention themselves. This recommends the pictorial parts of a captioned presentation might be most valuable in exhibiting unique material. Then again, the likelihood of the photo interfering with the comprehension of verbal information is proposed by another cycle of studies. Rosinski, Golinkoff, and Kukish (1975) and Willows (1978a, 1978b) explored the capacity to review words that had been superimposed on images; a few words were identified with the photos, and some were most certainly not. Disconnected images delivered more obstruction than related images. Words were perused all the more gradually when images were available. Especially for poorer pursuers, images ended up being a diversion from the learning assignment (Ackerman, 1977).

### **On Interpreting Nonverbal Communication**

Nonverbal communication is frequently used to negate, supplant, or expand verbal expressions. The capability of human communication is acknowledged just when body messages and spoken messages cooperate synchronously and agreeably. Brokenness and perplexity result when the talked word is negated by body messages (Devito, 1996; Bukhari, 2004; Fast, 1976). Facial expressions, hand movements even etiquette and selection of dress communicate a person among others. The importance of nonverbal communication can be seen in Mehrbrian's (1972) NVC formula. Human communication is achieved through different means and it is argued in the previous research that most of that communication is achieved through facial expressions (Mehribian, 1972). Visual pictures mostly consist of faces of figures and in this way the pictures are impactful.

Nonverbal communication is very idiosyncratic or personalized in nature. There are misguided judgments about the way of nonverbal communication (Souice, 1979), and are numerous well-known, sometimes mutilated convictions. In all aspects of verbal communication, there are nonverbal angles. These angles add to raise the subjective level of information conveyed (Fast, 1971). Every person likely or unlikely, consciously or unconsciously involved in nonverbal communication. There is a possibility that verbal communication may not occur due to some circumstances and limitations but man has no divine power to conceal nonverbal communication (Freud, 1905).

On the other hand, various researchers have depicted the contrasts between verbal and nonverbal communication, some recommending that they are basically limited in various territories of the cerebrum, the verbal on the '*left side of the equator*' and the nonverbal on the '*right side of the equator*'; that the verbal is principally socially based while the nonverbal is fundamentally naturally based; and that the verbal is computerized while the nonverbal is analogical. Further, they are prepared distinctively in the mind, the verbal being handled discretely while the nonverbal is prepared as a gestalt (Andersen, 1999).

A few parts of nonverbal behavior are stopped inside of the individual, inconspicuous, while others are on display openly (Bruner, 1990). In self-talk, individuals understand occasions and they make arrangements or structure expected lines of activity. These demonstrations of significance open and private are a piece of the same sense-making process. Nonverbal communication is helpful in differing ways Humans use nonverbal intent to convince or control others, to elucidate or adorn verbal expressions, or even to delude others. It can be utilized to substitute for verbal expression, as in the utilization of tokens (Mehrabian, 1981).

It is candidly expressive. Individuals from all societies grin, cry and touch or subdue their feelings through the body or facial activity. Numerous enthusiastic expressions appear to be in any event insignificantly shared and shown all around. It displays both phylogenetic and ontogenetic power. In the development of human communication nonverbal behavior originated before the advancement of verbal communication; people, upon birth, depend first upon nonverbal intention to communicate. It has cooperation power; even before a sentence is articulated, onlookers observe body behaviors, attempting to understand performing artists' practices.

Nonverbal communication can highlight, supplement, negate, control, rehash and substitute for verbal communication (Richmond and McCroskey, 1992). Individuals assume that nonverbal activities don't falsehood and have a tendency to trust a nonverbal message when a verbal message negates it (Burgoon, Buller, and Woodall, 1995). Verbal and nonverbal sides of human communication are important occasions, subjectively deciphered by people. To translate the spoken word one might draw basically upon the aural framework; to decipher a nonverbal demonstration one might draw principally upon the visual framework. The essential thing is that the individual doing the deciphering is making understanding the practices of others, bringing about nonverbal communication.

Nonverbal communication can be a universal medium. If a man can create verbal language then why not a schematic structure for nonverbal communication? The holistic nature of nonverbal communication can guide human beings to develop a universal body language, perhaps better than verbal language (Bukhari, 2003). This viewpoint is also presented by Argyle (1988) as he presents some questions in this regard; "Much harder NVC is intended to communicate and the signals used have a common meaning to both sender and receiver, whether these sets of meaningful signals contain a structure in the way that language does?" (P4). However, it is recommended that verbal and nonverbal directs cooperate in the communication process. Argyle (1988) concluded that there are five essential elements of nonverbal conduct in human communication. The act of nonverbal form communication comprises expressing one's feelings, presenting one's personality, and demonstrating of cultures (Argyle, 1988). The forms of verbal and non-verbal messages make restricting or clashing messages (Austain, 1972).

A man verbally communicating an announcement of truth while all the while squirming or keeping away from eye contact might pass on a blended message to the recipient in the communication act. Clashing messages might happen for an assortment of reasons frequently originating from sentiments of vulnerability, vacillation, or dissatisfaction (Knapp and Hall, 2007, p. 13). At the point when blended messages happen, nonverbal communication turns into the essential instrument individuals use to achieve extra information to illuminate the circumstance; extraordinary consideration is set on substantial developments and situating when individuals see blended messages amid interactions (Barnow, 1989).

An exact understanding of the communicative act of message is reformed simpler when 'non-verbal' and 'verbal-communication' complements one another. Further, Knapp and Hall (2007) argue that 'Non-verbal cues' can be utilized to expound on 'verbal messages' to make the sending information concrete when attempting to accomplish open objectives; messages have appeared to be recalled well when 'non-verbal signs' avow the 'verbal-trade'. Nonverbal behavior is once in a while used as the sole source for conveying a message. Individuals figure out how to distinguish outward appearances, body developments, and body situating as compared with particular sentiments and goals (Eisenberg, 1975). But Knapp and Hall (2007) are of the opinion that 'verbal techniques are used to improve understanding of viewers or readers. Studying the nonverbal attitudes of human beings has been an important tradition in communication research (Bukhari, 2003).

The profession and body structure were compared in research and it was argued that an individual's body structure effects the profession progress (Gall, 1758, 1882). Malloy (1960) saw that clothes assume a crucial part to get the most loved reaction from others. After that, he connected this hypothesis to useful business. Eye contact is also a non-verbal cue in interpersonal communication and maintaining eye contact and looking away reflects giving importance or ignoring someone (Deetz & Stevenson, 1986). Social experimental study underlined the way that social contacts assume a key part in gathering data about others (Barnow, 1989).

### **Theoretical Framework**

Based on the theory of reception analysis, the study tends to analyze effect of caption reading on the perception of the viewers about an image.

"The meaning of a nonverbal signal for the sender is found in the emotional state or the message that the sender intends to send; the meaning of nonverbal signals for a receiver is found in the reception of the message". (Argyle, 1998, p.7).

From the perspective of reception analysis, the phenomenon of meanings is dynamic and develops as the outcome of the interaction between receiver and communicated message. Any contributing factor about the context of interaction between viewer and the message can influence the interpretation. The power of viewer to receive and then interpret meanings is hardly equivalent to the discursive power of centralized media institutions to construct the text (Morley, 1992). The key to any study regarding reception is the inclusion of the contextual framework of the audience. Actually, how meanings are constructed at the point of encounter between texts and readers are addressed in the new audience research (Moores, 1990). Thus, this study assesses the audience's interpretation of the message imparted by photographs through reception analysis that provides a more comprehensive understanding of the relationship between verbal information and nonverbal attitude. Reception analysis provides the opportunity to analyze the interpretation of receivers about nonverbal attitudes. As reception analysis has come to reveal more of the fine detail of our reception of messages.

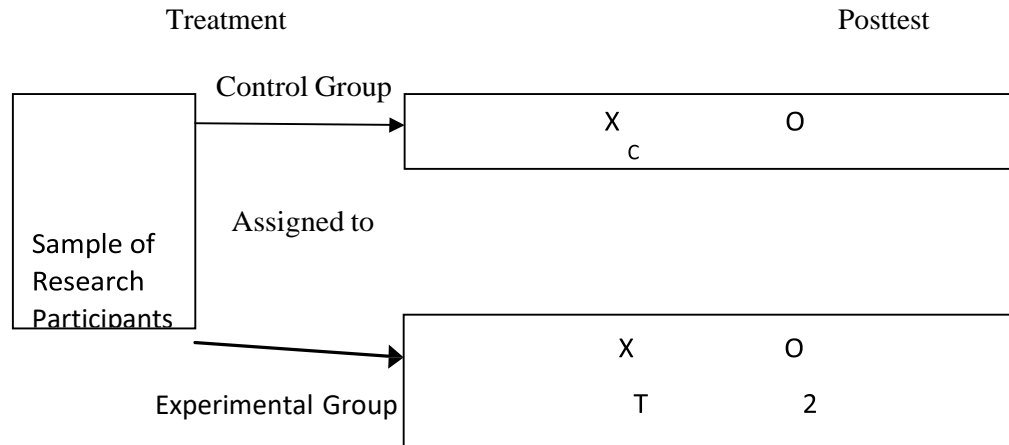
### **Hypothesis**

H<sub>1</sub>: Exposure to the caption of an image effects the viewer's interpretation of shown nonverbal communication.

### **METHODOLOGY**

Most of the previous experimental studies mainly focused on the effects of facial expressions on receiver by using several images and videotapes without any verbal information. In this present study, we have used an experiment to investigate how different receivers of nonverbal communication interpret a visual message with and without verbal information in the form of captions.

This study employed an experimental method while using a posttest-only control-group design in which the research participants are divided into experimental and control groups randomly and then after the experimental group has received the experiment test condition they are post-tested on the dependent variable. Such an experiment can be described as:



Where Xc is the control condition, XT is the treatment condition and O2 is the post-test assessment.

### **Stimulus Materials**

As stimulus material, the taken sample was exposed to 5 photographs that are having the expression of nonverbal attitudes i.e.

- Gaze
- Facial expressions
- Gestures
- Postures

For first group, the stimulus material was based upon photographs having captions i.e. information about the image. The second group was only exposed to photographs without captions.

Independent variable

Exposure to caption of an image

### **Dependent variable**

Interpretation

**Control variable Age:** 18-25

**Sex:** Female

**Education:** Graduation to Masters

### **Participants**

The sample of study was comprised of 50 students of mass communication selected randomly through a lottery method. Lists of the students studying communication studies<sup>†</sup> at graduation level were collected from the college administration<sup>‡</sup> forming the sample on 24 students from BA (Graduation) and 26 students doing Masters. The age of the participants were varying from 18 to 27(M= 22.10002, SD = 2.786). The experiment was performed in the morning and in a soundproof room sitting on comfortable chairs.

### **Procedure**

The participants were shown 5 images having mixed emotions display i.e. happiness or sorrow, pain or comfort, terror or involvement, tension or entertainment, and affection or irony. For experiment group, participants were exposed to caption of every image for one minute before image display. The captions were designed to favor one emotion for every picture. Captions were written in simple and easy English language and every caption was having 9-12 words, 18 point font size in Times New Roman style. The control group was only exposed to images without captions. All participants were asked to concentrate on each image for five minutes by focusing on the gaze, facial expressions, body gestures, and body postures of the models. Powerpoint presentations were used to display images and captions to the sample. All participants signed informed consent before participating.

<sup>†</sup> The selection of students was followed by the criterion that communication students may understand the nonverbal cues shown in images better than any other discipline. Robinson & Levy identified ( 1986) “ viewers with high level of knowledge of TV comprehend and recall news significantly better than those viewers who have lesser level of knowledge”. (as cited in Graber, 1990)

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### Measure

The responses of the participants were measured on a questionnaire developed of a 7 (0-6) points semantic differential scale. The mutually different emotions were measured through scale i.e. happiness or sorrow, pain or comfort, terror or involvement, tension or entertainment, and affection or irony. The selection of students was followed by the criterion that communication students may understand the nonverbal cues shown in images better than any other discipline. Robinson & Levy identified (1986) “viewers with a high level of knowledge of TV comprehend and recall news significantly better than those viewers who have a lesser level of knowledge”. (as cited in Graber, 1990).

## RESULTS

### Group Statistics

Groups		N	Mean	Std Deviation
M_scores	Control Group	25	55.9200	3.54636
	Experimental Group	25	98.8800	6.89396

In order to measure the effect of exposure to the caption of an image on viewer's interpretation of shown non-verbal communication, an independent group's t-test was conducted. Posttest-only control-group experimental design was employed. Sample was divided into two groups randomly. The responses of both groups experimental group (M= 98.88, SD= 6.89) and control group (M= 55.92, SD= 3.55) are calculated on a questionnaire developed on 7 points semantic differential scale

### Independent Samples Test

		Levene`s Test for		t test for			
		Equality of		Equality of			
		Variances		Means			
		F	Sig	t	df	Sig. (2-tailed)	Mean Difference
M_Score	Equal Variances assumed	12.977	.001	-27.707	48	.000	-42.96000
	Equal Variances not assumed			-27.707	35.871	.000	-46.10501

There was a statistically significant difference between the scores of two groups. [ $t(35.871) = -27.707$ ,  $p = .000$ ], that means exposure to the captions of images is found to be having a significant effect on viewer's interpretation of the images. The magnitude of the effect is measured also,

$$\begin{aligned} \text{Effect Size} &= t^2 / t^2 + df \\ &= (-27.707)^2 / (-27.707)^2 + 48 \\ &= 767.677849 / 817.677849 \\ &= 0.941 \end{aligned}$$

The magnitude of this effect is also found as large [ $\eta^2 = 0.941$ ]. So the taken hypothesis was approved that exposure to captions effect the perception of images.

## DISCUSSION

The study found that interpretation of participants got a strong effect due to their exposure to visuals as on measuring the difference of interpretations between taken groups magnitude of the effect is found greater. Stimulus material, being used in the study was comprised on images displaying 8 different

emotions and responses were measured on a 7 point scale ranging one extreme point to the other end for one image e.g. ( Extreme Sorrow = 0, Moderate Sorrow 1, Sorrow = 2, Neutral = 3, Happiness=4, Moderate Happiness = 5, Extreme Happiness = 6) On measuring Gaze of the model, the majority of the participants of control group marked the displayed emotion for image 1 as ( M= 2.9600, ST = .20000 ), image 2 ( M= 3.0400, ST = .20000 ), image 3 ( M= 2.7200, ST = .61373 ), image 4 ( M= 2.7200, ST = .61373 ) and image 5 ( M= 2.6400 , ST = .7000 ). The Experimental group, after getting exposure to written captions for every image marked image 1 ( M= 4.9600, ST = .35119 ), image 2 ( M= 5.0800, ST = .70238), image 3 ( M= 5.0800, ST = .49329), image 4 ( M= 5.0000, ST = .64550), image 5 ( M= 4.9600, ST = .78951) that indicated difference in the interpretation due to the stimulus material.

On measuring facial expressions of the models, the participants of control group gave responses as image 1 ( M= 2.7200, ST = .5416 ), image 2 ( M= 2.8400, ST = .47258), image 3 ( M= 2.9600, ST = .20000), image 4 ( M= 2.9200, ST = .40000 ), image 5 ( M= 2.7200, ST = .54160 ) whereas the after getting exposure to the captions, whereas after getting the exposure to the captions participants of experiment group responded as image 1 ( M= 5.0000, ST = .50000 ), image 2 ( M= 5.0000, ST = .50000 ), image 3 ( M= 4.9600, ST = .88882), image 4 ( M= 5.0400, ST = .67577), image 5 ( M= 5.0400, ST = .78951).

The body gestures of the models in images displaying different emotions were interpreted by the participants of control group as image 1 ( M= 2.9200, ST = .40000 ), image 2 ( M= 2.7200, ST = .54160), image 3 ( M= 2.7600, ST = .52281 ), image 4 ( M= 2.7200, ST = .5416 ), image 5 ( M= 2.8400, ST = .55377 ) whereas a significant difference was found in the interpretation of experimental group participants as image 1 ( M= 5.0400, ST = .35119), image 2 ( M= 4.3200, ST = .74833 ), image 3 ( M= 4.8400, ST = .89815 ), image 4 ( M= 4.8000, ST = .91287 ), image 5 ( M= 4.3200, ST = 1.06927)

A significant difference in the interpretation of body postures of the models was also found as participants from control group responded on scale as image 1 ( M= 2.9200, ST = .49329 ), image 2 ( M= 2.7200, ST = .54160 ), image 3 ( M= 2.4800, ST = .65320 ), image 4 ( M= 2.8800, ST = .52599 ), image 5 ( M= 2.7200, ST = .73711 ) whereas after getting treatment , the participants of experiment group responded as image 1 ( M= 5.0400, ST = .3511 ), image 2 ( M= 4.3200, ST = .7483 ), image 3 ( M= 5.1600, ST = .68799), image 4 ( M= 4.8800, ST = .92736 ), image 5 ( M= 5.1200, ST = .66583). The study found that verbal information in the forms of captions effected the interpretation of the participants about various forms of nonverbal attitudes shown in images. Display of emotions through images illustrating facial expressions, gaze, body gestures, and body postures was perceived differently by the participants exposed to written information. The findings suggest that a significant difference was observed between an interpretation of control group and experimental group regarding exposure to pictures with and without captions finding the p value as 0.000. On measuring the effect size [Eta-sq= 0.941] was observed that confirmed the adopted hypothesis. The study can be furthered in future by applying its findings to the practice of using captions effectively so that the messages may be conveyed in a more comprehensive manner to the receivers.

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