

Efficacy of Video Induction Method in Enhancing Positive Affect Among Young Adults

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ABSTRACT

The mind possesses different types of emotions which can be characterized as positive and negative emotions. Through environmental factors, emotions can be channelled and experienced by the person. With the positive effect, the person can improve their coping abilities, promote social adaptation, and easily solve conflicts in their life. Evidence of past research has concluded that emotions can be experimentally induced among gender with the help of certain methods. In the present study, the video induction method was used to carry out a positive affect on the sample of 100 young adults. Results indicate that the video induction method generates a positive affect among young adults but biological parameter like per cent oxygen saturation and pulse rate per minute was unaffected by it. However, it matters if the subject is that of a positive or negative state in general, more particularly negative state significantly interacted with the induction technique.

Keywords: Positive Affect, Video Induction Method, Young Adults, and Gender

INTRODUCTION

Emotions are expressed in the verbal and non-verbal forms which can be interpreted by one's personal experiences. Physiological and psychological changes like changes in facial expressions, rapid heartbeat, sweating, unusual breathing, trembling, dryness of the throat and mouth, changes in a person's behaviour towards others which is different from their usual behaviour indicating that a person is experiencing different kinds of emotions according to the environmental conditions. These emotions can be brief for minutes and channel the mood for hours or days (Beedie, Terry, & Lane, 2005). Emotions are broadly classified into positive and negative emotions but Fredrickson (1998) classified emotions into twelve types with their associated thought. Lazarus (1991) defined emotions into fifteen types with their associated feelings and linked their production with brain structures.

Positive and Negative emotions are broadly categorized on the basis of their intensity and impact on the psychological body and psychological mind of the person. PANAS reported twenty types of positive and negative affect. Positive affect are interest, excitement, strong, enthusiastic, proud, alert, determined, attentive and active. Whereas, negative effects are: distressed, upset, guilty, scared, hostile, irritable, ashamed, nervous, jittery, and afraid (Watson, Clark, & Tellegan, 1988).

Emotions are different from mood, as mood varies along with pleasantness and arousal level. They are different from mood in terms of their long-lasting duration, specificity of the situation, thing or person (Russell & Feldman, 1999). Emotions have thought-action tendencies that can either narrow or broaden thoughts and actions. Positive emotions expand the attention span, concentration, cognitive range and mapping, and enhance

cognitive flexibility which expands thought patterns that can open the path of open-mindedness. Positive emotions provide solutions of interpersonal problems by extending instantaneous thinking and conflict resolution tendencies of the person (Yin, 2019). It promotes resilience, coping abilities and social adaptation in the person.

At a certain age, positive and negative emotions are densely shaped by the response to situations and experiences. However, experimental research indicated that older adults can maintain their emotional regulation and the effect of their negative experiences (Phillips et.al., 2008) than younger adults. In emotion induction studies, gender differences have been found in terms of emotional expressiveness and emotional experiences. Men reported insensitivity towards experiencing emotions, while women reported good emotional expressiveness (Deng et.al., 2016). Gender differences in emotional reactivity to arousing pictures were also found in the research. But, there is a lack of evidence that can elicit the reliability of emotional induction methods at a particular age.

Researchers have been inducing emotions experimentally for many years to test their causal influence on biology and psychology (Ax, 1953 & Blatz, 1925) by using different equipment like Heartbeat counting accuracy (HCT), electrocardiogram (ECG) and Galvanic Skin Response. Moderate to strong correlations were observed across devices. However, mean HCT accuracy and confidence varied as a function of the device. Increased sensation in the finger when using a hard-clip pulse oximeter was related to increased accuracy relative to ECG and GSR observed (Murphy et. al., 2019). Results argue against comparing or combining, scores obtained using different devices on emotions inducing methods like music induction emotions,

autobiographical recall, situational procedures induction emotions, guided imagery-visualization techniques, affect grid, and video induction methods. Emotion induction techniques are classified into five methods. Visual stimuli (images and videos) evoke emotions, music which activates auditory input (Krumhansl, 2002), autobiographical recall which involves personal emotional experiences (Prakachin, et.al., 1999), situational procedures involve creating a social situation that elicits the target emotions, and imagery-visualization which involves creating vivid mental representations of novel emotional events (Mayer, Allen, & Beauregard, 1995).

The present study was planned to be conducted on young adults because, at the age of 20-30 years, young adults try to learn and acquire how to build relationships with others, achieve gender-appropriate roles, and become emotionally independent. They started to build up their career and struggled to achieve their desired goals. Hence, the study was conducted along with the objectives i.e., to study the positive effect of the video induction method among young adults, to present a clear mechanism about its long-term effectiveness, emotional change and positive-negative-neutral interactions of emotion among young adults.

The present study used video induction as a method to induce positive affect among young adults between the age group of 20-30 years. As past research reported that video induction can be a method of emotional change. The present experimental study includes male and female gender because they were found to differ in the dimensions of producing emotions-verbally and facially (Fischer, 2000). The present paper was done to see if video can induce positive mood in young adults and also to verify if such induction is affected by their

gender and their positive and negative affect states. It was also certain whether changes in mood had concomitant pulse rate and oxygen saturation changes.

Method

Sample:

100 young (41 Males, 59 Females) college going students of the Delhi-NCR region were experimented with to introduce the video conduction method separately to male and female subjects group. The mean age of the sample was 21.65 years ($SD = 2.57$)

Tools Used:

In this present study, Video Induction Method, Biological Measure Oximeter, and PANAS-SF scale were used

Procedure:

All the subjects were contacted individually. Before starting the experiment, each subject was brought into the experimental laboratory with their consent. The consent form and semi-demographic sheet were given to the subject. The subject was asked to report their subjective emotional state with a self-rating on a five-point Likert scale. After that, to neutralize the subject's emotional state, a deep-breathing exercise of 8 minutes was introduced to them. Like, whatever state (positive or negative affect state) a subject experiences before starting of experiment, by deep-breathing exercise subject's emotional state can be easily neutralized. Later on, PANAS psychological questionnaire was given to the subject to identify their affect state and selected emotion induction method i.e., Video Induction Method was also introduced to the subject. According to the results of past emotional induction studies, Video Clips of laughter babies can be considered an effective method of inducing positive affect among young adults. By considering this research evidence, a

short clip of 8 minutes in which different babies (from age 8 months to 3 years old) who were laughing at their parent's off screenplay were taken as a video induction method. This video clip was selected from freely available open-source 'YouTube' with the help of expert psychologists. After going through many video clips of laughing babies, a short video clip was selected in which the main lead actors were babies. After that, a pilot study had been conducted on young adults to see the effect of the laughing babies video clip and to identify the significance of that video clip in inducing positive affect among young adults. After checking its significance through the pilot study, that video clip was finalized for the video induction method of this study. Later on, subjects experimented with selected experimental tools and scores were recorded along with their per cent oxygen level and pulse rate per minute with the help of a Pulse Oximeter Instrument to carry out the effectiveness of the emotion induction method. The subjects were again asked to subjectively report their emotional state with a self-rating on 5 points Likert Scale after conduction of the experiment to check the carry-over effect of the video induction method on the subject's mood state. The experimental plan was ethically approved by the departmental ethical committee.

STATISTICAL ANALYSIS

A 2*2 repeated measure design having induction intervention (pre-post) and gender as independent variables with covariates as positive and negative affects states was followed for the analysis of all the three dependent variables, separately. The probability of significance was taken as equal to 0.05 or less than that. The positive and negative affect state scores were adjusted through covariance. Pillai's Trace was taken

as a statistic. The data were analysed by using SPSS (Version 24)

RESULT AND DISCUSSION

For each subject, five scores were obtained, out of which PASPANAS and NASPANAS were put as covariates, while pre and post scores of three variables were placed as dependent measures. As per the need of the requirement, keeping in view the objective of the study, statistical analysis was done for the obtained scores. Covariance was applied to adjust the scores of positive and negative affect states and repeated measure analysis was used for the three dependent variables i.e., induction mood rating, per cent oxygen saturation and pulse rate per minute.

Table-1
Mean and Standard Deviation of male (n=41) and female (n=59) subjects of positive and negative affect states along with value of t(df=98) and associated probability

Dependent Variable	Gender	Mean	Standard Deviation	t	p
Pre Induction Mood Rating	Male	2.65	.72	1.94	.055
	Female	2.93	.66		
Post-Induction Mood rating	Male	4.53	.63	.19	.845
	Female	4.50	.75		
Pre Percent Oxygen	Male	96.82	1.51	3.36	.01*
	Female	97.76	1.25		

n					
Saturation					
Post-Percent Oxygen Saturation	Male	96.73	1.28	1.75	.083
	Female	97.25	1.58		
Pre Pulse Rate per minute	Male	79.82	10.61	.10	.918
	Female	78.48	11.80		
Post-Pulse Rate per minute	Male	79.39	14.55	.35	.722
	Female	78.49	10.65		

Source: Primary Survey(*p value significant at level 0.01)

The reading in the table-1 revealed that gender differences were found to be significant at the .01 level of probability for pre per cent oxygen saturation. The pre-induction mood rating means of the male gender was 96.82 and the female gender was 97.76 with a standard deviation of 1.51 along with a t value of 3.36. Males were significantly higher on oxygen saturation than females. In the case of mood ratings and pulse rate per minute the differences between males and females were not beyond chance.

In order to verify the effect of the video induction method on mood rating, per cent oxygen saturation and pulse rate per minute, the independent variables of induction and gender were considered while their positive and negative affect states were put into covariables. For this purpose, a 2*2 repeated

measure ANCOVA was applied, the summary of which is available in Table 2.

Table2

Summary Table of Repeated Measure ANCOVA for their Dependent Variables (Pre and Post Induction Mood Rating, Percent Oxygen Saturation, Pulse Rate/minute) and Positive Affect Schedule PANAS (PASPANAS), Negative Affect Schedule PANAS (NASPANAS) act as covariate (df=1/96)

Dependent Variables	Effect	Pillai's Trace Value	F	Sig.
Induction Mood Rating Pre Mean 2.82 Post Mean 4.52	Intervention Pre and Post	.06	6.99	.01*
	PASPANAS	.01	.72	.39
	NASPANAS	.05	5.01	.02*
	Gender	.03	2.99	.08
Percent Oxygen Saturation Pre Mean 97.38 Post Mean 97.04	Intervention Pre and Post	.01	.50	.47
	PASPANAS	.010	.93	.33
	NASPANAS	.01	.48	.48
	Gender	.01	1.15	.28
Pulse Rate per minute Pre Mean 79.97 Post Mean 78.86	Intervention Pre and Post	.02	2.69	.10
	PASPANAS	.03	2.98	.08
	NASPANAS	.01	.95	.33
	Gender	.01	.40	.52

*p value significant at level 0.01

**p value significant at level 0.05

The results of ANCOVA revealed that within-group variable i.e., video induction effectively changes the mood ratings of subjects from 2.82 to 4.52 with F value of 6.99 being significant at 0.01 level of probability at $df=1/96$. However, Negative Affect State PANAS (NASPANAS) was a significant covariate in inducing such change. The F value for which was 5.01 and the probability was 0.02 at $df=1/96$. Nowhere else, the Pillai's trace statistics was showing the significance of the induction method, gender and either of the covariate.

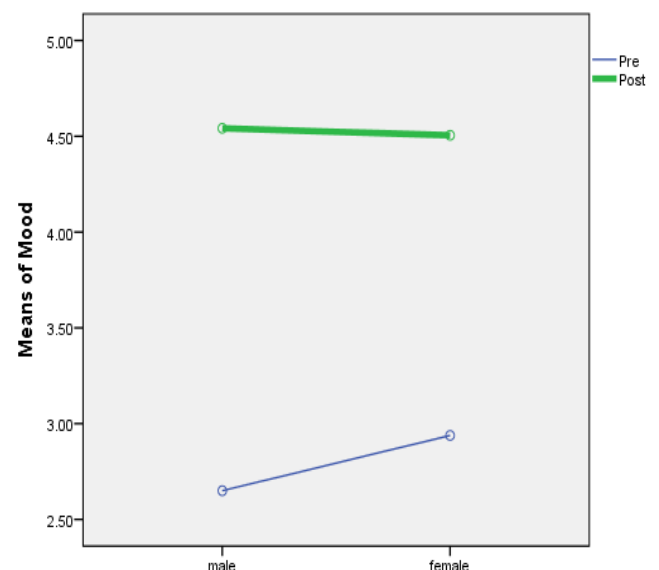


Figure 1 Showing the means ratings of induction mood before and after intervention in male and female subjects (adjusted after positive and negative scores as covariates)

Figure 1 depicts the means of mood ratings in pre and post-condition for male and female subjects together. It shows that in both genders, the mood ratings were better in post-condition than in pre-induction.

Studies using induction videos, particularly the laughing video used (Deng, 2016; Nusbaum, 2018; & Siedlecka, 2018) and found

it is an effective method. That's why this method was chosen for the study. The Video Induction method was found to be effective in enhancing the positive mood of subjects irrespective of their personality/temperamental positive or negative affective states. Though there have been positive mood elevations the biological parameters like oxygen saturation and pulse rate were unaffected by the video induction method.

This concluded that even the person was having a negative affect state, the laughing video induction method was effective in elevating a positive mood. Of course, it shall further enhance mood in people with a positive affective state. As the nature and content of the video selected for the mood induction was a laughing video. Hence, it is recommended that such videos may be displayed in public spaces where people are waiting for the train, buses, at the airport, in hospitals or at doctor's clinics for appointments or where they are waiting in the long queues of a shopping mall, metro subways, etc.

Nowadays, varieties of substances are consumed by youngsters so that they can elevate their mood, can feel happiness. An induction video can be a good and healthy alternative to mood elevation. As per the findings of the study induction video it can imply that it is effective for everyone and can be a good alternative to mood elevation.

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