

Emotional Contagion in Teenagers and Women

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Abstract-This study aimed at measuring the difference between emotional contingency among teenagers and women by using The Emotional Contagion Scale by Doherty, R.W. Emotional contagion is the phenomenon of having one person's emotions and related behaviour's directly trigger similar emotions and behaviour's in other people. Emotions can be shared across individuals in many different ways both implicitly or explicitly. The Emotional Contagion Scale was designed to assess people's susceptibility to catching joy and happiness, love, fear and anxiety, anger, and sadness and depression, as well as emotions in general (Doherty, 1997; Hatfield, Cacioppo, & Rapson, 1994, p. 157). The main objective of this study is to study whether emotions are contagious among teenagers and women. The survey was conducted among under graduates and post graduates between the age group of 15-28, in 100 under graduates and post graduates, among which 50 of them were teenagers and 50 were women. A statistical analysis of mean, standard deviation and t test were used, thereby concluding that there is a significant difference between teenagers and women. It was found that teenagers were more emotionally contagious than women in general. The study suggests that the teenagers and women should inculcate themselves first and be positive.

Keywords-Emotional Contagion, Explicit, Implicit, Susceptibility.

I.INTRODUCTION

Most social psychologists would probably agree that emotional "packages" are comprised of many components—including conscious awareness; facial, vocal, and postural expressions; neurophysiological and autonomic nervous system activity; and instrumental behaviors. Different areas of the brain process the various aspects of emotion. Yet, because the brain integrates the emotional information it receives, each of the components acts on and is acted upon by the others (Hatfield, Cacioppo, & Rapson, 1994).

Early emotion theorists focused on the question of sequence: Which comes first, the cognitive, somatovisceral, or behavioral aspects of emotion (Buck, 2014). Recent theorists have moved away from such linear, uni-deterministic reasoning and have decided, instead, that "it depends." Emotional stimuli may well trigger all three aspects of emotion almost simultaneously. Which appears first depends on the person and the context. Thus, theorists are increasingly asking how the components interact. Laird and Bresler (1992) summarized their position this way:

All components of the emotional episode are ordinarily generated, more or less independently, by some central mechanism, but activation of any one may increase activity of any other. Their interactive effects might arise because of the way the organism is built ... or because of

classical conditioning, produced by the long history of paired occurrence of emotional responses. Our definition of emotion, then, stresses the importance of all the elements of the emotional "package" in shaping emotional experience and behavior.

1. Emotional Contagion:

Emotional contagion is the phenomenon of having one person's emotions and related behaviors directly trigger similar emotions and behaviors in other people. Emotions can be shared across individuals in many different ways both implicitly or explicitly. For instance, conscious reasoning, analysis and imagination have all been found to contribute to the phenomenon.

Emotional contagion is important to personal relationships because it fosters emotional synchrony between individuals. A broader definition of the phenomenon suggested by Schoenewolf is "a process in which a person or group influences the emotions or behavior of another person or group through the conscious or unconscious induction of emotion states and behavioral attitudes".

The behaviour has been found in humans, other primates, and dogs. One view developed by Elaine Hatfield, et al., is that this can be done through automatic mimicry and synchronization of one's expressions, vocalizations, postures and movements with those of another person. When people unconsciously mirror their companions' expressions of emotion, they come to feel reflections of those companions' emotions.

The phrase "emotional contagion" embodies the idea that humans synchronize their own emotions with the emotions expressed by those around them, whether consciously or unconsciously. In a 1993 paper, Psychologists Elaine Hatfield, John Cacioppo, and Richard Rapson define it as "the tendency to automatically mimic and synchronize expressions, vocalizations, postures, and movements with those of another person's [sic] and, consequently, to converge emotionally".

Hatfield, et al., theorize emotional contagion as a two-step process: Firstly, we imitate people, e.g., if someone smiles at you, you smile back. Secondly, our own emotional experiences change based on the non-verbal signals of emotion that we give off. For example, smiling makes one feel happier and frowning making one feel worse. Mimicry seems to be one foundation of emotional movement between people.

Emotional contagion and empathy have an interesting relationship, in that they share similar characteristics, with the exception of the ability to differentiate between personal and pre- personal experiences, a process known as individuation.[clarification needed] In *The Art of Loving* (1956), social psychologist Erich Fromm explores these differences, suggesting that autonomy is necessary for empathy, which is not found in emotional contagion .

Emotional contagion, we believe, is best conceptualized as a multiply determined family of cognitive, psychophysiological, behavioral, and social phenomena. Since contagion can be produced by innate stimulus features, acquired stimulus features, and/or mental simulations or emotional imagery, we say it is multiply determined. Because contagion manifests in a complex of responses, it represents a family of phenomena. (An angry stimulus face, for example, may spark an angry face and an angry voice: Hawk, 2010; Hawk, Fischer, & van Kleef, 2012). Emotional contagion is also a multilevel phenomenon: The precipitating stimuli arise from one individual, act upon (i.e., be perceived and interpreted by) one or more other individuals, and yield corresponding or corresponding/complementary emotions in these individuals. Thus, an important consequence of emotional contagion is an attentional, emotional, and behavioral synchrony that has the same adaptive utility (and drawbacks) for social entities (dyads or groups) as has emotion for any individual.

Some critics have asked, "Why does an angry stimulus sometimes spark not anger but fear in others?" (what some have called countercontagion), see Lanzetta and his colleagues (e.g., McHugo, Lanzetta, Sullivan, Masters, & Englis, 1985). We contend that when faced by a powerful and angry adversary, targets would "catch" that anger but that anger is likely to be extremely fleeting. People would quickly recognize that they were in trouble, and fear

would soon swamp those angry feelings. In brief, contagious anger would be replaced by a flood self-protective fear and a desire to appease the powerful one or to flee.

Hatfield and her colleagues (1994) defined primitive emotional contagion as: The tendency to automatically mimic and synchronize facial expressions, vocalizations, postures, and movements with those of another person's and, consequently, to converge emotionally.

The Emotional Contagion Scale was designed to assess people's susceptibility to catching joy and happiness, love, fear and anxiety, anger, and sadness and depression, as well as emotions in general (Doherty, 1997; Hatfield, Cacioppo, & Rapson, 1994, p. 157). This scale has been translated into a variety of languages—including Finnish, German, Greek, Telugu and Hindi (the state language of India), Japanese, Portuguese, and Swedish.

2. Types:

Emotions can be shared and mimicked in many different ways. Early investigators of emotional contagion believed that "conscious reasoning, analysis and imagination accounted for this phenomenon." However, it is known now that some forms of emotional contagion are more subtle and automatic than early theorists suggested.

3. Implicit:

Unlike cognitive contagion, emotional contagion is less conscious and more automatic. It relies mainly on non-verbal communication, although it has been demonstrated that emotional contagion can, and does, occur via telecommunication.

For example, people interacting through e-mails and "chats" are affected by the other's emotions, without being able to perceive the non-verbal cues.

One view, proposed by Hatfield and colleagues, describes the emotional contagion process as a primitive, automatic and unconscious behavior. According to this research group, it takes place through a series of steps. When a receiver is interacting with a sender, he perceives the emotional expressions of the sender. The receiver automatically mimics those emotional expressions. Through the process of afferent feedback, these new expressions are translated into feeling the emotions the sender feels, thus leading to emotional convergence.

Another view, emanating from social comparison theories, sees emotional contagion as demanding more cognitive effort and being more conscious. According to this view, people engage in social comparison to see if their emotional reaction is congruent with the persons around them. In this case, the recipient uses the emotion as a type of social information to understand how he or she should be feeling.

People respond differentially to positive and negative stimuli, and negative events tend to elicit stronger and quicker emotional, behavioral, and cognitive responses than neutral or positive events. Thus, unpleasant emotions are more likely to lead to mood contagion than are pleasant emotions. Another variable that needs to be taken into account is the energy level at which the emotion is displayed.

As higher energy draws more attention to it, the prediction is that the same emotional valence (pleasant or unpleasant) expressed with high energy will lead to more contagion than if expressed with low energy.

4. Explicit:

Contrary to the automatic infection of feelings described above, there are times when others' emotions are being manipulated by a person or a group in order to achieve something. This can be a result of intentional affective influence by a leader or team member. Suppose this person wants to convince the others of something, he may do so by sweeping them up in his enthusiasm. In such a case, his positive emotions are an act with the purpose of "contaminating" the others' feelings. A different kind of intentional mood contagion is by giving the group a reward, or treat, in order to alleviate their feelings.

In the organizational psychology literature, a growing body of research is dedicated to the aspects of emotional labour. In short, it deals with the need to manage emotions so that they are consistent with organizational or occupational display rules, regardless of whether they are discrepant with internal feelings.

In regard to emotional contagion, in work settings that require a certain display of emotions, one finds himself obligated to display, and consequently feel, these emotions. In a process where surface acting develops into deep acting, emotional contagion is the byproduct of intentional affective impression management.

5. Mechanisms of Emotional Contagion:

There is considerable evidence that the process of primitive emotional contagion occurs in three stages: Mimicry → Feedback → Contagion.

5.1 In conversation, people tend to automatically and continuously mimic and synchronize their movements with the facial expressions, vocal productions, postures, movements, and instrumental behaviors of others.

In this paper, we will be considering only facial mimicry. (The literature on the link between any and all forms of mimicry and contagion is simply too large to review it all here.) For a quick but thorough review of the evidence that mimicry is innate, instantaneous, and ubiquitous, see Hatfield, Cacioppo, and Rapson (1994) and Hatfield, Carpenter, and Rapson (2014).

5.2 Subjective emotional experiences are affected, moment-to-moment, by the activation and/or feedback from such mimicry.

Edgar Allan Poe (1915), in "The Purloined Letter," contended that if people consciously imitate others' facial expressions, they will soon come to feel as the others do: When I wish to find out how wise, or how stupid, or how good, or how wicked is any one, or what are his thoughts at the moment, I fashion the expression of my face, as accurately as possible, in accordance with the expression of his, and then wait to see what thoughts or sentiments arise in my mind or heart, as if to match or correspond with the expression (p. 100). There is considerable evidence that people do in fact tend to feel emotions consistent with the facial, vocal, and postural expressions they adopt. When people mimic expressions of fear, anger, sadness, joy, love, or disgust, they tend to feel a pale reflection of those specific emotions. Evidence for Edgar Allan Poe's contention, that the feedback from mimicry causes us to feel what another feels, comes from a wide variety of sources (see Ekman, Levenson, & Friesen, 1983; Hatfield et al., 1994; Laird, 1984. Additional evidence will be discussed later in this review.)

5.3 Thus, people tend to "catch" others' emotions, moment-to-moment.

Scholars from a variety of disciplines (clinical observers, neuroscientists, primatologists, social psychologists, sociologists, life span researchers, and historians) provide evidence that people do in fact frequently catch one another's emotions (for reviews see Chartrand, Maddux, & Lakin, 2005; Hatfield et al., 1994, 2009, 2014; Hess & Fischer, 2013; Lundqvist, 1993). This feedback and contagion assists them in understanding the thoughts and feelings of others (Hsee, Hatfield, & Chemtob, 1992). In light of current researchers' interests, we will add a fourth proposition:

5.4 In attempting to divine another's emotions, people rely on cognitive assessments as well as feedback from the emotions they have caught.

The research on contagion underscores the fact that people use multiple means to gain information about others' cognitive and emotional states. Conscious analytic skills can help one figure out what makes other people "tick". But if people pay careful attention to the emotions they themselves experience in the company of others, they may well gain an extra edge into "feeling themselves" into others' emotional states. Both sources of information provide invaluable information.

There is considerable social-psychological and social-psycho-physiological evidence that both what people think and what they feel may provide valuable, and different, information about others.

In one experiment by Hsee, Hatfield, and Chemtob (1992), for example, the authors found that people's conscious assessments of what others "must be" feeling were heavily influenced by what the others claimed to be experiencing. People's own emotions, however, were more influenced by the others' non-verbal and unconscious clues as to what they were really feeling. Other researchers who have explored the role of mimicry, feedback, and contagion on people's ability to read others' emotions include Neal and Chartrand (2011).

6. Individual differences in the susceptibility to emotional contagion:

Susceptibility to emotional contagion, i.e., the predisposition to converge emotionally with other people, shows remarkable variations across individuals. While some people show a strong tendency to experience others' emotions, some others seem to be scarcely affected by the observation of others' emotional states, as testified by huge individual differences in self-reported emotional contagion (Doherty, 1997; Sonny-Borgstrom, 2002).

The individual predisposition to experience emotional contagion can be reliably measured through a number of self-report questionnaires, such as the Personal Distress subscale of the Interpersonal Reactivity Index (Davis, 1983), and the Emotional Contagion Scale (ECS) (Doherty, 1997). People scoring higher on these trait measures are more prone to experience other people's emotions, and mimic others' emotional expressions more consistently compared to people with a low susceptibility to emotional contagion (e.g., Hietanen et al., 1998; Blair et al., 1999).

Furthermore, when observing other people's emotional expressions, persons scoring higher in emotional contagion show stronger activation of brain areas in the mirror neuron system for emotions, such as the insula, inferior-parietal junction, and anterior cingulate cortex (Lawrence et al., 2006; Lamm et al., 2007; Pfeifer et al., 2007).

If simulation processes and emotional contagion are involved in smile authenticity recognition, as the SIMS model advanced, individual differences in the susceptibility to emotional contagion may account for individual differences in the ability to distinguish sincere and faked enjoyment expressions. Here we tested this hypothesis on a large sample of participants. Smile authenticity detection was assessed by means of the Smile Picture Set (SPS), a validated FACS-based task including sincere Duchenne smiles and simulated non-Duchenne smiles (Del Giudice and Colle, 2007). Susceptibility to emotional contagion was measured through the ECS (Doherty, 1997), a validated self-report questionnaire specifically designed to measure individual differences in susceptibility to emotional contagion. This self-report measure has been widely employed in a number of

domains, and, to our knowledge, it is the only validated instrument tapping both positive and negative emotions.

As discussed in the previous paragraphs, sincere Duchenne smiles are associated with the experience and physiological activations of positive emotions, while faked non-Duchenne smiles are associated with the experience and physiological activation of negative emotions (Davidson et al., 1990; Ekman et al., 1990; Soussignan, 2002). For this reason, it is plausible to expect that susceptibility to emotional contagion for positive and negative emotions play a different role in predicting individual differences in smile authenticity recognition.

II. METHODOLOGY

1. Problem Statement:

To study whether emotions are contagious among teenagers and women.

2. Sample Size:

A Non-Probability purposive sampling method was used to collect a sample of 100 females i.e.; 50 teenagers and women, to measure individual differences in susceptibility to converge towards the emotions expressed by others mostly from the ages of 15-28 years.

3. Objectives:

To study the difference between emotional contingency among teenagers and women.

4. Hypothesis:

H1 The emotions may be more contagious in women than teenagers. H2 The emotions may be more contagious in teenagers than women.

5. Variables:

5.1 Independent Variable: The questionnaire present to the sample.

5.2 Dependent Variable: The responses given by the sample.

6. Tools Used:

The Emotional Contagion Scale by Doherty, R.W.

7. Description of the Assessment:

The Emotional Contagion Scale is a 15-item index that aims to measure individual differences in susceptibility to catching the emotions of other individuals. It examines mimetic tendency to five basic emotions (love, happiness, fear, anger, and sadness). The Emotional Contagion Scale is intended for use across a wide range of settings, samples, and studies.

8. Procedure:

Emotional Contagion Scale can be administered either individually or to large group at a time. After establishing a good rapport and ensuring a clear understanding of

instructions, the subjects are asked to respond to the 15 item index that measures the individual differences in susceptibility to catching the emotions of the other individuals.

The following instructions were given to the subjects:

- “This is a scale that measures a variety of feelings and behaviors in various situations.
- There are no right or wrong answers, so try very hard to be completely honest in your answers.
- Results are completely confidential. Read each question and indicate the answer which best applies to you. Please answer each question very carefully”.

9. Reliability:

Study 1 assesses the EC Scale's reliability (Cronbach's $\alpha = .90$). Study 2 finds susceptibility(a) positively related to reactivity, emotionality, sensitivity to others, social functioning, self-esteem, and more associated with emotional than cognitive modes of empathy, (b) negatively related to alienation, self-assertiveness, and emotional stability and, (c) unrelated to masculinity and approval motivation. Study 3, an experiment, finds that EC Scale scores reliably predict biases in participants' evaluations and are correlated with a measure of responsiveness to afferent feedback and self-reports of emotional experience following exposure to emotional expressions.

10. Validity:

Three studies (N = 1988) describe the development and validation of the Emotional Contagion (EC) Scale, a 15-item unidimensional measure of susceptibility to others' emotions resulting from afferent feedback generated by mimicry.

11. Scoring:

- The scoring of this Emotional Contagion Scale is of quantitative type and is based on five point scale.
- The items in the scale have five options - ‘Always’ gets 5 points, ‘Rarely’ gets 4 points, ‘Usually’ gets 3 points, ‘Often’ gets 2 points, ‘Always’ gets 1 point.
- Happiness items = 2,3, and 11. Love items = 6,9 and 12. Fear items = 8,13, and 15. Anger items = 5,7, and 10. Total score= all items. Th higher the score, the more susceptible to emotional contagion a person would be said to be.
- The obtained scores are further calculated by finding the mean, standard deviation, and t test of the sample.

12. Norms:

The test was conducted according to the test norms.

III. RESULTS AND DISCUSSION

Figures and tables must be centered in the columns. Large figures and tables may span across both columns. Any

table or figure that takes up more than 1 column width must be positioned either at the top or at the bottom of the page.

1. Results:

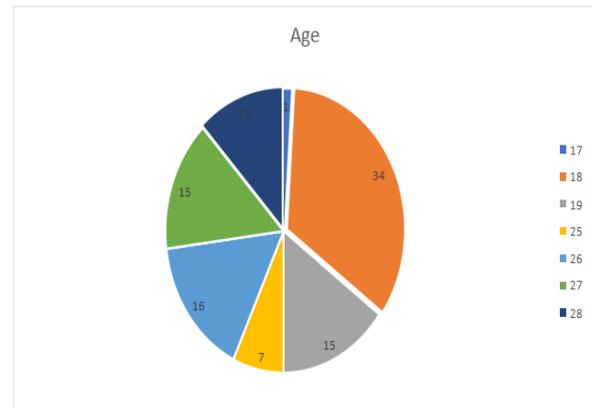


Fig 1. Shows the age details of the sample.

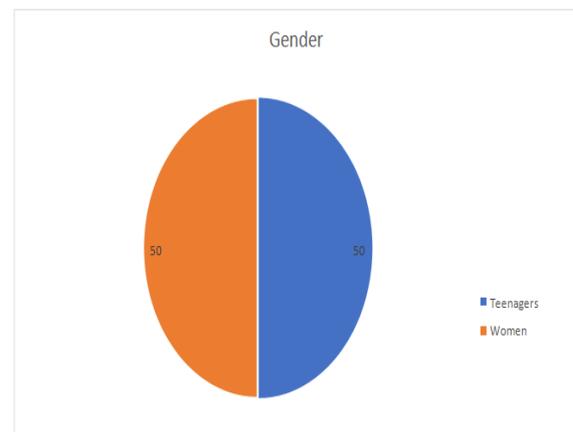


Fig 2. Shows the gender selection of the sample.

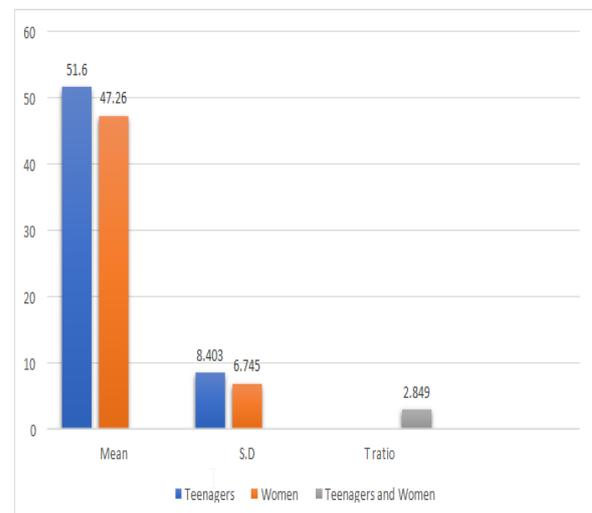


Fig 3. Showing the total mean, SD and t test of the sample.

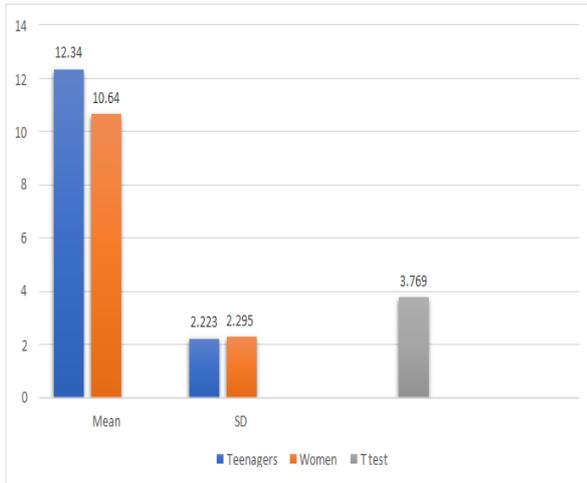


Fig4.Showing the mean, SD and t test of Happiness items.

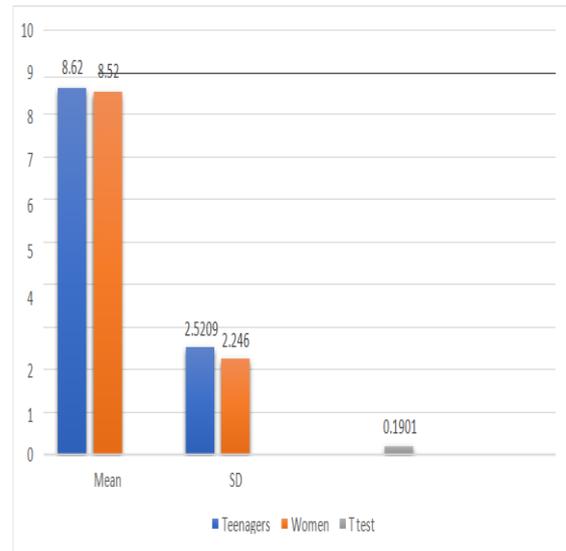


Fig 7.Showing mean, SD and t test of Anger items.

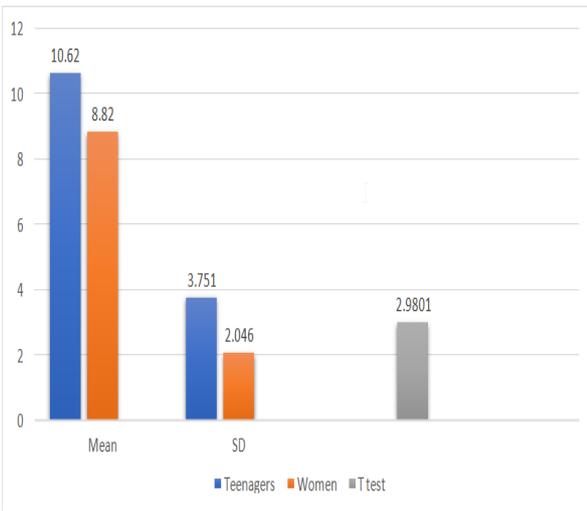


Fig 5.Showing mean, SD and t test of Love items.

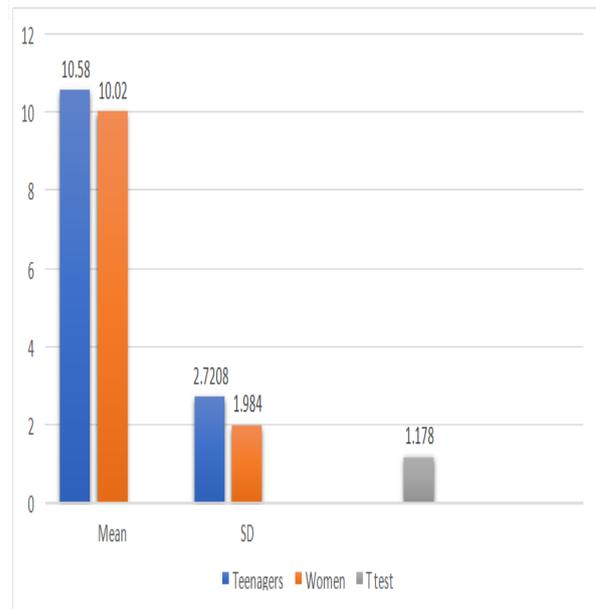


Fig8.Showing mean, SD and t test of Sadness items.

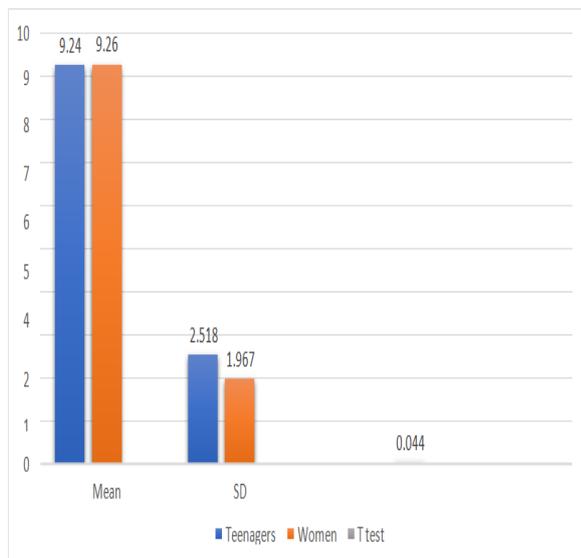


Fig 6.Showing mean, SD and t test of Fear items.

Table 1. Showing the total mean, standard deviation and t ratio of the sample.

Variables	Mean (S.D)	T-Ratio
Teenagers	51.6 (8.403)	2.849**
Women	47.26 (6.745)	

Table 2. Showing the mean, standard deviation and t ratio of teenagers and women for the various emotions.

	Teenagers	Women	
Various Emotions	Mean (S.D)	Mean (S.D)	T-Ratio
Happiness	12.34 (2.223)	10.64 (2.295)	3.769**
Love	10.62 (3.751)	8.82 (2.046)	2.9801**
Fear	9.24 (2.518)	9.26 (1.967)	0.044
Anger	8.62 (2.5209)	8.52 (2.246)	0.1901
Sadness	10.58 (2.7208)	10.02 (1.984)	1.178*

IV. CONCLUSION

It was found that teenagers were more emotionally contagious than women in general. Hence H1 is accepted and H2 is rejected. It was also found that teenagers were more emotionally contagious than women in the dimensions of happiness, love and sadness. Where as, the dimensions of fear and anger were found not to have any significant difference.

This study later on suggests that-

- The study suggests for the future researcher that, a study must be carried between people who use social media and who don't. As social media increases stress and anxiety levels it might draw a correlation between emotional contagion and social media.
- The next researcher could also study the emotional contagion of people belonging to different areas (urban or rural) as the socio-economic status of a person also impacts emotional contingency.

V. APPENDIX

Appendix-I Information Consent

I, Tejasree Reddy K student of St. Joseph's Degree & PG College, Hyderabad, am conducting this research as a part of my curriculum. I kindly require you to cooperate. I request you to fill in the required data and help me conduct my research. I ensure you that data will be kept confidential.

Appendix – II Instructions

This is a scale that measures a variety of feelings and behaviors in various situations. There are no right or wrong answers, so try very hard to be completely honest in your answers. Results are completely confidential. Read

each statement and tick mark (✓) in the option which best applies to you. Please answer each statement very carefully. Thank you.

VI. ACKNOWLEDGMENT

I would want to thank myself for taking this exceptional opportunity to work and finish my project work under supervisor, Mrs. Amthul Fathima, Head Of The Department, Miss Azra Jahan, Assistant Prof, Department of Psychology, also St. Joseph's Degree & PG College who provided me expert and invaluable assistance throughout this entire project, without them this thesis would not have been completed. I owe them a great debt of gratitude, and offer my sincere thanks. I am also grateful to others who have encouraged and assisted me during my research process. Finally, I extend my gratitude to my friends and family, who have been consistently encouraging & supportive to me.

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When referring to a reference item, please simply use the reference number, as in [2]. Do not use "Ref. [3]" or "Reference [3]" except at the beginning of a sentence, e.g. "Reference [3] shows ...". Multiple references are each numbered with separate brackets (e.g. [2], [3], [4]–[6]).

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