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Research Article

Dimensional Similarity and Differences Between Positive Emotion (Joy-Curiosity) and Gender

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ABSTRACT

The present study was designed to center around emotion measurement issues by line number estimations techniques and the relationship of Gender & positive emotions (joy and curiosity) with appraisal dimension. Study made an attempt to identify the Gender and emotion effect on line, number estimations. Data were collected from the U.G. students; subject has to respond on their past emotional experiences on the basis of appraisal dimension, by line and number estimation techniques. In-depth interview with respondents generated descriptive data. The data were analyzed with the help of multivariate analysis of variance (MANOVA). In the present study effect of Gender was found on appraisal dimension and line, number estimations. Positive emotion was inversely proportional to all variables. In emotions curiosity shows higher differences in comparison to joy. The present study also found the one type of interaction effects between gender x emotion.
The findings of study have important implications for the measurement of emotions that how emotion measure in a better way by the magnitude scale. The research also shows the relationship of emotions with the appraisal dimensions.

Keywords: Appraisal Dimensions, Joy, Curiosity, and Magnitude Estimation

Introduction

Emotion, a state of feeling, in everyday speech, is any relatively brief conscious experience characterized by intense mental activity and a high degree of pleasure or displeasure. Emotion is often intertwined with mood, temperament, personality, disposition, and motivation. There are several theoretical and methodological suggestions in the area of emotion appraisal, but empirical realization of conceptual progression lack necessary and sufficient effort. Emotion appraisal is core area of affective field since the understanding of appraisal process will contribute not only in grasping the nature of emotions, but also in emotion – regulation area. Moods are feelings that tend to be less intense than emotions and that often lack a however, There is general agreement among scientists who study emotions however, that they involve three major components:

(1) physiological change is within our bodies – shifts in heart rate, blood pressure, and so on;
(2) subjective cognitive states – the personal experience be level as emotions; and
(3) expressive behaviors – out words signs of these internal reaction **(Tangney et al, 1996, Zajonc & Mcintosh, 1992).**

James, (1890), "The bodily changes follow directly the perception of the exciting fact, and that our feeling of the same changes as they occur is the emotion**".**

Schachter and Singer (1962), "A state of physiological arousal and of cognition appropriate to this state of arousal**".**

Joy is more than happiness, just as happiness is more than pleasure. Pleasure is in the body. Happiness is in the mind and feelings. Joy is deep in the heart, the spirit, the center of the self. **"Joy a state of happiness or felicity".**
According to Kevin Ryerson, "The ability to feel the essence of your own divinity**".**

Curiosity is heavily associated with all aspects of human development, in which derives the process of learning and desire to acquire knowledge and skill. The term curiosity can also be used to denote the behavior or emotion of being curious, in regard to the desire to gain knowledge or information. Curiosity as a behavior and emotion is attributed over millennia as the driving force behind not only human development, but developments in science, language, and industry.

Curiositycan be seen as an innate quality of many different species. It is common to human beings at all ages from infancy through adulthood, and is easy to observe in many other animal species; these include apes, cats, and rodents.

The mission of positive psychology is to understand and foster the factors that allow individuals, communities, and societies to flourish (Seligman & Csik-szentmihalyi, 2000). What role do positive emotions play in this mission? On first consideration, the answer seems simple: Positive emotions serve as markers of flourishing, or optimal well-being. Certainly, moments in people's lives characterized by experiences of positive emotions — such as joy, interest, contentment, love, and the like — are moments in which they are not plagued by negative emotions —such as anxiety, sadness, anger, and despair.

Stein et al. (1994) proposes that how a person sees an event—which depends on the person's goals and values—will determine how the event is perceived and what emotions are elicited. This is consistent with Lazarus's treatment of appraisal. The same event can lead to different emotions in different people. In light of such issues, Phoebe Ellsworth and Craig Smith (1985, 1988) developed a theory of appraisal that can account for interesting similarities among the emotions, as well as the many differences (for comparable accounts see Frijda, 1986; Ortony, Clore, & Collins, 1988; Roseman, 1984; Scherer, 1988; Weiner, 1986). Smith and Ellsworth reviewed numerous studies of the semantic content of emotions, and derived eight different dimensions (Attention, Certainty, Control, Pleasantness, Perceived obstacle, Responsibility, Legitimacy and Anticipated effort) of meaning that capture the appraisal processes that lead to various emotions. Think of these dimensions as units of meaning ascribed to events in your life: how positive or negative the event is, who is responsible for it, whether it is fair, how much energy is required, to what extent the stimulus requires intense attention, how certain things seem, and so on.

The appraisal theory of emotion first started with Arnold (1960) who suggested that the difference between an emotional and non-emotional event is due to the process of appraisal (Parkinson, 1995). This process evaluates an event as beneficial or harmful, as good or bad, or as promoting or obstructing, with regard to one's concerns, motives or goals (Lazarus, 1991; Ortony et al.,1988; Plutchik, 1980; Scherer, 1988). The main difference is that cognition is a general information processing mechanism, where appraisal focuses on the evaluation of events. Emotion as appraisal processes, Plutchik (1980), Lazarus (1991)and Frijda (1986) see emotion as process in which appraisal is an essential part. They suggest different steps within this process. Phoebe Ellsworth (e.g., 1991) has suggested that we need to think about emotion-related appraisal in a way that's different from that of discrete emotions: the dimensional approach. Approaches to emotions as discrete highlight differences between emotions in terms of their eliciting appraisals. Yet many emotions are similar in fundamental ways. Anger and fear, for example, at their core feel similar: they feel unpleasant and arousing. The same could be said about gratitude and love, which both feel quite pleasant and are marked by a feeling of devotion for others. An appraisal theory, Ellsworth contends, needs to account for the interesting similarities across emotions, as well as their differences.

Ellsworth and Smith (1985) suggest the eight following dimensions: attention, certainty, control, pleasantness, perceived obstacle, responsibility, legitimacy, and anticipated effort, while Roseman et al. (1996) suggest only six: unexpectedness, motivational state and situational state, probability, control potential, problem type and agency; and Smith and Scott (1997) propose seven: pleasantness, goal obstacle or goal discrepancy, anticipated effort, intentional activity, certainty, novelty and personal agency or control. This method of describing emotions is also called the componential approach to emotions (Frijda, 2000). This approach is related to the componential approach to facial expressions through the links between appraisal dimensions and movements of certain facial parts (Smith and Scott, 1997). Lazarus proposed that appraisals involve evaluative judgments of how good or bad an event is for the person. A second theme is that appraisals concern the individual's goals and aspirations, which Frijda (2007) calls "concerns." Emotions, then, could scarcely be more critical for psychology: emotions relate events in the outer world to one's inner self and one's concerns. Agnes Moors (2007, 2009) has argued that the appraisal approach is critical to the study of emotions as processes that articulate events with people's goals, and that it is superior to any conceptualization that has no relation to goals or a different relation to goals.

From an intuitive layperson perspective, it should be easy to determine that someone is experiencing a particular emotion. However, scientific evidence suggests that measuring a person's emotional state is one of the most vexing problems in affective science. An emotional response begins with appraisal of the personal significance of an event (Lazarus, 1991; Scherer, 1984; Smith & Ellsworth, 1985), which in turn gives rise to an emotional response involving subjective experience, physiological changes, and specific behavior (Frijda, 1988; Gross, 2007; Lang, 1988; Larsen & Prizmic- Larsen, 2006).

It is conceived that a full – fledged study of emotion X appraisal dimensions will shed light on the interrelations between emotions in term of appraisal dimensions and among appraisal dimensions in the context of particular emotions.

Methods

Type of research and design

It is an exploratory experimental study using 2X2 MANOVA design. There are two IV's and two DV's.

Types of Independent Variables

First IV is the gender:
A. Male – G1
B. Female – G2
Type of positive emotion is second IV. There are two positive emotions
A. Joy – E1
B. Curiosity – E2

Types of Dependent Variables

There are two sets of DV's:
Set of eight emotion-appraisal dimensions:
A. Attention – D1 E. Perceived obstacle – D5
B. Certainty – D2F. Responsibility – D6
C. Control – D3 G. Legitimacy – D7
D. Pleasantness – D4 H. Anticipated effort – D8
Set of two estimations:
A. Line estimation - L
B. Number estimation - N

Sample

The sample consisted of **80 undergraduate college students,** randomly assigned in four treatment conditions, **20 students** were randomly assigned to each treatment condition. The sample is divided into four groups on the basis of conditional time duration. **Forty students** are taken **for no interval condition**, and same number are for **interval (approximately 24 hours) condition.**

Procedure

For recording subject's responses, they were given **PEMT paper (positive emotions measurement test) it has** two **response pages for each emotion**, **each page for one emotion** and **eight appraisal dimensions.** For **two emotion subjects are given two response pages**. On **each page subject has two estimates of an emotion on a particular dimension by using line estimation and number estimation.**
The **reference line is 5 cm** and **reference number is 50** are given in page. Subjects were asked to estimate the magnitude of each dimension by drawing the line whose length is equal to the magnitude. In the same way subject has to give number which is assumed to be equal to the magnitude on a dimension.

Instructions

To make the subject acquainted with the task an exemplar of actual stimulus-response cards used in actual study, stimulus is presented to him/her. In **positive emotion measurement test (pemt) paper** as you can see it is an appraisal dimension word. This word tells something about when you engage in any activity or experience. In other words, this is one characteristic of your experience. The meaning of the word will be clear to us when we read the meaning given after it."
In test paper, the reference line and reference number are given; you have to response according to those. In line if you feel this emotion on this dimension double than draw a 10 cm. Line, if four time more than 20 cm. Line or feel half of reference line than 2.5 cm line and so on. In number 50 is reference as line in number also you have to response according to reference number if you feel double than write 100, if feel four time more than write 200, if feel half then 25 and so on.
There for, **responses** will be 2x2=4 numbers of estimates of **2 emotions** on **8 dimensions.**

Data collection

For collecting the data, **four groups selected randomly each group** have **20 subjects**. A verbal consent was taken from the respondents after informing them the purpose of the study. They were assured that the information they provide will be kept confidential and used only for research purposes. Each subject was briefly interviewed to find out whether they met the criteria for inclusion in the sample. Thus,**a sample of 80 respond in test age between 18 to 22 years** was selected. They were then handed over emotion and dimension written response pages to respond. They were helped if they had any difficulty regarding understanding or responding to the response pages items. Respondents were requested to respond honestly and to answer all the items. After they had completed all items, they were thanked and the complete questionnaires were collected.

Hypothesis

H.1 In comparison to male, female gives higher response in Line and Number estimates.

H.2In comparison to female, male will show higher response in joy and curiosity.
H.3 There will be significant differences in between male and female's Line and Number estimates.
H.4There will be no significant differences in Joy and Curiosity on any eight dimensions.
Results and discussions

Section – I
Descriptive Statistics

Table 1 shows the means and SDs of gender on each dimension, table 2 has means and SDs based on subjects' estimations of different emotions on different dimensions using line and number. The hypotheses and question were the following.

Table 1: Mean and SD of Gender on Line and number Dimensions

		D1L	D1N	D2L	D2N	D3L	D3N	D4L	D4N	D5L	D5N	D6L	D6N	D7L	D7N	D8L	D8N
G1	M	11.77	114.03	8.28	81.38	9.53	83.46	13.08	121.51	7.13	63.18	10.55	91.46	9.95	88.43	10.39	91.03
	SD	5.44	60.74	4.41	47.14	5.98	58.34	5.79	64.48	4.87	43.57	4.76	49.07	5.22	52.58	5.63	55.39
	N	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160
G2	M	9.74	105.73	7.88	82.85	8.34	91.23	10.76	126.13	7.49	81.00	9.36	106.34	8.70	92.84	8.47	87.81
	SD	4.22	59.37	3.70	50.45	3.82	48.89	4.47	58.30	3.90	47.32	4.31	51.28	3.66	51.23	4.23	55.81
	N	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160
Total	M	10.75	109.88	8.08	82.11	8.93	87.34	11.92	123.82	7.31	72.09	9.96	98.90	9.32	90.64	9.43	89.42
	SD	4.97	60.11	4.07	48.75	5.04	53.88	5.29	61.41	4.41	46.28	4.57	50.66	4.55	51.87	5.06	55.54
	N	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320

H.1 In comparison to male, female gives higher response in Line and Number estimates.
In Table.1shows higher response of gender with line and Number estimation technique on different dimension. We found higher response of male on D1L, D1N, D3L, D4L, D6L, D7L, D8L and D8Nin comparison to female. We also found higher response of Female on D2N, D3N, D4N, D5N, D6N and D7N.

Table 2: Mean and SD of Emotions on Line and number Dimensions

		D1L	D1N	D2L	D2N	D3L	D3N	D4L	D4N	D5L	D5N	D6L	D6N	D7L	D7N	D 8L	D8N
E1	M	9.81	97.44	7.88	79.93	8.61	78.98	12.26	128.99	7.03	69.41	9.72	93.64	9.11	88.01	9.46	83.83
	SD	4.90	55.73	4.19	48.35	4.99	47.60	5.22	60.40	4.37	44.81	4.69	49.70	4.60	50.92	5.24	53.88
	N	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160
E2	M	11.70	122.31	8.28	84.30	9.26	95.71	11.57	118.65	7.59	74.76	10.19	104.16	9.54	93.27	9.41	95.01
	SD	4.86	61.90	3.95	49.21	5.09	58.46	5.36	62.17	4.45	47.70	4.45	51.21	4.49	52.84	4.89	56.76
	N	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160
Total	M	10.75	109.88	8.08	82.11	8.93	87.34	11.92	123.82	7.31	72.09	9.96	98.90	9.32	90.64	9.43	89.42
	SD	4.97	60.11	4.07	48.75	5.04	53.88	5.29	61.41	4.41	46.28	4.57	50.66	4.55	51.87	5.06	55.54
	N	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320

H.2In comparison to female, male will show higher response in joy and curiosity.
The Table.2 shows the Emotion condition mean result, we found higher response of Curiosity on Number dimension onD1N, D2N, D3N, D5N, D6N, D7N and D8N in comparison to joy. Joy also produces higher response on D4N.
These tables present the context in which the differences between emotions will be analyzed statistically in section – II.

SECTION – II
Multivariate Analysis of Variance (MANOVA)
A Multivariate Analysis of Variance was conducted to explore the impact of two positive emotions with gender on the evaluation of the eight appraisal dimensions. The evaluation of the appraisal dimensions was measured by two dependent variables-line and number.

Table 3: MANOVA Significant Result (Gender x Emotion/ N=160)

	Gender	Emotion	Gender x Emotion
Pillai's Trace	.000*	.000*	-
Wilks' Lambda	.000*	.000*	-
Hotelling's Trace	.000*	.000*	-
Roy's Largest Root	.000*	.000*	-

Table 3 Shows the main and interaction effect of gender and emotion, the main effects of the gender and emotion are significant (at p<.05) in all test statistics. All the test statistics - Pillai's Trace, Wilks' Lambda, Hotelling's Trace, Roy's Largest Root show no significant effect of gender emotion.

Between subject effects
This part of result contains the summary table for the dependent variables. There are two parts in between subject result first is main effect and second is interaction effect of IVs. The main effect and interaction effects are given blow.

Main effect
Gender
Table 4 shows the between subject effect, the main effect of the gender with different dimensions. In d1l (MS=330.078, f=14.518 and p <.05), d3l (MS= 111.628, f= 4.429 and p <.05), d4l (MS=430.128, f= 16.072 and p <.05), d5n (MS= 25418450, f = 12.270 and p <.05), d6l (MS= 112.812, f = 5.516 and p <.05), d6n (MS= 17731.013, f = 7.133 and p <.05), d7l (MS= 125.00, f = 6.124and p <.05), d8l(MS= 294.528, f = 11.807 and p <.05).
In these tables, it can be observed that the difference between g1 and g2 condition there are eight significant differences found.

Emotion
Table 4 shows the emotion main effect. There are three significant differences on dimension, d1l (MS = 286.903, f = 12.619 and p < .05), d1n (MS = 49451.513, f = 14.304and p < .05), d3n (MS = 22378.050, f = 7.882and p < .05).
In these tables, it can be observed that the difference between e1 and e2 condition there are three significant differences found.

Interaction effect
The question the researcher must ask whether the statistically significant interactions are psychologically significant too. The problem is to verify the isomorphic relations between the statistically significant and psychological significance. Let this relationship be examined. This examination would be based on the trends within data generated by IVs, separately. The factor-wise trends are given below;

Table 4: Significant Differences of between Subject Effect Gender x Emotion/N=160

	Gender	Emotion	Gender x Emotion
D1L	.000*	.000*	-
D1N	-	.000*	-
D2L	-	-	-
D2N	-	-	-
D3L	.036*	-	-
D3N	-	.005*	-
D4L	.000*	-	-
D4N	-	-	-
D5L	-	-	-
D5N	.001*	-	-
D6L	.019*	-	.049*
D6N	008*	-	-
D7L	.014*	-	-
D7N	-	-	-
D8L	.001*	-	-
D8N	-	-	-

Gender and Emotion Factor – Gender are the basic properties of the estimation design of this study. They do not relate the estimations directly. On the contrary, emotions have to act on gender on each dimension. There may be statistical interaction in psychological processes involved in estimation.

Gender x Emotion

Table 4 shows the interaction of gender x emotion. There is only one significant difference on dimension, D6L (MS = 80.000, F = 3.912 and p < .05).

Section-III

IV.4 pairwise comparison

This part of result contains the post-hoc Bonferroni pairwise comparison summary table for the dependent variables. There are two parts in pairwise result is gender pairwise, and emotion pairwise comparison of IVs on DVs. The pairwise comparison is given below.

Gender Pair Wise Comparison

There are significant differences on D1L (MD = 2.031, SE = .533, p < .05), D3L (MD = 1.181, SE =.561, P < .05), D4L (MD = 2.319, SE = .578, P < .05), D5N (MD = 17.825,SE = 5.089, P < .05), D6L (MD = 1.188, SE = .506, P < .05), D6N (MD =14.888,SE = 5.574, P < .05), D7L (MD = 1.250, SE =.505, P < .05), and D8L (MD = 1.919,SE = .558, P < .05).

Table 5: Significant Differences of Gender pair wise comparison

	G1	G2
D1L	.000*	-
D1N	-	-
D2L	-	-
D2N	-	-
D3L	.036*	-
D3N	-	-
D4L	.000*	-
D4N	-	-
D5L	-	-
D5N	-	.001*
D6L	.019*	-
D6N	-	.008*
D7L	.014*	-
D7N	-	-
D8L	.001*	-
D8N	-	-

*Significant at .05 level

H.3There will be significant differences in between male and female's Line and Number estimates.

Question- A. Does the gender difference produce differences between the Line and Number estimations?

These findings are in our hypothesis concerning the Gender conditions. Hypothesis stated that the
Gender conditions between the two response measures on eight dimensions will produce significant differences between the two measures because; Responses are affected by both gender and estimation techniques on Different dimensions. Male shows higher response on the dimensions with Line estimation techniques in comparison to female.
Line estimate is more effective to produce differences between male and female response comparison to the number estimation.

Emotion Pair Wise Comparison

There are significant differences on D1L (MD = 1.894, SE = .533, p < .05), D1N (MD = 24.862, SE = 6.574, p < .05), D3N (MD = 16.725, SE = 5.957, p < .05).

Table 5.2 Significant Differences of Emotion pair wise comparison

	E1	E2
D1L	-	.000*
D1N	-	.000*
D2L	-	-
D2N	-	-
D3L	-	-
D3N	-	.005*
D4L	-	-
D4N	-	-
D5L	-	-
D5N	-	-
D6L	-	-
D6N	-	-
D7L	-	-
D7N	-	-
D8L	-	-
D8N	-	-

*Significant at .05 level

H.4 There will be no significant differentiated in Joy and Curiosity on any eight dimensions.

The Table.4Shows Joy and Curiosity are significant differences on three dimensions - on D1L Attention, D1N Attention and D3N Control. These finding are in opposition of our hypothesis concerning the emotion condition that the gender difference show differences between Joy and Curiosity responding because,

A- The level of Joy and Curiosity expression is found separately different in Male and female because of their personality differences.

B- The gender difference shows on their emotional expression because of social learning; emotions express learning and ego factor.

Discussions

The present study was designed to center around Positive Emotion measurement issues by line number estimations techniques and the relationship of emotion with appraisal dimension. Study made an attempt to identify the gender (Male and Female) and emotion effect on line, number estimations. Data were collected from the U.G. students; subject has to respond on their past Positive emotional experiences on the basis of appraisal dimension, by line and number estimation techniques. In-depth interview with respondents generated descriptive data. The data were analyzed with the help of statistical tools.

In the present study effect of gender were found on appraisal dimension and line, number estimations. Positive emotion was inversely proportional to all variables. Eight differences are found in gender condition. And in emotion condition there are three differences found on D1L, D1N and D3N dimension. The present study found only one interaction (gender x emotion) effect on D6L.

The study also examined the post-hoc Bonferroni pairwise comparison among IVs. There are four types of pair wise comparison; in it the significant result shows their inter-relation and differences in between IVs and DVs. In gender pairwise comparison G1 shows the higher differences comparison to G2. And in Emotion

pairwise comparison, there is three significant differences found in curiosity emotion on D1L, D1N and D3N dimension.
In the chapter three the researcher has tried to state some hypotheses regarding the effect of Gender and Emotions, and their combined effects on dimensional estimations of emotions.

Conclusions

The present study has been conducting to measurement of Gender and Emotion, by the techniques of line number estimations and the relationship of emotion with appraisal dimension.
Data were collected from the U.G. students; subject has to respond on their past Positive emotional experiences on the basis of appraisal dimension, by line and number estimation techniques. In-depth interview with respondents generated descriptive data. The data were analyzed with the help of statistical tools.
In the present study effect of gender were found on appraisal dimension and line, number estimations with positive emotions, those may be inversely proportional to all variables. The present study found higher response of male on Line Dimension in comparison to Number dimension in D1L, D3L, D4L, D6L, D7L and D8L.In the emotion condition there are three significant differences. In the interaction effect of Gender x emotion, there is only one significant difference on D6L.
The study also examined the post-hoc Bonferroni pair wise comparison among IVs. There are two types of pair
wise comparison; in it the significant result shows their inter-relation and differences in between IVs and DVs. Significant differences in response of male were found on only six dimensions onD1L, D3L, D4L, D6L, D7L and D8L.In response of female there is only two significant differences are found on D5N and D6N dimension. And in emotion condition there is only three differences found on D1L, D1N and D3N dimension.

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