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Positive Emotions Scale: Construct Development and Validation

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The purpose of the paper was to develop an indigenous and comprehensive scale to measure positive emotions and to establish its psychometric properties. In the first phase, the item pool of 40 items was generated by an in-depth review of literature, focus groups, and semi-structured interviews. Content Validity Index (CVI) was established on 6 expert's ratings. The total scale CVI calculated was .84. Pilot study was conducted *(n* = 50) on the preliminary scale to measure its face validity. In the second phase, internal consistency and dimensionality of scale was empirically measured through Exploratory Factor Analysis (*N* = 273). Ten factors (i.e. Joy, Hope, Gratitude, Compassion, Gratitude towards God, Satisfaction, Awe, Inspiration, Love, and Humor) emerged. In the third phase, to confirm the factor structure of the Scale the Confirmatory Factor Analysis (*N* = 174) was run. Psychometric properties were established (α = .96). In the final phase, the convergent and discriminant validity was established by using Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988). Finally, the Positive Emotions Scale, measuring ten main constructs of positive emotions was constructed.

Keywords. Positive emotions, exploratory factor analysis, confirmatory factor analysis, psychometric properties

Positive emotions are responses to our existing circumstances. These are emotions that produce pleasing consequences and effects on an individual (Fredrickson & Branigan, 2005). Positive emotions have been explained differently in the history of psychology. Positive emotions have been defined in terms of personal growth, optimal well-being, and flourishing (Seligman, 2004), pleasant life

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(Seligman, 2011), responses based on appraisal of situation (Roseman & Smith, 2001), opposite dimension of negative emotion as uni-dimension component (Averill, 1997; Larsen & Deiner, 1992) and as multi-dimensional response tendencies (Ekman, 1992; Fredrickson, 2001; Rosenberg, 1998; Russell & Barrett, 1999; Tellegen, Watson, & Clark, 1999).

The broaden-and-build theory of positive emotion (Fredrickson, 2013) explains positive emotions as multidimensional action tendencies towards a situation (Fredrickson, 2013). It presents the framework, on the ability of positive emotions to help facilitate the development of one's social, psychological, cognitive, and physical resources. Fredrickson (2001) discovered that the experience of positive emotions may increase and widen people's thinking and enhance their quality of being able to cope with a difficult situation (Estrada, Isen, & Young, 1997; Frederickson & Branigan, 2005; Isen & Means, 1983; Isen, Rosenzweig, & Young, 1991). It increases his/her resourcefulness. It builds individual's physical (Fredrickson, 2013); intellectual (Deci, Vallerand, Pelletier, & Ryan, 1991; Renninger, Hidi, Krapp, & Renninger, 2014); social skills (Fredrickson, 2013; Oatley, Keltner, & Jenkins, 2006); and broadens attention (Basso, Schefft, Ris, & Dember, 1996). It makes people aware of their own potential. The storehouse of one's potential and possibilities in solving a problem increases as the individual is at peace and free from stress; one is able to think of more ways of coping and solving a problem. It also increases social bond between people. As a result, it brings about a change in individual's cognitive, behavioral, and social level (Fredrickson, 2001). It leads the individual to feel good about him/her and the surroundings. One positive thought generates another positive thought and the upward spiral of positive emotions is triggered by increasing coping and resilience (Fredrickson & Joiner, 2002).

The theory also states that negative emotions leave a lasting negative effect on the individual's physical, intellectual, cognitive, and psychological health whereas positive emotions have been found to undo the lasting negative effect of negative emotions (Fredrickson & Levenson, 1998; Fredrickson, Mancuso, Branigan, & Tugade, 2000). Fredrickson (2001) explained joy, hope, compassion, love, satisfaction, gratitude, humor, awe, and inspiration as the most commonly experienced emotions.

The word *joy* is also used to represent all type of happiness (Lazarus, 1991). Joy does not explain a single state instead it is a family of related affective states that produce pleasure (Ekman, 1992). Joy strengthens the social support as it arises from the interactive play.

It is also involved in increasing creativity, as it develops an urge to create a playful situation within the social network, which may lead to creative problem solving skills in the long run (Carr, 2011).

Hope can be defined as the feeling and ability to set new goals regardless of all the obstacles, ability to find solution, and the motivation and action to get out of trouble or achieve a goal (Rand & Cheavens, 2009; Snyder, 2000). In religious perspective, it may take the form of faith on God to help individual get out of trouble. The durable resources that are created by hope are optimism and resilience (Fredrickson, 2013).

Compassion emerges towards strangers, poor people or people who are in need as the individual feels the urge to help them in any way possible or just feel pity for them. It develops social bond and community. The special durable resources that are created in result of compassion are, 'strong community' and 'social bond with strangers' (Fredrickson, 2013). Some religions also emphasize upon the importance of compassion by facilitating community work.

Love develops an interpersonal connection between people. It develops the feeling of closeness and trust towards others. Some psychologists believe that there are different forms of love that include passionate love, compassionate love, romantic love, care giver love, maternal love, and attachment (Hatfield & Rapson, 1993; Oatley et al., 2006). It broadens individuals' thoughts and action repertories. In the long run, it also aids to develop social bonds, interest, and contentment in individuals (Fredrickson, 2013).

Satisfaction develops when the individual feels contentment, tranquility, or serenity. When the individual is satisfied with life generally then he/she is at peace and can think of more productive ways as a result, the individual broadens an entire range of thought action (Carr, 2011).

Gratitude can be defined as a feeling of being thankful or grateful to others for the special favor they have shown to the individual. Gratitude can be of two types. The first type is "gratitude towards people". It is more commonly explained by researchers (Fredrickson, 2013) in the form of being grateful to anybody after receiving a gift, fortune or favor from another person (Algoe, 2012). There is less emphasis upon the second type. It includes being "grateful to nature or God" for all the blessings that have been granted to the individual. Gratitude towards God has been explored in Christian population (Krause, 2006), but never has been explored in Muslim population.

Humor can be defined as the ability to make jokes and understand other people's jokes and take every day's serious issues in a light and

funny manner to reduce the strains (Argyle, 2013). Humor increases social bond between people because it generates a need to share laughter and find imaginative methods to carry on the cheerfulness (Fredrickson, 2013).

Awe can be defined as wonder, amazement or a feeling that is generated to see beauty at a grand scale or getting overwhelming feeling to see goodness, beauty or something that looks larger than life and feels like a life time experience (Fredrickson, 2013). It can be the consequence of natural wonder or manmade spectacle. As a result, the individual tries to take in the vastness (Shiota, Keltner, & Mossman, 2007).

Inspiration is experienced when the individual feels motivated or inspired towards something. More, specifically, it is the motivation towards personal goals and growth by witnessing human excellence. It also includes getting positively influenced by others and working on self-growth and development and striving towards higher standards (Fredrickson, 2013). In religious and spiritual perspective, it can be described as getting motivation from the nature (Hart, 1998; Thrash & Elliot, 2003).

All the above positive emotion may have a pleasing outcome on the individual. There is so much importance of positive emotions in the life of an individual that it creates a need to explore different types of positive emotions experienced in Pakistani culture. Therefore, there is a need to develop a separate scale to measure positive emotions for Pakistani population, which could help in measuring all positive emotions in religious and cultural context.

Measuring positive emotions is one of the most important and sensitive area in positive psychology. Different researchers have different views about measuring positive emotions. The area of measuring positive emotions would be incomplete without including individual's subjective experiences (Diener, 2009). These subjective experiences can be measured by self-report method. This is considered the simplest and the most flexible measure (Lucas, Diener, & Larsen, 2009).

Response scale or checklist is another way of measuring emotions in which participants are presented with a list of emotions and are asked to check all emotions in the same list they commonly experience (Zuckerman & Lubin, 1985). Another type of checklist demands participants to respond in yes or no format (Diener, 2009). These methods do not provide a clear picture of how the emotions are experienced, and hence, do not give detail about the intensity and frequency of the emotion experienced (Lucas et al., 2009). Secondly,

the respondent may be influenced by certain response set and response biases. Therefore, researchers are warned against using these measures (Green, Goldman, & Salovey, 1993).

The Likert-type scales on the other hand measure the intensity (Watson et al., 1988) and frequency (Diener, Smith, & Fujita, 1995) by which an emotion is experienced. According to some researchers, intensity and frequency are two different aspects of emotional experience and both should be measured (Schimmack & Diener, 1997). An important aspect to cover while measuring emotions that can improve Likert type scales is the addition of time frame in it. The shorter time frame reflects emotional responses (Watson et al., 1988) and the longer framework usually measure mood and personality differences in emotionality (Lucas et al., 2009).

Another way of measuring positive emotions is through retrospective reports. These have been criticized as being difficult to conduct as its hard for participants to recall and respond (Fredrickson & Kahneman, 1993). Most researchers suggest on-line measure to avoid the ambiguity of retrospective reports. These can be used to measure emotions even many times a day (Kahneman, Diener, & Schwarz, 1999).

Specific positive emotions scales are another way to assess a wide range of emotional experiences. These scales measure specific emotions only. Some of the measures available focus only on basic positive emotions (Watson & Clark, 1999); some scales measure life satisfaction (Diener, Emmons, Larsen, & Griffin, 1985) as an indicator of positive emotion; and some other scales measure cognitive well-being to reflect positive emotions (Lucas, Diener, & Suh, 1996). Hence, there is no single scale available to measure positive emotions under one scale. Yet some of the scales available can be combined to get a complete score for positive emotion which makes it a long and a time-consuming procedure.

To conclude, self-reports measured with Likert-type options are considered the best and easiest measures to apply. These measures provide insight into the participant's own emotional experiences. Therefore, the present study is designed to develop and validate a comprehensive and less time-consuming self reporting scale that can measure all positive emotions of Pakistani Population.

Rationale of the Study

The present study is aimed to develop an indigenous psychometric tool to measure positive emotions. Although, there are scales that are measuring different constructs of positive emotions

separately like happiness (Hills & Argyle, 2002; Lyubomirsky & Lepper, 1999); joy (Shiota, Keltner, & John, 2006); gratitude (McCullough, Emmons, & Tsang, 2002; Shiota et al., 2006); hope (Snyder et al., 1991); compassion (Sprecher & Fehr, 2005); love (Hwang, Plante, & Lackey, 2008; Lyubomirsky & Lepper, 1999); and serenity (Diener et al., 1985) etc; but there is no questionnaire that measures all of these dimensions comprehensively in one scale. Positive and Negative Affect Schedule (Watson et al., 1988) measures affect and ignores the other aspect an emotion is composed of. Modified Differential Emotion (Fredrickson, 2013) is available that measure positive emotions, but there are cultural and religious constraints. Church services and other religious activities may or may not be reflected in general measures of happiness (Argyle, 2013). Gratitude towards God has never been explored by any of the above scales which may stand out as a different dimension of positive emotion in Pakistani population. Yet a four-item scale has been used to measure gratitude towards God in Christian population (Krause, 2006), but excluded Muslim population from the study. Therefore, there is need to explore gratitude towards God in Muslim population as well. Secondly, the concept of hope and inspiration is different in Islam which may affect people's positive emotions. Positive emotion is a relatively new area with reference to Pakistan and has never been explored here. Very little research is available in this area and there exists no such scale in Urdu language to measure positive emotions in Pakistani population. There is variation in the cultural patterns of sadness and happiness. This makes it crucial to develop a separate scale to measure positive emotions for Pakistani population.

Objectives

1. To develop an indigenous scale to measure positive emotions in Urdu language for Pakistani population.
2. To validate the Positive Emotion Scale (PES) and establish its psychometric properties.

Method

The study was conducted in following two phases:

Phase I: Development of Positive Emotion Scale (PES)

Identification of construct and phenomenology of positive emotions was developed by review of previous literature, themes

recognized through the participants' responses in the focus group discussions, and semi-structured interviews.

Items generation. These following steps made the conceptual basis available for the initial phrasing of the items.

Review of relevant literature. The first and foremost step in conceptualizing the phenomenology of positive emotions was to conduct an exhaustive and extensive review of literature. Therefore, the literature regarding positive emotions was reviewed carefully. The current progress in the fields of positive emotions was evaluated and assessed to get an idea about the background of the construct. All the theories describing and explaining positive emotions were examined. It was comprehended how positive emotions have been explained by different psychologists and theorists. At the same time, the previous scales measuring the same construct were appraised in terms of their utility, advantages, and limitations. The construct of positive emotions was conceptualized fully. The initial work for the development of the phenomenology of positive emotion was conducted and the positive emotions like joy, satisfaction, hope gratitude, inspiration, compassion, love, humor, and awe were identified.

Semi-structured interviews. During the second step in conceptualizing the construct, semi-structured interviews were conducted. Convenience sampling technique was used to select the three PhD experts in the field of Positive Psychology who had 10 years of experience. The sample was taken from different private universities. Permission and consent were taken from the experts to conduct and audio-record the interviews. The interviews were carefully transcribed. The respondents were asked to report their expert opinion about the positive emotions experienced in Pakistani people in the light of their culture and religion. Themes related to positive emotions were thoroughly identified.

Focus group discussions. To further strengthen the concept of positive emotions, focus group discussions comprising of normal adult population were conducted. The purpose of conducting focus group was to explore as much positive emotions as possible which are experienced by the people in Pakistani society. Convenience sampling technique was used to select participants for each focus group. The consent was taken from the participants for audio-recording of the focus group session. The participants were assured of the confidentiality of the information shared. Each group discussion lasted for 40-60 minutes. The total number of focus groups was not fixed initially as the nature of study exploratory. Adequate information was collected by conducting three focus group discussions (N = 31),

therefore, no further focus group discussion was conducted. The first focus group was composed of women participants both working and non-working (n = 10) with age range 25-56 years (M = 41.5, SD = 11.27). The second focus group was conducted with male participants from different professions (n = 11) with age range 25-60 (M = 42.90, SD = 12.28). The third was conducted with both men and women (n = 10) age ranged from 29-62 years (M = 41.3, SD = 10.15). The participants were encouraged and asked to report as much positive emotions they experience as possible. The focus group discussions were audio-recorded and the information was transcribed. Careful and systematic analysis of the discussions provided clues and insights into what and how different types of positive emotions are experienced.

The themes that emerged from semi-structured interviews and focus group discussions were gratitude towards God and inspiration from the divine force. Therefore, both these themes were incorporated with the those identified through literature review (joy, hope, gratitude, awe, compassion, love, humor, & satisfaction) to make an item pool for scale construction. Finally, an item pool of 40 statements representing different types of positive emotions (e.g., *I often experience bursts of joy; there are lots of ways of solving the problem I am facing; the conditions of my life are good*) was formed based on the themes extracted and explored through careful observation, in-depth analysis and thorough appraisal of preceding literature, profound evaluation of semi-structured interviews and focus group discussions.

Content Validity Index (CVI). The second stage of scale development was to validate the scale empirically. The main objective of conducting Item Content Validity Index (I-CVI) was to evaluate and assess each item in terms of its relevance and clarity to the actual construct (Haynes, Richard, & Kubany, 1995). The items were assessed by 6 judges (Lynn, 1986) who were experts in the field of positive psychology and scale development. The judges were asked to rate each statement according to its relevance to the main construct, clarity of statements, and comprehensibility on a 4-point scale where 1 was *highly irrelevant* and 4 was *highly relevant* (Davis, 1992).

According to Lynn (1986) criteria of conducting I-CVI, 33 items were finalized and 7 items were removed as their I-CVI was less than .78 and were not rated as clear or relevant to the construct. Following the same criteria, the scale's total CVI was also calculated as .84. This CVI is acceptable according to standard criterion that shows that the content of the scale is valid (Lynn, 1986; Wynd, Schmidt, & Schaefer, 2003).

Pilot study. Pilot study was conducted to build up face validity of the scale and to ensure its understandability to the sample. A sample of 50 individuals including both men (n = 22) and women (n = 28) was selected through convenience sampling technique. The sample age, ranged from 20-43 years (M = 25.08, SD = 6.82). The item pool consisting of 33 items was then arranged into a response format on a 5-point Likert-type scale. The respondents were required to respond each statement on a scale from 1 to 5 where, 1 was considered as *completely disagree* with the statement and 5 was considered as *completely agree.* The items were then pilot tested (N = 50) on both men and women. No ambiguity was found in the understandability of the items. Therefore, all the 33 items were retained in PES.

Establishing construct validity through factor analysis. The construct validity was determined by applying Exploratory Factor Analysis (EFA). The main objective was to explore the internal factor structure and dimensionality of PES and ultimately finalize the scale items.

Sample. Cross-sectional research design was used to conduct the study. Convenience sampling technique was used to collect data for running EFA.

As the scale was developed for the adult population, therefore, participants with age ranging from 20-60 years were included in the study. Both men and women who were able to read and write and were willing to participate were included in the study. Individuals having no psychological or physiological health related complication were included as the scale is developed for the normal population. Only Muslim participants were included to measure religious aspects of Muslim population.

The sample of 273 participants men (n = 150) and women (n = 123) age ranged from 20-60 years (M = 31.17, SD = 8.01) were selected to participate in the study. Majority of the participants that is 112 (41.4%) had 16 years of education, while 87(31.1%) participants had 14 years of education, 27(10.3%) participants had 12 years of education, and 8(2.9%) participants had 10 years of education. The rest 32(11.7%) participants had 18 years and 7(2.6%) participants had above 18 years of education. The sample comprised of 132(48.4%) unmarried, 136(49.8%) married, 4(1.5%) divorced, and 1(0.4%) widowed participants. In this study, 20(7.3%) participants were self-employed and were running their own business. Participants in government service were 38(13.9%), Private sector job employed

were 169(60.8%) participants, Postgraduate students were 14(5.5%) in number, and housewives or unemployed were 32(12.5%) participants.

Procedure. Consent was taken from the authorities and participants to participate in the study. They were assured of confidentiality and the PES was administered on the sample selected. Data were collected individually from participants. It was then analyzed using SPSS 23 version.

Results. To examine the factor structure, EFA was performed by using SPSS 23 version. Initially, the factorability of preliminary 33 items was examined. Several well-recognized criteria were adopted for the factorability of the items. The items were measured on 5-point Likert scale with 1 = *strongly disagree* to 5 = *strongly agree*. For dimensionality of PES, principal components analysis with varimax rotation was employed. The Kaiser-Meyer-Olkin measure of sampling adequacy was .78 and Bartlett's test of sphericity was significant $\chi^2(528) = 5283.61$, $p < .001$) which specify that the correlations between items were sufficiently large for running principal component analysis. Next, the communalities were all above .30; further confirming that each item shared some common variance with other items. Given these overall indicators, factor analysis was deemed to be suitable with all 33 items.

Initial Eigen values indicated that the first ten factors explained 17.23%, 12.41%, 10.77%, 6.62%, 6.42%, 5.58%, 5.34%, 4.09%, 3.69%, and 3.14% of the variance, respectively. The eleventh, twelfth… fortieth factors had Eigen values below one. Consequently, ten components in the final analysis were retained. A total of 3 items (i.e. 4, 6, & 28) are eliminated because they do not contribute to a simple factor structure and has cross-loading (see Table 1). However, item 4 has .58 factors loading, but it is removed as in researchers' opinion it is not theoretically related to the construct. Therefore, these three items are not included in the final scale. As a result, 30 items are kept in the scale (see Table 1). All remaining items have factor loading above .40 in respective factor (Stevens, 1992). All the items of PES significantly correlate with the total score on PES. All correlation values range between .53-.88 at $p < 01$. All the values are found to be significant as these are above .30 (Nunnally, 1994).

The Positive Emotions Scale (PES; Final Version)

The final scale comprised of 30 items and it has ten factors with three items measuring each factor. The items were selected based upon acceptable factor loadings (see Table 1).

Table 1

Factor Loadings of Items Along Ten Factors of PES (N = 273)

Sr.No.	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
1	.12	.10	.04	.15	-.09	**.81**	-.01	-.03	.08	-.06
2	.12	-.00	.02	.13	-.01	**.82**	-.04	-.04	-.03	.03
3	.09	-.07	.03	.12	.07	**.87**	.00	.01	-.05	.00
4	.26	.15	.58	.10	.17	.07	.01	-.04	.09	-.01
5	.30	-.04	.07	**.81**	-.03	.20	-.01	-.08	.07	-.02
6	.47	-.01	.53	-.03	.00	.15	-.03	.13	-.04	-.01
7	.14	.01	.03	**.85**	.03	.15	-.08	-.05	-.11	.06
8	.25	-.03	.02	**.88**	.01	.12	-.01	-.02	.04	.05
9	**.93**	.02	.09	.23	-.00	.11	-.02	-.02	.04	.07
10	**.92**	.03	.09	.25	.02	.14	-.00	-.04	.06	.08
11	**.93**	.03	.08	.19	-.02	.13	-.01	-.05	.02	.06
12	.05	.05	.34	.07	-.06	.08	.05	.00	.03	**.70**
13	.24	.10	.24	.14	-.00	-.09	-.02	-.00	-.04	**.73**
14	-.02	-.10	.14	-.07	.02	-.02	.07	.01	.03	**.82**
15	.01	.04	**.85**	.09	-.01	.07	-.04	.06	-.05	.26
16	.12	.00	**.90**	.05	.00	.04	-.04	-.01	.04	.19
17	.11	-.05	**.89**	-.03	.05	-.02	.02	.00	-.07	.19
18	-.03	-.03	-.04	-.01	-.07	-.05	.06	**.80**	.05	.05
19	-.01	-.11	.04	-.15	-.12	-.02	-.04	**.80**	-.01	-.20
20	-.07	-.03	.05	.01	-.12	.02	.05	**.84**	-.11	.04
21	-.06	.22	.01	-.02	**.85**	.01	.01	-.13	.02	.00
22	-.05	.23	.06	-.03	**.84**	-.02	-.01	-.06	-.02	-.05
23	.10	.19	-.04	.07	**.80**	-.02	-.08	-.15	.11	.01
24	.03	.01	-.06	-.08	.03	.16	.05	.17	**.77**	.08
25	.05	-.01	.04	.02	.04	-.03	.01	-.05	**.87**	.02
26	.02	-.12	-.04	.04	.03	-.12	-.06	-.16	**.72**	-.06
27	.01	**.89**	-.03	.04	.25	.05	-.06	-.09	-.04	.01
28	.54	.02	.49	.06	.19	-.14	-.08	.05	.01	-.07
29	.04	**.92**	.02	-.10	.21	-.02	-.03	-.04	-.03	.03
30	.02	**.92**	.00	.02	.20	.01	-.03	-.06	-.06	-.02
31	-.03	-.08	-.08	-.02	.03	-.03	**.82**	.09	-.02	.02
32	-.02	-.04	.01	-.02	-.03	-.05	**.86**	-.00	.06	.08
33	.02	.02	.03	-.05	-.08	.04	**.86**	-.01	-.04	-.01

Note. Rotation converged to 7 iteration.

The description of each factor explained in Table 1 is as follows.

Factor 1: Gratitude towards God. The first factor is a unique characteristic of this scale and is not measured as a separate factor in any other existing scales for emotions with other positive emotions. It was labeled as gratitude towards God. It has all the items that measure

individual's gratitude towards God and His blessings (e.g., *I am grateful to my God; when good things happen to me I thank my God for his blessings*). It includes 3 items (9, 10, & 11) which accounted for 16.74% of variance.

Factor 2: Satisfaction. Total 3 items (27, 29, & 30) emerged to have high loadings in this factor. It has all the items measuring satisfaction with life (e.g., *the condition of my life is good; I am satisfied with my life*).

Factor 3: Inspiration. The third factor accounted for 10.25% of variance. Three items (15, 16, & 17) including the experience of inspiration, to take initiative, and the frequency of inspiration are measured (e.g., *I am often inspired to do something*).

Factor 4: Gratitude. The factor number 4 included all the items measuring gratitude in general and towards people (e.g., *I am grateful to a lot of people*). The highly loaded items were 3 (5, 7, & 8). It accounted for 7.27% of variance.

Factor 5: Compassion. Factor 5 included 3 items (21, 22, & 23) measuring compassion. It included items measuring compassion for people who are strangers, compassion for poor people, and feeling pity for people in need (e.g., *I tend to feel compassion for people, even though I do not know* them). This factor accounted for 7.05% of variance.

Factor 6: Hope. It included all items measuring hope about the future and facing a challenging situation (e.g., *There a lot of ways of solving the problem I am facing*). There were 3 items (1, 2, & 3) included in this factor which have high factor loading in it. It accounted for 6.09% of variance.

Factor 7: Joy. The seventh factor included 3 items (31, 32, & 33). It included all items having high loadings in this factor that were measuring frequency and experience of joy (e.g., *I often experience burst of joy*). It accounted for 5.75% of variance.

Factor 8: Humor. The next factor was labeled as humor as it included all items measuring the sense of humor, ability of making, and understanding jokes (e.g., *I find humor in almost everything*). Total 3 items (18, 19, & 20) were included, which have high loading in it.

Factor 9: Awe. The ninth factor included items to measure one of the unique positive emotions which was named awe. It has 3 items (24, 25, & 26). It included items measuring the feeling of awe, feeling of wonder, seeing beauty around the self, and seeking experiences that can induce the feeling of awe (e.g., *I see beauty all around me*).

Factor 10: Love. The last factor that appeared was named love. It is one of the strong positive emotions. It included 3 items (12, 13 & 14) all measuring the emotion of love and trust (e.g., *I find it easy to trust others*). It accounted for 3.36% of variance.

Phase II: Establishing Psychometric Properties of PES

The aim of this phase was to establish the psychometric properties of PES. It was conducted in the following two stages.

1. Confirmatory Factor Analysis.
2. Convergent and Discriminant Validity.

Confirmatory factor analysis (CFA). In this section of the study, the 30 items with 10 factors explored through EFA were analyzed using CFA to confirm the factor structure of the measurement model of PES. The aim of the study was to confirm dimensionality and factor structure of the scale; analysis was done through AMOS 22.

Sample. Cross-sectional research design was used to conduct the study and convenience sampling technique was used to select the sample. Participants' age ranged 20-60 years were included as the scale is developed for normal adult population. Participants who were able to read and write were included in the study so they could read and understand the instructions. Participants having any kind of psychological or physiological disease related complication were not included in the study as the scale is developed for normal population.

The sample size was selected according to the criteria of 5 respondents per item if there are ten parameters (Hoyle, 1995). According to this criterion, 150 was an adequate sample size. The sample of the present study consisted of 174 men and women. Where men were 36.8% (n = 64) and women were 63.3% (n = 110). The sample consisted of only adult population. The sample age ranged from 20-60 years (M = 29.02, SD = 9.18).

Instruments. Along final version of PES, Positive and Negative Affect Schedule (PANAS) (Watson et al., 1988) was also administered to determine convergent and discriminant validity of PES. The PANAS is one of the widely used valid measures to assess affect. The PANAS is composed of two separate scales that measure the positive and negative affect of the individual and gives a separate score for positive affect (PA) and negative affect (NA). The PA and NA have been proved to be two different and opposite dimensions of

affect (Watson et al., 1988). This scale was selected to measure the convergent and discriminant validity of PES.

The high scores in depression scale of Depression Anxiety Stress Scale (DASS-21) have shown association with low scores of PA proving that PA is an opposite construct. Secondly the stress scale DASS has shown significantly high correlation with NA proving that it is a similar construct (Henry & Crawford, 2005). Therefore, PANAS was selected in the present study to develop the convergent and discriminant validity of PES. The PANAS is a 20 items scale, 10 items (1, 3, 5, 9, 10, 12, 14, 16, 17, 19) measure PA and 10 items (2, 4, 6, 7, 8, 11, 13, 15, 18, 20) measure NA.

It uses 5-point scale of response categories. These responses range from 1 = *not at all* to 5 = *extremely*. It can be used with two different types of instructions that is momentary (M = 29.7, SD = 7.9) and weekly (M = 33.3, SD = 7.2). The higher score on PA shows higher level of positive affect and the higher score on NA reflects higher negative affect. The validity and reliability of the scale is moderately good with Cronbach alpha for PA ranging from .86 - .90 and for NA from .84 - .87 (Watson et al., 1988). The Udru translated version (Rasheed, 2012) with good reliabilities of PA (α =.81) and NA (α =.80) was used in the present study.

Procedure. Permission for the use of PANAS (Watson et al., 1988) was taken from the original author as well as the local author (Rasheed, 2012) for the use of Urdu translated version of PANAS. The data were collected through purposive sampling technique. Consent was taken from the participants for data collection and they were assured of the confidentiality of the data shared. The participants (N =174) were presented with PES and the PANAS**.** All the other research requirements and ethics were followed. Participants were assured of the confidentiality of the material shared. The scale was administered individually. Each participant took 20-30 minute in filling the questionnaire. Total 200 forms were distributed out of these 174 were returned.

Results. The factor structure of the PES was analyzed to describe the model fit indices with χ^2 = 614.07, df (360). The measurement model (10 factor) has best fit indices to the data set, that is $\chi^2/(df)$ = 1.71, *TLI* = .93, *IFI* = .94, *CFI* = .94, *RMSEA* = 0.06, *RMR* = 0.05; all of these indices surpass the satisfactory limit of ($\chi^2/(df) < 3$,*CFI* > .90, *TLI* > .90, *IFI* > .90, *RMSEA* < 0.08, and *SRMR* < 0.05 (Hu & Bentler, 1999).

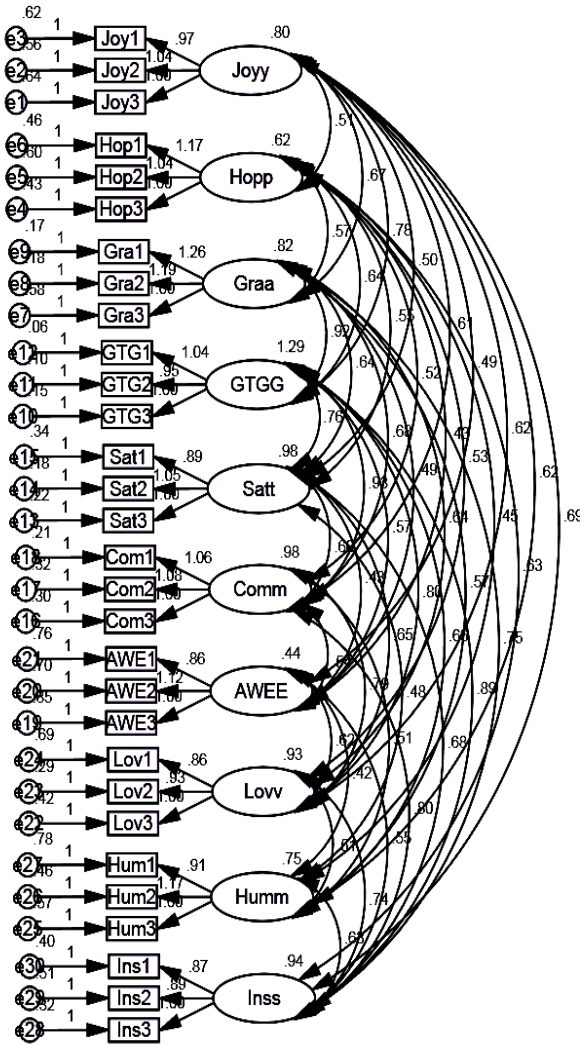

Figure 1. Measurement model of PES.

The Figure 1 shows the factor loadings of items achieved through CFA. The final good fit CFA model comprised of 30 items with 10 factors. Hence, the factor structure developed through EFA was confirmed by applying CFA. Figure 1 reflects the factor loadings of each indicator and regression weights of co variances.

Table 2

Interscale Correlations of 10 Subscales of Positive Emotion Scale (N=174)

	Factors	1	2	3	4	5	6	7	8	9	10	11
1	PES	-	.79	.80	.88	.88	.76	.84	.76	.82	.72	.87
2	Joy		-	.59	.69	.68	.49	.59	.57	.59	.62	.65
3	Hope			-	.71	.65	.63	.58	.58	.58	.53	.69
4	Gratitude				-	.83	.66	.69	.62	.63	.58	.73
5	Gratitude Towards God					-	.64	.78	.59	.66	.57	.72
6	Satisfaction						-	.56	.49	.63	.48	.63
7	Compassion							-	.63	.72	.51	.74
8	Awe								-	.71	.50	.64
9	Love									-	.49	.68
10	Humor										-	.62
11	Inspiration											-

Note. All values are significant at $p < .01$; PES = Positive Emotion Scale.

The results in Table 2 reveal that there is a strong positive correlation between PES and its subscales. The total score of PES are highly correlated with its all 10 subscales. The reason for this high correlation is that all the subscales of positive emotions are measuring one or another positive emotion (Raykov & Marcoulides, 2011; Piedmont, 2014), however, the intercorrelation among subscales is between .49 and .83 at $p < .01$. The correlation matrix demonstrates its internal consistency (Nunnally, 1994).

Table 3

Alpha Reliabilities, Means, and Standard Deviations on PES and Its Subscales (N = 174)

					Range	
Measures	*k*	*M*	*SD*	α	Actual	Potential
PES Total	30	114.06	24.6	.96	31-146	30-150
Inspiration	3	11.75	2.91	.85	3-15	3-15
Gratitude Towards God	3	13.37	3.44	.97	3-15	3-15
Love	3	11.45	2.94	.83	3-15	3-15
Satisfaction	3	10.85	3.05	.92	3-15	3-15
Gratitude	3	12.51	3.30	.91	3-15	3-15
Hope	3	10.86	7.90	.81	3-15	3-15
Compassion	3	11.75	3.24	.92	3-15	3-15
Joy	3	10.50	3.02	.80	3-15	3-15
Humor	3	10.33	3.01	.80	3-15	3-15
Awe	3	10.71	2.51	.73	3-15	3-15

PES = Positive Emotion Scale.

Table 3 shows that the alpha values of PES and its subscales are satisfactory. The results show that the scale has strong internal consistency.

The second step of Phase II was establishing scale's validity. The aim was to validate PES so it could be applied in the practical settings to measure individual's positive emotions. For this reason, the scale's convergent and discriminant validity was explored. It was hypothesized that the scores of PES will converge with the PA and discriminate with NA scores on PANAS (Watson et al., 1988).

Multicollinearity was tested through tolerance test and Variance Inflation Factor (VIF) Tolerance value should not be < 0.1 and VIF (opposite of tolerance) should not be > 10 (Fox, 1991). In this study tolerance values of all our measures such as PES (.226), PA (.920), and NA (.812) was greater than 0.10 which suggests that there was no multicollinearity in data (Pallant, 2020). Correspondingly, VIF (opposite of tolerance) value of all the measures that is PES (4.43), NA (1.08), and PA (1.23) was less than 10 which also suggest that there was no issue of multicollinearity.

Analysis was performed to ensure the robustness of the scale and to establish the convergent and discriminant validity of the proposed PES with similar and related scale PA and NA of PANAS. According to Lyubomirsky and Lepper (1999), discriminant validity is not suitable for validation of psychological scales; nevertheless, this technique is still in practice for establishing the robustness of proposed scales. The results demonstrated that none of these constructs had significant association with our PES and it stands out as a distinct scale.

Table 4

Overall Reliability and Validity of the Construct (N=174)

	CR	AVE	MSV	PES	PA	NA
PES	.97	.51	.46	**.71**		
PA	.80	.45	.13	.17	**.67**	
NA	.82	.53	.07	-.20	-.22	**.73**

Note. Values of squared root estimate of AVE are boldfaced. AVE = Average Variance Extracted; MSV = Maximum Shared Variance; CR = Composite Reliability; PES = Positive Emotional Scale; PA = Positives Effect; NA = Negative Affect.

Convergent and discriminant validity. Further, convergent and discriminant validity is also assessed through CFA. Fornell and Larcker (1981)'s criteria for validity evaluation is followed for this purpose. CR and AVE are used for evaluation of convergent validity.

Values of composite reliability of all constructs, that is PES (.97), PA (.80), and NA (.82) are more than .70.

Additionally, the AVE values of PES (.51) and NA (.53) are closer and greater than and 0.50 except the AVE value of PA (.45) which is less than 0.50. This construct is not combined into another construct because according to Fornell and Larcker (1981) if the value of AVE is < .5, but its CR is > .7, then we can accept the .4 AVE value. In this study, CR of PA is greater than 0.7 this means that the convergent validity of PA was adequate, thus, fulfilling the concept of convergent validity. Similarly, discriminant validity is also supported as the square root value of AVE for all the measures that is PES (.71), PA (.67), and NA (.73) are greater than their matching squared correlation (Fornell & Larcker, 1981). Thus, the criteria for both convergent and discriminant validity are maintained.

Discussion

The present study was aimed to develop an indigenous psychometric tool to measure positive emotions in Pakistani population. The already available scales measured positive emotions separately in different scales (Shiota et al., 2006). In that context, the total score of positive emotions could only be generated by applying all lengthy questionnaires (Hills & Argyle, 2002; Lyubomirsky & Lepper, 1999) and then calculating their scores. There are cultural and religious differences in the expression of positive emotions (Argyle, 2013). Experience and expression of emotions is a domain that differs from one culture to another culture. There are variations in the cultural patterns of sadness and happiness. The importance of religion and culture has also been emphasized in measuring emotions (Emmons & Paloutzian, 2003; Lee, Lin, Huang, & Fredrickson, 2013). Therefore, to cater the need of Pakistani population, it was important to develop an instrument to measure positive emotions.

The factor analysis revealed that 30 out of 33 items cluster into ten well defined domains named, Joy, Hope, Gratitude, Inspiration, Love, Humor, Awe, Compassion, and Gratitude towards God. A total of 3 items (i.e. 4, 6, & 28) were eliminated because they did not contribute to a simple factor structure and had cross-loading. However, item 4 had .58 factor loading but it was removed as in researcher's opinion it was not theoretically related to the construct. All remaining items had factor loading fairly above .40 (Stevens, 1992; Ejaz, Muazzam, Anjum, Pollock, & Nawaz, 2020). Therefore, all the remaining items were kept in the scale according to the given criteria.

The concept of positive emotion in the present study was based on the broaden-and-build theory of positive emotion (Fredrickson, 2013). Semi-structured interviews and focus group discussions revealed that there are certain positive emotions like Gratitude towards God which are experienced in Pakistani population, but it has never been explored by other researchers which may stand out as a different dimension of positive emotion in Pakistani population. Most of the previously developed scales do not measure gratitude towards God (Hills & Argyle, 2002; Hwang et al., 2008; Lyubomirsky & Lepper, 1999; Sprecher & Fehr, 2005). Gratitude towards God has been measured in a Christian study (Krause, 2006) that excluded Muslim population from the sample. Therefore, the PES was developed for Pakistani population to measure its unique positive emotions like gratitude towards God.

The construct of hope and inspiration is also different in Islam and is perceived by Muslim population in a different manner than people belonging from other cultures and religions. Hope, inspiration, and compassion are important components of religion Islam and stand out as strong positive emotions in Pakistani population, which is depicted by the present study results. Therefore, this study was conducted to develop and validate a comprehensive scale to measure positive emotions of Pakistani population in Urdu language in their religious and cultural context.

Inspiration also signified spiritual aspect that is taking inspiration from the divine force, which stand out as a unique factor in our population. Hope is taken as part of the belief on Allah in Pakistani population. Religion is considered incomplete without hope. Therefore, it stands out as a unique dimension for Pakistani population (Shamim & Muazzam, 2018). Compassion seems to be embedded in Pakistani culture as the religion emphasize upon helping others in the form of *zakat* or *khairat* [giving in the name of Allah] or being kind to mankind and animals. Awe was found to be experienced by seeing something greater than the self that can be the Divine force (Allah). The concept of awe also seems to be different in Pakistani culture from other cultures, which makes the scale different from other measures.

This scale attempts to measure all positive emotions using one single scale which makes it less time consuming. Instead of using different scales for measuring different positive emotions and then comparing and computing all, now psychologists can use only PES to assess positive emotions. The total raw score can be calculated to take a complete look of how much positive emotions an individual is experiencing, and the scores along subscales can also be calculated

separately to see every subscales' relation to the other variables. Higher scores show high positive emotions and lower scores depict low positive emotions.

In order to confirm the factor structure and dimensionality of the scale CFA was run. The results demonstrated that the measurement model proved to be the best fit model for the scale with acceptable model fit indices that surpass the satisfactory limits of all required indris. (Hu & Bentler, 1999) The final scale comprised of 30 items with 10 well defined factors. Hence, the factor structure developed through EFA was confirmed by applying CFA (Ahmad, Muazzam, Anjum, Visvizi, & Nawaz, 2020; Anjum, Muazzam, Manzoor, Visvizi, & Nawaz, 2019).

To further establish psychometric properties, alpha reliability of the scale and its subscales was measured. The Alpha reliability of PES ranged between .73 - .97. As most of the emotions were overlapping in different constructs, therefore, only items fitting into one factor were retained that has resulted in high alpha reliability. The subscales show significantly high correlation with each other and the total score of PES, hence, are measuring the same construct (Nunnally, 1994).

The scale was validated using PANAS (Watson et al., 1988). The convergent and discriminant validity was successfully established by taking composite reliability and average variance extracted (Fornell & Larcker, 1981). The results demonstrated that none of these constructs (PA & NA) had significant association with the PES. PES stands out as a distinct scale.

Limitations and Recommendations

A valid and reliable scale was developed in the present study yet there are certain limitations. Purposive sampling technique was used to collect data. For future selecting a random sample is recommended. Secondly, as this study is a part of a larger study, therefore, the sample for EFA and CFA was taken from one city only, and hence, ignores all the other provinces. For the representation of all provinces, data comprising of all provinces of Pakistan should be included. Although EFA and CFA was applied to establish the internal structure of the scale, still there is need to replicate factor structure with other samples to establish the psychometric characteristics of PES. The scale is unique as it measures the religious and cultural aspect of positive emotion. Hence, this scale is in Urdu language for the measurement of positive emotion for Pakistani population. It can be translated in other languages too. It can be used in all applied areas, like education,

health (Shamim & Muazzam, 2018), clinical, social, and occupational settings.

Conclusion and Implications

The study provides an indigenous, quantitative, comprehensive, and less time-consuming scale for measuring positive emotions of Pakistani population. The scale has been developed catering the religious and cultural aspects of Pakistani population The Positive Emotions Scale can be used for measuring people's positive emotions in their social, intellectual, cultural, physical, psychological, occupational, and health settings. The scale can be useful in investigating the effects and outcomes of positive emotions in individual's life. The feedback of positive emotion can be used as a baseline to incorporate more positive emotions to get additional benefit from the outcomes of the positive emotions.

This valid and reliable scale can be use in all sectors and walks of life in screening individual on their positive emotions. It can also work as a feedback system for individuals as well to regulate their goals accordingly. For clinicians it can work as a base to get an idea about patient's emotions and plan intervention accordingly. As positive psychology is progressing at an advance scale, this psychometric tool can prove to be a landmark in the developmental field of Positive Psychology in Pakistan by emerging as a first tool to measure positive emotions in Pakistan in Urdu language. Positive Psychologists would be able to measure all positive emotions through one single scale. The study can be used to design positive psychology intervention to improve positive emotions to enhance the unlimited advantages produced by the experience of positive emotions. The scale can further be used in intervention-based studies.

References

Ahmad, M., Muazzam, A., Anjum, A., Visvizi, A., & Nawaz, R. (2020). Linking work-family conflict (WFC) and talent management: Insights from a developing country. *Sustainability*, *12*(7), 2861-2878. doi:10.3390 /su12072861

Algoe, S. B. (2012). Find, remind, and bind: The functions of gratitude in everyday relationships. *Social and Personality Psychology Compass*, *6*(6), 455-469.

Anjum, A., Muazzam, A., Manzoor, F., Visvizi, A., & Nawaz, R. (2019). Mediating bullying and strain in higher education institutions: The case of Pakistan. *Sustainability*, *11*(8), 2244-2255. doi:10.3390/su11082244

Argyle, M. (2013). *The psychology of happiness* (2nd ed.). London: Routledge.

Averill, J. R. (1997). The emotions: An integrative approach. In R. Hogan, J. A. Johnson, & S. R. Briggs (Eds.), *Handbook of personality psychology* (pp.513-541). USA: Academic Press. doi:10.1016/B978-012 134645-4/50022-6

Basso, M. R., Schefft, B. K., Ris, M. D., & Dember, W. N. (1996). Mood and global-local visual processing. *Journal of the International Neuropsychological Society*, *2*(3), 249-255.

Carr, A. (2011*). Positive psychology the science of happiness and human strengths*. London: Routledge.

Davis, L. L. (1992). Instrument review: Getting the most from a panel of experts. *Applied Nursing Research*, *5*(4), 194-197.

Deci, E. L., Vallerand, R. J., Pelletier, L. G., & Ryan, R. M. (1991). Motivation and education: The self-determination perspective. *Educational Psychologist*, *26*(3-4), 325-346.

Diener, E. (2009). Subjective well-being. In E. Diener (Ed.), *The science of well-being*. (pp.11-58). Dordrecht: Springer.

Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, *49*(1), 71-75.

Diener, E., Smith, H., & Fujita, F. (1995). The personality structure of affect. *Journal of Personality and Social Psychology*, *69*(1), 130-141. Retrieved from http://psycnet.apa.org/buy/1995-40425-001

Diener, E., Wirtz, D., Biswas-Diener, R., Tov, W., Kim-Prieto, C., Choi, D. W., & Oishi, S. (2009). New measures of well-being. In E. Diener (Ed.), *Assessing well-being* (pp.247-266). Dordrecht: Springer. doi:10.1007/ 978-90-481-2354-4_12

Ejaz, B., Muazzam, A., Anjum, A., Pollock, G., & Nawaz, R. (2020). Measuring the scale and scope of social anxiety among students in Pakistani higher education institutions: An alternative social anxiety scale. *Sustainability*, *12*(6), 2164-2177. doi:10.3390/su12062164

Ekman, P. (1992). An argument for basic emotions. *Cognition and Emotion*, *6*(3-4), 169-200.

Emmons, R. A., & Paloutzian, R. F. (2003). The psychology of religion. *Annual Review of Psychology*, *54*(1), 377-402.

Estrada, C. A., Isen, A. M., & Young, M. J. (1997). Positive affect integration of information and decreases anchoring in reasoning among physicians. *Organizational Behavior and Human Decision Processes*, *72* (1), 117-135.

Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of Marketing Research*, *18*(3), 382-388.

Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist*, *56*(3), 218-226.

Fredrickson, B. L. (2013). Positive emotions broaden and build. In P. Devine, & A. Plant (Eds.), *Advances in experimental social psychology* (Vol. 47, pp.1-53). USA: Academic Press.

Fredrickson, B. L., & Branigan, C. (2005). Positive emotions broaden the scope of attention and thought-action repertoires. *Cognition and Emotion*, *19*(3), 313-332.

Fredrickson, B. L., & Joiner, T. (2002). Positive emotions trigger upward spirals toward emotional well-being. *Psychological Science*, *13*(2), 172-175.

Fredrickson, B. L., & Kahneman, D. (1993). Duration neglect in retrospective evaluations of affective episodes. *Journal of Personality and Social Psychology*, *65*(1), 45-55.

Fredrickson, B. L., & Levenson, R. W. (1998). Positive emotions speed recovery from the cardiovascular sequelae of negative emotions. *Cognition and Emotion*, *12*(2), 191-220.

Fredrickson, B. L., Mancuso, R. A., Branigan, C., & Tugade, M. M. (2000). The undoing effect of positive emotions. *Motivation and Emotion*, *24*(4), 237-258.

Green, D. P., Goldman, S. L., & Salovey, P. (1993). Measurement error masks bipolarity in affect ratings. *Journal of Personality and Social Psychology*, *64*(6), 1029-1041.

Hart, T. (1998). Inspiration: Exploring the experience and its meaning. *Journal of Humanistic Psychology*, *38*(3), 7-35.

Hatfield, E., & Rapson, R. L. (1993). *Love, sex, and intimacy: Their psychology, biology, and history*. New York: Harper Collins College Publishers.

Haynes, S. N., Richard, D., & Kubany, E. S. (1995). Content validity in psychological assessment: A functional approach to concepts and methods. *Psychological Assessment*, *7*(3), 238-247.

Henry, J. D., & Crawford, J. R. (2005). The short-form version of the Depression Anxiety Stress Scales (DASS-21): Construct validity and normative data in a large non-clinical sample. *British Journal of Clinical Psychology*, *44*(2), 227-239.

Hills, P., & Argyle, M. (2002). The Oxford Happiness Questionnaire: A compact scale for the measurement of psychological well-being. *Personality and Individual Differences*, *33*(7), 1073-1082.

Hoyle, R. H. (1995). *Structural equation modeling: Concepts, issues, and applications*. New York: Sage Publication.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new

alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1-55.

Hwang, J. Y., Plante, T., & Lackey, K. (2008). The development of the Santa Clara Brief Compassion Scale: An abbreviation of Sprecher and Fehr's compassionate love scale. *Pastoral Psychology*, *56*(4), 421-428.

Isen, A. M., & Means, B. (1983). The influence of positive affect on decision-making strategy. *Social Cognition*, *2*(1), 18-31.

Isen, A. M., Rosenzweig, A. S., & Young, M. J. (1991). The influence of positive affect on clinical problem solving. *Medical Decision Making*, *11*(3), 221-227.

Kahneman, D., Diener, E., & Schwarz, N. (1999). *Well-being: Foundations of hedonic psychology*. New York: Russell Sage Foundation.

Krause, N. (2006). Gratitude toward God, stress, and health in late life. *Research on Aging*, *28*(2), 163-183.

Larsen, R. J., & Diener, E. (1992). *Promises and problems with the circumplex model of emotion.* In M. S. Clark (Ed.), *Review of personality and social psychology, No. 13. Emotion* (pp.25-59). New York: Sage Publications, Inc.

Lazarus, R. S. (1991). *Emotion and adaptation.* New York: Oxford University Press.

Lee, Y. C., Lin, Y. C., Huang, C. L., & Fredrickson, B. L. (2013). The construct and measurement of peace of mind. *Journal of Happiness Studies*, *14*(2), 571-590.

Lucas, R. E., Diener, E., & Larsen, R. J. (2009). Measuring positive emotions. In E. Diener E (Ed.), *Assessing well-being* (pp.139-155). Dordrecht: Springer.

Lucas, R. E., Diener, E., & Suh, E. (1996). Discriminant validity of well-being measures. *Journal of Personality and Social Psychology*, *71*(3), 616-628.

Lynn, M. R. (1986). Determination and quantification of content validity. *Nursing Research*, *35*(6), 382-385.

Lyubomirsky, S., & Lepper, H. S. (1999). A measure of subjective happiness: Preliminary reliability and construct validation. *Social Indicators Research*, *46*(2), 137-155.

McCullough, M. E., Emmons, R. A., & Tsang, J. A. (2002). The grateful disposition: A conceptual and empirical topography. *Journal of Personality and Social Psychology*, *82*(1), 112-127. doi:10.1037//0022-3514.82.1.112

Nunnally, J. C. (1994). *Psychometric theory* (3rd ed.). New York, NY: Tata McGraw-Hill Education.

Oatley, K., Keltner, D., & Jenkins, J. M. (2006). *Understanding emotions*. (2nd ed.). London: Blackwell Publishing.

Pallant, J. (2020). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS* (7th ed.). London: Routledge.

Piedmont, R. L. (2014) Inter-item correlations. In A. C. Michalos (Ed.), *Encyclopedia of quality of life and well-being research* (pp. 3303-3304). Dordrecht: Springer. doi:10.1007/978-94-007-0753-5_1493

Rand, K. L., & Cheavens, J. S. (2009). Hope theory. In S. J. Lopez, & C. R. Snyder (Eds.), *Oxford library of psychology: Oxford handbook of positive psychology* (pp.323-333). London: Oxford University Press.

Rasheed, R. (2012). *Development of an indigenous scale of meaning in life and assessment of meaning in life in relation to stress, social support and psychological wellbeing* (Unpublished Mphil thesis). Institute of Applied Psychology, University of the Punjab, Lahore, Pakistan.

Raykov, T., & Marcoulides, G. A. (2011). *Introduction to psychometric theory*. New York: Taylor & Francis.

Renninger, K. A., Hidi, S., Krapp, A., & Renninger, A. (2014). *The role of interest in learning and development*. New York: Psychology Press.

Roseman, I. J., & Smith, C. A. (2001). *Appraisal theory: Overview, assumptions, varieties, controversies.* In K. R. Scherer, A. Schorr, & T. Johnstone (Eds.), *Series in affective science. Appraisal processes in emotion: Theory, methods, research* (pp.3-19). London: Oxford University Press.

Rosenberg, E. L. (1998). Levels of analysis and the organization of affect. *Review of General Psychology*, *2*(3), 247-270.

Russell, J. A., & Barrett, L. F. (1999). Core affect, prototypical emotional episodes, and other things called emotion: Dissecting the elephant. *Journal of Personality and Social Psychology*, *76*(5), 805-819.

Schimmack, U., & Diener, E. (1997). Affect intensity: Separating intensity and frequency in repeatedly measured affect. *Journal of Personality and Social Psychology*, *73*(6), 1313-1329.

Seligman, M. E. (2004). *Authentic happiness: Using the new positive psychology to realize your potential for lasting fulfillment*. New York: Simon and Schuster.

Seligman, M. E. (2011). Flourish: A visionary new understanding of happiness and well-being. *Policy*, *27*(3), 60-61.

Shamim, A., & Muazzam, A. (2018). Positive emotions as predictors in the management of Type II Diabetes. *Pakistan Journal of Social and Clinical Psychology, 16*(2), 27-33.

Shiota, M. N., Keltner, D., & John, O. P. (2006). Positive emotion dispositions differentially associated with Big Five personality and attachment style. *The Journal of Positive Psychology*, *1*(2), 61-71.

Shiota, M. N., Keltner, D., & Mossman, A. (2007). The nature of awe: Elicitors, appraisals, and effects on self-concept. *Cognition and Emotion*, *21*(5), 944-963.

Snyder, C. R. (2000). Hypothesis: There is hope. In C. R. Snyder (Ed.), *Handbook of hope: Theory, measures, and applications* (pp.3-21). Cambridge: Academic Press.

Snyder, C. R., Harris, C., Anderson, J. R., Holleran, S. A., Irving, L. M., Sigmon, S. T., ... & Harney, P. (1991). The will and the ways: Development and validation of an individual-differences measure of hope. *Journal of Personality and Social Psychology*, *60*(4), 570-585.

Sprecher, S., & Fehr, B. (2005). Compassionate love for close others and humanity. *Journal of Social and Personal Relationships*, *22*(5), 629-651.

Stevens, J. P. (1992). *Applied multivariate statistics for the social sciences* (5th ed.). New York: Routledge.

Tellegen, A., Watson, D., & Clark, L. A. (1999). On the dimensional and hierarchical structure of affect. *Psychological Science*, *10*(4), 297-303.

Thrash, T. M., & Elliot, A. J. (2003). Inspiration as a psychological construct. *Journal of Personality and Social Psychology*, *84*(4), 871-889.

Watson, D., & Clark, L. A. (1999). *The PANAS-X: Manual for the Positive and Negative Affect Schedule - Expanded form.* Ames: The University of Iowa.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, *54*(6), 1063-1070.

Wynd, C. A., Schmidt, B., & Schaefer, M. A. (2003). Two quantitative approaches for estimating content validity. *Western Journal of Nursing Research*, *25*(5), 508-518.

Zuckerman, M., & Lubin, B. (1985). *Manual for the Multiple Affect Adjective Checklist*. San Diego: Educational and Industrial Testing Service.

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