

## Development of Fear Scale

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The present study was conducted to develop a reliable and valid indigenous scale to assess the emotional phenomena of fear. A mixed approach design was used in this study. The sample comprised university undergraduate students within the age range of 21-26 years with a mean age of 22 years and the data was gathered using purposive sampling techniques. In the first phase of this study items were generated that provoke fear among undergraduate students, for this purpose 60 students were individually interviewed regarding the fear provoking objects and situations by employing interview protocol. On the basis of these interviews Fear Scale was developed. A pilot study was completed to assess the accuracy and comprehension of the scale. In the second phase, data was gathered from 300 male and 300 female students. The construct validity was determined through Factor Analysis. This process yielded three factors which were disgust, horror and anxiety; furthermore, significant positive correlation was found between these three factors. Moreover, Fear Scale showed high internal consistency of reliability i.e. 0.89. In conclusion, this newly developed scale is a valid and reliable indigenous measure of fear among undergraduate students of both genders.

*Keywords:* Fear Scale, undergraduate students, factors, reliability, validity

Fear is one of our primary emotions; emotion can be defined as a highly personal and subjective experience with physiological, cognitive, and behavioral components (Carlson & Hatfield, 1992). Human emotions are viewed in three ways; namely, biological, psychological and social. Biologically, emotions are viewed as states of arousal involving physiological changes. Psychologically emotions are related to different feeling states and the ways in which they influence perception, thinking and behavior. Socially emotions are viewed as a universal language based on facial expressions (Coleman, 1979).

Numerous studies revealed that people belonging to different cultures experience and express their emotions in a similar manner (Izard, 1994; Matsumoto, 2001). Ekman and Friesen (1975) have found that facial expressions of our primary emotions such as anger, fear, sadness and happiness are acknowledged and labeled in a similar way in cultures throughout the world. On the contrary, researchers have also found differences in emotional expression and experience across cultures (Mesquita, 2001). Similarly, Ekman (1992) has suggested that, cultural norms determine the expressions of emotions and they vary across cultures.

Different theorists gave a different list of primary emotions. Plutchik (1980) stated that acceptance, anger, anticipation, disgust, joy, fear, sadness and surprise are our basic emotions. Izard (1977) on the other hand included anger, contempt, disgust, distress, fear, guilt, interest, joy, shame and surprise in his list of primary emotions. Fear remained part of almost every list regarding primary emotions. The word fear is derived from the Old English *faer*, which means sudden calamity or danger, and was later used to describe the ensuing emotion (Burchfield, 1956). Different theorists have provided different definitions of fear. Marks (1969) have described fear as follows: "Fear is a normal response to an active or

imagined threat in higher animals, and comprises an outer behavioral expression, an inner feeling, and accompanying physiological changes" (p.1). Ollendick has stated that: "Nearly every child experiences some degree of fear during his emergence from childhood to adulthood. While such fears vary in intensity and duration, they are usually mild, age-specific, and transitory" (1979, p.127).

Fear can also be described as an innate response experienced by every human being. Even the bravest persons face fears at some point in their life even though they may not like to remember those experiences. Their fears limit them in different ways, sometimes in small ways and sometimes in ways so large that they are imprisoned by them. Embarrassment allied with these fears restrains individuals from talking about them, discovering or even mastering them and this is how they are confined in fears forever (Agras, 1985). However, fear and moderate levels of anxiety also serve an adaptive function (Manyande et al., 1992). Fear is largely based on the perception of possible harm from object, entity, or situation (Oatley & Jenkins, 1996) and different levels of knowledge translate it into different fear experiences (Sayfan & Lagattuta, 2008).

Fear comprises subjective feeling of terror, strong motivation for behavior (either fight or flight) and physiological response. It is difficult to define emotions like fear but most theorists agree that it is an action tendency (Lang, Bradley, & Cuthbert, 1998); according to them it is a tendency to behave in a predefined way, elicited by some external threat and a feeling of dread accompanied by physiological changes (Gross, 1999). Fear can be conceptualized on more than one response dimension. An analysis of the concept of fear was presented by Kenny (1963, p.67). "He stated that: Firstly, there are fearful situations in the human environment-dangerous and threatening objects. Secondly, there are symptoms of fear such as physiological changes. Finally, there is an action towards the object: intelligent, intentional actions. In an ideal case all three criteria can be identified and "fear" can be applied as a suitable classification."

Terms of fear and phobias are commonly used interchangeably. However, researchers have tried to differentiate between the two on

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the basis of their magnitude, persistence and maladaptive-ness (King, Hamilton & Ollendick, 1995). The distinction between the two at times is questioned. Carr (1979) has argued that pathology lies in the degree to which the individual's response disturbs the processes that are functionally important. The pathology arises when the reaction hamper lifestyle of the individual and his family. He further stated that the terms fear and phobia are used very loosely, and sometimes treated as being nearly synonymous.

Fear is considered as an in born emotion however, it gradually evolves and changes with age, experience and knowledge. It is one of the four basic emotions children experience, express, and identify in others from very early in life (Ekman, Sorenson, & Frisen, 1969). During early infancy fear is generated by some sudden stimulation such as loud noise (H. Bakwin & Bakwin, 1954). At the age of 7-8 months; fear of strangers emerges which peaks around the age of 18 months (Lask, Taylor & Nunn, 2003). Around the age of 3 years mostly children exhibit fears of bodily injury, pain, natural phenomena, darkness, and animals. When they reach preschool years, children begin to fear imaginary creatures which typically diminish considerably by school-age (Muris & Merckelbach, 2000). During school age fear of failure and humiliation emerges. Around the age of 6 to 11 years fear regarding embarrassment, illness, parent's death, failing at a task, losing control, fear regarding teachers and being teased at school emerges (Lask, Taylor & Nunn, 2003). During adolescence, fears regarding economic status of family, socioeconomic trends, war and so forth emerge (H. Bakwin & Bakwin, 1954). Further, Lask, Taylor and Nunn (2003) suggested that along with these fears; fear of specific social settings and fear of failing to appear and behave appropriately also emerges during adolescence. However, the extent to which these fears dominate at each stage of development depends on the temperament, level of understanding, life experiences etc. They have further stated that separation anxiety begins in the preschool years, animal phobias in early childhood, performance anxiety in late childhood, and social anxiety in adolescence.

There are different objects that provoke fear among various age groups. For instance Hagman (1932) has found that the objects most feared by children in rank order were dogs, doctors, storms, deep water and darkness. In another study A. T. Jersild, Markey and Jersild (1933) found fear provoking categories relating to being alone, bodily injury and physical danger, and animals. Similarly, Croake (1967) found categories of animals, future, supernatural phenomena, natural phenomena, personal relations, school, personal appearance, home, safety, and political fears. On the whole, predominant categories emerged in previous studies were supernatural and natural phenomena, bodily injury, personal relations, school, economic and political situations, animals, physical danger.

There are diversities as well as similarities between the objects that provoke fear among different cultures. As Hallowell (1938) has stated that fears are based on the individual's interaction with his cultural surroundings and culture also determine the situations that generate fear in an individual. Russell (1967) has reported factor solutions for adolescents and adults that lead to factors such as; disability, cold war, animals, the macabre (e.g., ghosts, snakes, darkness), social alienation (e.g., being wrong), religion-superstition and rational dangers. However, Schere and Nakamura (1968) in their research found eight factor subscales such as fear of failure or

criticism, medical fears, fear of death, home-school fears, etc. Arrindell, Pickersgill, Merckelbach, Ardon and Cornet (1991) have reviewed 25 studies and all consisted adult samples (). They have reported that over 90% of the first-order factors identified in these studies could be assigned to one of four major categories which are: (1) interpersonal events or situations, (2) death, injuries, illness, blood, and surgical procedures, (3) animals, and (4) agoraphobic fears. However, most of the previous researches are carried out on one type of fear. Similarly in Pakistan only one published research was carried on fear by Khatoon and Parveen (2009) which was based on one type of fear i.e. fear of examination, which demonstrated that fear of examination affects academic performance of students during exam. Though, there is only one unpublished research in Pakistan which has targeted children to find out the objects that provoke fear among that specific age group by Farooqi (2007) and also to determine the cross cultural similarities and differences regarding fear. Its findings also showed the existence of cultural difference in experiencing fear. So far, we have no data regarding the fear among our undergraduate students. Thus, one of the purposes of the present study was to find out whether this cultural difference prevails in another age group belonging to our culture and to find out the objects and situations that provoke fear among our undergraduate students.

Previous studies have demonstrated that individual experience multiple fears. MacFarlane, Allen and Honzik (1954) conducted a longitudinal research and found that 90% of children had a specific fear at least once during the first 14 years of their lives. Similarly, Ollendick (1983) found an average of 11 fears for children aged 8 to 11 years. In another study conducted by Ollendick, Matson and Helsel (1985) of 126 children and adolescents between 7 and 18 years of age, found that average number of fears across gender and age was around 13. Similarly in Burlington study Agras (1985) found that on the average each person reported seven fears. Through our discussion we can see that most individuals report experiencing multiple fears. So, one of the purposes of the current study is to find out whether undergraduate students also report experiencing multiple fears and how frequently these fears are experienced.

There are different theoretical perspectives and each defines fear differently. Evolutionary theories postulate that we are still living in the bodies of our ancestors and quick response to sudden stimulus was essential for survival in past is still useful today (Barlow & Durand, 2002). Psychoanalytic theories propose that fears are symptomatic of underlying conflicts. They suggest that fears develop due to a failure of the normal repression defense against the conflict of unresolved oedipal situation and fear acts as a defense against repressed id impulses (Freud, 1963). Whereas the behavioral perspective proposes that an individual's fears are learned behaviors and outcomes of traumatic and non-traumatic experiences (Armfield, 2006).

Contemporary perspective states that maladaptive cognitions play a significant role in maintenance of fear (Beck & Emery, 1985). Armfield (2006) proposed a cognitive vulnerability model which states that fear provoking stimulus automatically and unconsciously triggers its respective vulnerability schemas. After their activation two parallel processes occur; firstly, a rapid automatic affective reaction occurs which may lead to an immediate fear response by an individual. The second process is a comparatively slower cognitive

evaluation of various other aspects. This process leads to a reaction on three levels which are: cognitive response, a physiological response, and a behavioral response.

According to the biological model, fear runs in families like other psychological problems. Studies conducted in the 1930's found that fearful mothers have a propensity to have fearful children and they shared same kind of fears as their mothers. Twin studies have also played important role in establishing the genetic basis of fear development (Fyer, 2000).

Different types of assessment strategies are used to assess fear. Currently, checklists and rating forms, interviews, self-reports, observation, self-monitoring, traditional standardized instruments, and physiological instruments are all used for the assessment purpose. With the passage of time the assessment techniques and methodologies used for fear assessment have improved remarkably. The most common method used for fear assessment is to obtain self-reports by employing fear survey schedule (Gullone, 1999). The sample's age determines the methodology that can be used for data collection (King, Hamilton, & Ollendick, 1988).

Direct observation is the only method that can be employed if a researcher wants to collect data from preschool or elementary school children (Barton & Ascione, 1984). Campbell (1986) has criticized that findings generated by observation method are unreliable due to possible observer bias. Further, Miller, Barrett and Hampe (1974) stated that it is preferable to obtain self-report data for improved validity when focusing on the fears of older children or adolescents. As the target population of this research is undergraduate students so we have also employed self-report method for collecting data regarding their fears as it is considered as the most valid method for collecting data from adolescents and adults.

Another method for acquiring information regarding fear is the interview method. Interviews range from extremely structured to un-structured ones and have the advantage of providing detailed information (Nietzel, Berstein, & Russell, 1988). However, both types of interview methods were criticized. Abrahamson (1983) stated that interviewer expectations can influence responses which are referred as "expectancy effects". Interview studies are also considered as more costly and time consuming as compared to questionnaire-based studies.

The most commonly used physiological measures in fear research are electromyography, cardiovascular measure and electro-dermal measures. Barlow and Wolfe (1981) have criticized this method of assessing fear and pointed that there is a large imbalance between the extensive cost, of gathering such information, and its relative yield. They can also be influenced by extraneous factors (Werry, 1986).

Self-report fear lists are another method of collecting data regarding fear. However, data collected through this method can be biased by a variety of factors like: social desirability responding, demand characteristics of the assessment situation etc. (Hersen & Barlow, 1976).

The widely used tool for fear assessment is Fear Survey Schedule (FSS) due to its numerous advantages such as it is easy, convenient, and inexpensive to administer. Great deal of information can be obtained in a short time period. It is scored objectively so minimizes the possible assessor bias. It can measure a large variety of fear stimuli and data gathered is easy to quantify. Data gathered through

this method are comparable across different subject groups (Jensen & Haynes, 1986). Kendall and Hollon (1979) stated that now more emphasis is placed on this form of assessment. Many different self-report measures have been used in assessment of children, adolescence and adults fears and related problems. Some of them are discussed below:

Several fear scales were researched since the 1950's. The first of these was developed by Akutagwa (1956). However, it was used in only one published study by Lang and Lazovik (1963). In 1965, Geer published the second fear survey schedule (FSS-II) based on the first scale by Akutagwa. Wolpe and Lange (1964) published the third Fear Survey Schedule. This was revised and extended in 1969 by Wolpe and Lange.

Researchers have also developed numerous other self-reported scales which measure specific fears. Some of them are: Spider Questionnaire (Klorman, Hastings, Weerts, Melamed & Lang, 1974), Fear Questionnaire developed by Marks and Mathews (1979). Along with these there are numerous scales that are used to assess fears among adolescence and adults now days. With its vast usage and advantages, however, this procedure also has some disadvantages as well. Gullone and Lane (1997) argued that as with other self-report techniques data gathered through this method can be confounded by factors such as socially desirable responding etc.

So far, there is no scale to measure the intensity and frequency of fears in the Pakistani national. We mostly use foreign scales which have no normative data regarding our population. So, the results gained from such scales are not entirely reliable. This research will provide us with the scale that will be in the Pakistani national language and can be used on a specific age group belonging to our culture. As fear is one of our basic emotions and can lead to other negative emotions, like: anxiety, phobia, depression etc. this scale will be helpful in assessing the intensity of fear. This scale can also be used by campus counselors as well as clinical psychologists. It can also serve as a pre and post assessment tool to assess the efficacy of therapeutic intervention applied. The findings of this research can also serve as the basis of other research work.

## Objective

The main objectives of this study are:

1. To find out the objects that are fear provoking for Pakistani undergraduate students.
2. To develop a reliable and valid indigenous fear scale.

## Method

The study focused on developing a fear scale and it comprised two phases. The sample was gathered by employing a purposive sampling technique and it consisted of university undergraduate students from both genders equally. However, according to the requirement of each phase sample number differed which are described separately.

### Phase I: Item Generation

In order to generate the lists of objects and situations that induce fear among undergraduate students a semi-structured interview

protocol was developed initially. It was developed and refined by interviewing five male and five female undergraduate students. In the next step 30 boys and 30 girls belonging to the same class year were individually interviewed by employing interview protocol in order to find out the objects they fear. Initially during the interview rapport was developed by asking informal questions and afterwards an interview protocol that was focused on gathering pertinent information about the fear provoking objects among students was used. The interview was closed on an informal discussion based on informal questions asked in the beginning of an interview. This procedure was followed because the topic of the research was linked with a very emotionally charged area of the individual, so to minimize its effects and also to develop such relationship in which the individual can comfortably describe fearful objects, these questions were asked. On the basis of these interviews, a pool of fearful objects was generated.

In order to determine whether one scale is sufficient for both genders rank correlation was computed between the objects reported by males and females, which revealed that correlation was significantly positive ( $r = 0.912$ ,  $p = < .0001$ ). So only one likert type scale was developed in national language which was a 4-point scale starting from 0 (*not at all*) to 3 (*very much disturbed*). Afterwards pilot study was conducted on 25 male and 25 female undergraduate students to assess the accuracy and completeness of the scale and whether it was easily comprehensible. The scale was administered individually and before administration they were provided clear instructions regarding the scale and the purpose of the study in our national language which is Urdu. Moreover, participants were asked to mark any unclear item in the scale. Afterwards they were asked to fill that scale and they took almost 5-10 minutes in completing it. In the end their further queries were answered by the researcher to minimize any effect of the scale on their emotional condition.

## Phase II: Factor Structure and Internal Consistency of Fear Scale

Survey research design was employed for data collection. During this phase the scale developed in phase I was administered to a sample taken from same university. The sample was gathered through purposive convenience sampling technique. The scale was administered individually and before handing over the scale the participant was provided clear instructions regarding the scale. In this phase data of 600 was gathered which was comprised of 300 males and 300 females. Afterwards, factorial validity of 34 items of Fear Scale was determined. It was done in order to select final representative items of the scale and analyze factor structure of Fear Scale. Furthermore, Cronbach alpha was calculated to find out internal consistency of the scale and subscales.

## Results

### Analysis of Data by Computing Factor Analysis

Factor analysis was computed for analyzing scale validity. Bartlett's Test of Sphericity was administered to test the equal variance of distribution of participant responses (Bartlett, 1954)

which was significant ( $p < 0.001$ ). This depicts that the responses were distributed adequately to analyze a potential factor structure. Moreover, Kaiser-Meyer-Olkin Measure of Sampling Adequacy was administered to evaluate whether the number of participants was in accordance with the number of items on Fear Scale (Kaiser, 1974) which was satisfactory (0.89) to compute Factor Analysis (Table 1)

Initially both males and females factors were computed by using Kaiser-Guttman's retention criterion of Eigen values  $> 1$  which lead to 11 factor solution for both genders and 10 factors for overall data. This factor solution resulted in over extension therefore, scree plot was computed and on the basis of which subsequent Principal Component Factor Analyses with varimax rotation was computed. Scree plot supported three factor solution as the best representation of data which seems to best fit all the items without uncertainties therefore the same was adopted for further analysis.

The factor analysis of both genders was also computed which lead to similar item loadings on each factor, so factor analysis of overall data was used for further analysis which can be seen in table 1. This table also shows Eigen values for the factors extracted as well as variance explained by each factor. An Eigen value of 4.60 was obtained on Factor 1 and 13.16 % variance was explained by this factor. However, Eigen value of Factor 2 was 3.88 and 11.10 % variance was explained by this factor. Furthermore, Factor 3 has an Eigen value of 3.11 and 8.90% variance was explained by this factor.

The first factor of the scale was labeled as "Disgust" and it consisted of 11 items which are: rat, cockroach, cattle, etc. This factor labeled as disgust because it comprised all the objects that also lead to feeling of disgust. The second factor was termed "Horror" and it consisted of items: darkness, frightening dreams, supernatural entities/ghosts, horror movies and dramas, etc. which provoke feeling of dread in an individual. The item that comprised least loading was Fear of Allah with .136 loading this shows that this item is different from other worldly fears. Therefore, this item was deleted from the scale. The last factor comprised of ten items of the scale which were: bear, crocodile, lion, accident, etc. and it was named as "Anxiety". This factor consisted of mainly ferocious predators and instances that lead to intense apprehension. All three factors are highly correlated which can be seen in table 2 which depicts the consistency of the Fear Scale and additionally, supports the validity of the scale.

In order to find out the internal consistency of the scale Cronbach alpha was calculated which was fairly high ( $\alpha = 0.89$ ) for Fear Scale which depicts that items were homogeneously consistent. Moreover, Cronbach alpha was also computed for each subscale of Fear Scale and these values were also significant (i.e. ranging from 0.81-0.74) thereby adding to the internal consistency reliability of the scale which is illustrated in table 3.

### Frequency of Fearful Objects in Overall Sample

In order to find out the entities that are most fear provoking for undergraduate students' frequency league tables were computed. The results revealed that item 13 "Fear of Allah" is the highest fearing item among undergraduate students as compared to other items of the scale as the frequency of its rating is 99.9%. The second most fear generating item was "natural disasters" as 92.2% of the

Table 1  
*Factor Analysis for Whole Sample (N=600) between All Items of Scale*

	Item Number	Items	F1	F2	F3
F1-Disgust	Item 22	Rat	<b>.737</b>	.180	.063
	Item 20	Cockroach	<b>.648</b>	.202	-.041
	Item 26	Cattle	<b>.620</b>	.085	.171
	Item 28	Spider	<b>.616</b>	.112	.150
	Item 27	Honey bee	<b>.612</b>	.077	.287
	Item 30	Insects	<b>.585</b>	.207	.108
	Item 17	Cat	<b>.496</b>	.144	-.033
	Item 1	Lizard	<b>.482</b>	.389	.009
	Item 15	Dog	<b>.454</b>	.174	.245
	Item 8	Injection	<b>.359</b>	.310	-.047
	Item 35	Slides	<b>.249</b>	.193	.113
F2-Horror	Item 3	Darkness	.214	<b>.655</b>	.121
	Item 7	Frightening dreams	.198	<b>.622</b>	.151
	Item 2	Supernatural entities/ghosts	.297	<b>.600</b>	.121
	Item 4	Horror movies and dramas	.265	<b>.549</b>	-.047
	Item 21	Magic	.393	<b>.499</b>	.151
	Item 6	Blood	.238	<b>.460</b>	.168
	Item 29	Dead Body	.256	<b>.444</b>	.257
	Item 14	Grave/graveyard	.103	<b>.442</b>	.213
	Item Number	Items	F1	F2	F3
	Item 5	Height	.181	<b>.366</b>	.259
	Item 12	Studies/exam/result	.071	<b>.347</b>	.178
	Item 31	Opposite gender	.202	<b>.338</b>	.118
	Item 19	Fear of future	.025	<b>.293</b>	.196
	Item 23	Humans	.186	<b>.222</b>	.146
F3-Anxiety	Item 13	Fear of Allah	-.104	<b>.136</b>	.047
	Item 34	Bear	.438	.055	<b>.686</b>
	Item 33	Crocodile	.449	-.010	<b>.671</b>
	Item 11	Lion	.278	.033	<b>.596</b>
	Item 25	Accident	.220	.418	<b>.517</b>
	Item 32	Natural disasters	.005	.308	<b>.503</b>
	Item 24	Terrorism and bomb blasts	.285	.380	<b>.470</b>
	Item 16	Water	.067	.065	<b>.444</b>
	Item 10	Scolding by Parents	.100	.149	<b>.378</b>
	Item 18	Death and after life	-.045	.206	<b>.321</b>
	Item 9	Committing mistakes	-.100	.264	<b>.229</b>
Eigen values			4.60	3.88	3.11
Percentage of Variances			13.16	11.10	8.90
Kaiser-Meyer-Olkin Measure of Sampling Adequacy					0.895
Bartlett's Test of Sphericity, Approx. Chi-Square					5853.57***

\*\*\* $p < 0.001$

Table 2  
*Summary of Inter-Correlations among Factors*

	F1	F2	F3
F1-Disgust	-----	.634***	.509***
F2-Horror		-----	.586***
F3-Anxiety			-----

Note.  $N = 600$ \*\*\* $P < 0.001$

Table 3  
*Alpha Reliability of Fear Scale and its Subscales*

Scale and Subscales	No. of Items	Alpha Reliability
Fear Scale	34	0.89
F1-Disgust	11	0.81
F2-Horror	13	0.78
F3-Anxiety	10	0.74

sample reported it to be fear inducing. The third most feared object by undergraduate students is "scolding by parents" as 87.8% of participants reported it to be fear provoking. The least fear generating item on the scale for students is "cat" which was only reported by 23.7% of the sample as fear provoking.

### Multiple Fears

The average fears reported by undergraduate students were 22 which depicts that our students experience multiple fears which was similar with the previously reviewed literature.

### Discussion

Our findings support the extensive literature on the subject of fear however, certain differences were also observed. The significance of culture in emergence of fear was indicated by numerous studies. Hallowell (1938) argued that fears are based on the individual's interaction with their cultural environment within which the cultural beliefs are significant factors in the conditioning of fears. He further stated that culture determines the situations that generate certain fears. The findings of the current study also revealed that there are similarities as well as differences between the objects and situations that provoke fear among students of Pakistan and students brought up in other cultures. Fear of being scolded by parents and committing mistakes was not reported by any previous study. These fears mainly emerge due to our cultural practices. In our culture undergraduate students are mainly dependent on their parents and have to face social pressure to be mature and responsible which contribute in fear regarding committing mistakes and fear regarding scolding by parents. These fears were not found in studies conducted in western culture in which undergraduate students are not dependent on their parents.

The current study also revealed similarities in fears categorized in previous studies. On the whole, predominant categories emerged in previous studies were bodily injury, personal relations, school, economic and political situations, animals, physical danger, supernatural and natural phenomena. It was observed that fear regarding these categories were also prevalent in undergraduate students of Pakistan. In one study A. T. Jersild, Markey and Jersild

(1933) found fear provoking categories relating to being alone, bodily injury, physical danger, and animals. In another study Croake (1967) found categories of animals, future, supernatural phenomena, natural phenomena, personal appearance, personal relations, school, home, safety, and political fears. Fear regarding all these categories was found in Pakistani students.

Differences as well as similarities were also observed regarding factor solution which resulted in this study. For instance Russell (1967) has reported factor solutions for adolescents and adults that lead to factors of disability and cold war, the macabre (e.g., ghosts, spiders, darkness), religion-superstition, animals, social alienation (e.g., being wrong), and rational dangers. However, in this study fears regarding disability and cold war were not found in our students. In another study conducted by Scherer and Nakamura (1968) lead to eight-factor solution which were, failure and criticism, major fears (e.g., bombing, earthquakes), minor fears-travel (worms, ghosts), medical fears, death, the dark, home-school, and miscellaneous (e.g., thunderstorms, nightmares). Results revealed that fears regarding these factors were present in our undergraduate students. However, factor analysis resulted in three factor solution in which these items were combined in a different manner. The first factor clearly listed all the items that generate disgust in undergraduate students which further leads to the emergence of fear; this factor was termed as "disgust". The items loaded on this factor were: rat, cockroach, cattle, cat, lizard, injection, dog, spider, honey bee, insects, and slides. The second factor that emerged during factor analysis combined all the items of the scale that were linked to mystical phenomena and results in terror so this factor was termed as "horror". Items of this factor were: darkness, frightening dreams, supernatural entities/ghosts, dead body, grave/graveyard, horror movies and dramas, studies/exam/result/, magic, blood, opposite gender, fear of future, humans and fear of Allah. The item that comprised least loading was Fear of Allah with .136 loading this shows that this item is different from other worldly fears. Western literature and Arabic literature describe fear of Allah differently. Western authors categorized fear of Allah with other worldly fears however Arabic authors describe it as a different emotion. Abu Hafs not only explained fear of Allah but also differentiated it from worldly fears. He said that "Khauf" is the whip of Allah that disciplines those who desert Him. Khauf is a lamp in the heart: a person can see by its light what is good and what is evil. Everybody who fears creation runs away from it. Those who fear Allah run to Him" (Kondori, 2011). Fear of Allah lead to more positive attitude in person's life and person feel a spiritual connection towards Allah and tries to lead a better life. This is why fear of Allah received least loading and does not fit in any factor appropriately. So it can be concluded that fear of Allah is a totally different emotion from worldly fears and both of them results in different outcomes and western authors have misjudged fear of Allah and wrongly put it in the same category regarding worldly fears. Therefore, this item was eliminated from the scale.

The last factor resulted in ten items of the scale which are mostly anxiety producing for students which were: bear, lion, accident, natural disasters, crocodile, terrorism and bomb blasts, water, elder's scolding, death and after life and committing mistakes. As the items loaded on this factor consisted of ferocious predators as well as natural and un-natural disasters that provoke extreme fear



and panic among our students so this factor was labeled as "anxiety". However, surprisingly scolding by parents and committing mistake were also loaded on this factor which highlights that committing mistakes which usually lead to scolding by parents is making our youth extremely anxious and can also put negative effect on them.

Cronbach alpha was significantly high which illustrates that items were homogeneously consistent and supports the internal consistency of the Fear Scale. Furthermore, Cronbach alpha was also computed for each subscale of Fear Scale and these values were also significant thus adding to the internal consistency reliability of the scale. Correlation was also computed between these subscales which depicts the consistency of the Fear Scale and adds to the validity of the scale.

The fear fabricating entities and situations found in this study along with three factors that emerged from data can be placed in the first three categories reported by Arriendell et al. (1991) which are these: (1) interpersonal events or situations, (2) death, injuries, illness, blood, and surgical procedures, (3) animals. However, the fears regarding the last category termed as (4) agoraphobic fears were not present in students belonging to our culture.

Results also demonstrated that our students experience multiple fears as the average fears reported by undergraduate students were 22 which was similar with the previously reviewed literature. Similarly, Ollendick, Matson and Helsel (1985) found that average number of fears across gender and age was around 13. Likewise in Burlington study Atras (1985) found that on the average each person reported seven fears. So it can be concluded that individuals experience multiple fears as found in studies conducted in different cultures.

## Implications & Conclusion

The findings of this study have clearly shown the importance of culture in fear emergence. These findings can also serve as the basis of further research. The Fear Scale developed in this study will be helpful for campus counselors as well as clinical psychologists.

It can be concluded that culture plays significant role in fear emergence and the content of fear differs across cultures. Mainly three factors emerged in factor analysis and high correlation was found between these factors which may depicts that there is a high possibility that the individual who is fearful of the items on one factor may report items in other factors to be fear provoking as well. Results also demonstrated that students experience multiple fears. It is also evident that Fear Scale is a valid and reliable measure for assessment of fear.

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