

USING THE DELPHI METHOD TO DEVELOP THE BP HAPPINESS SCALE FOR THE HEALTHCARE CONSUMER

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ABSTRACT

This research aimed to develop a 7-star Happiness scale, for healthcare customers, keeping in mind emotions of happiness. A 4 Round Delphi method was applied to achieve this goal. Using purposive sampling, 23 global experts, participated in the study. High response rates of 86.97%, 95.65% and 100 % in Rounds 3 and 4 were received. In Round 1, experts were administered 10 open-ended questions, to derive components for the scale, from an Extensive Literature Review. In Round 2, 7 items from the literature were incorporated into 3 components, as follows: Image was smiley face/star; Star Arrangement was semicircular/straight; Text was emotions. The mode was considered, on voting, and the scale was developed with an 80% consensus set for Round 3. Consensus achieved was 65%, Round 3; 96%, Round 4 after response revision. The BP Happiness Scale was finalized as, a 7 pointed smiley star, with a semicircular star arrangement, having emotions Angry, Frustrated, Annoyed, Neutral, Content, Pleased, Delighted. The data was analysed using descriptive statistics in the SPSS version 20 statistical package. Findings were reflected as frequency/percentage for the sociodemographic profiles, measure of central tendency - mode in Round 2, and frequency/percentage for agreement for consensus in Rounds 3 and 4.

Keywords: Happiness, Delphi method, BP Happiness Scale.

Introduction

“Happiness is the meaning and purpose of life, the whole aim and end of human existence”
Aristotle

Happiness is a state of well-being and contentment that we feel when we are satisfied. It goes beyond satisfaction and is in some way, a level above satisfaction. Researchers have posited that satisfaction is more relative as compared to happiness, and is one of the components of “happiness” People experience a wide range of emotions when it comes to happiness, as it is ‘an absolute emotional state. While on one hand, healthcare facilities and healthcare providers have faced the angst and ire of their consumers, excellence and quality initiatives in the healthcare industry, have given rise to the concept of delighting their customers.

It is quite well known that, when patients or their families are disturbed with services rendered, it results in a reaction that can be manifested as an outburst. The consequences of

this anger can prove to be detrimental, as it may result in physical harm to hospital personnel, and/or damage to hospital property. This would increase overhead costs in terms of sick leave for the person affected and the cost of repair or replacement to property.

Happiness contributes to health and reduced levels of stress. This gives rise to an improved internal milieu in the patient, thereby enhancing the effect of the treatment that the patient receives. This flows over into reduced length of stay and reduced bills for the patient. For the hospital, it frees up the bed to take on new patients. This is a win-win situation for both, the health care consumer (patient) and the healthcare facility (hospital), as it promotes rapid turnover of patients and increased use of hospital services. This rolls over to enhancing the reputation of the hospital, as it provides evidence that patients keep getting well at this hospital. This would give a higher happiness rating from its consumers, delighting them and making it a facility to be sought out.

In the case of goods, be it healthcare providers or patients themselves, if consumers are delighted with what they have bought, turnover is reflected as higher consumption of consumables and lower costs for hospitals for their fixed assets. The concept of happiness includes health. Therefore, if a particular good or service gives happiness, the customer's feelings are enlarged to experience a degree of health and wellness concerning the good or service that they have acquired. Quality of life also has a central value in the design of technological artefacts, especially consumer products. This would lead to a new trend in customers as they look for quality for things that they will be paying for – in terms of Value for Money.

Literature Review reveals a large number of happiness scales like the Oxford happiness Scale, Subjective Happiness Scale, PANAS, and many more. However, all of these scales deal with happiness in terms of general well being and mental health. There are also satisfaction scales available in literature for customer satisfaction. As such no Customer Happiness scale has been found so far. The

author believes that delighting the customer is different from satisfying them and delighted customers rarely forget the target of delight.

This study aims to develop a happiness scale that consists of emotions of happiness, that are experienced by consumers when they purchase goods or avail of services, particularly when they visit healthcare facilities. The purpose of developing a happiness scale was to measure it, as it is known that happiness leads to loyalty, which in turn leads to profitability.

Method

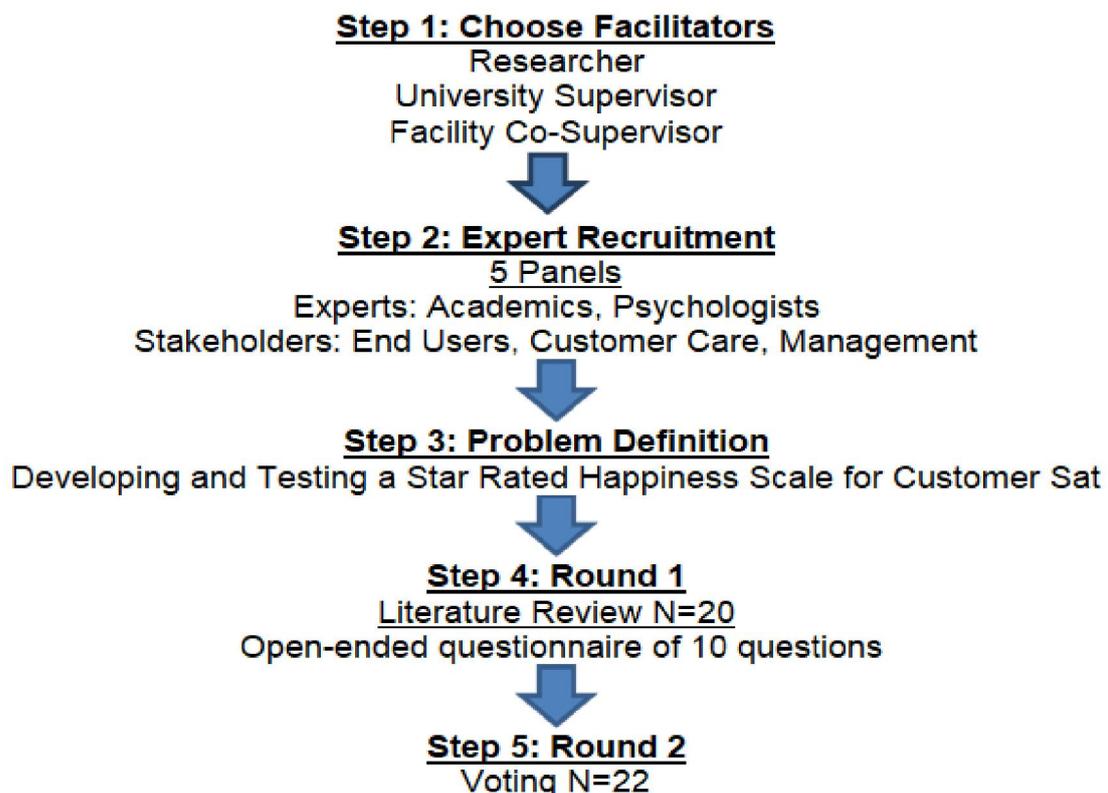
Study Design

The Delphi method was used to integrate international and interprofessional perspectives from experts and stakeholders to derive the happiness scale.

There is sufficient evidence that the Delphi method is reliable in developing new concepts and forecasting. The technique is designed as a group communication process that uses a series of questionnaires to gather data by employing multiple iterations to arrive at a consensus.

The steps of the Delphi Method are illustrated in Fig 1.

Fig.1. Flow diagram illustrating the Steps of Delphi



A questionnaire with 3 questions
 Q1. Selection of images - Smiley star or Smiley face
 Q2. Selection of Star arrangement – Semicircular or Straight
 Q3. Selection of Text



Step 6: Rounds 3 and 4

Consensus N=23

Q1 and Q2 – 100 % in Round 3
 Q3 – 65% in round 3; 96% in Round 4.



Step6: Findings

BP Happiness Scale developed

Aim

To enable customers to rate a good that is bought or service that is sought in terms of Happiness, which engulfs feelings of well-being, and health

Research Question

The research study investigates the following question:

RQ. What are the main items that can be included in the tool?

Objective

To develop a Star Rated Happiness Scale for the customers to rate healthcare goods and service in terms of the experience of Happiness.

Delphi method was used to develop the Happiness scale, for fact-finding. In the study Expert recruitment was done by getting the opinions of experts, supervisors and the researcher herself. Panellists belonged to 2 categories in 5 teams as under:

Expert: Academic, Psychologist.

Stakeholder: Customer Care, End User, Management.

Criteria for Selecting Delphi Experts

- Varied Age Groups.
- Minimum Masters Qualification.
- Preferably 5 years experience or more in your field (with anyone above Postgraduate qualification), & managing customers and conflicts.
- Varied Nationalities, Ethnicity and Resident countries – Heterogeneity.

Purposive sampling was used while recruiting to ensure that experts met the inclusion criteria. The Sociodemographic profile of experts was collected which included gender, age group, highest educational qualification obtained, experience (in years) working and country of residence. The Sociodemographic profile of the experts is reflected in Table 1. Anonymity was guaranteed by the use of pen names, to identify the Delphi Expert with the Researcher only. Panel size: each panel consisted of not more than 5 team members Attrition/Response rate was acceptable R1 – 13.04%/86.97%, R2 – 4.35%/95.65% R3-100% response rate. Time scheduling was intense, running into several months due to unavoidable circumstances of the experts. Controlled feedback was carried out at the end of each round by the researcher and supervisors.

Table 1. Sociodemographic Profile (N=23)

Criteria	Group	Percentage Round 1 N=20	Percentage Round 2 N=22	Percentage Rounds 3&4 N=23
Gender	Female	70%	68.2%	69.6%
	Male	30%	31.7%	30.4%
Age	25-35 years	25%	27.3%	26.1%
	36-45 years	10%	13.6%	13.0%
	46-55 years	30%	27.3%	30.4%
	56-65 years	35%	31.8%	30.4%
Education	Graduate	10%	13.6%	13.0%
	Post Graduate	30%	22.7%	26.1%
	Post Masters	10%	9.2%	8.7%
	Doctorate	50%	54.5%	52.2%
Experience (In yrs.)	5 – 10	20%	27.3%	26.1%
	11 – 20	20%	18.2%	17.4%
	21 – 30	15%	18.2%	17.4%
	31 – 40	40%	31.8%	34.8%
	>40	5%	4.5%	4.3%
Ethnicity	African	5%	4.5%	4.3%
	Arab	10%	22.7%	21.7%
	Asian	65%	54.5%	56.5%
	Caucasian	20%	18.3%	17.4%
Nationality	American	15%	12.7%	13.0%
	Australian	5%	4.5%	4.3%
	British	15%	12.7%	13.0%
	Egyptian	0%	9%	8.7%
	Emirati	0%	4.5%	4.3%
	Filipino	15%	12.7%	13.0%
	Indian	40%	34.9%	34.8%
	Pakistani	5%	4.5%	4.3%
	Spanish	5%	4.5%	4.3%
	Country of Residence	Austria	5%	4.5%
Rwanda		5%	4.5%	4.3%
Sultanate of Oman		5%	4.5%	4.3%
U.A.E.		75%	77.5%	78.4%
U.S.A.		10%	9%	8.7%

Ethical Considerations

The ethical approval was obtained from the heads of department for the Delphi panellists, who thoroughly reviewed all the aspects of the study and granted permission. Before data collection, informed consent was signed by each panellist who was informed that their participation was completely voluntary, and they could withdraw from the study at any point in time, without liability. The respondents were assured that all their responses would remain anonymous. Their names, contact number and emails were obtained for communication only. Pen names were assigned as per their team. Information

was attached in the consent form to explain the purpose of the study. The investigator's contact number and email were attached to the information sheet for communication.

The Delphi process was completed in 4 rounds. In Round 1, panellists were administered an open-ended questionnaire comprising of 10 questions, based on an extensive literature review.^{4,10} This Round aimed to derive the elements that would go into developing a Single Item Scale, using the Delphi Methodology. The results of this round formed the basis of the second round with the following items to be included in the tool.

1. Rating scale to be used.
2. 7 points on the scale.

3. Smiley faces or Smiley stars.
4. Single graded colour or multi Coloured.
5. Arrangement of stars.
6. Text explanation from Plutchik Wheel of Emotions was included
7. Text explanations –‘could be better’ and ‘well done’ among others, were also included.

Having collated and summarized the responses in Round 1 above, Round 2 sought to dig further into the subject of happiness and explain its explicit concept. This round

consisted of 3 questions that addressed all the main items from Round 1.

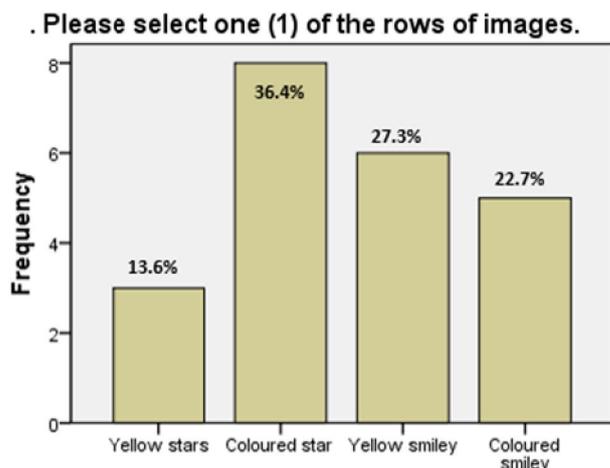
The 3 questions incorporated the 7 items from Round 1 into 3 elements that were required in developing the happiness scale. This Round was sent out for voting, to get the maximum viewpoints from the experts, using the measure of central tendency Mode, as depicted below.

Question 1 was a pictorial depiction of 7 Smiley faces and Smiley stars, in 4 Single graded colour or multicoloured options. This is reflected in Fig.2, Image Selection.

Fig.2. Image Selection

Q1. Please select one (1) of the rows of images.

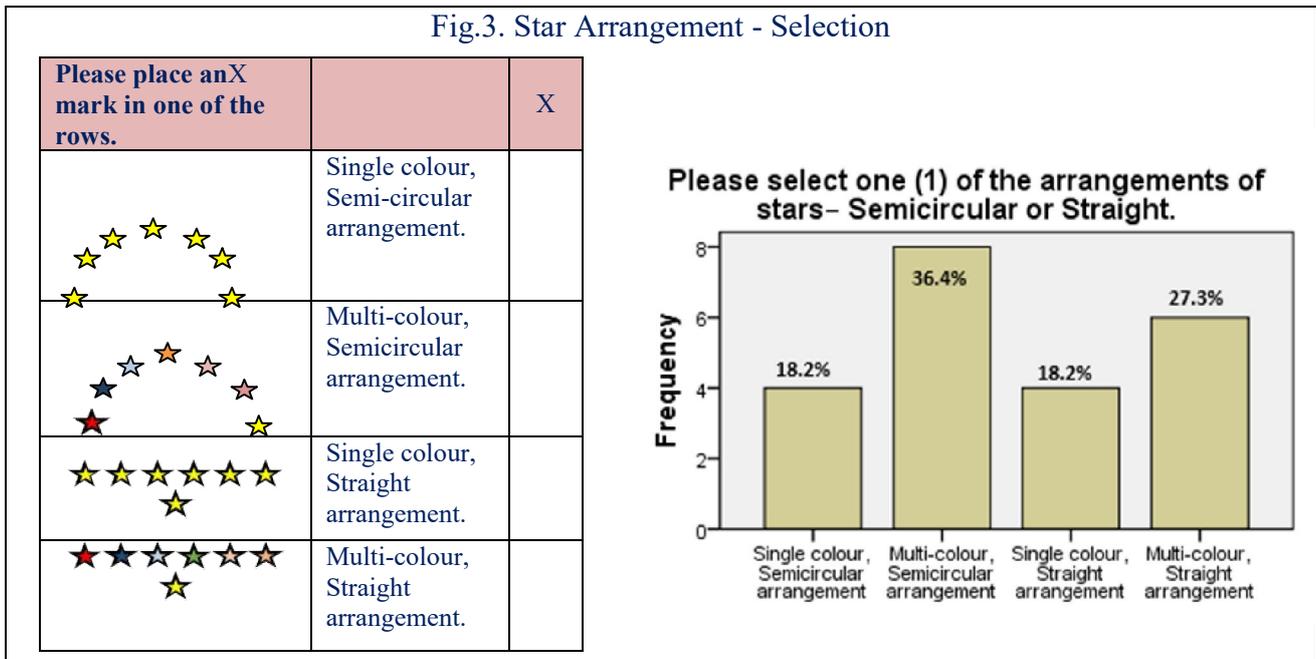
Please place an X mark in one of the rows.							X



Question 2 was a pictorial depiction of 7 Stars arranged in a semi-circular and straight line, in 4 Single graded colour or multicoloured

options. This is reflected in Fig. 3, Star arrangement.

Fig.3. Star Arrangement - Selection



Question 3 had 3 textual options, depicting emotions, for ratings 1 – 7 and is depicted in Table 2.

Table 2. Text Explanation – Selection

Q3. Please select one (1) of the emotions from each of the seven (7) groups of stars, which would best indicate customer response to the experience of service.

Please place an X mark in the cells that are coloured, as shown. Please put the mark in each row, and select any 1 response.							X
No. of Stars	COLUMN 1 Customer response to the experience of service	Customer response to the experience of service		Customer response to the experience of service		Customer response to the experience of service	
1 Star	Extremely Unhappy	Angry		Enraged		Furious	
2 Stars	Very Unhappy	Sad		Distressed		Disappointed	
3 Stars	Unhappy	Frustrated		Upset		Discontent	
4 Stars	Neutral	Could be better		Complacent		Indifferent	
5 Stars	Happy	Glad		Pleased		Content	
6 Stars	Very Happy	Great job		Well done		Elated	
7 Stars	Extremely Happy	Delighted		Ecstatic		Wow	

EMOTIONS			
No. of Stars	COLUMN 1 Customer response to the experience of service	Customer response to the experience of service	Number of Responses
1 Star	Extremely Unhappy	Angry	76.2%
2 Stars	Very Unhappy	Disappointed	57.1%
3 Stars	Unhappy	Frustrated	42.9%
4 Stars	Neutral	Could be better	85.7%
5 Stars	Happy	Glad	38.1%
6 Stars	Very Happy	Well Done	42.9%
7 Stars	Extremely Happy	Delighted	47.6%

In Round 3, the above responses were discussed, and the consensus was set at 80%. The Facilitators felt that, in Q3, the emotions which had high scores did not display a proper sequence/gradient, and therefore referred to the English Dictionary/Thesaurus for synonyms. Three important criteria emerged and changes were made as follows:

1. Proper Sequence/Gradient (Lowest to Highest and vice versa).
2. Adjective, Single word.
3. Simple language, to enable a maximum number of customer responses.

In this round, experts were requested to state their agreement and were offered the opportunity to give their comments and justifications. Results of Round 3 and 4 are depicted in Table 3. below

Table 3. Round 3 and 4 Consensus (N=23)

Consensus	Frequency	%	Finalised
Q1	23	100	Round 3
Q2	23	100	Round 3
Q3	23	65	Round 3
Q3	23	96	Round 4

In Q3, 8 experts disagreed with justification and suggested alternatives. The consensus achieved was 65%. 4 of these were incorporated, however, all but one of the remaining experts revised their alternatives to align with those incorporated in Round 4. Consensus achieved was 96% at Round 4.

Data analysis

Descriptive statistics were used to describe participants’ sociodemographic characteristics and group responses to each of the three rounds. Voting was carried out in Round 2 and the Mode was considered. The consensus was defined as >80% of participants agreeing to the developed scale in Round 3. This level of agreement has been considered appropriate in previous Delphi studies. Analyses were conducted using SPSS for windows version 20

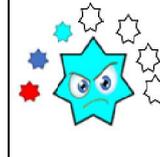
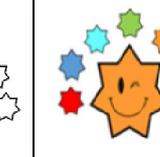
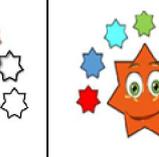
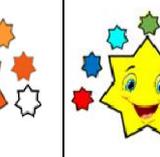
Results and Discussion

Of the 23 experts invited to participate in this Delphi study, 20 participants completed Round 1 (86.97% response rate), 22 of 23 completed Round 2 (95.65% response rate) and all 23 completed Round 3 (100% response rate). A 20% dropout rate was expected, as per previous Delphi studies, and similar results were found in the Delphi study discussed in this article. Fig.2 presents the sociodemographic profile of participants in each round. Gender distribution was consistent across the three rounds. A majority of the experts were seniors 60.8% (30.4% each in the age groups 46-55 and 56-65), most of them were Doctorates 52.2% and a majority of them were highly experienced 56.5% having experience of over 20 years (34.8% with 31-40 years, 17.4% with 21-30 years and 4.3% with >40 years’ experience). These experts belonged to 10 different nationalities, 4 ethnic groups from 5 countries around the world. Heterogeneity of participants assures the validity of results by avoiding domination, either by quantity or expert’s personality -bandwagon effect, manipulation or coercion. 7 items from Round 1 were incorporated into Round 2. Voting was carried out in Round 2 for mode. Turoff (1991) suggested the use of voting. These modes were used to develop Round 3. Consensus percentage must be defined. In the current study, a consensus of 80% was set, since this is a single item scale and a high degree of agreement was sought. Consensus in Round 3 was 65% for Q3 and, on a revision of responses, consensus increased to 96% in Round 4.

Conclusion

This Delphi survey achieved a consensus, of 96% from a panel of 23 international experts who completed four rounds. The survey reached a consensus of 100% in 2 questions in one go. The five-point star was changed to a seven-point star to align with the Seven Star Rating. The Final Scale was named BP Happiness Scale. The BP Happiness Scale has been depicted in Fig. 4 below.

Fig.4 BP Happiness Scale

						
Angry	Frustrated	Annoyed	Neutral	Content	Pleased	Delighted

The Delphi method was developed by RAND Corporation and depends upon responses received from several rounds of questionnaires sent to experts and culminating in consensus. It is used for forecasting and fact-finding. Characteristics include Expert recruitment, Anonymity, Panel Size, Attrition/Response rate, Time Scheduling and Controlled feedback.

As demonstrated above, the Delphi phenomenon was adopted in its entirety under established procedure as set out in Literature. Delphi generally ends after the 3rd Round, however, it may exceed around 5 rounds. The current study went up to 4 rounds where a total consensus was achieved.

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