

Measurement and Development of Experiential Crowding Scale

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Abstract:

An attempt has been made to assess the direction and magnitude of experiential crowding in terms of Home, Traffic, Social Gatherings and Friends Circle. In order to investigate the differentials in the level of experiential crowding, owing to variations in age and gender, the items were selected for the purpose of assessing the exposure of the individual to stressful crowding in everyday life situations. However, the standardisation process was restricted to the adolescent population, on a sample of 577 school and college going students. The obtained data was treated to various statistical techniques required for standardisation.

Key words.: *Experiential crowding, at home, in traffic, in social gathering, in friends circle.*

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I. INTRODUCTION

Crowding refers to the feelings perceived by people about the lack of space. People may feel constrained by the scarcity of space available to them. That may create discomfort for some people but maybe not cause any issues for others. Research has shown that crowding produces effects on the physical and mental health of individuals. Males and females may have different reactions to crowding.

Concepts of Crowding

Crowding is the perception of a person where he may feel unpleasant emotions and stress due to high density (Baron and Richardson, 2004). Even if the situation is not very crowded, some people may feel uncomfortable due to the closeness of other people (Stenstrom, 2010). Crowding and density are different in the sense that crowding is an unpleasant feeling in one's mind whereas density is the space that may be available to the person (Stokols, 1972). Research has shown that people may respond to crowding in different ways, depending on the circumstances or their stress levels. Freedman (1975) states that sometimes there may be reactions disproportionate to the stimuli involved and they may be exaggerated in nature. Hotwani & Tripathi (2015) state that crowding may lead to a detrimental effect on the mental health of people and may manifest by showing up as anxiety, depression or other psychological symptoms. Crowding may occur in developing countries more often because the population increases continually and there is a lack of available space and more stress in the environment (Lawrence and Andrews, 2004).

Conceptual Dimensions of Crowding

Taylor (1980) has stated that there is a variety of studies undertaken to explore the effects of crowding. Various researchers have used different approaches, variables and interactions to study this phenomenon. The various issues that have been raised have opened up avenues for further research in these areas. Frequently researchers have used

laboratory studies and some have tried to replicate these in real life situations. Student who live in hostels and classrooms have been studied to understand the effects of crowding on their physical and mental health. Since the environment has a huge impact on the mental health of individuals, it is imperative that various approaches be taken into consideration looking at interactive and multiplicative effects of stressors. Students may face decrements in their performance and grades due to lack of attention in class. Large class sizes may cause discipline issues and weaker students may not get the attention they require (Hotwani, Tripathi, 2016).

Taking above into the consideration, an attempt has been made to conceptualize "Experiential Crowding" - The term experiential crowding refers to perceived pressure of crowding in everyday life; i.e., inability to cope with physical density or presence of people around the individual and disturbs the tranquility of emotional status thereof. Hotwani & Tripathi (2017) indicated that the perceived pressure of crowding becomes the part and parcel of everyday life and it affects the psychosocial status of an individual placed in such psycho-physical situations. The experiential crowding scale has been developed to measure the level of crowding experienced by an individual in different circumstances. The scale consists of items related to experiential crowding in home, while travelling in traffic, interacting with people in social gatherings and among friends in friends circle.

II. METHODS

Identification of Sub Components

An attempt has been made to identify the crucial areas where an individual can experience crowding beyond the level of her/his tolerance in a focused group discussion. Four major areas emerged significantly where possibility of experiential crowding was found to be very high viz; at home, in traffic, in social gathering and in friends circle.

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Experiential Crowding at home

In a focused group discussion ten lead questions were framed to tap experiential crowding at home in terms of preference for quiet places, getting disturbed due to others meddling with one's personal space, getting annoyed due to others watching television at high volume, finding it difficult to share the room with others and getting upset if guests visit without prior information.

Experiential Crowding in Traffic

The second aspect of experiential crowding was tapped with the items related to preference for travelling during off peak hours, avoidance of pushy people on road, unnecessary honking, irritation when people spoke loudly in public places, difficulty in travelling on a highly crowded road/public transport system, experience of frustration while waiting at crowded junctions, preference for smooth sailing traffic on roads. There were fifteen items incorporated to assess experiential crowding in traffic.

Experiential Crowding in Social Gatherings

The third component was experience of crowding in social gatherings; this was the component wherein twenty three lead questions emerged in a focused group discussion, covering preference for certain people, difficulty in using public toilets, preferences for attending social gathering, feeling isolated being in a socio-cultural group, avoidance of crowded situations, avoidance of pushy people, waiting for their turn to meet the host, preference for noisy parties etc.

Experiential Crowding in Friends Circle

Although majority of the participants of the focus group discussion expressed that nobody felt crowded with friends, despite that five lead questions emerged for which there were varied answers and were used to assess experiential crowding in a student's life. These included items such as having difficulty in sharing books, preferential interactions with friends, sharing of lunch with friends and having adequate seating space in the class room.

Try-out

The experiential crowding scale had fifty three items covering the level in terms of experiential crowding at home (10 items), in traffic (15 Items), in Social Gatherings (23 Items) and in friends circle (5 Items). The items were framed in such a way that the respondent should rate his experience on a five point scale in terms of not at all/rarely/sometimes/quite often/ always. The scores allotted were 5 for always, 4 for quite often, 3 for sometimes, 2 for rarely and 1 for not at all. However, most of the items were loaded with positive words, a few were loaded negatively. The scores were given inversely for the reverse items during scoring.

Final Format of Experiential Crowding Scale

The scale was administered to one hundred students with age range of 13 to 18 years. The obtained data was analysed qualitatively and treated to basic statistical techniques such as measures of central tendencies. After analysis only twenty seven items could be retained and remaining twenty six items on which there was no variation in response style and pattern,

were deleted. In the final format there were five items for assessment of experiential crowding at home, eight items for traffic, eleven items for social gathering and only three items could be retained to assess the experiential crowding level among friends.

Sample for standardisation of experiential crowding scale

For development of experiential crowding scale, an attempt has been made to draw a sample of subjects living in crowded (outside) and non-crowded (outside) areas within the age range of 13-18 years boys and girls. The detailed description of sample drawn for this purpose is presented in table 1. All precisions were taken into consideration to have a well-matched sample on socio-economic status, general health, gender and type of schools.

Age in Years	Gender	Area		Total
		Crowded	Non Crowded	
13 - 14	Female	50	51	101
	Male	78	61	139
15 - 16	Female	20	38	58
	Male	55	31	86
17 - 18	Female	24	46	70
	Male	75	48	123
	Total	302	275	577

Table 1: Description of the sample (N=577)

Data Collection

The data collection process was initiated after taking consent from the schools' authorities and parents of the respondents. Initially a group of 20 respondents were asked to sit in a group and were given the details about the purpose of data collection, objectives of the studies and assured that the information provided by them will be kept confidential and used for academic purpose only. It was found that data collection would be easy in a small group situation, so the same procedure was followed till the data collection was finished on a sample of 577 respondents, studying in class 8-12. The representation of both the genders was approximately equal. On an average respondent took 30-45 minutes, a few respondents took one hour to one hour and ten minutes. The entire data collection was completed in 15 days.

III. RESULTS

Distribution of raw scores on experiential crowding (Total) scale (ECS)

A close perusal of table 2 revealed that the distribution of scores on experiential crowding scale (ECS) found to be normal, however, there was a little skewness towards higher scores, this might have happened on account of more respondents from a crowded area (n=302) as compared to a low crowded area (n=275). Further it was evinced that the maximum number of respondents experienced crowding within the limits of mean and standard deviation (fig. 1).

Table 2: Frequency Distribution of Raw Scores on Experiential crowding (Total, N=577)

Sl. No.	Class Interval	f	Percentage
1	40-44	2	0.35
2	45-49	2	0.35
3	50-54	2	0.35
4	55-59	17	2.95
5	60-64	26	4.51
6	65-69	38	6.59
7	70-74	63	10.92
8	75-79	72	12.48
9	80-84	112	19.41
10	85-89	90	15.60
11	90-94	68	11.79
12	95-99	34	5.89
13	100-104	37	6.41
14	105-109	10	1.73
15	110-120	4	0.69
	Total	577	

Mean = 82.10
SD = 12.18
Median = 83.00
Q1 = 74
Q3 = 90
Q = 53

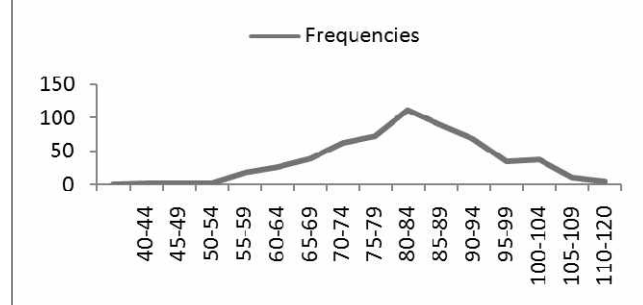
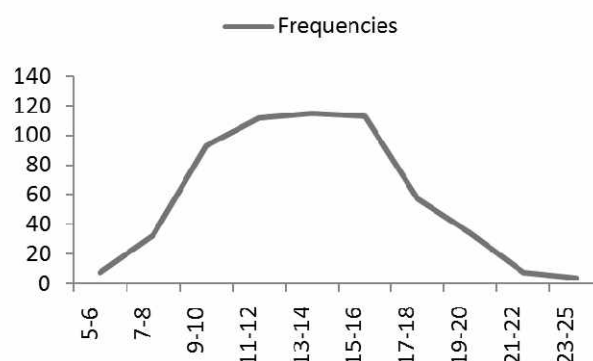
fig. 1 Frequency Distribution of Raw Scores on Experiential crowding (Total, N=577)*Distribution of raw scores on experiential crowding (Home) scale (ECS)*

Table 3 consisted of frequency distribution of raw scores obtained from respondents on the items for ECS at home. The mean of the population was 13.31 and the distribution of the scores was found to be following a normal trend. It is quite striking that slight skewness was observed on low scores in contrast with the trend that appeared for total ECS (fig 2).

Table 3: Frequency Distribution of Raw Scores on Experiential crowding (Home) (N=577)

Sl. No.	Class Interval	f	Percentage
1	5-6	8	1.39
2	7-8	33	5.72
3	9-10	93	16.12
4	11-12	112	19.41
5	13-14	115	19.93
6	15-16	113	19.58
7	17-18	57	9.88
8	19-20	34	5.89
9	21-22	8	1.39
10	23-25	4	0.69
	Total	577	

Mean = 13.31
SD = 3.47
Median = 13.00
Q1 = 11.00
Q3 = 16.00
Q = 10.50

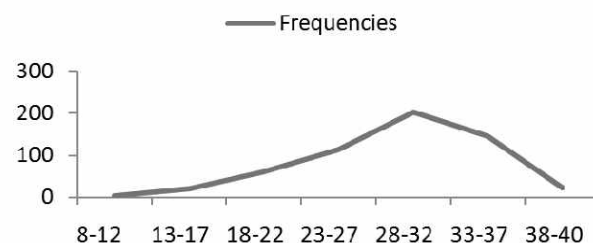
fig. 2 Frequency Distribution of raw scores on experiential crowding (Home) scale (ECS) (Total, N=577)*Distribution of raw scores on experiential crowding (In Traffic) scale (ECS)*

Similar to trend on scores for total ECS and ECS at home, normal distribution of frequencies for EC in Traffic (Table 4) was observed with a mean = 28.86 and SD = 5.93. It indicated clearly that the variation in ECS in traffic did not happen by virtue of chance factor. However a close perusal of figure 3 indicated a skewed trend on marked to severe experiential crowding in traffic.

Table 4: Frequency Distribution of Raw Scores on Experiential crowding (In Traffic) (N=577)

Sl. No.	Class Interval	f	Percentage
1	8-12	4	0.69
2	13-17	22	3.81
3	18-22	62	10.75
4	23-27	114	19.76
5	28-32	204	35.36
6	33-37	147	25.48
7	38-40	24	4.16
	Total	577	

Mean = 28.86
SD = 5.93
Median = 30.00
Q1 = 25.00
Q3 = 33.00
Q = 20.50

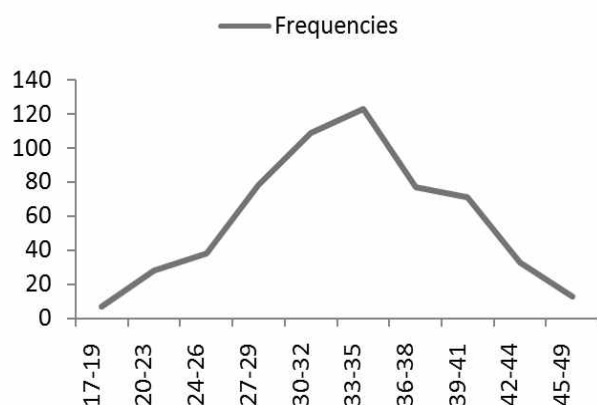
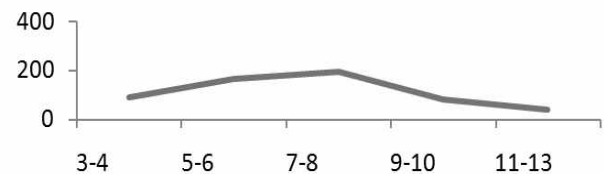
fig. 3 Frequency Distribution of raw scores on experiential crowding (In Traffic) scale (ECS) (Total, N=577)*Distribution of raw scores on experiential crowding (In Social Gatherings) scale (ECS)*

The obtained data on the items related to ECS in Social Gatherings (Table 5) revealed normal distribution of scores from low to severe experiential crowding with mean = 33.14 and SD = 5.93. Fig 4 also confirmed the trend of normal distribution.

Table 5: Frequency Distribution of Raw Scores on Experiential crowding (In Social Gatherings) (N=577)

Sl. No.	Class Interval	f	Percentage
1	17-19	7	1.21
2	20-23	28	4.85
3	24-26	38	6.59
4	27-29	78	13.52
5	30-32	109	18.89
6	33-35	123	21.32
7	36-38	77	13.34
8	39-41	71	12.31
9	42-44	33	5.72
10	45-49	13	2.25
	Total	577	

Mean = 33.14
SD = 5.93
Median = 33.00
Q1 = 29.00
Q3 = 37.00
Q = 22.50

fig. 4 Frequency Distribution of raw scores on experiential crowding (In Social Gatherings) scale (ECS) (Total, N=577)**fig. 5** Frequency Distribution of raw scores on experiential crowding (In Traffic) scale (ECS) (Total, N=577)

Item Analysis

The reliability and validity of any test or scale depends upon characteristics of its items, hence item analysis was carried out. The very purpose of this analysis was to ascertain the validity of the scale items. Therefore, "Extreme Group" technique was adopted and individual score profiles were assigned in order of merit, on the basis of their total test scores. The "high" and "low" groups were selected from extremes of frequency distributions of raw scores. In this method 27% upper and lower cases were segregated. The mean value of each items of ECS for these two extreme groups were computed and significance of mean differences for the scores on all the items were calculated. Out of 53 items, for 27 items the mean differences were significant and on remaining items the differences were found to be insignificant. Hence, these items were rejected in view of Garrett's (1966) suggestions. Only 27 items were retained for the final format and further analysis was carried out. The number of items that had been included in accordance with the components and presented in Table 7.

Table 7: The number of items included in final version of ECS (N=577)

Sl. No	Components	Number of Items in Tryout Version	Number of Items in Final Version
1	EC at home	10	5
2	In Traffic	15	8
3	In Social Gatherings	23	11
4	In Friends Circle	5	3
	Total	53	27

Table 6: Frequency Distribution of Raw Scores on Experiential crowding (In Friends Circle) (N=577)

Distribution of raw scores on experiential crowding (In Friends Circle) scale (ECS)

As it was evident from focused group discussion majority of the respondents experienced ECS in friends circle towards high-er scores and the trend was found to be normal (Table 6) with a few variations. A glance at Fig 5 indicated that by and large respon-dents had low experiential crowding or very high experiential crowding with slight exceptions.

Table 6: Frequency Distribution of Raw Scores on Experiential crowding (In Friends Circle) (N=577)

Sl. No.	Class Interval	f	Percentage
1	3-4	92	15.94
2	5-6	167	28.94
3	7-8	196	33.97
4	9-10	82	14.21
5	11-13	40	6.93
	Total	577	

Mean = 6.79
SD = 2.23
Median = 7.00
Q1 = 5.00
Q3 = 8.00
Q = 5.50

Reliability

Inter-rater Reliability: This reliability was determined by computation of correlations between rating scores assigned to the same group of respondents by the researcher. For this, ratings were obtained from three subject matter specialists (1-The Research Scholar; 2-The Guide and 3 and 3-School Teacher). Table 8 consisted of the correlation matrix based on ratings of three independent interviewers for same subjects. The ECS was administered on ten respondents at an interval of 15-30 days. This process was repeated when the subjects were interviewed on ECS.

Table 8: The number of items included in final version of ECS (N=577)

Sl.No	Rater	1	2
1	Researcher	X	X
2	Guide	0.89	X
3	School Interviewer	0.72	0.79

It is clear from the table that the correlation values were quite high and average values of this correlation based on “Z” scores was 0.78 and index of reliability was 0.72 that virtually found to be high and confirmed the Inter-rater reliability of ECS.

Test-retest Reliability: In order to establish the test-retest reliability, the value of correlation coefficient was computed between the rating of same respondents by two raters (The researcher and Guide) at two different occasions separated by 15-30 days. A lot of efforts was put in to conduct retesting of respondents, needless to say the number of respondents were very less ie; 19 only. The correlation coefficient obtained

from the two sets of the scores was 0.88 and the index of reliability was 0.93.

Split-half Reliability:

The ECS was administered on a sample of 139 respondents for the determination of split-half reliability. The scale items were divided into odd and even categories and correlation was computed. The Spearman Brown prophecy formula was employed to compute reliability co-efficient and that was found to be very high ($r = 0.81$) and the index of reliability was .85 which confirmed the split-half reliability of the ECS.

Validity

Content Validity:

The content validity of a scale requires that the scale covers a representative sample of the domain of phenomenon under the considerations. For this, Inter-item correlation (Table 9) was computed and found to be significant, that ensures that the items selected were related with each other and influenced the level of experiential crowding perceived by an individual.

Table 9: Inter- Correlation Matrix of Each item with total of Experiential Crowding Scale (N=577)

S. No	Items	r	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	Total
1	I prefer quiet places.	X	0.01	0.05	0.03	0.14	0.11	0.01	0.05	0.16	0.14	0.07	0.00	0.11	0.15	0.10	0.07	0.02	0.08	0.09	0.19	0.15	0.18	0.05	0.01	0.10	0.14	0.03	0.31	
2	I prefer to interact with others at a time that suits me.	X		0.12	0.01	0.03	0.09	0.02	0.04	0.09	0.08	0.08	0.02	0.08	0.09	0.03	0.03	0.07	0.13	0.14	0.14	0.02	0.03	0.11	0.06	0.06	0.09	0.06	0.23	
3	I get disturbed if anybody meddles with my personal belongings.		X		0.02	0.12	0.06	0.13	0.11	0.08	0.08	0.19	0.03	0.23	0.10	0.15	0.07	0.17	0.14	0.11	0.13	0.14	0.10	0.09	0.06	0.06	0.00	0.05	0.38	
4	I don't like to share my books with others.				X	0.10	0.00	0.26	0.04	0.04	0.08	0.02	0.08	0.02	0.04	0.02	0.11	0.01	0.07	0.01	0.05	0.04	0.03	0.05	0.06	0.01	0.04	0.09	0.15	
5	I feel irritated if people watch TV or listen to the radio at high volume.					X	0.03	0.09	0.02	0.14	0.12	0.14	0.00	0.28	0.06	0.05	0.05	0.04	0.07	0.12	0.04	0.12	0.09	0.03	0.05	0.00	0.21	0.02	0.35	
6	I would adapt to the surroundings even though I don't enjoy the situation.						X	0.02	0.01	0.11	0.04	0.05	0.09	0.04	0.13	0.09	0.02	0.01	0.16	0.02	0.06	0.03	0.01	0.05	0.05	0.14	0.01	0.07	0.01	
7	I find it difficult to share my room with friends or relatives.							X	0.19	0.04	0.08	0.10	0.10	0.14	0.01	0.04	0.02	0.08	0.01	0.00	0.05	0.10	0.06	0.11	0.13	0.08	0.02	0.12	0.31	
8	I don't like visitors coming unannounced.								X	0.02	0.11	0.05	0.10	0.11	0.03	0.10	0.11	0.08	0.02	0.02	0.05	0.14	0.06	0.03	0.12	0.08	0.03	0.08	0.28	
9	I prefer to plan my travel during off peak hours in order to reach my destination on time.									X	0.11	0.19	0.07	0.17	0.00	0.05	0.08	0.06	0.11	0.12	0.08	0.07	0.07	0.09	0.01	0.03	0.01	0.03	0.29	
10	I don't like people pushing their way around.										X	0.31	0.02	0.16	0.15	0.05	0.16	0.11	0.24	0.05	0.06	0.12	0.22	0.14	0.04	0.11	0.07	0.00	0.39	
11	I get irritated if people start honking on the road unnecessarily.											X	0.02	0.32	0.18	0.21	0.22	0.22	0.31	0.15	0.12	0.20	0.16	0.13	0.06	0.19	0.04	0.11	0.48	
12	I enjoy the opportunity to be with people.												X	0.01	0.05	0.07	0.02	0.06	0.15	0.06	0.04	0.13	0.06	0.09	0.14	0.11	0.07	0.15	0.18	
13	I get irritated if people talk loudly in public places.													X	0.17	0.19	0.15	0.15	0.22	0.14	0.08	0.21	0.20	0.14	0.04	0.03	0.08	0.00	0.50	
14	I avoid roads which are highly crowded.														X	0.31	0.16	0.18	0.27	0.07	0.17	0.29	0.25	0.13	0.12	0.12	0.12	0.03	0.44	
15	I feel uneasy while travelling in a crowded bus/ train.															X	0.30	0.28	0.22	0.10	0.18	0.31	0.14	0.12	0.11	0.09	0.02	0.03	0.46	
16	I don't like to use public toilets.																X	0.27	0.21	0.08	0.07	0.15	0.16	0.08	0.10	0.11	0.05	0.01	0.38	
17	I get frustrated if I have to wait on crowded junctions.																	X	0.18	0.03	0.14	0.23	0.17	0.15	0.22	0.08	0.06	0.05	0.43	
18	I feel that roads should be made in a way to facilitate moving traffic.																			X	0.17	0.09	0.16	0.17	0.15	0.09	0.25	0.06	0.04	0.37
19	I am very selective in attending social gatherings.																				X	0.22	0.11	0.04	0.14	0.08	0.11	0.05	0.07	0.32
20	In any social gathering I prefer to sit at a place where I am least disturbed.																					X	0.25	0.13	0.09	0.06	0.07	0.08	0.03	0.39
21	I avoid facing crowded situations.																						X	0.29	0.13	0.11	0.04	0.13	0.08	0.54
22	I don't get along with pushy people.																							X	0.18	0.08	0.08	0.12	0.01	0.44
23	In any social gathering I prefer to wait for my turn to greet the host.																								X	0.05	0.15	0.07	0.01	0.32
24	I get angry or sulk if I am forced to go for a family gathering.																									X	0.06	0.03	0.04	0.32
25	I would face the situation if I don't have a choice.																										X	0.06	0.06	0.04
26	I like noisy parties.																											X	0.08	0.24
27	I share my lunch with my friends.																												X	0.17

Intrinsic Validity:

The intrinsic validity is used to show the extent to which the obtained scores measured the true components of the scale. For this purpose, the correlation was computed (Table 10, 11, 12 and 13) between the items of sub components and its total, the value obtained was quite high. Furthermore, Table 9 contained the correlation among the components of ECS and proved that ECS has intrinsic validity to the extent of satisfaction.

Table 10: Correlation of scores on Items of sub scale (Home) with Its Total (N=577)

Sl.No	Items	r						
		1	2	3	4	5	Total Home	Total ECS
1	I prefer quiet places.	x	0.05	0.14	0.01	0.05	0.40	0.31
2	I get disturbed if anybody meddles with my personal belongings.		X	0.12	0.13	0.11	0.55	0.38
3	I feel irritated if people watch TV or listen to the radio at high volume.			x	0.09	0.02	0.53	0.35
4	I find it difficult to share my room with friends or relatives.				x	0.19	0.56	0.31
5	I don't like visitors coming unannounced.					x	0.53	0.28

Table 11: Correlation of scores on Items of sub scale (In Traffic) with Its Total (N=577)

Sl.No	Items	R							
		1	2	3	4	5	6	7	8
1	I prefer to plan my travel during off peak hours in order to reach my destination on time.	x	0.11	0.19	0.17	0.00	0.05	0.06	0.11
2	I don't like people pushing their way around.		x	0.31	0.16	0.15	0.05	0.11	0.24
3	I get irritated if people start honking on the road unnecessarily.			x	0.32	0.18	0.21	0.22	0.31
4	I get irritated if people talk loudly in public places.				x	0.17	0.19	0.15	0.22
5	I avoid roads which are highly crowded.					X	0.31	0.18	0.27
6	I feel uneasy while travelling in a crowded bus/ train.						x	0.28	0.22
7	I get frustrated if I have to wait on crowded junctions.							x	0.18
8	I feel that roads should be made in a way to facilitate moving traffic.								x

Table 12: Correlation of scores on Items of sub scale (In Social Gatherings) with Its Total (N=577)

Sl.No	Items	r										
		1	2	3	4	5	6	7	8	9	10	11
1	I would adapt to the surroundings even though I don't enjoy the situation.	x	0.09	0.02	0.02	0.06	0.03	0.01	0.05	0.05	0.14	0.01
2	I enjoy the opportunity to be with people.		x	0.02	0.06	0.04	0.13	0.06	0.09	0.14	0.11	0.07
3	I don't like to use public toilets.			x	0.08	0.07	0.15	0.16	0.08	0.10	0.11	0.05
4	I am very selective in attending social gatherings.				x	0.22	0.11	0.04	0.14	0.08	0.11	0.05
5	In any social gathering I prefer to sit at a place where I am least disturbed.					X	0.25	0.13	0.09	0.06	0.07	0.08
6	I avoid facing crowded situations.						x	0.29	0.13	0.11	0.04	0.13
7	I don't get along with pushy people.							x	0.18	0.08	0.08	0.12
8	In any social gathering I prefer to wait for my turn to greet the host.								x	0.05	0.15	0.07
9	I get angry or sulk if I am forced to go for a family gathering.									x	0.06	0.03
10	I would face the situation if I don't have a choice.										x	0.06
11	I like noisy parties.											x

Table 13: Correlation of scores on Items of sub scale (In Friends Circle) with Its Total (N=577)

Sl.No	Items	r				
		1	2	3	Total FC	Total ECS
1	I prefer to interact with others at a time that suits me.	x	0.01	0.06	0.61	0.23
2	I don't like to share my books with others.		X	0.09	0.58	0.15
3	I share my lunch with my friends.			x	0.62	0.17

Construct Validity:

The construct validity of the experiential crowding scale was determined by computation of correlation between the total obtained on each component (Table 14 and 15) and total scores on ECS. The four dimensions of ECS are highly correlated with total scores of ECS.

Table 14: Correlation of scores on sub components with total experiential crowding scale (N=577)

Sl No	Components	Correlation
1	Home	0.62
2	In Traffic	0.79
3	In Social Gatherings	0.77
4	In Friends Circle	0.31

Table 15: Correlation of scores on sub components with each other (N=577)

SL.No	Components	Correlation			
		Home	In Traffic	In Social Gatherings	In Friends Circle
1	Home	X	0.34	0.27	0.20
2	In Traffic		X	0.40	0.06
3	In Social Gatherings			X	0.07
4	In Friends Circle				X

Factorial Validity:

Data collected during the standardisation process was used to ascertain the factorial validity of ECS, as to discover underlying dimensions of the construct. Eg. EC at Home, EC in Traffic, EC in Social Gatherings, EC in Friends circle. This fruitfully structured the concept of Experiential Crowding. The mean and standard deviation of scores in all the four components of ECS is presented in Table 16

Table 16: Mean and Standard Deviation on four major components of ECS (N = 577)

Components of ECS	No. of Items	Mean	SD
At Home	05	13.31	3.47
In Traffic	08	28.86	5.93
In Social Gatherings	11	33.14	5.93
In Friends Circle	03	6.79	2.23

Norms:

The data obtained from 577 respondents were analysed and based on the measures of central tendencies (Mean, SD and Quartiles), the norms were developed (Table 17). An individual with a high score, namely more than 70th percentile, maybe considered as having severe experiential crowding. On the other hand, having a low score, namely below the 20th percentile, indicated the normal level of experiential crowding. However, it should be borne in mind

that the present norms are based on the sample drawn from a particular region and users of ECS may develop separate norms based on their population.

The use of the above mentioned norms will provide information with regard to experiential crowding restricted to home, traffic, social gatherings and friends circle only. The differentiated view of experiential crowding can be ascertained through the computation and analysis of scores in terms of the factors mentioned above, which maybe, intrusion in personal space, social space, friends circle and in traffic.

Table 17: Norms for Experiential Crowding Scale and its Sub Components (N=577)

S.No	Levels	Components				
		At Home	In Traffic	In Social Gatherings	In Friends Circle	Total
		Score Range				
1	Normal	Upto 9	Upto 22	Upto 26	Upto 4	Upto 69
2	Mild	10 - 12	23 - 28	27 - 32	5 - 6	70 - 81
3	Moderate	13 - 15	29 - 34	33 - 38	7 - 8	82 - 93
4	Marked	16 - 18	35 - 40	39 - 44	9 - 10	94 - 105
5	Severe	19 and Above	41 and Above	45 and Above	11 and Above	106 and Above

Limitations of ECS:

1. Since the scale has been developed on an urban population, it should be used in urban areas only.
2. The scale attempts to measure experiential crowding in an objective manner. Therefore, relative experiences cannot be assessed.
3. In a few cases the items of ECS may touch personal feelings and experiences hence rapport building is essential before one starts the process of data collection on ECS. The data should be collected in dyadic situations only.

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