

Assessment of Resilience from the Perspective of Positive Psychology

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ABSTRACT

Adults are more likely to face adversity in their life and resilience, as a part of positive psychology, helps them to deal with these negative life events. So it is necessary to assess their capacity of resilience. But there is a lack of standardized resilience scales that focus only on adult population. For this purpose an attempt was made to develop and validate a scale for assessment of adults' resilience from psychological perspectives. The scale consisted of 54 items, on a 5-point Likert scale (1-5), with higher scores reflecting greater resilience. 100 participants including undergraduate and postgraduate students, aged 19 to 23 years, were selected. The scale showed good internal consistency (Cronbach's alpha = 0.736) and exploratory factor analysis revealed seven factors- sense of purpose and perception, forming relationships, healthy lifestyle, grip of life, taking control, self-efficacy, and positive mental health. All the seven factors were found to be significantly correlated with the resilience of adults. Therefore the present scale proved to be a valid measure to assess psychological resilience among the adult population. Moreover, the scale has potential utility in research and clinical purposes.

Key Words : Positive psychology, Resilience, Reliability, Validity, Exploratory Factor Analysis

INTRODUCTION

The field of positive psychology was identified in 1998 as one of the initiatives of Martin Seligman in his role as President of the American Psychological Association (Seligman, 1998, 1999). The trigger for positive psychology was the premise that psychology since World War II has joined forces with psychiatry and focused much of its efforts on human problems and how to remedy them. Human beings are seen as flawed and fragile, victims of cruel environments or casualties of bad genetics, and if not in denial, then at best in recovery. This worldview has even crept into the common culture, and many of us have become self-identified victims, trying to survive but not to flourish. Positive psychology proposes that it is time to correct the imbalance (Peterson and Park, 2003) and it also helps human beings to cope with such adverse situation and negative emotions.

Positive psychology is the study of the conditions

and processes that contribute to the flourishing or optimal functioning of people, groups, and institutions. Its aim is not the denial of the distressing, unpleasant, or negative aspects of life, nor is it an effort to see them through rose-colored glasses. Those who study topics in positive psychology fully acknowledge the existence of human suffering, selfishness, dysfunctional family systems, and ineffective institutions. But the aim of positive psychology is to study the other side of the coin—the ways that people feel joy, show altruism, and create healthy families and institutions—thereby addressing the full spectrum of human experience (Gable and Haidt, 2005). Positive psychology deals with the study of positive emotion, positive character, and positive institutions (Seligman and Csikszentmihalyi, 2000). The main aspects of positive psychology are resilience, strength and growth. Without these aspects people will not be able to maintain a healthy balance in their everyday life. Positive psychologists have enhanced our understanding of how, why, and under what

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conditions positive emotions, positive character, and the institutions that enable them flourish (e.g., Cameron, Dutton and Quinn, 2003; Easterbrook, 2003; Gardner, Csikszentmihalyi and Damon, 2001; Kahneman, Diener and Schwarz, 1999; Murray, 2003; Vaillant, 2000).

Resilience as an important aspect plays a significant role in positive psychology. Resilience does not mean that an individual is immune against stress; but also return to previous state, adaptability and procreator of recovering health in a short period of time. It is the ability of self-adaptation against stressors such as threats, incidences, personal and family problems, health and financial issues etc. It is individual's return to the basic or even higher level of balance. The concept of resilience is significant as it implies a change in focus from mental illness to mental health. Resilience is an interactive concept that is concerned with the combination of serious risk experiences and a relatively positive psychological outcome despite those experiences (Rutter, 2006). It has been further defined as a process and a personality trait (Werner and Smith, 1982; Wagnild and Young, 1993) that is assisted by individual characteristics, social support and family congruence. The concept of resilience is contextual in multiple ways, it is always judged in the context of risk or adversity exposure and isolated adverse experiences have a different significance for development than the same experience occurring in the midst of many other negative experiences. Developmental scientists often evaluate resilience on the basis of competence or achievements in age-salient developmental tasks, which encompass the major psychosocial expectations for children in a given time and culture (Masten and Coatsworth, 1998). Resilience is inferred when risk factor or adversity is high enough to pose a significant threat to healthy development or functioning and yet positive outcomes are nonetheless observed. In case of adversity it refers to experiences or events with the potential to disrupt normative functioning enough to cause negative outcomes (e.g., growing up in a violent family, sexual abuse, domestic violence, experiencing a natural disaster, unemployment, dealing any kind of pandemic situation etc.). Resilience is the capacity to maintain competent functioning in the face of major life stressors (Kaplan, Turner, Norman and Stillson, 1996). Resilient individuals find that they quickly become unaffected by new experiences and that when they are put in a stressful situation they are able to bounce back and relax (Cutuli and Masten, 2009).

George Vaillant (1993) defines resilience as the “self-righting tendencies” of the person. According to Goldstein (1997) resilient people have “both the capacity to be bent without breaking and the capacity, once bent, to spring back”. Resiliency is the capacity to respond to adversity without damage. It means the skills, abilities, knowledge, and insight that accumulate over time as people struggle to surmount adversity and meet challenges. It is an ongoing and developing fund of energy and skill that can be used in current struggles (Garmezy, 1994 and Saleebey, 1996). Highly resilient people are said to have a set of attributes that are not shown by less resilient individuals. They are able to identify issues that they have and how they feel about the said issues. In addition they find it easy to talk about any issues that are bothering them with people close to them. Such problem centered coping helps them withstand pressures (Tugade *et al.*, 2004). People who are resilient display a greater capacity to quickly regain equilibrium physiologically and psychologically (Bonanno, 2004).

Generally adulthood plays most important role in an individual's life and in this period people face many challenges regarding to their career, working life, relationships, health issues, broken marriage, sudden death of life partner, lack of income, child rearing, life satisfaction and various types of midlife crisis. These negative and unfavorable experiences play major role for dissatisfaction in their overall life. But the various factors of psychological resilience help them to recover from these adverse situations and they can bounce back to their normal life. So there is no doubt that adult must know the need and utilization of resilience in their daily life. However most of the existing scales focus only children and adolescents and there is a lack of standardized scales which focus only adults. Additionally the existing scales focus mainly on the assessment of intrinsic resilience factors and have limitations in capturing factors like sense of purpose and perception, healthy lifestyle, grip of life, taking control and other extrinsic factor such as forming relationships etc. Thus the present study attempts to develop a resilience scale including above mentioned factors which focuses only on adult population. The study was carried out with the following objectives.

Objectives :

- To select and prepare items for measuring resilience from psychological perspectives

- To analyze the items of the scale and formulate accurate factors for measuring resilience
- To find out the reliability and validity of the scale

METHODOLOGY

Development of the Scale :

Items of this scale were generated after an extensive literature review and surveying different standardized scales on resilience. From this pool of items, 80 items were selected for the new scale. Each item of the scale was to be rated on a 5-point Likert scale in the following way: 1- strongly disagree, 2 - disagree, 3- neutral, 4 - agree, 5- strongly agree. Likert rating scale format was utilized because of its ability to produce reliable scores and its ease of use for both respondents and assessors. This scale was given to experts for their valuable opinions and comments and to check the content validity of the scale. On the basis of experts' judgments some items were modified, some were omitted and the rest were retained. The revised scale included 60 items and the total scores could range from 60 to 300, with higher scores reflecting greater resilience. The present scale was prepared using seven different factors of resilience including sense of purpose and perception, forming relationships, healthy lifestyle, grip of life, taking control, self-efficacy, and positive mental health (Table 3).

Study Sample:

In the present study 100 participants including undergraduate and postgraduate students, were used from the Department of Home Science, University of Calcutta.

The participants were aged between 19 to 23 years old. They were all residents of Kolkata and both males and females were included. Data collection took place in December, 2019 to June, 2020 via survey method. The participants were invited to participate in the study on a voluntary basis and they were assured that all information will be used for research purpose and remain confidential. However, due to pandemic situation it was not possible to administer the scale on a larger sample.

RESULTS AND DISCUSSION

The psychometric properties of the scale have been analyzed by Mean, Standard deviation, Item-rest correlation, Independent sample t-test, Cronbach's alpha and Exploratory Factor analysis with the help of JAMovi statistical software.

Internal Consistency:

The obtained mean score and standard deviation of the total score of the scale are respectively $M = 7.18$ and $SD = 0.750$. The reliability of the scale has been examined using internal consistency values (Cronbach's $\alpha = 0.736$) which indicates good internal consistency and therefore high reliability. Item-rest correlation has been done to find out the relevance of each item of the scale. Then t-tests for each item have been conducted to find out the discrimination index (Table 1).

Exploratory Factor Analysis:

To verify the construct validity and the factor structure of the scale exploratory factor analysis have

Table 1 : Item Analysis of the Scale

Item No	M	SD	Student's t	P - Value	Item-rest correlation	Cronbach's α
1	4.22	0.733	4.650*	<.001	0.4813	0.733
2	3.58	0.923	2.527	0.018	0.4623	0.732
3	3.45	0.869	3.793	<.001	0.4764	0.732
4	3.76	0.842	4.361*	<.001	0.4172	0.733
5	3.94	0.776	6.803	<.001	0.5514	0.732
6	3.99	0.904	5.992	<.001	0.4928	0.731
7	3.73	0.802	2.345	0.027	0.1822	0.735
8	3.77	1.033	0.999	0.327	0.2501	0.734
9	3.53	0.969	2.880	0.008	0.3856	0.732
10	3.29	1.057	3.480	0.002	0.3186	0.733
11	3.21	0.988	2.672	0.013	0.3137	0.733
12	4.05	0.730	1.971	0.059	0.2549	0.735
13	3.75	0.903	2.364	0.026	0.1552	0.735
14	3.81	0.748	3.863	<.001	0.3910	0.733
15	3.75	0.796	3.911	<.001	0.3990	0.733

Table 1 contd..

Contd..... Table 1

16	4.24	1.102	2.430	0.022	0.2127	0.734
17	4.25	0.936	3.198*	0.004	0.3674	0.733
18	3.78	0.980	2.011	0.055	0.2915	0.733
19	4.14	0.888	3.441	0.002	0.3294	0.733
20	3.19	0.895	3.113	0.004	0.4359	0.732
21	3.31	0.940	2.132	0.043	0.4289	0.732
22	3.91	0.933	1.603*	0.121	0.1166	0.736
23	3.81	0.884	1.152	0.260	0.1087	0.736
24	4.13	0.734	2.216	0.036	0.1499	0.736
25	3.23	1.162	4.198	<.001	0.4830	0.730
26	3.66	0.807	2.800	0.010	0.3311	0.734
27	3.83	0.779	4.017	<.001	0.5028	0.732
28	3.72	0.900	3.390*	0.002	0.4689	0.732
29	3.81	0.837	4.155	<.001	0.4371	0.732
30	3.74	0.719	4.359	<.001	0.4874	0.733
31	3.66	0.913	1.930*	0.065	0.2165	0.735
32	3.70	0.823	3.334	0.003	0.3409	0.733
33	3.31	0.918	6.072*	<.001	0.5264	0.731
34	3.55	0.892	4.578	<.001	0.5698	0.731
35	3.54	0.858	4.570	<.001	0.5036	0.732
36	4.15	0.833	4.412*	<.001	0.5004	0.732
37	3.75	0.833	4.809	<.001	0.5402	0.731
38	3.80	0.888	4.487*	<.001	0.4713	0.732
39	3.53	1.029	5.393	<.001	0.4906	0.731
40	3.38	1.162	2.502	0.019	0.2987	0.733
41	3.47	0.937	3.199	0.004	0.2945	0.734
42	3.56	0.845	6.329	<.001	0.5985	0.731
43	3.52	0.904	3.516	0.002	0.5365	0.731
44	3.05	1.067	2.488	0.020	0.3449	0.733
45	2.69	1.346	2.818	0.009	0.3273	0.732
46	3.43	1.130	4.400	<.001	0.4440	0.731
47	3.64	0.894	4.371	<.001	0.5092	0.731
48	3.81	0.940	5.136	<.001	0.4464	0.732
50	3.21	1.713	0.974	0.339	0.1439	0.735
51	3.56	1.067	3.678	0.001	0.4549	0.731
52	3.69	0.982	7.228*	<.001	0.5771	0.730
53	3.30	1.068	2.012	0.055	0.2778	0.733
54	3.27	0.920	4.102*	<.001	0.4714	0.732
55	3.55	0.757	4.259	<.001	0.5807	0.731
56	3.67	0.965	5.306	<.001	0.5871	0.730
57	3.83	0.900	6.004*	<.001	0.5919	0.730
58	3.98	0.765	5.762	<.001	0.5199	0.732
59	3.48	0.937	5.521	<.001	0.5735	0.730
60	3.45	1.149	1.062	0.298	0.0258	0.737
61	3.88	0.879	4.666*	<.001	0.5468	0.731

*Levene's test is significant ($p < .05$), suggesting a violation of the assumption of equal variances.

been computed and seven factors have been extracted from the analysis (Table 2). Finally, only those items with significant difference between high score and low score at 0.05 level and Item-rest correlation value more than

0.4 have been retained. Thus some items have been rejected on the basis of their very low correlation value, t-value not significant at 0.05 and high uniqueness of factor loadings (Table 2).

Table 2 : Exploratory Factor Analysis (EFA)

Factors and Factor Loadings								
Item No	1	2	3	4	5	6	7	Uniqueness
1	0.418				0.382			0.553
2	0.417							0.627
3	0.301							0.674
4							-0.312	0.680
5								0.637
6		0.498			0.315			0.486
7			-0.352	0.348				0.692
8				0.342				0.761
9	0.431						0.358	0.627
10	0.323						0.491	0.584
11							0.654	0.515
12								0.783
13					-0.346	0.378		0.661
14				0.418				0.630
15								0.772
16		0.557						0.571
17		0.681						0.460
18		0.677						0.510
19		0.854						0.270
20			0.564					0.484
21	0.305	0.431	0.305					0.572
22								0.903
23	-0.329		0.450					0.725
24								0.910
25	0.519							0.542
26	0.439					0.322		0.631
27	0.609							0.431
28	0.561					0.334		0.500
29						0.744		0.403
30						0.338		0.665
31		0.367						0.730
32				0.430				0.685
33			0.370					0.608
34	0.484		0.324					0.487
35						0.310		0.549
36	0.581							0.503
37				0.366				0.505
38				0.744				0.406
39					0.416		0.341	0.565
40					0.508			0.661
41					0.643			0.487
42				0.316				0.566
43						0.444		0.579
44			0.409			0.301		0.625
45	-0.364		0.367				0.307	0.597
46						0.351		0.622
47			0.378		0.312			0.545
48							0.412	0.634
50					0.379			0.826

Table 2 contd...

Contd.... Table 2

51		0.581		0.514
52		0.355	0.381	0.532
53		0.494		0.687
54			0.676	0.466
55		0.394		0.536
56	0.306			0.559
57	0.308			0.539
58			0.382	0.515
59			0.527	0.493
60				0.887
61	0.372			0.577

'Minimum residual' extraction method was used in combination with an 'oblimin' rotation.

Table 1 shows descriptive statistics of the scale, item discrimination value of each item ($p < .05$), item-rest correlation of each item ($p < 0.01$) and Cronbach's alpha of each item of the scale.

Table 2 shows seven factors, factor loadings and uniqueness of each item of the scale. This table shows that items A5, A12, A15, A22, A24 and A60 are unique and do not fit with any factors. But items A5, A12 and A15 have moderate to high item-rest correlation value (0.3 to 0.5), their discrimination indexes are also significant at .05 level and these three items are well fitted to factor 1, 7 and 3 respectively (Table 1) and (Table 2). So these three items have been included in the present scale. In case of item A13 discrimination index is significant ($p < .05$) and it shows moderate to high factor loadings in factor six but content wise this particular item is well fitted to factor seven. Further items A4, A22, A23, A24, A50 and A60 have been rejected. A4 showed negative factor loadings and this item did not fit with any other factors. Items A22, A23 and A60 have very low Item rest Correlation value (0.0 to 0.1) and discrimination indexes are not significant ($p < .05$) and they also did not fit with any other factors. Item A50 indicates moderate to high factor loadings in factor 5 but this item has very low Item rest Correlation value (0.1) and also discrimination index was not significant ($p < 0.5$). After rejecting these six items, the final scale comprises of 54 items including seven factors and these are Sense of purpose and perception - 10 items, Forming relationships - 8 items, Healthy lifestyle - 10 items, Grip of life - 8 items, Taking control - 5 items, Self-efficacy - 7 items and Positive mental health - 6 items (Table 3).

The present study attempts to develop a standardized scale that measures adults' resilience from

psychological perspective. Table 1 represents Internal Consistency of the scale and the Cronbach's alpha value which is 0.736 seems to be quite high. This result is supported by (Rossouw and Rossouw, 2016) where the Predictive 6-Factor Resilience Scale (PR6) has been developed for targeted treatment to improve holistic resilience capacity and industry application shows good internal consistency (Cronbach's alpha = 0.736). Table 2 which represents item analysis of the scale reveals that the present scale has good discriminatory power and the item-rest correlations are moderate to high, further indicating adequate reliability. Table 3 shows exploratory factor analysis in which seven factors have been identified. The factors make sense based upon the item loadings, items that are similar in nature loaded with other similar items supporting construct validity.

The first factor (sense of purpose and perception) refers to the purpose of living and individual's perception regarding their life. Sense of life purpose and perception helps to build subjective well-being which is positively correlated with resilience (Yildirim and Belen, 2019). Second factor (forming relationships) is an extrinsic factor. People's relationships to their family, society, friends, partners and peers play a major role in resilience. Various studies also suggest that individual resilience develops through the family network of relationships and family resilience framework reduces the prolonged adversity of any situation (Walsh, 2016). The third factor centers on the concept of healthy lifestyle. Taking care of both physical and psychological health increases the level of resilience. Research studies demonstrate that resilience, mental health and general wellbeing are correlated with each other (Gao *et al.*, 2017). The fourth factor (grip of life) means controlling one's emotions and to behave

Table 3: Factor Loadings of Each Item of the Scale

Item No.	Factor 1 (Sense of Purpose and Perception)	Inter Factor Coefficients	Per cent of Variance	Total Items
1.	I feel my life has meaning.	0.606	37.9	10
2.	I have clear life goals.	0.586		
3.	I feel connected to a higher purpose or meaning.	0.557		
5.	I am taking steps to achieve my life goals.	0.554		
25.	I find it easy to talk openly to others and build relationships.	0.555		
27.	I believe I can solve the challenges I experience in my life.	0.613		
34.	I know what I am capable of and I am confident in myself.	0.656		
36.	I believe in myself.	0.649		
57.	I look forward to a bright future and know I can handle difficulties.	0.697		
61.	I am aware of my visions and prepared to fulfil my own wishes.	0.663		
Factor 2 (Forming Relationships)				
6.	There are significant people, causes and faith in my life.	0.589	35.0	8
16.	I have at least one person in my life with whom I can share everything the good and the bad.	0.517		
17.	I make time for the people that are important to me.	0.679		
18.	I have faith in others and I can rely on their support when I need it.	0.694		
19.	I share my feelings and concerns with people whom I trust.	0.843		
21.	I express my own emotions in a way that other can understand and accept.	0.436		
31.	If I have a problem, I take action to deal with it rather than just thinking about it.	0.378		
56.	I set clear priorities for my life.	0.449		
Factor 3 (Healthy Lifestyle)				
15.	I am good at looking at situations in a different way to try to find the positive.	0.344	29.0	10
20.	I find it easy to ask for and accept help from other people.	0.460		
33.	I am good at finding solutions to problems and challenges.	0.588		
44.	I eat a healthy diet.	0.474		
45.	I exercise at least twice a week.	0.424		
47.	I am able to identify when I am stressed & take action to unwind.	0.624		
51.	I take good care of myself.	0.639		
52.	I am in touch with my body and feel what's good for me & what's not.	0.634		
53.	In a difficult situation, I put my own health before the expectations of others.	0.438		
55.	I approach things (pleasant and unpleasant) and take action.	0.654		
Factor 4 (Grip of Life)				
7.	My behaviour is driven by my values.	0.343	28.6	8
8.	I am aware of my own feelings.	0.332		
14.	I am realistically optimistic about my own capabilities and limits.	0.529		
32.	I follow tasks and projects through to completion.	0.499		
37.	I believe I can influence the direction of my life.	0.510		
38.	I am aware of my personal weakness and vulnerabilities.	0.731		
42.	I am good at recognizing the things which I can influence and the things that I can't.	0.517		
54.	I believe that I can influence my life situation and I am not a victim of the circumstances.	0.685		
Factor 5 (Taking Control)				
39.	In stressful times I control my own strong feelings.	0.621	35.2	5
40.	When I experience anger and frustration, I manage my behaviour so that I don't damage myself or others.	0.515		
41.	I don't dwell on things that I can't control.	0.509		
58.	I evaluate my experiences and learn from mistakes as well as successes.	0.583		
59.	I adapt flexibly to change and easily accept the unchangeable.	0.712		

Table 3 contd...

Contd... Table 3

Factor 6 (Self-efficacy)				
26.	When things are tough I focus on where I want to get to.	0.492	30.6	7
28.	I am aware of my own strength.	0.603		
29.	I draw strength from having overcome previous challenges and tough experiences.	0.702		
30.	During particularly tough times, I choose to persevere rather than give up.	0.592		
35.	I can rely on my own abilities and resources in difficult times.	0.473		
43.	I pay to and make the most of my strengths.	0.589		
46.	I make time for myself each week to do something that makes me feel good.	0.346		
Factor 7 (Positive Mental health)				
9.	I consistently maintain a positive point of view in my thinking.	0.547	27.1	6
10.	When I experience unwelcome negative thoughts I stop them.	0.621		
11.	When I find myself dwelling on negative thoughts I quickly change them to positive thoughts.	0.678		
12.	In my life I choose to be positive rather than negative.	0.418		
13.	When I experience powerful negative emotions I take action to deal with whatever is causing them.	0.326		
48.	When experiencing difficult times, I make an effort to do things that are enjoyable, relaxing & recharging.	0.446		
Total			54	
Table 3 shows the total items of the entire scale, factor loadings of each item according to the seven factors and per cent of variance of each factor of the scale				

calmly according to the situation. (Masten, 2016) suggests that developmental resilience implies building of human capacity for surviving and thriving in times of turbulence and change. Individuals with high resilience have low psychological distress, high quality of life and life satisfaction (Tecson *et al.*, 2019). So an individual's grip of life is necessarily an important indicator of resilience. The fifth factor of the scale relates to taking control. When a person has control over his own life he/she can deal with any challenges gracefully and manage their own behaviors. The importance of this has been mentioned in earlier researches (Block and Kremen, 1996; Lazarus, 1993 and Block and Block, 1980). The sixth factor refers self-efficacy which refers to a person's belief in his or her own capability to execute a plan, action or performance. In most of the studies relationship between self-efficacy and resilience is very strong and positive (Konaszewski *et al.*, 2019). Moreover, psychological resilience and positivity are found to be important predictors of self-efficacy (Bingol *et al.*, 2019). The last factor of the scale is positive mental health. Positive attitude towards life helps people to think positively and reduces the negative thoughts and maintain sound mental health. Rudwan and Alhashimia (2016) have stated that there is a positive correlation between mental health and resilience. Therefore, the seven factors

corroborate with the theoretical definitions of resilience, as well as provide support for the construct validity of the present scale. Table 3 represents the total item number of the scale and each item according to the factors. The overall findings suggest that the present resilience scale meets all the criteria that make it a standardized measurement tool and it can also contribute significantly to positive psychology.

Conclusion:

A standardized instrument to measure psychological resilience has been constructed which has high reliability, good internal consistency (Cronbach's $\alpha = 0.736$) and desirable factor loadings ranging from 0.332 to 0.843. However, as the sample of the study includes only undergraduate and postgraduate students, it should be mentioned that for generalization to wider population the scale needs to be standardized by considering large representative sample including various age groups, educational levels and socioeconomic status. Despite this limitation the present resilience scale can be introduced as an assessment tool for our adult population. The academicians and researchers can definitely use the scale and we also believe that this resilience scale can be used in clinical practices and it may help in counseling services for promoting development of sense of purpose, self-

esteem, adaptability, resilience and sound mental health.

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