

CHAPTER 3
METHODOLOGY

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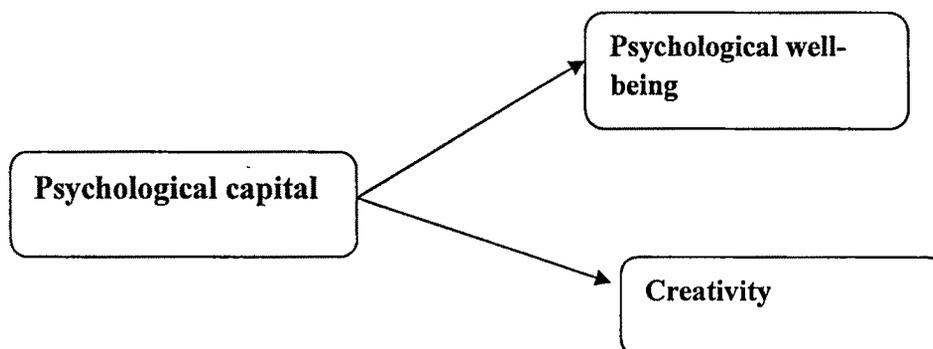
Research Design and Methodology

Research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure (Claire Selltiz, 1959). It is the plan, structure and strategy of investigation conceived so as to obtain answer to research question. It shows the pathways to test the hypotheses which are formulated already and verify those so that conclusions can be extracted.

Research methodology is the approach taken to conduct a research. There are different approaches in social science and based on purpose of the research the researcher will choose and applies those approaches. It specifies the logic of choosing a particular problem, hypothesis formulation, statistical techniques to be used etc.

3.1 Research Design

It is a correlational research. The impact of Positive psychological capital will be measured on psychological well-being and creativity among undergraduate and Post graduate students.



3.2 Variable of the study

Independent or Predictor variable: Psychological capital

Dependent Variables or criterion variable: Creativity and Psychological well being

3.3 Sample

A sample of N= 500 has been selected for the present research. The sample has been collected from various colleges and departments of university located in Guwahati City area. The total sample includes two fifty college students pursuing graduation and two fifty students from university pursuing post- graduation.

Following criteria has been taken for inclusion of a student as a sample from population:

- ✓ He/ she should a regular student in college/ university.
- ✓ He /she should be pursuing the course from college/ university located in Guwahati city area.
- ✓ He/ she should be in age group of 18-22 years.
- ✓ He/ she can be a student of Arts/science / commerce stream.
- ✓ He/she should be pursuing graduation in non-technical field.

The total sample has been collected from various colleges and departments of Gauhati university, located in Guwahati city area. The age ranges from 18 to 22 years of the sample.

The list of colleges and department of Gauhati University is mentioned below:

Name of the college
1.Cotton college
2.Handique Girls college
3.Lalit Chandra Bharali college
4.Karmashre Hiteshwar Saikia college
5. Radhagobinda Barua College
6.B. Borooh College
7.Pragjyotish College

Department of Gauhati University
1.Department of Psychology
2.Department of Sanskrit
3.Department of education
4.Department of political science
5.Department of Biotechnology
6.Department of Chemistry
7. Department of Masters in Business administration
8.Department of commerce
9.Department of mathematics.

3.3 Description of the Tools:

Tool 1:

Interview Schedule:

An interview schedule was prepared by the researcher herself. The schedule includes twenty one items/ questions to find the socio demographic information of the students. The information was collected on the following categories:

- ❖ Name, age gender
- ❖ Family information
- ❖ Socioeconomic status.
- ❖ Education background of the students
- ❖ Hobbies and interests.
- ❖ Parents educational Qualification.
- ❖ Parents occupational description.

Tool 2:

Positive psychological capital construct include four basic construct. These are self-efficacy, optimism, Hope and resiliency. To measure these four construct four separate tools were used.

The General self –efficacy scale: It was developed by Ralf Schwarzer and Mathias Jerusalem in 1979 in Germany. German version was developed in 1979 by these psychologists and later revised and adapted to 26 other languages by various co-

authors. The scale was created to assess a general sense of perceived self-efficacy with the aim in mind to predict coping with daily hassles as well as adaptation after experiencing all kinds of stressful life events. The construct of Perceived Self-Efficacy reflects an optimistic self-belief (Schwarzer, 1992). This is the belief that one can perform a novel or difficult tasks, or cope with adversity -- in various domains of human functioning. Perceived self-efficacy facilitates goal-setting, effort investment, persistence in face of barriers and recovery from setbacks. It can be regarded as a positive resistance resource factor. Ten items are designed to tap this construct. Each item refers to successful coping and implies an internal-stable attribution of success. Perceived self-efficacy is an operative construct, i.e., it is related to subsequent behavior and, therefore, is relevant for clinical practice and behavior change.

Administration: The scale is designed for the general adult population, including adolescents. Persons below the age of 12 should not be tested. The scale is usually self-administered, as part of a more comprehensive questionnaire. Preferably, the 10 items are mixed at random into a larger pool of items that have the same response format. Time: It requires 4 minutes on average.

Scoring: Responses are made on a 4-point scale. Sum up the responses to all 10 items to yield the final composite score with a range from 10 to 40. No recoding.

Reliability: In samples from 23 nations, Cronbach's alphas ranged from .76 to .90, with the majority in the high .80s. The scale is unidimensional.

Validity: Criterion-related validity is documented in numerous correlation studies where positive coefficients were found with favorable emotions, dispositional

optimism, and work satisfaction. Negative coefficients were found with depression, anxiety, stress, burnout, and health complaints. In studies with cardiac patients, their recovery over a half-year time period could be predicted by pre-surgery self-efficacy.

The measure has been used internationally with success for two decades. It is suitable for a broad range of applications. It can be taken to predict adaptation after life changes, but it is also suitable as an indicator of quality of life at any point in time.

TOOL 3:

The Life –Orientation Scale: The Life Orientation Test (LOT) is a 10 item scale developed to measure individual differences in generalized optimism versus pessimism. This measure has been used in a good deal of research on the behavioral, affective, and health consequences of the Optimism/Pessimism dimension. The Life Orientation Test – Revised (LOT-R; Scheier, Carver, & Bridges, 1994) is a 10-item scale, with four filler items and six scale items. LOT-R .Total scores are calculated by summing the three positively worded and three negatively worded items (these are reverse coded). Respondents are asked to indicate their level of agreement with each of the items on a 4-point scale, using the response format, “strongly agree” to “strongly disagree”.

Scoring and Administration: It is a self administered test. Each item is scored 0-4.Total score is sum of all 6 (non-filler) items. There are scoring for reverse scores for items 3, 7, and 9.

Reliability and Validity: The LOT-R has good internal consistency (Cronbach’s alpha runs in the high .70s to low .80s) and is quite stable over time. Scheier, Carver and Bridges report an internal reliability coefficient of .78 for an undergraduate

sample. The corresponding internal reliability coefficient for the sample in the present study was .60. LOT-R Optimism (total of the three positively worded items) and LOT-R Pessimism (total of three negatively worded items) were also calculated. Internal reliability coefficients for these subscales were .62 (Optimism) and .78 (Pessimism).

Another study examined internal consistency and test-retest reliability of a measure of dispositional optimism, the Life Orientation Test — Revised, in 121 opiate-dependent patients seeking methadone treatment. Internal consistency was adequate at baseline ($\alpha = .69$) and follow-up ($\alpha = .72$). Low socioeconomic status and being on disability were significantly associated with reduced internal consistency; ethnic and educational differences approached significance. Test-retest reliability was good ($ICC = .72$), varying across gender, race, ethnicity, education, employment and income ($ICC \text{ Range} = .24 - .85$). Criterion validity was strong; the LOT-R was significantly negatively correlated with hopelessness ($r = -.65, p < .001$) and depression ($r = -.60, p < .001$). Findings support the use of this measure of optimism and pessimism to assess positive cognitive and emotional attributes and improve treatment strategies for opiate-dependent individuals. Future research should address the measurement and significance of optimism in minority, low socioeconomic status and poorly-educated individuals.

Interpretation: This gives a possible range of 6-24, with higher scores indicating more optimism. Total = 19-24 High Optimism, Total = 14-18 Moderate Optimism, Total = 0-13 Low Optimism

TOOL 4:

Hope scale: This scale was developed by Snyder and his colleague in 1991. This scale has 12 items. The response ranges from “definitely false” to “definitely true”.

Administration and Scoring: It is a self administered scale. The agency subscale score is derived by summing items 2, 9, 10, and 12; the pathway subscale score is derived by adding items 1, 4, 6, and 8. The total Hope Scale score is derived by summing the four agency and the four pathway items.

Reliability and validity: Both subscales have adequate internal reliability, with Cronbach’s alphas ranging from .70 to .84 for the Agency subscale, and from .63 to .86 for the Pathways subscale (Snyder et al.,1991).

TOOL 5

The Resiliency scale: This scale was developed by Gail M. Wagnild and Heather M. Young in 1987. This scale has 14 items. The purpose of the scale is to identify the degree of individual resilience (personal competence and acceptance of self and life); a positive personality characteristic that enhances individual adaptation. This scale can apply to adult population ranges between 18-23 years. "Resilience is much more than just bouncing back," says Dr. Gail Wagnild, the creative force behind the Resilience Scale, who has conducted research into resilience for over 25 years. Resilient individuals have the capacity to choose a vital and authentic life. A strong resilience core gives a person the ability to structure his or her life in a resilient way." Thus, the Resilience Scale measures a person’s capacity to live a full and rewarding life. Thus the Resilience Scale is a tool with excellent content and face validity. Its reliability is strong, and likewise construct validity has been consistently supported.

Administration and Scoring: It is a self administered scale. There is no negative item. Scoring has been done on seven point scale 1-7. The total score will be sum of all the items scores.

Reliability and Validity : Cronbach's alpha coefficients ranged from .72 to .94 supporting the internal consistency reliability of the Resilience Scale. Hypothesized relationships between the Resilience Scale and study variables (e.g., forgiveness, stress, anxiety, health promoting activities) were supported strengthening the evidence for construct validity of the Resilience Scale. In the studies reported here, the Resilience Scale has been used with a variety of individuals of different ages, socioeconomic, and educational backgrounds. The Resilience Scale has performed as a reliable and valid tool to measure resilience and has been used with a wide range of study populations.

TOOL 6

Creativity test: To measure creativity a standardized psychological test named 'Divergent production abilities' developed by Dr. N. K. Sharma in 2006 was used. The battery of divergent production abilities contains six subtests measuring eight abilities which in total provides a creativity score. The creativity was measured in four components : fluency, flexibility, originality and elaboration. There are six subtests to measure these four abilities which in composite provide creativity score.

The six subtests are :

1. Word production test
2. Uses of Things test
3. Similarities test
4. Sentence Construction test
5. Titles test

6. Elaboration test.

Administration and Scoring: It is a self reported test. Each subtest contains different types of items according to the ability of creativity it suppose to measure. For example, Word Production test (WPT) contains five items asking subject to write more and more words starting or ending with a given letter. Proper instruction was given with each item. Spaces have been provided to write down the responses.

For the scoring of the test, different scoring pattern was followed for each subtest due to nature of the items. From each subtests researcher will get one raw score. To get the composite creativity score, raw scores of all the subtests should be converted to a standard score and addition of standard score of all the tests will be the creativity score. The raw score of all the tests cannot be added directly because of greater variations in score incomparability for their different domain and approach.

Reliability: The test –retest reliability was measured for each subtest. The coefficient values are ranging from .67 to .85, which indicates a good reliability level.

Validity: To ensure content validity, a deliberate and consistent effort has been made to use the test stimuli, test tasks, instructions and scoring procedures based on the Test theory and researches available on creativity or divergent production abilities. The correlation of the battery of the test with Baqer Mehdi's test of creative thinking, showed good level of coefficient values, ranging from 0.33 to 0.50 for creativity score.

TOOL 7

Psychological Well-being Questionnaire: This test is developed by Carol Ryff in 1989. This questionnaire measures psychological well-being in six dimensions which indicated that six construct in combination constitute the concept of psychological well-being. The six dimensions are : autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance. Items from the separate scales are mixed (by taking one item from each scale successively into one continuous self-report instrument).

Administration and Scoring : It is a self administered questionnaire. Participants respond using a six-point format: strongly disagree (1), moderately disagree (2), slightly disagree (3), slightly agree (4), moderately agree (5), strongly agree (6). Responses to negatively scored items (-) are reversed in the final scoring procedures so that high scores indicate high self-ratings on the dimension assessed.

There are no specific scores or cut-points for defining high or low well-being. Those distinctions are best derived from distributional information from the data collected. For example, high well-being (for short or long versions of the scales) could be defined as scores that are in the top 25% (quartile) of the distribution, whereas low well-being could be defined as scores that are in the bottom 25% (quartile) of the distribution. Another alternative would be to define high well-being as scores that are 1.5 standard deviations above the mean, whereas low well-being is scores that are 1.5 standard deviations below the mean.

Reliability and Validity: The multidimensional structure of psychological well-being, as measured by the Ryff inventory, has been tested and validated on a nationally

representative sample of English-speaking adults age 25 and older. For each dimension internal consistency was measured and it was found to be (coefficient alpha) = .83 for autonomy, .86 for environmental mastery, .85 for personal growth, .88 for positive relations with others, .88 for purpose in life, and .91 for self-acceptance. For validity, the present 84 items test was correlated with the 20 –item parent test. The correlation coefficient values are ranging from 0.97 to 0.99 for all the six dimensions.

3.4 Procedure for data collection

The study was conducted on college and university students pursuing graduation and post graduation respectively. The consent was taken from the students and authority for the data collection. The questionnaires were distributed in classroom in a group of 8-10 students at a time. At first basic instructions were given about the data collection. Then interview schedule was filled up by them to get the socio -demographic information. Thirdly the main psychological tests were administered to the students. All the tests are self reported so students filled these by themselves. Lastly they were thanked for their participation in the research. Each set of tests were needed almost one hour to complete. Data were collected by the investigator herself from the field.