## METHODOLOGY

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Chapter III
METHODOLOGY

This chapter elaborates on the methodology adopted for the study including the sample for the study, selection of variables, tools employed, and administration of the questionnaires and assessment of variables, procedure for data collection, and statistical procedures employed.

3.1 Sample for the study

The purpose of the study was to analyze support infrastructure, coping style and self concept among sportspersons in India. For the purpose of the study, sportspersons belonging to the following sports disciplines: badminton, football, volleyball, basketball, swimming and track and field were selected. The sample consists of 216 national level sportspersons belonging to the above sports disciplines which consist of 126 male sportspersons and 90 female sportspersons. All the sportspersons had been playing at the national level and few in the international level during the last three years. The age of the subjects ranged from 15 to 29 years. The samples were identified and selected following a convenience sampling method from the venues of national level tournaments and during the coaching camps of various teams.

3.2 Selection of Variables

The purpose of the study was to analyze support infrastructure, coping style and self concept among sportspersons in India. Relevant to the present study, the following variables were selected:
(i) Support Infrastructure was assessed using the Multidimensional Scale of Perceived Social Support (MSPSS) by Zimet, G.D., Dahlem, N.W., Zimet, S.G. & Farley, G.K. (1988).

(ii) Coping style was assessed using the Athletic Coping Style Inventory Questionnaire (ASCI-28) by Smith, Schutz, Smoll and Ptacek (1995).

(iii) Self Concept was assessed using The Physical Self Description Questionnaire (PSDQ) by Marsh et al, (1994).

3.3 Tools Employed

3.3.1 Multidimensional Scale of Perceived Social Support (MSPSS)


The MSPSS was designed to assess the perceived adequacy of social support from family, friends, and significant others (Zimet, Dahlem, Zimet, & Farley, 1988). The instrument taps the individual’s perception of socio-emotional support from these sources. The MSPSS comprises 12 items, four items in each of three subscales. Items for each source are scored on a seven-point Likert-type scale ranging from “very strongly disagree” (1) to “very strongly agree” (7). Each set of items provides an index of support from each source. The subscale score for each respondent is computed by summing the ratings for each item for each support scale and then dividing the resulting total by 4. For the total score, ratings are summed and divided by 12. Total and subscale scores range from 1 to 7, with high scores indicating a heightened perception of available social support.
The MSPSS family, friends, and significant other subscales have demonstrated adequate internal consistency among undergraduates (Dahlem et al., 1991; Kazarian & McCabe, 1991; Zimet et al., 1988), pregnant women (Zimet, Powell, Farley, Werkman, & Berkoff, 1990), adolescents (Kazarian & McCabe, 1991; Zimet et al., 1990), pediatric residents (Zimet et al., 1990), psychiatric outpatients (Cecil, Stanley, Carrion, & Swann, 1995), and older adults with and without psychiatric disorders (Stanley, Beck, & Zebb, 1998). Cronbach alpha coefficients in these samples ranged from .81 to .90 (family), .85 to .94 (friends), .83 to .98 (significant other), and .84 to .92 (total). Estimates of test re-test reliability at 2 to 3 months ranged from .72 to .85 for the subscales and .85 for the total MSPSS (Zimet et al., 1988). Information about the convergent, concurrent, and construct validity of the MSPSS was reported by Cecil et al. (1995), Kazarian and McCabe (1991), Stanley et al. (1998), and Zimet et al. (1988, 1990).

Scoring

The MSPSS has a scoring for the three sub scales and for the total scale. The family subscale score was obtained by summing the scores of items 3, 4, 8, and 11, dividing by four. Similar scoring was applied for the friends subscale (including items 1, 2, 5, 6, 7, 9, and 12) and dividing by seven; and the significant other subscale (including items 1, 2, 5, and 10) and dividing by four. For the overall perceived social support score, all item scores were summed and divided by 12.
3.3.2 Athletic Coping Style Inventory (ACSI-28).

Coping styles of the sportspersons was assessed using the Athletic Coping Style Inventory Questionnaire (ASCI-28) by Smith, Schutz, Smoll and Ptacek (1995). The Athletic coping style inventory-28 (ACSI-28) is designed to assess psychological coping skills within a sport context. The ACSI-28 was revised and shortened from the 42 item Athletic coping skills inventory developed by R.E. Smith, Schutz, Smoll, and Ptacek (1988). The ACSI-28 provides a trait like measure of psychological coping skills thought to be instrumental to improve performance. It is composed of seven underlying psychological skill factors with subscales measuring coping with adversity, peaking under pressure, goal setting/mental preparation, concentration, freedom from worry, confidence and achievement motivation, and coachability. The seven subscales on the ACSI-28 can be summed to yield a general measure of psychological coping skills (Personal Coping Resources). It is suggested, however, that the ACSI-28 measures a multifaceted construct and that each subscale can be used as a specific measure.

Athletes are asked to read the statements on the ACSI-28 that describe experiences of other athletes and to recall how often they experience the same thing. Each subscale is composed of four items measured on a 4-point scale labeled 0(almost never), 1(sometimes), 2(often), and 3(almost always). Thus, each of the seven subscales scores can range from 0 to 12, and the composite Personal Coping Resources score can range from 0 to 84, with higher scores reflecting higher levels of psychological skill.
Test-retest reliability of the Personal Coping Resources score on the ACSI-28 was found to be .87 over a 2-week period for a sample of 97 male and female college athletes. Internal consistence reliability of the ACSI-28 total score was .86 for a sample of 594 male and 433 female high school athletes. One-week test-retest reliability coefficients and alpha coefficients for the subscales were as follows: Coping with Adversity ($r=.63$, $\alpha=.66$); Peaking Under Pressure ($r=.87$, $\alpha=.78$); Goal Setting/Mental Preparation ($r=.82$, $\alpha=.71$); Concentration ($r=.72$, $\alpha=.62$); Freedom From Worry ($r=.77$, $\alpha=.76$); Confidence and Achievement Motivation ($r=.83$, $\alpha=.66$); and Coachability ($r=.47$, $\alpha=.72$).

Smith and his colleagues (1995) have provided preliminary convergent validity evidence supporting the ACSI-28. The ACSI-28 total score has been shown to be related to the Self-Control Schedule (Rosenbaum, 1980, which measures cognitive-behavioral coping skills, the Problem Focused Coping subscale on the ways of Coping Checklist (Vitalino, Russo, Carr, Maiuro, & Becker, 1985), and the Sport Anxiety Scale (Smith, Smoll, & Schutz, 1990), as well as measures of generalized self-efficacy (Coppel, 1980) and general self-esteem (Smoll, Smith, Barnett, & Everett, 1993). Support for the subscale on the ACSI-28 was mixed. The Freedom From Worry subscale on the ACSI-28 has been related to the Sport Anxiety Scale worry factor, but the Concentration subscale did not correlate highly with the concentration disruption scale on the Sport Anxiety Scale.

The ACSI-28 has also been shown to be related to performance, supporting the construct validity of the instrument. Overachievers in high school athletics had higher psychological skills scores than did normal achievers and underachievers. In a study of
professional baseball players, psychological and physical skills accounted for approximately equal amounts of explained variance in hitters’ batting average, and psychological skills accounted for most of the explained variance in pitchers’ earned run average at the end of the season (Smith & Christensen, 1995).

Scoring

The score on Athletic Coping Skills Inventory (ACSI), is determined for the sub scales by adding the scores on the question numbers identified. The following numerical scales are associated with the respondent’s ratings.

0 = almost never
1 = sometimes
2 = often
3 = almost always

For items 3, 7, 10, 12, 19 and 23, the scoring is reversed. Scores range from a low of 0 to a high of 12 on each subscale, with higher scores indicating greater strengths on that subscale. The score for the total scale ranges from a low of 0 to a high of 84, with higher scores signifying greater strength.

3.3.3 Physical Self Description Questionnaire (PSDQ)

The Physical Self-Description Questionnaire (PSDQ) is an assessment of how individuals perceive themselves physically. The PSDQ includes nine physical self-concept components, Global Physical Self-Concept, and Self-Esteem (Marsh et al., 1994). Global Physical Self-Concept is defined as “feeling positive about one’s

More specifically, the PSDQ (Marsh et al., 1994) is a 70-item scale composed of 11 subscales, 9 of which are designed to tap perceptions of self related to specific areas of physical fitness and competence, one that measures self-perceptions of global physical competence, and one that measures global self-esteem.

Reliability of the PSDQ subscales was previously examined by Marsh (1996) among 141 students 13 to 15 years of age on four different occasions over the course of 14 months. Internal consistency estimates of PSDQ subscales were considered acceptable across all testing occasions. With the exception of the Health scale, all scales had reliability estimates across trials of greater than .90. The Health scale was considered reasonably reliable across measurement trials, $R = .82$ to $.87$. PSDQ measurement trials occurred about three months apart and overall were stable, $R = .83$. PSDQ stability reliability from the first trial to the last trial was $.69$ (Marsh, 1996).

Confirmatory Factor Analysis models of the PSDQ responses provided clear support for the 11 distinct physical self-concept components of the PSDQ (Marsh et al., 1994). Marsh et al. (1994) also found support for construct validity through Multitrait-Multimethod Analyses on the PSDQ, Physical Self-Concept Scale (PSC; Richards, 1988), and the Physical Self Perception Profile (PSPP; Fox, 1990). Correlations between factors representing different instruments were classified into three a priori categories: scales that are most closely matched, scales that are less closely matched, and scales that are non matched. The convergent validities in the first category (in which the scales were most closely matched) were found to range from
.79 - .90, with a median of .84. Convergent validities in the second category (in which scales were less closely matched) yielded coefficients from .61 - .73, with a median of .68. Providing further support for construct validity is the fact that the convergent validities in the first category were systematically larger than those in the second category (Marsh et al., 1994).

Scoring

Each sub scale includes six or eight items, and each PSDQ item is presented as a simple declarative statement, to which subjects respond using a 6-point true-false response scale. The scoring for the negative worded items (1, 4, 12, 15, 22, 23, 26, 31, 33, 37, 40, 41, 44, 45, 48, 56, 59, 62, 67, 68, and 70) was reversed. The total score of the PSDQ is ranged from 70 to 140. The total scores of the items of the 11 sub scales are averaged to form the score of each sub scale.

3.4 Procedure for Data collection

The research scholar contacted the coaches and players of the selected sports disciplines (badminton, football, volleyball, basketball, swimming and track and field) and they were oriented regarding the overall purpose and procedure of the study. After the consent from the coaches and players and with their agreement to participate, the researcher set up an appointment to meet with the players during coaching camps or at venue of national level tournaments.

The data were collected during 2010-11 and 2011-12 competitive seasons at the venues of coaching camps and at then venues of national level tournaments of the respective sports disciplines.
3.5 Statistical Analysis

The data obtained on support infrastructure (MSPSS), coping skills ACSI-28), and self concept (PSDQ) were analyzed for testing the hypothesis by using the Statistical Package for Social Sciences (SPSS version 20).

The descriptive statistics was used to present the profile of the data on the selected variables. Analysis of variance (ANOVA) was employed to find the significance of difference among the sportspersons belonging to different sports disciplines on the selected variables. The Scheffes’s post-hoc test was applied to find out the significance of difference between the paired means. The t-test was used for comparison between male and female sportspersons on the selected variables. The Pearson’s product moment correlation was employed to establish the inter-relationship among the selected variables. Regression analysis and prediction were employed to identify significant predictors to personal coping resources for the total sample and the sub samples in terms of gender. The statistical analysis was tested for significance at 0.05 levels.