METHOD

The primary aim of the present investigation was to compare adolescents of both the genders, with and without gambling tendencies on psycho-social variables. The gambling groups were further categorized into three sub groups viz., Social Gamblers, At-Risk Gamblers and Problem Gamblers. All the groups were compared on Gambling tendencies; Mental Health and its dimensions viz. Being Comfortable with Self, Being Comfortable with Others and Ability to meet Life’s demands; Stress Symptoms; Perceived Stress; Styles of Coping viz. Task Focused Coping, Emotion Focused Coping and Avoidant Coping; dimensions of Sensation Seeking viz., Disinhibition, Boredom Susceptibility, Experience Seeking, Thrill and Adventure Seeking, Total Sensation Seeking; Perceived Social Support; Rotters’ Locus of Control; Eysenckian dimensions of Personality viz. Psychoticism, Neuroticism, Extraversion and Social Desirability/ Lie Scale; Dimensions of Barratt’s Impulsivity viz., Attention dimensions of impulsivity viz. Attention Impulsivity, Attention and Cognitive Instability; Motor dimensions of impulsivity viz. Motor Impulsivity, Motor and Perseverance; Nonplanning dimensions of impulsivity viz. Nonplanning Impulsivity, Self Control and Cognitive Complexity; and Total Impulsivity; Dimensions of Perceived Parental Bonding viz. Perceived Parental Care (Perceived Maternal Care and Perceived Paternal Care) and Perceived Parental Over Protection (Perceived Maternal Over Protection and Perceived Paternal Over Protection); Satisfaction with Time Spent with Father; Bonding with Father; Satisfaction with Time Spent with Mother; Bonding with Mother; Satisfaction with Life; Perceived Health Status and Perceived Happiness Status.

The secondary aim of the research was to study the relationship between gambling tendencies and psycho-social factors among both male and female adolescents. Multiple tests were used to measure gambling tendencies among adolescents viz. Problem Gambling Severity Index (PGSI), South Oaks Gambling Screen- Revised Adolescent (SOGS-RA), Young’s Diagnostic Questionnaire (YDQ) modified for Gambling Addiction and Kimberly Young’s Gambling Test (Internet Addiction Test Modified for Gambling Tendencies).
DESIGN

To collect the sample, Purposive Sampling technique was used. Sample was selected in two phases. In the first phase: Screening was done in order to identify gambling tendencies among adolescents. Adolescents were interviewed and were asked to fill the screening questionnaire i.e. Diagnostic Statistical Manual (DSM) IV Multiple Response adapted for Juveniles (DSM IV MR-J) Criteria for Pathological Gambling. In Diagnostic Statistical Manual (DSM) IV Multiple Response adapted for Juveniles Criteria for Pathological Gambling on a total of 10 items, score of 0 indicates Non Gambling, score of 1-2 indicates Social Gambling, score of 3-4 indicates At-Risk Gambling and score of more than 4 indicates Problem Gambling. In addition to the screening tool, Problem Gambling Severity Index (PGSI), South Oaks Gambling Screen- Revised Adolescent (SOGS-RA), Young’s Diagnostic Questionnaire (YDQ) modified for Gambling Addiction and Kimberly Young’s Gambling Test (Internet Addiction Test Modified for Gambling Tendencies) were used to measure the gambling tendencies among adolescents. In Problem Gambling Severity Index (PGSI), on 9 items in total, a score of 0 indicates No Problem of gambling, score of 1-2 indicates Low Level of gambling with some problem, score of 3-7 indicates Moderate Level of gambling with Some Problems and score of more than 8 indicates Problem Gambling. In South Oaks Gambling Screen- Revised Adolescent (SOGS-RA), on 12 items questionnaire, score of 0 indicates Level 1 Gambling Tendencies, score of 1-4 indicates Level 2 Gambling Tendencies and score of more than 4 indicates Level 3 Gambling Tendencies. In 8 items Young's Diagnostic Questionnaire, a score of 5 or more responses to 8 questions indicates a dependent user. In 20 item Kimberly Young's Gambling Test, score ranges from 20-100, higher the score on this test reflects higher the dependency and vice versa.

After administration of tests in first phase, on the basis of the scores obtained on the screening tool viz. Diagnostic Statistical Manual (DSM) IV Multiple Response adapted for Juveniles (DSM IV MR-J) Criteria for Pathological Gambling, four groups of adolescents were formed viz. Adolescents without gambling tendencies, adolescents with Social Gambling tendencies, adolescents with At-Risk Gambling tendencies and adolescents with Problem Gambling tendencies. Half of the adolescents chosen were males and other half were females.
In the **second phase**: Other tests were administered to the selected subjects. All the four groups of adolescents viz. adolescents without gambling tendencies, adolescents with Social Gambling tendencies, adolescents with At-Risk Gambling tendencies and adolescents with Problem Gambling tendencies were compared on Mental Health and its dimensions; Stress Symptoms; Perceived Stress; Styles of Coping; dimensions of Perceived Parental Bonding; dimensions of Sensation Seeking; Perceived Social Support; Rotters’ Locus of Control; Eysenckian dimensions of Personality; dimensions of Barratt’s Impulsivity; Satisfaction with Life; Satisfaction with time spent with Father; Bonding with Father; Satisfaction with time spent with Mother; Bonding with Mother; Perceived Health Status and Perceived Happiness Status.

To measure **Mental Health**, the *WHO Measure of Mental Health adapted for use in India by Wig (1996)* was used. It has three dimensions viz. Being Comfortable with Self, Being Comfortable with Others and Perceived Ability to Meet Life’s Demands and Total Mental Health.

For measuring **Stress**, the *Stress Symptoms Rating Scale* developed by Heilbrun and Pepe (1985) was used. In addition to this *Perceived Stress Scale* by Cohen et al. (1983) was also used to measure **Perceived Stress**.

The *Coping Styles Inventory* by Carver et al. (1989) was used to measure three types of **Coping** viz., Task Focused Coping, Emotion Focused Coping and Avoidant Coping.

**Satisfaction with Life** was measured by using *Satisfaction with Life Scale*, developed by Diener et al. (1985).

**Perceived Parental Bonding** was measured by *Parental Bonding Instrument (PBI)* by Parker et al. (1979). It has two dimensions viz. **Perceived Parental Care** and **Perceived Parental Overprotection**.

To measure **Sensation Seeking**, *Sensation Seeking Scale- Modified* by Basu et al. (1993) was used. It has 5 dimensions namely **Disinhibition**, **Boredom Susceptibility**, **Thrill and Adventure Seeking**, **Experience Seeking** and **Total Sensation Seeking**.

**Perceived Social Support** was measured using *Perceived Social Support Scale* developed by Nehra et al. (1996).
Rotter’s Internal-External Locus of Control Scale developed by Rotter (1969) was used to measure locus of control among adolescents.

To measure dimensions of Personality, Eysenck’s Personality Questionnaire–Revised-Sort Form by Francis et al. (1992) was used to get scores on Extraversion/Introversion, Psychoticism, Neuroticism and Social Desirability.

To measure Impulsivity among adolescents, Barratt’s Impulsiveness Scale (BIS-11) developed by Patton et al. (1995) was used. Barratt’s Impulsiveness Scale-11 describes three subtypes of impulsivity namely, Attention Impulsivity (Attention and Cognitive Instability), Motor Impulsivity (Motor and Perseverance) and Nonplanning Impulsivity (Self-Control and Cognitive Complexity).

In addition, Satisfaction with time spent with Father, Bonding with Father, Satisfaction with time spent with Mother, Bonding with Mother, Perceived Health Status and Perceived Happiness Status were assessed on a ten point rating scale.

SAMPLE

The sample of the study comprised of 240 adolescents in the age range of 16-18 years. 180 adolescents (90 males and 90 females) comprised the sample with gambling tendencies. They were further categorized into three groups with three types of gambling tendencies viz. Social Gambling (30 males and 30 females), At-Risk Gambling (30 males and 30 females) and Problem Gambling (30 males and 30 females). The group of adolescents without gambling tendencies comprised of 60 subjects (30 males and 30 females). These subjects were chosen from schools of NCR region. Care was taken that the sample comprising of adolescents with and without gambling tendencies were homogeneous with respect to socio-economic status, age and educational background.

The sample was selected and finalized in two phases. In the first phase, i.e. Screening, adolescents were interviewed in order to identify those with gambling tendencies. After screening, 180 adolescents (90 males and 90 females) with gambling tendencies and 60 adolescents (30 males and 30 females) without gambling tendencies were selected. The 180 adolescents with gambling tendencies were further categorized on the basis of the scores obtained from adolescents on Diagnostic Statistical Manual (DSM)-IV Multiple Response adapted for Juveniles (DSM IV MR-J) Criteria for Pathological Gambling into three groups viz. adolescents with
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social gambling tendencies, adolescents with at-risk gambling tendencies and adolescents with problem gambling tendencies. Adolescents who obtained a score of zero were selected as non gamblers, adolescents who obtained scores from 1 to 2 were selected as social gamblers, adolescents whose scores ranged from 3 to 4 were selected as at-risk gamblers and adolescents who scored 4 or more than 4 were selected as problem gamblers. In the second phase, the tests were administered on the selected (240 adolescents) subjects. All the subjects were explained about the nature and aim of the study and their role in the study. Informed consent was obtained before they were enrolled as subjects in the study.

INCLUSION CRITERIA

Only those adolescents were selected who had no co-morbidity viz. other addictions or any psychopathic problems.

TESTS AND TOOLS

The following standardized tests and tools were used:

2. Problem Gambling Severity Index (PGSI) (Ferris & Wynne, 2001).
4. Young’s Diagnostic Questionnaire (YDQ) modified for Gambling Addiction (Young, 1996).
5. Kimberly Young’s Gambling Test (Young, 1998a).
6. WHO Mental Health Inventory (Wig, 1996).
8. Coping Styles Inventory (Carver et al., 1989).
9. Satisfaction with Life Scale (Diener et al., 1985)
11. Sensation Seeking Scale (Basu et al., 1993).
14. Eysenck’s Personality questionnaiere- Revised (Short Form) (Francis et al., 1992).
15. Perceived Stress Scale (PSS) (Cohen et al., 1983).
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16. Barratt’s Impulsiveness Scale (BIS-11) (Patton et al., 1995).

In addition, Satisfaction with time spent with Father, Bonding with Father, Satisfaction with time spent with Mother, Bonding with Mother, Perceived Health Status and Perceived Happiness Status were assessed on ten point rating scales each.

A general information schedule was also administered to the respondents for getting demographic information on the following dimensions: name, age, gender, place of residence, education level, height, weight, size of family, birth order, number of siblings, profession of father, profession of mother and educational level of both parents.

BRIEF DESCRIPTION OF TESTS

The most widely used tests for identifying problem gambling are the South Oaks Gambling Screen developed by Lesieur and Blume (1987) and Diagnostic Statistical Manual (DSM) IV Multiple Response adapted for Juveniles DSM-IV-MR-J (Diagnostic and Statistical Manual of Mental Disorders, 4th edition). Diagnostic Statistical Manual (DSM) IV Multiple Response adapted for Juveniles (DSM IV MR-J) puts ‘greater emphasis on psychological aspects of problems such as preoccupation, development of tolerance, irritability and gambling as an escape’ (Productivity Commission, 1999).

1. THE DIAGNOSTIC STATISTICAL MANUAL IV MULTIPLE RESPONSE-ADAPTED FOR JUVENILES (DSM-IV-MR-J) (FISHER, 2000)

The DSM-IV-MR-J was developed by Fisher (2000) for adolescents who have gambled in the last year and was a variation on Diagnostic Statistical Manual-IV Adapted for Juveniles (DSM-IV-J). DSM-IV-J was based on the adult diagnostic criteria for pathological gambling as defined by the American Psychological Association. It was adapted to measure past year gambling among 11 to 16 years old via a questionnaire administered in a classroom setting (Fisher, 2000). The questionnaire consists of 10 items with yes/no response. Fisher (2000) found that four positive responses were enough to categorize respondents as ‘probable pathological gamblers’.

Fisher (2000) explored psychometric data on respondents who were fruit machine players. She found that internal consistency reliability was acceptable for a scale of this size. Survey results also demonstrated that there were no weak items as
all of the items discriminated extremely effectively between the problem gamblers and non-problem gamblers. More males were problem gamblers than females and therefore more likely to endorse items. Interestingly, 12-13 years old respondents were more likely to endorse all the items than the 14-15 years old respondents. However, there was no significant difference between the age groups in the proportions categorized as problem gamblers. Furthermore, highly significant mean score differences between regular and non-regular fruit machine gamblers on DSM-IV-MR-J provide evidence of construct validity for the scale.

The scale has consistent internal reliability, all items are discriminatory and construct validity is also high.

2. **PROBLEM GAMBLING SEVERITY INDEX (PGSI) (FERRIS AND WYNNE, 2001).**

The Problem Gambling Severity Index is an abbreviated version of the original tool called the Canadian Problem Gambling Index, consisting of 9 items rather than 31. In Problem Gambling Severity Index, its 9 questions assessed the extent of gambling-related harm experienced over the previous 12 months with response options ‘never’, ‘sometimes’, ‘most of the time’, and ‘almost always’. Scores range from 0 to 27 indicating the risk level of gambling problems. Classification of respondents was based on categories and the scoring method developed by the authors i.e. Score of: 0 = No Problem, 1-2 = Low Level with some problem, 3-7 = Moderate Level with Some Problems and more than 8 = Problem Gambling; scores of 2–7 indicated, a moderate-risk gambler and scores over eight, a possible problem gambler. The PGSI has been independently validated and results suggest that it has excellent reliability, dimensionality, external/criterion validation, item variability, practicality, applicability and comparability (Neal et al., 2004; McMillen & Wenzel 2006).

3. **SOUTH OAKS GAMBLING SCREEN-REVISED FOR ADOLESCENTS (SOGS-RA) (WINTERS et al., 1993)**

The SOGS-RA is a revised version of the South Oaks Gambling Screen (SOGS), which was derived from the Diagnostic and Statistical Manual of Mental Disorders. The SOGS-RA is a 12-item, with Yes/No response options, questionnaire used to screen for at-risk and problem gambling behaviour among adolescents, and is
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a validated and widely used instrument devised to screen for pathological gambling among adolescents (Lesieur & Blume, 1987). The adaptation comprised minor changes in language and a scoring scheme that placed less emphasis on items pertaining to the sources of money used for gambling (Winters et al., 1993a). The SOGS-RA classifies gambling problem severity into the three categories, comprising no problem gambling, at-risk gambling and problem gambling, based on narrow and broad definitions (Winters et al., 1993a; Winters et al., 1995). The initial evidence of the validity and reliability of the SOGS-RA was based on a state-wide gambling survey with a sample of 1101 Minnesota adolescents 15 to 18 years of age (Winters et al., 1993a; Winters et al., 1993b; Winters et al., 1995). The scale was found to have acceptable internal consistency reliability (.80) among male adolescents. The seminal articles also revealed that the SOGS-RA scores significantly discriminated groups with regular versus non-regular gambling status, and were significantly related to measures of gambling frequency and amount of money gambled.

4. YOUNG’S DIAGNOSTIC QUESTIONNAIRE (YDQ) MODIFIED FOR GAMBLING ADDICTION (YOUNG, 1996)

Diagnostic Questionnaire for Internet Addiction was adapted from DSM IV Criteria for pathological gambling by Young (1996). YDQ consists of eight questions with ‘Yes’ or ‘No’ responses. Young asserted that five or more ‘Yes’ responses to the eight questions indicate a dependent user. Johansson and Gotestam (2004) reported that the split half reliability of YDQ was 0.73 and the Cronbach alpha was 0.71. It has been successfully used by various researchers such as Bai et al. (2001), Cao and Su (2006), Lee et al. (2008) and Bhagat (2012) in India also.

5. KIMBERLY YOUNG’S GAMBLING TEST (INTERNET ADDICTION TEST MODIFIED FOR GAMBLING TENDENCIES) (YOUNG, 1998a)

This test for measuring gambling was developed by modifying Kimberly Young’s Internet Addiction Test (Young, 1998a). It has 20 items associated with internet use, including psychological dependence, compulsive use and withdrawal symptoms, as well as related problems of school, sleep, family and time management. For each item, there is a graded response (0= not at all/ does not apply to 5= always). The total score of internet addiction ranges from 20 – 100. The test has internal
consistency (cronbach’s alpha of 0.92) and the test retest reliability, performed biweekly, was also satisfactory (r = 0.85). It has been successfully used in west by Yoo et al. (2004), Tsitsika et al. (2008), Lam et al. (2009), Bernadi and Pallanti (2009) and Velezmoro et al. (2010) and in India by Bhagat (2012).

6. THE WHO MEASURE OF MENTAL HEALTH (WIG,1996)

The scale has 16 items and is designed to measure mental health. It has three dimensions: Being Comfortable with Self, Being Comfortable with Others and Perceived ability to meet life demands. The test obtains three scores on Mental Health dimensions and a summated score on Total Mental Health. The response format has two categories- Yes or No. A score of one is given if the subject ticks ‘Yes’ and zero if he ticks ‘No’. The test has adequate reliability and validity. The scale has been used in India by Mohan and Sehgal (2003), Sehgal (2003), Malhotra (2006), Kaur (2007), Tripathi (2008), Yadav (2010), Mohan et al. (2011), Bhagat (2012) and Sharma (2012).

7. STRESS SYMPTOMS RATING SCALE (SRSS) (HEILBRUN AND PEPE, 1985)

Heilbrun and Pepe (1985) constructed the SSRS which is a response – defined measure of stress in construct to the stimulus – defined measure being used in earlier stress research. The Stress Symptoms Rating Scale is an enquiry into the amount of stress experienced without regard to what provoked them. They selected 25 symptoms of stress from a list that Selye (1976) identified as readily detectable by individuals. The subject is required to rate the frequency of each stress symptoms (for the previous year) on a six point rating scale ranging from ‘Not at All’ to ‘More than Once Per Day’ (i.e. ranging from 0 to 5). The stress score is the summation of scores obtained over all the ratings.

The alpha reliability of the scale has been found to be .93 by Heilbrun and Pepe (1986). Evidence for validity has come from differential elevations of stress found in groups otherwise identified as more stressful. The test has been successfully used in India by Mohan (2000, 2006), Malhotra (2006), Kaur (2007), Tripathi (2008), Yadav (2010), Mohan et al. (2011), Bhagat (2012), Gupta (2012) and Mohan (2014).
8. **COPING STYLES INVENTORY (CARVER et al., 1989)**

Coping Styles were assessed using Carver et al.’s shorter version (1989). The inventory measures three broad coping dispositions- Task focused, Emotion Focused and Avoidant Coping. Items were conceptually grouped into three scales with 10 items in each scale. Each item was answered on a four point rating scale ranging from ‘I usually don’t do this at all’ to ‘I usually do this a lot’ (i.e. 1 to 4). The scores on each scale may range from 10 to 40.

Internal consistency of Emotion Focused coping was .76 and for Avoidant coping, it was 0.77. Task and Emotion Focused coping were correlated (r=.46) but neither Task nor Emotion focused Coping were associated with Avoidant coping (r=.16). This scale was used in India by Sehgal (2003), Salariya (2006), Haobam (2007), Yadav (2010), Mohan et al. (2011), and Bhagat (2012).

9. **SATISFACTION WITH LIFE SCALE (DIENER et al., 1985)**

Satisfaction with life scale was developed by Diener et al. (1985). It is a five item scale that is designed around the idea that one must ask subjects for an overall judgment of their life in order to measure the concept of life satisfaction. The items of the scale are global rather than specific in nature allowing respondents to weigh domains of their lives in terms of their own values in arriving at global judgment of life satisfaction. Individuals indicate their degree of agreement or disagreement on a 7 point Likert scale with response patterns ranging from strongly agree to strongly disagree. Scores may range from 5 to 35.

Diener et al. (1985) reported a 2-months test-retest correlation coefficient of 0.82 and an alpha coefficient of 0.87 for under graduates. Diener et al. (1985), also reported it to be a valid test. Shimmack et al. (2002) reported that the reliability of this scale varies between 0.61 - 0.90 in different cultures. This scale has been successfully used in India by Sehgal (2003), Mohan (2006), Mohan and Sehgal (2006), Mohan et al. (2007a), Tripathi (2008), Yadav (2010), Bhagat (2012) and Gupta (2012).

10. **PARENTAL BONDING INSTRUMENT (PBI) (PARKER et al., 1979)**

Parental Bonding Instrument was developed by Watson et al. (1998). The PBI is a 25 item self report measure of respondent’s recollection of parents’ attitudes and behaviour during the first 16 years. Respondents are asked to answer the questions
based on how they remember their parents’, using a likert type scale ranging from 0 (very like) to 4 (very unlike). The PBI was developed using factor analysis from self reports of experiences with parents in childhood. The scale consists of two factors: Maternal/Paternal care (i.e. care vs indifference and rejection) and Maternal/ Paternal overprotection (i.e. overprotection vs encouragement of autonomy). Higher scores on the two scales indicate higher perceived parental care and overprotection respectively. The 12 items of care factor permit a maximum score of 39. The two factors are negatively correlated (r=.24) suggesting that the two dimensions are not independent (Parker et al., 1979), i.e., ‘overprotection is associated with lack of ‘care’.

Adequate internal consistency has been demonstrated in numerous studies using split-half reliability over a 3 week period of both care and overprotection scale (r=.63; p< .001) (Parker et al., 1979; Parker, 1989). The scales inter-rater reliability and concurrent, convergent, criterion and predictive validity are also established (Parker, 1989). The test has recently been used in India by Kaur (2007), Haobam (2007), Harinder (2007) and Bhagat (2012).

11. SENSATION SEEKING SCALE (BASU et al., 1993)

The original scale was developed by Zuckerman et al. (1975) at the University of Delaware, New York, USA. It was developed as a measure of individual differences in the preferred optimal level of stimulation and arousal. The first form (Form II, 1964) contained a general scale only. Further factor analysis yielded four factors, three of them, which were reliable across the sexes. Scales, based on these four factors and the general scale form II were included in form IV. The general scale in form IV was not a total score, but partially overlapped with the sub-scales.

Modified sensation seeking scale (MSSS; Basu et al., 1993) is an Indian adaptation of the sensation seeking scale-Form V (Zuckerman et al., 1978). It comprises of 40 forced choice items. The test gives a score for total sensation seeking and four sub-scales i.e. Thrill and Adventure Seeking, Experience Seeking, Boredom susceptibility and Disinhibition.

This form contains 10 items representing each of the four factors. It does not contain the general scale but instead uses a Sensation Seeking total score based on the sum of the four factor score. The four factors form the four sub-scales (Zuckerman et al., 1978):
1. **Thrill and Adventure Seeking**: This scale contains items expressing a desire to engage in sports or other activities involving speed or danger.

2. **Experience Seeking**: This scale represents the seeking of experiences through the mind and senses, travel, and a nonconforming life-style.

3. **Boredom Susceptibility**: This scale represents an aversion to repetition, routine, and dull people, and restlessness when things are unchanging.

4. **Disinhibition**: This scale represents the desire for social and sexual disinhibition as expressed in social drinking, partying, and variety in sexual partners.

The 40 item inventory has a large research base that generally validates the instrument. Both the internal reliability and test-retest reliability for the test are highly significant, alpha and inter item correlation being in the range of 0.83 and 0.94. The cross sub-scales correlations were generally low to moderate, ranging from 0.55 to 0.44. The correlation between the form IV and form V was high in the range 0.61 to 0.93.

The scale was first adapted to Indian population by **Basu et al., (1993)** at Chandigarh. The modified scale was found to have high rank order correlation coefficient of the test and retest scores. It has been used in India by **Mohan and Sehgal (2003)**, **Malhotra (2006)** and **Bhagat (2012)**.

12. **PERCEIVED SOCIAL SUPPORT QUESTIONNAIRE (NEHRA et al., 1996)**

This scale was developed by **Nehra et al. (1996)**. This scale of Perceived Social Support purports to measure or assess how the social environment, or the support from the significant others can have an impact on an individual well being. There were 18 items in the scale out of which **7 were positively** framed or were direct items i.e. 2, 4, 8, 9, 11, 12, 18 and **11 items were negatively** worded or reversed items i.e. 1, 3, 5, 6, 7, 10, 13, 14, 15, 16 and 17. For negative items, scoring was reversed.

This 18 item Social Support Questionnaire was a Hindi adaptation of the Perceived Social Support Scale developed by **Pollack and Harris (1983)**. It measures Perceived Social Support from the significant others available to the person. Each
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item had 4 options which range from ‘no agreement’ score as 1 to ‘extreme agreement’ scored as 4.

It’s a reliable and valid questionnaire. Test-retest reliability after week’s interval on 50 subjects was found to be .59 (p< 0.01). Concurrent validity of the instruments has been established and has been found to be significant with external criteria at .01 level. It was successfully used in India by Sehgal (2003), Sharma (2005), Ramma (2006) and Gupta (2012).

13. ROTTER’S INTERNAL-EXTERNAL LOCUS OF CONTROL SCALE (ROTTER, 1969)

The internal external locus of control scale was developed by Rotter (1966). The concept of control was first developed by Phares (1957), regarding beliefs about internal versus external control of reinforcement. Rotter (1966) postulated that consistent individual differences exist with respect to a person’s belief in the way his or her behaviour affects the control of his life events. These beliefs were designated as ‘Locus of Control’. The first monograph of LOC was published by Rotter (1966). Even though the items from this instrument load on several distinct factors (Marsh & Richards, 1986). The overall score from this measure provides an index of global control beliefs (Cohen & Edwards, 1989).

The instrument consists of 29 forced choice pairs of statements (Rotter, 1966). The respondents were instructed to choose one statement from each pair that they most strongly believe to be true. Scores indicate points along a continuum rather than ‘Internal’ and ‘external’ types, i.e., they do not represent one type or another but rather display varying degrees of internality or externality. A high score on this scale indicates Externality.

The test-retest reliability of the scale was reported by Rotter (1966) to range from .49 to .83. the Rotter’s LOC scale has been successfully used in India by Kaur (1993), Mohan et al.(2007a), Jaggi (2008), Bhagat (2012), and Sharma (2012).

14. EYSENCK’S PERSONALITY QUESTIONNAIRE-REVISED (SHORT FORM) (FRANCIS et al., 1992)

In the present study an abbreviated form of EPQ-R (Eysenck et al, 1992) especially developed for student population, to be used in England, Canada, Australia and Asia continent was used. It measures four dimensions of personality put forth by Eysenck viz. Extraversion (E), Neuroticism (N), Psychoticism (P) and Lie (Social
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Desirability) Scale. The Eysenck model of personality is a hierarchical one that conceptualizes each of the four broad dimensions sub divided into lower level into narrower and more specific traits which finally may be sub divided into habits or reactions or aggregate of behavioural instances regarded as personality.

**Eysenck and Eysenck (1985)**, defined extraversion as the tendency to be sociable, lively, active, assertive, sensation seeking, carefree, dominant and venturesome. Neuroticism has been defined as a tendency to be anxious, worrying, feeling guilty, shy, moody, depressive and emotionally labile. Psychoticism has been defined as a tendency to be egocentric, unempathic, aggressive, cold, antisocial and tough minded. The Social Desirability (Lie Scale) has been defined as a tendency on the part of the subjects to fake good responses, measuring some degree of social naiveté.

The present test measure each dimension with the help of six items each. In this abbreviated EPQ-R version, the alpha coefficient ranged from .74 to .84 for Extraversion, for Neuroticism it ranged from .70 to .77, for Psychoticism it ranged from .33 to .52 and for Lie (Social Desirability) Scale it ranged from .59 to .65. Concurrent validity of EPQ-R Short Form was established by correlating the test with the present short form EPQ-R scales. Correlation between two versions of EPQ-R for Extraversion was from .93 to .95; for Neuroticism, it was from .92 to .94; for Lie (Social Desirability) Scale from .90 to .92 and for Psychoticism from .80 to .87. All the figures reported are quite satisfactory.

EPQ-R has been used in India by Sehgal (1999), Mohan (1999; 2000) and Haobam (2007).

15. **PERCEIVED STRESS SCALE (PSS) (SHELDON and COHEN, 1983)**

The Perceived Stress Scale (PSS) was developed to measure the degree to which situations in one’s life are appraised as stressful. Psychological stress has been defined as the extent to which persons perceive (appraise) that their demands exceed their ability to cope.

The Perceived Stress Scale was developed in 1983 by Cohen et al. (1983) and has become one of the most widely used psychological instruments for measuring nonspecific perceived stress. It has been used in studies assessing the stressfulness of situations (Leon et al., 2007; McAlonan et al., 2007), the effectiveness of stress-reducing interventions (Lane et al., 2007; Holzel et al., 2010) and the extent to which
there are associations between psychological stress and psychiatric and physical (Culhane et al., 2001; Garg et al., 2001) disorders.

The Perceived Stress Scale predicts both objective biological markers of stress and increased risk for disease among persons with higher perceived stress levels. Those with higher scores (suggestive of chronic stress) on the Perceived Stress Scale were found worse on biological markers of aging (Epel et al., 2004), cortisol levels (Malarkey et al., 1995; Pruessener et al., 1999), immune markers (Cohen et al., 1999; Glasser et al., 1999; Burns et al., 2002), depression (Carpenter et al., 2004), infectious disease (Cohen et al., 1993; Dyck et al., 1999), wound healing (Ebrecht et al., 2004), and prostate-specific antigen levels in men (Stone et al., 1999).

The Perceived Stress scale comprises of 10 questions and is a 5 point rating scale. The items are easy to understand and the response alternatives are simple to grasp. Moreover, the questions are general in nature. Questions in PSS ask about feelings and thoughts during the last one month. It is not a diagnostic instrument but it intends to make comparisons of subjects’ perceived stress related to current objective events. It has been successfully used in India by Mohan et al., (2000), Kaur (2002), Rampal (2011) and Sharma (2012).

16. **BARRATT’S IMPULSIVENESS SCALE (BIS- II) (PATTON et al., 1995)**

The Barratt Impulsiveness Scale (BIS-11; Patton et al., 1995) is a questionnaire designed to assess the personality/behavioral construct of impulsiveness. It is the most widely cited instrument for the assessment of impulsiveness and has been used to advance one’s understanding of this construct and its relationship to other clinical phenomena for 50 years (Stanford et al., 2009). The Barratt Impulsivity Scale-11 (BIS; Barratt, 1985; Patton et al., 1995) describes three subtypes of impulsivity:

1. **Attention Impulsivity**– not focusing on the task at hand.

   (a) Attention: "focusing on a task at hand".

   (b) Cognitive instability: "thought insertion and racing thoughts".

2. **Motor Impulsivity**– acting on the spur of the moment.

   (a) Motor impulsiveness: "acting on the spur of the moment".

   (b) Perseverance: "a consistent life style".
3. **Nonplanning Impulsivity**— not planning and thinking carefully.

   (a) Self-control: "planning and thinking carefully"

   (b) Cognitive complexity: "enjoying challenging mental tasks".

The following sections outline the BIS-11 scoring and factor structure, support for instrument questions and variations of the scale.

**Scoring and Factor Structure of the BIS-11**

The current version of the Barratt Impulsiveness Scale (BIS-11; *Patton et al.*, 1995) is composed of 30 items describing common impulsive or non-impulsive (for reverse scored items) behaviors and preferences. Items are scored on a 4-point scale: **Rarely/Never** = 1, **Occasionally** = 2, **Often** = 3 and **Almost Always/Always** = 4

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<th><strong>Barratt Impulsiveness Scale 11 – Factor Structure and Scoring</strong></th>
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<td><strong>2nd Order Factors</strong></td>
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*reverse scored items

The perspective of Dr. Barratt and *International Society for Research on Impulsivity* is that impulsivity is a multi-faceted construct and this multi-dimensionality is reflected in the BIS-11 factor structure. While many scholarly manuscripts report only the total score, it is the recommended that at least the second order factors be reported to account for their individual contribution to the relationship being tested.

*Patton et al.'s (1995)* paper defined the current version of the instrument performed a principal components analysis on BIS-11 scores gathered from a sample of 248 psychiatric inpatients and 412 university students. Factor analyses of from
these cases revealed three second order and 6 oblique first order factors and three second order factors were identified. The following demonstrates the relationship of the first and second order factor structure as well as item scoring of the BIS-11 factors.

17. **SATISFACTION WITH TIME SPENT WITH FATHER** was assessed by a self report measure, a 10 point rating scale, where respondents were asked to rate their status of Satisfaction with Time Spent with Father ranging from 0 (extremely unhappy) to 10 (extremely happy).

18. **BONDING WITH FATHER** was assessed by a self report measure, a 10 point rating scale, where respondents were asked to rate their status of bonding with father ranging from 0 (extremely unhappy) to 10 (extremely happy).

19. **SATISFACTION WITH TIME SPENT WITH MOTHER** was assessed by a self report measure, a 10 point rating scale, where respondents were asked to rate their status of Satisfaction with Time Spent with Mother ranging from 0 (extremely unhappy) to 10 (extremely happy).

20. **BONDING WITH MOTHER** was assessed by a self report measure, a 10 point rating scale, where respondents were asked to rate their status of bonding with mother ranging from 0 (extremely unhappy) to 10 (extremely happy).

21. **PERCEIVED HEALTH STATUS** was assessed by a self report measure, a 10 point rating scale, where respondents were asked to rate their health status ranging from 0 (extremely unhealthy) to 10 (extremely healthy).

22. **PERCEIVED HAPPINESS STATUS** was assessed by a self report measure, a 10 point rating scale, where respondents were asked to rate their happiness status ranging from 0 (extremely unhappy) to 10 (extremely happy).

**PROCEDURE**

All the respondents for the testing sessions were contacted personally and requested to volunteer for the testing schedule. These respondents were then given the questionnaire in the form of a booklet and were requested to respond to them truthfully according to the given instructions. They were assured that the information they provide about themselves and their results will be kept strictly confidential and will be used for research purpose only.
The testing schedule was started by firstly asking the participants to fill the form comprising of general information. Then groups of subjects with different gambling tendencies were identified. Selected subjects were given a booklet of questionnaires for detailed analysis to find the correlates and factors affecting gambling tendencies among adolescents. The booklet of questionnaires was administered to a sample of 240 adolescents. The respondents were from NCR region. The sampling technique used to collect the data was Purposive sampling, as the sample of subjects includes adolescents with gambling tendencies (Social Gambling, At-risk Gambling or Problem Gambling). All the respondents were given instructions for each questionnaire as specified in the respective manuals, as follows:

INSTRUCTIONS FOR THE QUESTIONNAIRES

1. THE DIAGNOSTIC STATISTICAL MANUAL IV MULTIPLE RESPONSE-ADAPTED FOR JUVENILES (DSM-IV-MR-J) (FISHER, 2000)

Instructions were: Thinking about the last 12 months… Please respond to the questions by putting a tick mark on Yes/No. Your response will be kept confidential.

2. PROBLEM GAMBLING SEVERITY INDEX (PGSI) (FERRIS AND WYNNE, 2001)

Instructions were: Thinking about the last 12 months… Please respond to the questions by putting a tick mark on the numbers – (0) Never, (1) Sometimes, (2) Most of the time, (3) Almost always. Your response will be kept confidential.

3. SOUTH OAKS GAMBLING SCREEN- REVISED FOR ADOLESCENTS (WINTERS et al., 1993)

Instructions were: Thinking about the last 12 months… Please respond to the questions by putting a tick mark on Yes/No. Your response will be kept confidential.

4. YOUNG’S DIAGNOSTIC QUESTIONNAIRE (YDQ) MODIFIED FOR GAMBLING ADDICTION (YOUNG, 1996)

Instructions were: Thinking about the last 12 months… Please respond to the questions given below by putting a tick mark on Yes/No. Please read each question carefully and mark your response in terms of either “Yes” or “No”. Your response will be kept confidential.
5. **KIMBERLY YOUNG'S GAMBLING TEST (INTERNET ADDICTION TEST MODIFIED FOR GAMBLING ADDICTION) (YOUNG, 1998a)**

   **Instructions were**: Given below are a series of questions with different options. You are required to put a tick mark against the option (1. Rarely 2. Occasionally 3. Frequently 4. Often 5. Always 6. Does not apply) which applies to you. Your response will be kept confidential.

6. **WHO MENTAL HEALTH INVENTORY. (WIG, 1999)**

   **Instructions were**: Given below are 16 statements. Kindly tick the response which is true for you by putting a circle around the ‘Yes’ or ‘No’ alternatives following the question. Your answer will be kept strictly confidential.

7. **STRESS SYMPTOMS RATING SCALE (SSRS) (HEILBRUN AND PEPE, 1985).**

   **Instructions were**: Given here are 25 statements with a scale of 0-5. Rate the frequency of each item for the previous year along the following scale: (0) Not at all, (1) Less than once per month, (2) Between once per week and once per month, (3) Between once per day and per week, (4) About once per day, (5) More than once per day. Indicate your answer by circling a number for each item. Be sure to answer every item. Your response will be kept confidential.

8. **COPING STYLES INVENTORY (CARVER et al., 1989).**

   **Instructions were**: Given below are 30 statements. "Rate your responses for each item along the following 4 point rating scale. (0) Don't do it all (1) Rarely do it (2) often do it (3) usually do this a lot”. Your response will be kept confidential.

9. **SATISFACTION WITH LIFE SCALE (DIENER et al., 1985)**

   **Instructions were**: Below are five statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. The 7 point scale is as follows (1) Strongly disagree, (2) Disagree, (3) Slightly disagree, (4) Neither agree nor disagree, (5) Slightly agree, (6) Agree and (7) Strongly agree. Your response will be kept confidential.

10. **PARENTAL BONDING INSTRUMENT (PBI) (PARKER et al., 1979).**

    **Instructions were**: This questionnaire lists various attitudes and behaviours of parents. As you remember your Mother and Father in your first 16 years would you place a tick in the most appropriate column next to each question. The columns are:
Method

(1) Very like (2) Moderately like (3) Moderately unlike (4) Very unlike. Your response will be kept confidential.

11. SENSATION SEEKING SCALE- MODIFIED (BASU et al., 1993).

Instructions were: It is important, you respond to all the items with only “one choice” A or B. We are interested in your likes or feelings, not in how others feel about these things or how one is supposed to feel. There are no right or wrong answers as in other kinds of test. Be frank and give an honest appraisal of yourself. Your response will be kept confidential.

12. PERCEIVED SOCIAL SUPPORT QUESTIONNAIRE (NEHRA et al., 1996).

Instructions were: The test was in Hindi and instructions were also given in Hindi. An English translation of the transaction is given below. “Read each statement carefully and answer how far u agrees with statement.” Respondents were asked to mark ‘Very Like’, if they completely agree with the statement and ‘Very Unlike’ if they completely disagree with the statement for 7 statements viz. 2, 4, 8, 9, 11, 12 and 18. However, respondents were instructed to mark ‘Very Unlike’ if they completely agree with the statement and ‘Very Like’ if they completely disagree with the statement for 11 statements viz. 1, 3, 5, 6, 7, 10, 14, 15, 16 and 17. The response will be kept confidential.

13. ROTTER’S INTERNAL – EXTERNAL LOCUS OF CONTROL SCALE (ROTTER, 1969)

Instructions were: This Questionnaire contains two statements for each question; you have to choose one out of both of them. Your response will be kept confidential.

14. EYSENCK’S PERSONALITY QUESTIONNAIRE- REVISED SHORT FORM (FRANCIS et al., 1992)

Instructions were: Please answer each question by putting a circle around the ‘Yes’ or ‘No’ following the question. There are no right or wrong answers and no trick questions. Work quickly and do not think long about the exact meaning of the questions. Please check that you have answered all the questions. Your response will be kept confidential.
15. **PERCEIVED STRESS SCALE (COHEN et al., 1983).**

   **Instructions were:** Given below are 10 statements. Please circle 1 number to describe the situations. The response alternatives are: (0) Never, (1) Almost Never, (2) Sometimes, (3) Fairly Often (4) Very Often. Your response will be kept confidential.

16. **BARRATT'S IMPULSIVENESS SCALE (BIS-11) (PATTON et al., 1995)**

   **Instructions were:** Given below are 30 statements."Rate your responses for each item along the following 4 point rating scale. (1) Rarely/Never (2) Occasionally (3) Often (4) Always/Almost Always. Your response will be kept confidential.

17. **SATISFACTION WITH TIME SPENT WITH FATHER**

   **Instructions were:** Read the statement carefully. The following codes with the statement are given – Extremely Happy (10), Very Happy (9), Pretty Happy (8), Mildly Happy (7), Slightly Happy (6), Neutral (5), Slightly Unhappy (4), Mildly Unhappy (3), Pretty Unhappy (2), Very Unhappy (1) and Extremely Unhappy (0). Please mark your responses carefully. There are no correct or incorrect responses. Do not take too much time for answering the statement. Your response will be kept confidential.

18. **BONDING WITH FATHER**

   **Instructions were:** Read the statement carefully. The following codes with the statement are given – Extremely Happy (10), Very Happy (9), Pretty Happy (8), Mildly Happy (7), Slightly Happy (6), Neutral (5), Slightly Unhappy (4), Mildly Unhappy (3), Pretty Unhappy (2), Very Unhappy (1) and Extremely Unhappy (0). Please mark your responses carefully. There are no correct or incorrect responses. Do not take too much time for answering the statement. Your response will be kept confidential.

19. **SATISFACTION WITH TIME SPENT WITH MOTHER**

   **Instructions were:** Read the statement carefully. The following codes with the statement are given - Extremely Happy (10), Very Happy (9), Pretty Happy (8), Mildly Happy (7), Slightly Happy (6), Neutral (5), Slightly Unhappy (4), Mildly Unhappy (3), Pretty Unhappy (2), Very Unhappy (1) and Extremely Unhappy (0). Please mark your responses carefully. There are no correct or incorrect responses. Do not take too much time for answering the statement. Your response will be kept confidential.
Method

20. **BONDING WITH MOTHER**

Instructions were: Read the statement carefully. The following codes with the statement are given – Extremely Happy (10), Very Happy (9), Pretty Happy (8), Mildly Happy (7), Slightly Happy (6), Neutral (5), Slightly Unhappy (4), Mildly Unhappy (3), Pretty Unhappy (2), Very Unhappy (1) and Extremely Unhappy (0). Please mark your responses carefully. There are no correct or incorrect responses. Do not take too much time for answering the statement. Your response will be kept confidential.

21. **PERCEIVED HEALTH STATUS**

Instructions were: Keeping in mind somebody with an excellent health, rate you health status. Read the statement carefully. The following codes with the statement are given – Extremely Healthy (10), Very Healthy (9), Pretty Healthy (8), Mildly Healthy (7), Slightly Healthy (6), Neutral (5), Slightly Unhealthy (4), Mildly Unhealthy (3), Pretty Unhealthy (2), Very Unhealthy (1) and Extremely Unhealthy (0). Please mark your responses carefully. There are no correct or incorrect responses. Do not take too much time for answering the statement. Your response will be kept confidential.

22. **PERCEIVED HAPPINESS STATUS**

Instructions were: Read the statement carefully. The following codes with the statement are given – Extremely Happy (10), Very Happy (9), Pretty Happy (8), Mildly Happy (7), Slightly Happy (6), Neutral (5), Slightly Unhappy (4), Mildly Unhappy (3), Pretty Unhappy (2), Very Unhappy (1) and Extremely Unhappy (0). Please mark your responses carefully. There are no correct or incorrect responses. Do not take too much time for answering the statement. Your response will be kept confidential.

**SCORING AND STATISTICAL ANALYSIS**

Scoring for all the tests was done with the help of scoring keys as per all the instructions given in the scoring manuals of the tests. The raw scores were then tabulated and subjected to various statistical analyses.

Keeping in view the objectives of the study, Means, Standard Deviations and t-ratios were calculated. Analysis of Variance, Post Hoc analysis, Inter Correlational analysis and Stepwise Multiple Regression analysis were also carried out.