DISCUSSION

There is little doubt that the landscape of gambling has dramatically changed during the past two decades. Gambling once viewed as synonymous with sin is now socially acceptable form of recreation. No longer does one have to travel far to visit a casino. One can purchase lottery tickets from convenience stores, electronic gambling machines are readily available and the Internet has brought gambling into one’s home, school or workplace. Gambling opportunities remain abundant, easily accessible and available for adults and youth alike. The worldwide expansion of gambling as well as its accessibility, availability, diversity and societal changing attitudes has resulted in its increased popularity amongst adolescents. With growing legalization of multiple forms of gambling and social acceptance, adolescents are exposed to advertisements for gambling. Gambling advertisement is a risk factor for gambling among adolescents (Griffith, 2003).

According to Gupta and Derevensky (2014) gambling, once thought to be primarily an adult activity, has become an extremely popular pastime amongst adolescents around the globe. Gambling was often seen as a harmless activity; therefore, parents, educators, social workers and the larger society were rarely alarmed when adolescents engage in gambling activities (James, 2008). The minimum age to gamble legally has been 18 or 21 years in most jurisdictions; however, under-aged adolescents have been found gambling in record numbers (Pietrzak et al., 2003; Vitaro et al., 2004). Gambling participation rates increased rapidly as young people made the transition from adolescence to adulthood and then were generally more stable (Delfabbro et al., 2013).

Gambling among young people is a growing, yet under-recognized, social problem with many significant short and long-term consequences for individuals and society (Messerlian et al., 2005; Edgerton et al., 2014). Although most adolescents who gamble do so in moderation, for a significant number, gambling may result in severe negative consequences. A growing body of research pointed to gambling and problem gambling as a public health concern (Shaffer & Korn, 2002; Korn et al., 2003) associated with various personal, health, and social problems (Petry et al., 2005; Stuhldreher et al., 2007; Rush et al., 2008). Evidences’ suggestes that adolescent and young adult gambling onset was associated with problem gambling.
later in life (Shaffer & Hall, 2001; Winters et al., 2002; Burge et al., 2004; Lynch et al., 2004).

It was common practice for a large majority of adolescents to be engaged in multiple gambling activities. Often perceived as harmless fun and an innocuous activity, gambling today is portrayed as a legitimate form of entertainment and supported by parents, society and more importantly governments. 70–85% of adolescents reported having gambled during their lifetime, with 10 – 20% at risk of developing gambling problems, and 2-5% reporting experiencing serious gambling problems (Vitaro et al., 2004; Chalmers et al., 2006; Volberg et al., 2010; Blinn-Pike et al., 2010). The typical results of studies involving adolescents showed that between 60 and 80 % of young people aged 13–17 years gambled at least once per year and that around 3–5 % of young people reported behaviours indicative of pathological gambling with activities such as private card games, sports-betting and instant lotteries found to be most common (Derevensky et al., 2003; Volberg et al., 2010). These behaviours included: chasing losses, a preoccupation with gambling, overlooking important commitments (e.g., friendships, schoolwork and/or hobbies), to continue gambling despite negative consequences, lying to friends or family about the extent of their gambling, becoming irritable if unable to gamble, frequently borrowing money and/or using lunch/bus money to fund gambling, and criminal behaviour such as stealing to get funds for gambling (Griffiths, 2011).

Children at the primary school level (age 9-12) also indulge in gambling although they rarely manifest problems associated with their play at these early ages. Many of the gambling activities that youth participate in were self organised (Gupta & Derevensky, 2000; Hardoon et al., 2001). Many of those who start prior to adolescence were usually introduced to gambling by parents and family members (Derevensky et al., 1996). Early forms of gambling usually consisted of lottery play (instant scratch cards and sports lottery as examples), playing card games for money with family and friends (such as blackjack and poker), and/or participating in sports pools (often self organised or by sports coaches and people in authority).

However, it can be understood that there were subsets of vulnerable youth who were more prone to developing a gambling disorder through the presence and absence of specific risk and protective factors in their lives. A Gambling Disorder, currently defined in the DSM-V was persistent and recurrent problematic gambling
behaviour leading to clinically significant impairment or distress that disrupts personal, family, or vocational pursuits (American Psychiatric Association [APA], 2013). Four out of 9 criteria in a 12 month period were required to meet the diagnosis for this disorder. Disordered gambling, both for youth or adults, can be episodic or persistent in nature and can vary in severity from mild to severe. Underage youth who develop a gambling disorder typically endure some long-lasting consequences that far exceed the length of the disorder itself, such as failed vocational pursuits, early school withdrawal, failed relationships and multiple psychological mental health issues which impact normal development (Gupta & Derevensky, 2004; Derevensky et al., 2011). The younger the age of the onset of a gambling disorder, the greater the number of negative consequences and severity of later gambling problems (Shead et al., 2010; Derevensky, 2012).

Adolescents with gambling problems have been found to have higher rates of delinquent behaviours including petty criminal behaviour and truancy (Shaffer and Korn, 2002). Those who gambled as adolescents have also shown to be more likely to engage in other high risk behaviours, including risky driving, alcohol consumption, and illicit drug use (Griffiths & Sutherland, 1998; Burnett et al., 1999; Jackson 1999). Delfabbro et al. (2005) reported that, among adolescent problem gamblers, smoking rates were four times higher, marijuana use was six times higher and hard drug use was 20 times higher than in their non-problem gambling counterparts. Similar findings have been reported in earlier also (Griffiths & Sutherland (1998). Although it was unclear whether such problems were a consequence of or contributor to problem gambling, the strong association indicated that pathological gambling was often, at the very least, symptomatic of broader difficulties in adolescent wellbeing and development (Griffiths, 2011).

Often the risk factors resulting in making certain youth more vulnerable to a gambling disorder were present in childhood, including poor parenting, stressed parent-child relationships, abuse during childhood, parental addiction patterns, poor community support, lack of school connectedness as well as easy environmental access to gambling opportunities (Winters et al., 1998; Griffiths & Wood, 2000; Vitaro et al., 2001; Lussier et al., 2007; Dickson et al., 2008; Shead et al., 2010). Patients with a younger age of onset showed a higher level of novelty
seeking and low self-directness, making them more impulsive and unpredictable (Jimenez-Murcia et al., 2010).

Another important assumption underlying much of the researches’ was the patterns of behaviour established during adolescence may have significant implications for the long term wellbeing of young people as they progress into adulthood (Volberg et al., 2010).

Keeping in view the above, 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; Stress Symptoms; Perceived Stress; Styles of Coping; Dimensions of Perceived Parental Bonding; Perceived Social Support; Dimensions of Sensation Seeking; Rotter’s Locus of Control; Eysenckian dimensions of Personality; Dimensions of Impulsivity put forth by Barratt; 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.

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).

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 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.

To measure dimensions of Personality, many tests were used. Eysenck’s Personality Questionnaire–Revised–Short Form by Francis et al. (1992) was used to measure Extraversion/Introversion, Psychoticism, Neuroticism and Social Desirability. The Externality / Internality were measured using Rotters’ Internal-External Locus of Control Scale (LOC) (Rotter, 1966).

Impulsivity was measured using the Barratt’s Impulsivity Scale (BIS 11) (Patton et al., 1995). Barratt’s Impulsivity 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). A total score of impulsivity (Total Impulsivity) was obtained by adding all the scores of the above mentioned subtypes of impulsivity. Sensation Seeking was measured using the Sensation Seeking Scale devised by Basu et al. (1993). Sensation Seeking Scale has four dimensions namely, Thrill and Adventure Seeking, Disinhibition, Boredom Susceptibility and Experience Seeking. Total Sensation Seeking score was obtained by adding the scores obtained on four dimensions of sensation seeking scale.
Discussion

For measuring 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. A score of Total Mental Health was obtained by adding the scores of the three dimensions of this scale.

For measuring dimensions of Stress, the Stress Symptoms Rating Scale developed by Heilbrun and Pepe (1985) was used and Perceived Stress Scale by Cohen et al. (1983) was 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.

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

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

Perceived Social Support was measured using Perceived Social Support Scale developed by Nehra et al. (1996). Rating scales were used to measure health status and happiness status of the adolescents.

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.

The raw scores were analyzed using appropriate statistical analyses viz. Descriptive Statistics, t- test, ANOVA (4X2), Post Hoc Analysis, Inter-Correlation analysis and Stepwise Multiple Regression Analysis.

Only those adolescents were selected who had no-comorbidity viz. - other addictions or any psychopathic problems for the study. All the subjects were explained about the nature and aim of the investigation and were requested to volunteer as respondents. Their informed consent was obtained before they were enrolled as subjects.
A. GROUP COMPARISONS

1. Comparison of adolescents with and without gambling tendencies on Eysenckian Dimensions of Personality and Locus of Control

Based on the review of literature the following hypotheses were proposed:

1.1. Problem gambling group of adolescents were expected to score highest on Neuroticism and Psychoticism in comparison to at-risk gambling group of adolescents, social gambling group of adolescents and non gambling group of adolescents.

1.2. Problem gambling group of adolescents were expected to score lowest on Extraversion in comparison to at-risk gambling group of adolescents, social gambling group of adolescents and non gambling group of adolescents.

1.3. Problem gambling group of adolescents were expected to score highest on Externality in comparison to at-risk gambling group of adolescents, social gambling group of adolescents and non gambling group of adolescents.

A glance at t-ratios table 2.4 comparing adolescents with problem gambling tendencies and adolescents with non gambling tendencies revealed that adolescents with problem gambling tendencies did not score significantly different from adolescents without gambling tendencies on Psychoticism, Neuroticism, Extraversion, Social Desirability and Locus of Control.

A glance at t-ratios table 2.6 comparing adolescents with problem gambling tendencies and adolescents with social gambling tendencies revealed that adolescents with problem gambling tendencies did not score significantly different from adolescents with social gambling tendencies on Psychoticism, Neuroticism, Extraversion, Social Desirability and Locus of Control.

A glance at t-ratios table 2.7 comparing adolescents with problem gambling tendencies and adolescents with at-risk gambling tendencies revealed that adolescents with problem gambling tendencies did not score significantly different from adolescents with at-risk gambling tendencies on Psychoticism, Neuroticism, Extraversion, Social Desirability and Locus of Control.

A perusal of Analysis of Variance tables (Tables 3.20 – 3.24) revealed the following: F-ratios for group comparisons on variables of Psychoticism, Neuroticism, Extraversion, Social Desirability/Lie scale and Locus of Control emerged
insignificant. A glance at table of means revealed that adolescents with problem gambling tendencies scored higher on Extraversion and Social Desirability followed by adolescents without gambling tendencies, adolescents with at-risk gambling tendencies and adolescents with social gambling tendencies. On the variable of Psychoticism, adolescents without gambling tendencies scored highest followed by adolescents with problem gambling tendencies, adolescents with at-risk gambling tendencies and adolescents with social gambling tendencies; Neuroticism adolescents with at-risk gambling tendencies scored highest followed by adolescents with social gambling tendencies, adolescents with problem gambling tendencies and adolescents without gambling tendencies.

A perusal of Post Hoc Analysis tables (Tables 4.20 – 4.24) revealed non-significant mean differences between the groups of adolescents with problem gambling tendencies, adolescents with at-risk gambling tendencies, adolescents with social gambling tendencies and adolescents without gambling tendencies.

The hypotheses were not supported by the results of the present study. The present study results are different from the previous studies.

According to Blaszcyncki et al. (1985), high neuroticism scores obtained by pathological gamblers indicated that pathological gamblers are nervous, sensitive and moody. The high Psychoticism scores indicated that pathological gamblers also tended to have manipulative, attention-seeking personalities (Blaszcyncki et al., 1985).

Meta-analyses conducted by Petry et al. (2005), suggested that personality traits related to neuroticism, impulsivity, and antagonism were the largest and the most consistent of externalizing behaviours. The personality literature on pathological gambling was at a more nascent stage, at least when compared to the literature on the externalizing behaviours with which pathological gambling tends to comorbid.

Zangeneh et al. (2008) stated that anxiety can either be a risk factor for gambling or a consequence of gambling. According to the results obtained by Bagby et al. (2008), the overall personality profile of the pathological gambler was one that combined high impulsivity with emotional vulnerability complemented by a high level of excitement-seeking common to problem gamblers (PGs) and non-problem gamblers (NPGs). Although speculative, one possible interpretation for the
development of pathological gambling was that it resulted from maladaptive efforts to regulate affect or dampen the effects of high neuroticism. After gambling behaviour had been behaviourally conditioned and losses began to accrue, high impulsivity may render the problem gamblers unable to modify, control, or stop their gambling behaviour. Alternatively, the personality traits of the pathological gambler may be related solely to dysfunctional risk-reward and biochemical pathways that cause mood disturbance, elevated impulsivity, and an inability to regulate affect and/or behaviour. Finally, PGs might not represent one homogenous population, but rather qualitatively distinct subtypes that are influenced by different emotional and biological factors but exhibit similar phenomenological features (Blaszczynski & Nower, 2002; Bagby et al., 2008).

According to Gaughan et al. (2009) and Ross et al. (2009), the combination of Negative Affect with Unconscientious and Disagreeable Disinhibition was a risk factor for problem gambling. This combination of traits bears a striking resemblance to the Impulsive Antisociality dimension of psychopathy.

According to King et al. (2010), Negative Emotionality (NEM) was a significant and consistent predictor of gambling behaviours and beliefs over and above a familial history of gambling and substance use problems and gender.

Tang and Wu (2010), conducted a study on 773 Chinese college recreational gamblers with an aim to investigate the influence of general fate control belief on gambling behaviour and associated mood mediated by people’s gambling-related beliefs such as positive gambling expectancy bias and gambling self-efficacy. Results of the study revealed significant indirect effects of fate control belief on problem gambling and negative mood as well as a significant direct effect of fate control belief on negative mood. According to the researchers, college recreational gamblers who had a strong fate control belief were more likely to believe that gambling would bring about positive outcomes and that they were unable to resist gambling. Results also revealed that rather than direct influence, fate control belief had an indirect influence on problem gambling through gambling-specific beliefs. As argued by Leung and Bond (2004), fate control belief is a dimension of social axioms that are general beliefs operating at a high level of abstraction. They are useful in providing basic premises with which people derive specific beliefs to plan their behaviour in specific situations. In the context of gambling, fate control belief may constitute the basis of
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gambling fallacy and bias. In addition to indirect influence through gambling-specific beliefs, fate control belief also had direct influence on the negative mood among college recreational gamblers. Association between fate control belief and negative health/mental health status was also found among non-gamblers (Leung & Bond, 2004; Hui et al., 2007).

According to MacLaren et al. (2011), the personality profile of people at risk for pathological gambling was very similar to the profile that has been found in meta-analyses of Borderline Personality Disorder (Samuel & Widiger, 2008), and substance use disorders (Kotov et al., 2010).

According to Miller et al. (2013), personality traits have proved to be consistent and important factors in a variety of externalizing behaviours including addiction, aggression, and antisocial behaviour. In a large community sample of regular gamblers the relations between measures of two major models of personality—Big Three (An operationalization of Tellegen’s three-factor model, which assesses three broad domains of negative emotionality, positive emotionality, and constraint, as well as 11 narrower subscales) and Big Five (Five Factor Model of Personality: Neuroticism, Extraversion, Openness to experience, Agreeableness, and Conscientiousness) – dimensions were examined by them in relation to problem gambling symptoms derived from a semi-structured diagnostic interview. Miller et al. (2013) found significant relations between traits associated with neuroticism and PG in their sample. Traits related to the experience of strong negative emotions (Neuroticism) were the most consistent correlates of Problem Gambling, regardless of whether they were analyzed using bivariate or multivariate analyses. In several instances, however, the relations between personality and Problem Gambling were moderated by demographic variables such as gender, race, and age in their study.

According to Hanss et al. (2014), personality variables were moderately important for explaining adolescent gambling. One of the Big five personality domain traits, Agreeableness, was negatively related to both non-problem and risk-problem gambling; this association has also been found among adult gamblers (Miller et al., 2013). Andreassen et al. (2013) suggested that since addictions often lead to interpersonal conflicts (Wiebe et al., 2000) agreeableness may be a protective factor against addictions as people who score high on this personality trait typically emphasize living in harmony with their surroundings.
2. **Comparison of adolescents with and without gambling tendencies on Impulsivity**

Based on the review of literature the following hypothesis was proposed:

2.1. Problem gambling group of adolescents were expected to score highest on Impulsivity and its dimension viz. Attention Impulsivity (Attention and Cognitive instability), Motor Impulsivity (Motor, Perseverance) and Nonplanning Impulsivity (Self-Control and Cognitive Complexity), Total Impulsivity in comparison to at-risk gambling group of adolescents, social gambling group of adolescents and non gambling group of adolescents.

A glance at t-ratios **table 2.4** comparing adolescents with problem gambling tendencies and adolescents with non gambling tendencies revealed that adolescents **with problem gambling tendencies scored significantly higher** than adolescents with non gambling tendencies on Attention Impulsivity (total), Attention, Cognitive Instability, Motor Impulsivity (total), Motor, Perseverance, Nonplanning Impulsivity (total), Self Control, Cognitive Complexity and Total Impulsivity.

A glance at t-ratios **table 2.6** comparing adolescents with problem gambling tendencies and adolescents with social gambling tendencies revealed that adolescents **with problem gambling tendencies scored significantly higher** than adolescents with social gambling tendencies on Attention Impulsivity (total), Attention, Cognitive Instability, Motor Impulsivity (total), Motor Impulsivity (total), Motor, Perseverance, Nonplanning Impulsivity (total), Self Control, Cognitive Complexity and Total Impulsivity.

A glance at t-ratios **table 2.7** comparing adolescents with problem gambling tendencies and adolescents with at-risk gambling tendencies revealed that adolescents **with problem gambling tendencies scored significantly higher** than adolescents with at-risk gambling tendencies on Attention Impulsivity (total), Attention, Motor Impulsivity (total), Motor, Perseverance, Nonplanning Impulsivity (total), Self Control, Cognitive Complexity and Total Impulsivity.

A perusal of **Analysis of Variance** tables (Tables 3.26 – 3.35) revealed the following: **F-ratios** for group comparisons on variables of Attention Impulsivity (total), Attention, Cognitive Instability, Motor Impulsivity (total), Motor,
Perseverance, Nonplanning Impulsivity (total), Self Control, Cognitive Complexity and Total Impulsivity emerged significant.

A perusal of Post Hoc Analysis tables (Tables 4.26 – 4.35) revealed that the mean value of adolescents with problem gambling tendencies were significantly different from the other groups of adolescents on Attention Impulsivity, Attention, Cognitive Impulsivity, Motor Impulsivity, Motor, Perseverance, Nonplanning Impulsivity, Self Control, Cognitive Complexity and Total Impulsivity. Mean value of adolescents with at-risk gambling tendencies were also significantly different from other group of adolescents on Attention Impulsivity, Motor Impulsivity and Total Impulsivity. Mean value of adolescents without gambling tendencies were also significantly different from other group of adolescents on Perseverance.

A glance at table of means revealed that adolescents with problem gambling tendencies scored highest on all the variables of Impulsivity viz. Attention Impulsivity (total), Attention, Cognitive Instability, Motor, Perseverance, Self-Control, and Total Impulsivity, followed by adolescents with at-risk gambling tendencies, adolescents with social gambling tendencies and adolescents without gambling tendencies. In Motor Impulsivity (total) and Nonplanning Impulsivity (total) as adolescents with problem gambling tendencies scored the highest and were followed by adolescents with at-risk gambling tendencies, adolescents without gambling tendencies and adolescents with social gambling tendencies. On Cognitive Complexity, adolescents with problem gambling tendencies scored highest and were followed by adolescents with social gambling tendencies, adolescents with at-risk gambling tendencies and adolescents without gambling tendencies.

Thus the hypothesis was upheld in majority of cases. Problem gambling adolescents scored the highest on Impulsivity and majority of its dimensions. Review of earlier studies also revealed similar trends.

In case of impulsivity the results regarding its relationship with pathological gambling have been more consistent (Vitaro et al., 1999; Barnes et al., 2005; De Wit, 2009). There have been only a few studies analyzing impulsivity as a mediator in the appearance of dysfunctional symptomatology in pathological gambling.
Alessi and Petry’s (2003) studied the nature of the relationship between severity of pathological gambling and impulsivity. They used delay discounting task to assess a specific behavioural definition of impulsivity, in relation to choices about money. They found that impulsive choices were predicted by severity of gambling problems. Further, severity of gambling problems predicted degree of impulsivity on this task above and beyond the variance accounted for by impulsivity as assessed by a standard personality questionnaire.

According to Sinha (2004), impulsivity was a basic aspect of an individual's personality, and levels of impulsivity may influence development of an impulse control disorder such as pathological gambling or a substance use disorder. Assuming one's personality was generally stable over time; people found it hard to control their gambling problems or other impulse-control related disorders, because personality was difficult to change. If there was an adequate level of impulse control, then an individual was less likely to develop a disorder such as pathological gambling, opined (Sinha, 2004).

Findings from a study conducted by Nower and Blaszczynski (2006), suggested that individuals with addictive disorders in general and pathological gambling in particular were likely to report higher levels of impulsivity than those with an absence of addictive pathology. Findings from Bagby et al. (2007) and Turner et al. (2008) also reported that impulsivity was moderately associated with problem gambling severity across undergraduate and psychiatric samples with varying degrees of gambling pathology. Impulsivity has been increasingly recognised to be a heterogeneous construct.

According to Nower and Blaszczynski (2006), descriptive model, pathological gambling results from a complex interaction between impulsive personality traits and environmental, cognitive and affective variables which, over time, lead individuals with a high propensity for dysfunctional impulsivity to engage in behaviours that lead to increasingly deleterious consequences.

According to Nower et al. (2004), researches on impulsivity and gambling have important implications for researchers and practitioners alike because it suggested another reason why problem gamblers gamble. That is, beyond the desire to escape boredom per se, and beyond cognitive distortions (Johansson et al., 2009), it could be that problem gamblers gamble because it resulted in a short-term payoff of
greater self-control. Interventions would thus need to emphasize to problem gamblers that there are less harmful, and often beneficial, ways to improve self-control in the short-term and the long-term.

**Shead et al. (2010)** reported that adolescents with impulsive, high sensation-seeking personalities were more likely to experience gambling problems. According to **Quilty et al. (2010)**, Impulsivity has been implicated in the development of pathological gambling. Sensation seeking and Urgency in particular have predicted gambling pathology in undergraduate and psychiatric samples. The aim of the investigation conducted by **Quilty et al. (2010)** on a total of 275 participants with lifetime depressive or bipolar disorder. They completed the measures of impulsivity and gambling. Aim was to examine the association between impulsivity and gambling pathology severity across depressive versus bipolar disorders. Urgency was consistently associated with gambling pathology indicators; lack of perseverance was specifically associated with gambling pathology within participants with depressive disorders. Reckless action during negative mood was associated with gambling pathology across mood disorders, whereas difficulty remaining focused was associated with pathological gambling solely within depressive disorders.

According to **Bergen et al. (2011)**, high-risk gamblers demonstrated self-control deficits relative to lower-risk gamblers. In particular, problem gamblers had less emotional and cognitive self-control than did non-problem gamblers.

According to **Benson et al. (2012)** and **MacLaren et al. (2012)**, impulsivity might be a predictor of gambling frequency and severity. Some of the studies, such as that conducted by **Tang and Wu (2012)**, have shown that impulsivity partially mediated the influence of life stress on pathological gambling. According to **Tang and Wu (2012)**, Impulsivity moderated as well as mediated the relationship between life stress and pathological gambling. Regarding impulsivity as a moderator, findings of their study showed an impulsivity x life stress 2-way interaction effect on pathological gambling. In particular, among participants who had low levels of impulsivity, pathological gambling increased as life stress increased. Among participants who had high levels of impulsivity, pathological gambling remained high regardless of the stress level.

According to **Walther et al. (2012)**, Impulsivity seems to be the element discriminating pathological and non-pathological gamblers. It appeared to be a central factor among different types of addiction (i.e. substance use, pathological gambling
and computer gaming). According to Barrault and Varescon (2013), impulsivity is positively correlated to pathological gambling, and significantly higher among pathological than non-pathological gamblers, impulsivity is a good predictor for pathological gambling.

According to Bergen et al. (2014), gambling often does not require a great deal of self-control (a feature that may have attracted people with low self-control to gambling in the first place). Especially among problem gamblers, gambling was perceived as an enjoyable activity (Neighbors et al., 2002) an escape from daily problems (i.e., respite), or a form of relaxation (Clarke, 2008). It would therefore appear that gambling can be a low self-control activity that is, especially for problem gamblers, enjoyable, and provides needed respite from everyday hassles and boredom. It is thus possible that problem gamblers will increase their self-control strength, albeit temporarily, by gambling. In two studies, Bergen et al. (2014) obtained two important findings. In one study Bergen et al. (2011), confirmed that problem gamblers exhibit less self-control strength than do people with less severe gambling problems. Specifically, in both control conditions, problem gamblers persisted at the impossible tracing task for significantly less time than did participants at lower risk for gambling problems. In another important study they found that slot machine gambling increases self-control strength in problem gamblers. Indeed, the now four-times replicated effect of problem gamblers being lower in self-control was not in evidence in the slot machine conditions and there was a significant increase in self-control strength for problem gamblers in the slot machine conditions compared to the control conditions. There was no evidence of such an effect for participants in lower gambling severity categories.

According to Ginley et al. (2014), impulsivity has been implicated as a contributing factor in the development of gambling problems among college students. Some inconsistent results have been obtained. One explanation for these incongruent findings could be that impulsivity may be multidimensional and that distinct dimensions differentially predict separate behaviours. Using a large, diverse sample of college students, a factor analysis of self-report measures related to impulsivity revealed a three-factor structure of Behavioural Activation, Preference for Stimulation, and Inhibition Control that was similar to the structure found by Meda et al. (2009) in a different adult sample. Low risk gamblers and symptomatic gamblers
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scored significantly lower on Behavioural Activation and Inhibition Control than non-gamblers. Conversely, low risk gamblers and symptomatic gamblers scored significantly higher on Preference for Stimulation.

3. Comparison of adolescents with and without gambling tendencies on Sensation Seeking

Based on the review of literature the following hypothesis was proposed:

3.1. Problem gambling group of adolescents were expected to score highest on Total Sensation Seeking and its dimensions viz., Disinhibition, Boredom Susceptibility, Thrill and Adventure Seeking and Experience Seeking in comparison to at-risk gambling group of adolescents, social gambling group of adolescents and non gambling group of adolescents.

A glance at t-ratios table 2.4 comparing adolescents with problem gambling tendencies and adolescents with non gambling tendencies revealed that adolescents with problem gambling tendencies scored significantly higher than adolescents with non gambling tendencies on Boredom Susceptibility, Experience Seeking and Total Sensation Seeking.

A glance at t-ratios table 2.6 comparing adolescents with problem gambling tendencies and adolescents with social gambling tendencies revealed that adolescents with problem gambling tendencies scored significantly higher than adolescents with social gambling tendencies on Boredom Susceptibility and Total Sensation Seeking.

A glance at t-ratios table 2.7 comparing adolescents with problem gambling tendencies and adolescents with at-risk gambling tendencies revealed that adolescents with problem gambling tendencies scored significantly higher than adolescents with at-risk gambling tendencies on Boredom Susceptibility.

A perusal of Analysis of Variance tables (Table 3.14 - 3.18) revealed the following: F-ratios for group comparisons on variables of Boredom Susceptibility and Total Sensation Seeking emerged significant.

A perusal of Post Hoc Analysis tables (Tables 4.14 – 4.18) revealed that the mean value of adolescents with problem gambling tendencies were significantly different from the other groups of adolescents on Boredom Susceptibility and Total Sensation Seeking.
A glance at table of means revealed that adolescents with problem gambling tendencies scored highest on Total Sensation Seeking and its dimensions viz., Disinhibition, Boredom Susceptibility, Thrill and Adventure Seeking and Experience Seeking and were followed by adolescents with at-risk gambling tendencies, adolescents with social gambling tendencies and adolescents with non gambling tendencies scored lowest on sensation seeking and its dimension.

The gambling literature has posited two primary and opposing theories of the role of sensation seeking in gambling. McConaghy (1980) suggested that problem gamblers seek stimulation to alleviate boredom and depression in their lives, suggesting that high arousal results not from a sensation seeking trait but from the attempt to escape dysphoric mood (Blaszczynski et al., 1986). In contrast, Brown (1987) hypothesised that high levels for arousal during gambling episodes, interpreted as excitement, became secondary reinforcers for continuing the behaviour (Anderson and Brown, 1984; Brown, 1986).

Gupta et al. (2006) reported that sensation seeking played an important role in pathological gambling. Gupta et al. (2006) examined SSS-V subscale scores and PG in a sample of 817 adolescents in grades seven (117 males, 141 females), nine (190 males, 146 females), and eleven (110 males, 113 females) who were attending school in Québec, Canada. Although these researchers found that those students who experienced pathological gambling behaviours scored significantly higher on the disinhibition and boredom susceptibility subscales. These researchers also found that probable problem gamblers scored significantly higher on the experience seeking subscale than non-gamblers.

According to Grant et al. (2010), the need to increase the amount of wagers, which was often associated with pathological gamblers efforts to achieve the desired excitement previously experienced at lower levels of wagering (American Psychological Association, 2000), were the primary cause of exceeding the limits of the economic sustainability of gambling. This means that a constant increase in betting activities, especially when prolonged over time, unavoidably determine levels of economic non-sustainability – that is, the impossibility of facing present economic obligations.
Discussion

A study conducted by \textbf{Fortune and Goodie (2010)} revealed that problem gamblers were greater sensation seekers than non-problem gamblers. In addition to having higher total scores, problem gamblers also displayed greater disinhibition seeking and boredom susceptibility subscale scores. In the second sample although the disinhibition seeking and boredom susceptibility subscales were both significantly correlated with problem gamblers, only the boredom susceptibility subscale was found to have a stronger correlation with problem gamblers then the SSS-V general scale score. Furthermore, these researchers reported that the experience seeking and thrill and adventure seeking subscale scores were not significantly correlated with problem gambling in either sample.

\textbf{Mercer and Eastwood’s (2010)} research has consistently demonstrated that boredom was related to gambling. In fact, it has been claimed that the propensity to experience boredom was a predisposing factor for gambling. The bored individual is said to gamble as a way of alleviating boredom. The purpose of the study by \textbf{Mercer and Eastwood (2010)} was to clarify this relationship. In their study, two hundred and two undergraduate students completed measures of gambling, boredom, and sensitivity to punishment and reward. Results suggested that individuals gambled in order to increase arousal, rather than to avoid the negative affect associated with boredom. Moreover, results also suggested that boredom was distinctly related to gambling problems, above and beyond its overlap with sensitivity to reward.

A recent meta-analysis concluded that sensation seeking was not elevated in problem gamblers as compared to non-problem gamblers (MacLaren et al., 2011). Three studies among adolescents suggested that sensation seeking was associated with gambling problems (Nower et al., 2004; Gupta et al., 2006; Wanner et al., 2006).

\textbf{Donati et al. (2013)} have found an evidence of a relationship between sensation seeking and problem gambling among adolescents in their study which has been rarely investigated among adolescents.

According to \textbf{Harris et al. (2013)}, for some individuals, boredom has lead to seeking out more stimulating environments such as gambling activities. Over time, chronic engagement in gambling activities acted as a means of avoiding or escaping periods of boredom.
According to Estevez et al. (2013), there were some personality traits that were correlated with the appearance and maintenance of pathological gambling, such as impulsivity and sensation seeking. The results of their study showed that sensation seeking was high in young gamblers, which confirmed the findings of previous studies within this age range (Burger, 2007).

Card gamblers were high sensation seekers, who gambled to experience strong sensations and arousal (Petry, 2003; Barrault & Varescon, 2013). According to a study conducted by Barrault and Varescon (2013), on a sample of 180 regular online poker players viz., 112 non-pathological gamblers, 37 problem gamblers and 31 pathological gamblers, who were above the age of 18 years, sensation seeking explained why people play poker, but not why they become addicted to it. According to the researchers as compared to regular gamblers, pathological gamblers reported more frequent gambling sessions, which tended to be longer, and a significantly greater amount spent. Although financial motivation has been common to all groups, pathological gamblers reported playing more frequently in order to qualify for major poker events. These results underlined the tendency of pathological gamblers to consider poker as a “professional” activity rather than as a leisure activity. The impulsive sensation seeking scores of all the poker players were high. They all displayed high levels of sensation seeking, regardless of their intensity of gambling. However, pathological gamblers were more impulsive than problem and non-pathological gamblers. Online poker players were high sensation seekers who gambled to experience strong feelings and arousal, whereas impulsivity played an important role in developing and maintaining pathological gambling. The interpretation of Barrault and Varescon (2013) results were limited by the fact that they used a unidimensional measure of sensation seeking. It could have been subdivided into four subdimensions: Thrill and Adventure Seeking (TA), Experience Seeking (ES), Disinhibition (DS) and Boredom Susceptibility (BS).

According to Navas et al., (2014), sensation seeking was positively associated with exposure to gambling activities. Sensation seekers felt more attracted to gambling, although inter-individual variability in frequency and amount (and, presumably, in severity, as gambling behaviour approaches pathological levels) would be independent of such a personality trait.
4. **Comparison of adolescents with and without gambling tendencies on Mental Health.**

Based on the review of literature the following hypothesis was proposed:

4.1. Problem gambling group of adolescents were expected to score lowest on Mental Health and its dimension viz., Being Comfortable with Self, Being Comfortable with Others and Perceived Ability to Meet Life Demands in comparison to at-risk gambling group of adolescents, social gambling group of adolescents and non gambling group of adolescents.

A glance at t-ratios table (Table 2.4) comparing adolescents with problem gambling tendencies and adolescents without gambling tendencies revealed that adolescents without gambling tendencies scored significantly higher than adolescents with problem gambling tendencies on Being Comfortable with Self, Being Comfortable with Others, Perceived Ability to Meet Life Demands and Total Mental Health.

A glance at t-ratios table (Table 2.6) comparing adolescents with problem gambling tendencies and adolescents with social gambling tendencies revealed that adolescents with social gambling tendencies scored significantly higher than adolescents with problem gambling tendencies on Being Comfortable with Others, Perceived Ability to Meet Life Demands and Total Mental Health.

A glance at t-ratios table (Table 2.7) comparing adolescents with problem gambling tendencies and adolescents with at-risk gambling tendencies revealed that adolescents with problem gambling tendencies did not scored significantly different from adolescents with at-risk gambling tendencies on Being Comfortable with Self, Perceived Ability to Meet Life Demand and Total Mental Health. Adolescents with at-risk gambling tendencies scored insignificantly higher on Being Comfortable with Others.

A perusal of Analysis of Variance tables (Tables 3.1 – 3.4) revealed the following: F-ratios for group comparisons on variables of Being Comfortable with Self, Being Comfortable with Others, Perceived Ability to Meet Life Demands and Total Mental Health emerged significant.

A perusal of Post Hoc Analysis tables (Tables 4.1 – 4.4) revealed that the mean value of adolescents with problem gambling tendencies were significantly different from the other groups of adolescents on Being Comfortable with Self,
Being Comfortable with others, Perceived Ability to Meet Life Demands and Total Mental Health. Mean value of adolescents with at-risk gambling tendencies were significantly different from the mean values of adolescents with social gambling tendencies and adolescents without gambling tendencies on Being Comfortable with others, Perceived Ability to Meet Life Demands and Total Mental Health. Mean value of adolescents with social gambling tendencies were significantly different from the mean values of adolescents with at-risk gambling tendencies and adolescents with problem gambling tendencies on Being Comfortable with others, Perceived Ability to Meet Life Demands and on the variable Total Mental Health mean value of adolescents with social gambling tendencies was significantly different from all the other groups of adolescents. Mean value of adolescents without gambling tendencies was significantly different from the mean value of other groups of adolescents on Being Comfortable with Self, Being Comfortable with Others and Total Mental Health. However the mean value of adolescents without gambling tendencies was significantly different from the mean value of adolescents with at-risk gambling tendencies and adolescents with problem gambling tendencies on Perceived Ability to Meet Life Demands.

A glance at table of means revealed that on the variables Being Comfortable with Self and Total Mental Health adolescents without gambling tendencies scored highest followed by adolescents with social gambling tendencies, adolescents with problem gambling tendencies and adolescents with at-risk gambling tendencies. A glance at table of means also revealed that adolescents without gambling tendencies scored highest on Being Comfortable with Others and Perceived ability to Meet Life Demands followed by social gambling tendencies, adolescents with at-risk gambling tendencies and adolescents with problem gambling tendencies.

Thus the hypothesis was upheld in majority of cases. Review of earlier studies also revealed similar trends.

According to Zitzow (1996), on a smaller scale, the co-occurrence of gambling and drug use behaviours among youth has been investigated. Several adolescent surveys have observed a greater than chance link between gambling and drug behaviours.

According to National Research Council, Washington D.C. (1999), individuals in treatment for alcoholism or drug addiction were more likely to report a current or past problem with gambling compared to the general population.
According to Gerstein et al. (1999), Excessive gambling has consistently been associated with measures of adverse mental health (including drug addiction) and general functioning. For example, problem and pathological gambling have been associated with high rates of substance abuse/dependence, depression, unemployment, receipt of welfare benefits, bankruptcy, arrest, incarceration, and divorce.

Researchers have proposed that negative affect was a potentially important factor in the onset and maintenance of gambling pathology (Coman et al., 1997; Blaszczynski, 2000). Individuals suffering from depressive disorders gambled to relieve negative mood states (Zuckerman, 1999; Raylu & Oei, 2002). In contrast, these researchers had proposed that positive affect was important to the development of pathological gambling.

A study conducted by Clarke (2006), found impulsivity to be a mediator between depression and pathological gambling. More specifically, empirical evidence has suggested that individuals experiencing positive moods may in fact be more likely to engage in risky behaviours (Cyders & Smith, 2008).

Psychological co-morbidity is the presence of two or more mental disorders in an individual (Gordon, 2008). The developing research literature on problem gambling and co-morbid disorders indicates that problem gamblers, both men and women, had high rates of co-morbidities that include depression, anxiety disorders and other mental health problems (Cunningham-Williams et al., 2000; Thomas & Jackson, 2008; Productivity Commission, Canberra, Australia 2010).

According to Quilty et al. (2010), given the differential prominence of negative vs positive mood within the different mood disorders, it was plausible that the components of impulsivity associated with gambling pathology may differ across depressive vs bipolar diagnoses.

Longitudinal studies, such as the one conducted by Dussault et al. (2011), revealed a positive predictive link between impulsivity at age 14 and depressive symptoms and gambling problems at age 17. In turn, gambling problems at age 17 predicted an increase in depressive symptoms from age 17 to age 23, and depressive symptoms at age 17 predicted an increase in gambling problems from age 17 to age 23.
Discussion

In the Queensland Household Gambling Survey (2011–12) (Department of Justice and Attorney-General, 2012), it was found that about 20 per cent of low risk gamblers, 32 per cent of moderate risk gamblers and 47 per cent of problem gamblers reported that they had felt seriously depressed in the last 12 months (Department of Justice and Attorney-General, 2012). Along with depression and anxiety, several Australian studies have found a link between gambling and different forms of substance dependence and/or abuse; in each of these studies, alcohol abuse was identified in about 20 per cent of people experiencing gambling problems (MacCallum & Blaszczynski, 2002; Haytbaksch et al., 2006; Thomas & Jackson, 2008; Haw et al., 2013; Holdsworth et al., 2013).

In a study by Holdsworth et al. (2013) on 18 partners and ex-partners of people with gambling problems, participant reported suffering mental and physical health symptoms resulting from their partner’s gambling problems. While experiences varied, mental health symptoms were predominantly associated with stress (and distress), anxiety and depression. Some participants revealed how stress and anxiety related to the gambling problems compromised their ability to work. It also led to poorer mental and physical health.

In a study conducted by Sobrun-Maharaj et al. (2013), all groups of participants in New Zealand (New Zealand’s five major Asian ethnic subgroups of Chinese, Indian, Korean, Southeast Asian and Asian with refugee background) reported several mental health issues, such as high levels of personal stress, anxiety, anger, unhappiness and depression with negative physical health consequences such as insomnia and illness. For problem gamblers, these mental health issues exacerbated their gambling.

The results from a study conducted by Cook et al. (2014) demonstrated that substance use, psychological distress, suicidality and delinquent behaviour were important risk factors for understanding adolescent problem gambling.

5. Comparison of adolescents with and without gambling tendencies on Stress and Coping strategies.

Based on the review of literature the following hypotheses were proposed:

5.1. Problem gambling group of adolescents were expected to score highest on Stress dimensions (Stress Symptoms and Perceived Stress) in comparison to at-risk gambling group of adolescents, social gambling group of adolescents and non gambling group of adolescents.
Discussion

5.2. Problem gambling group of adolescents were expected to score highest on Emotion Focused Coping Style and Avoidant Coping in comparison to at-risk gambling group of adolescents, social gambling group of adolescents and non gambling group of adolescents.

5.3. Problem gambling group of adolescents were expected to score lowest on Task Focused Coping Style in comparison to at-risk gambling group of adolescents, social gambling group of adolescents and non gambling group of adolescents.

A glance at t-ratios table (Table 2.4) comparing adolescents with problem gambling tendencies and adolescents without gambling tendencies revealed that adolescents with problem gambling tendencies scored higher than adolescents without gambling tendencies on Stress Symptoms and Perceived Stress. Adolescents without gambling tendencies scored significantly higher than adolescents with problem gambling tendencies on Task Focused Coping, Emotion Focused Coping and Avoidant Coping.

A glance at t-ratios table (Table 2.6) comparing adolescents with problem gambling tendencies and adolescents with social gambling tendencies revealed that adolescents with problem gambling tendencies scored significantly higher than adolescents with social gambling tendencies on Stress Symptoms, Avoidant Coping and Perceived Stress. However, no differences emerged on Task Focused Coping and Emotion Focused Coping among adolescents with social gambling tendencies and adolescents with problem gambling tendencies.

A glance at t-ratios table (Table 2.7) comparing adolescents with problem gambling tendencies and adolescents with at-risk gambling tendencies revealed that adolescents with problem gambling tendencies scored significantly higher than adolescents with at-risk gambling tendencies on Stress Symptoms, Perceived Stress, Task focused Coping, Emotion Focused Coping and Avoidant Coping.

A perusal of Analysis of Variance tables (Tables 3.5 - 3.8 and 3.25) revealed the following: F-ratios for group comparisons on variables of Stress Symptoms, Perceived Stress and Avoidant Coping emerged significant.

A perusal of Post Hoc Analysis tables (Tables 4.5 – 4.8 and 4.25) revealed that the mean value of adolescents with problem gambling tendencies were significantly different from the other groups of adolescents on Stress Symptoms and
Discussion

Perceived Stress. Mean value of adolescents with at-risk gambling tendencies were significantly different from the other groups of adolescents on Stress Symptoms. Mean value of adolescents with social gambling tendencies were significantly different from the mean values of adolescents with at-risk gambling tendencies and adolescents with problem gambling tendencies on Stress Symptoms. However mean value of adolescents with social gambling tendencies were significantly different from the mean values of adolescents with problem gambling tendencies on Avoidant coping. Mean value of adolescents without gambling tendencies were significantly different from the mean values of adolescents with at-risk gambling tendencies and adolescents with problem gambling tendencies on Stress Symptoms.

A glance at table of means revealed that adolescents with problem gambling tendencies scored higher on Stress symptoms and Perceived stress followed by adolescents with at-risk gambling tendencies, adolescents with social gambling tendencies and adolescents without gambling tendencies. A glance at table of means also revealed that adolescents with problem gambling tendencies scored higher on Avoidant Coping followed by adolescents with at-risk gambling tendencies, adolescents without gambling tendencies and adolescents with social gambling tendencies. A glance at table of means revealed that on the variables Task Focused Coping and Emotion Focused Coping adolescents without gambling tendencies scored highest followed by adolescents with social gambling tendencies, adolescents with problem gambling tendencies and adolescents with at-risk gambling tendencies.

Thus the hypothesis was upheld in majority of cases. Review of earlier studies also revealed similar trends.

According to Browne (1989) there was an association between loss of control and negative emotions in card players (Browne, 1989) and horse race betters (Rosecrance, 1986). The finding that emotion-focused coping is related to impaired control over gambling was also consistent with earlier studies which examined the motives for playing poker machines where 70% of problem gamblers said they played to “forget troubles” (Coreless & Dickerson, 1989).

A study was conducted by Sobrun-Maharaj et al. (2013). The data from this research revealed that some participants out of New Zealand’s five major Asian ethnic subgroups of Chinese, Indian, Korean, Southeast Asian and Asian with
refugee background employed functional coping strategies for migration and settlement issues, including recognising and acknowledging gambling-related problems, taking action to address difficulties, and engaging with spirituality and religion. These strategies appeared to protect against problem gambling and may have been facilitated by higher levels of resilience. However, many Asian gamblers and families evidently employed dysfunctional coping strategies in response to these problems, which may have been impacted by lower levels of resilience. Strategies included, in particular, avoidant and emotion-focused strategies, which are particularly common when problems are perceived as threatening or harmful (Ptacek et al., 1992 in Frydenberg 1997). Some of the avoidant strategies utilised by participants were identified as escapism, which included denial, ignoring and pretending, and fatalism.

According to Scannell et al. (2000), the association between emotion-focused coping strategies and the highest levels of impaired control over gambling may be considered a valid and potentially important contribution to the literature on problem gambling.

Lightsey and Hulsey (2002) opined that stress plays an important role in gambling among adolescents. Faulty coping may aggravate the problem. Researchers found a high positive correlation between ineffective coping strategies among the problem and pathological gamblers in their sample.

Recent psycho-social models show that gambling provides pleasant temporary distraction from life’s problems (Blaszczynski & Nower 2002) and indeed, severity of problem gambling is positively associated with situational stressors, negative emotions, loneliness and a lack of social support (Thomas & Moore 2003; Hardoon et al., 2004; Turner et al., 2006; Bergevin et al., 2006; Thomas et al., 2011). Many university students are transitioning to social, emotional, academic and financial independence and some experience difficulties managing these transitions. Stress levels and mood disorders are a possible outcome, which may exacerbate vulnerability to gambling problems among university students who gamble.

The international literature on coping shows that the strategies utilised by people to cope with stress predict levels of subsequent stress and crisis in their lives (Ivie & Garland, 2011), and that some employ functional or problem-solving strategies and others employ dysfunctional or avoidant strategies. New Zealand
studies (Dixon et al., 2010) showed that some Asians were able to cope with settlement adversities functionally, while others employ dysfunctional coping strategies with adverse effects on mental health and wellbeing. Functional coping strategies, such as self-control, seeking social support, accepting responsibility, planful problem solving and positive reappraisal (Folkman & Lazarus, 1988) enable the avoidance of behaviours such as problematic gambling. Conversely, dysfunctional coping such as escape–avoidance, distancing, and confrontational coping (ibid.), which reflect an inability to cope functionally, may result in greater psychological and physical problems (Sprinthall & Collins, 1995), and have been linked with negative mental health outcomes such as anxiety, somatic problems, and depression (Endler & Parker, 1990). It increases the risk of issues such as problem gambling and the subsequent negative impacts and consequences for families and communities.

A few other studies conducted with larger population also provided same evidence. The Queensland Household Gambling Survey (Department of Justice and Attorney General, 2012) found that larger proportions of at-risk and problem gamblers than in the overall population had experienced some type of negative life event in the previous year, and that 64 per cent of problem gamblers and 26 per cent of moderate risk gamblers, but less than 10 per cent of low risk and non-problem gamblers, reported that these life events triggered an increase in their gambling. Similarly, Wave Three of the Victorian Gambling Study (Department of Justice, 2012) found that greater significant life events were encountered by larger numbers of low risk, moderate risk and problem gamblers than by the general population. In the current study, a direct connection between these events and levels of gambling tended to be made by the participants in the problem gambling group, thus concurring with previous research. However, the recreational gambler group did not report increase in the gambling due to these life events.

The Centre for Addiction and Mental Health, Ontario Problem Gambling Research Institute (2012) reported that there are certain risk factors that can contribute to the development of gambling problems. These risk factors were viz. having had a recent loss or change, such as divorce, job loss, retirement or death of a loved one; experiencing financial problems; having a history of mental health problems, particularly depression and anxiety; having (or have had) problems with alcohol or other drugs; feeling bored or lonely; having few interests or hobbies, or
feeling life lacks direction; and having a parent who also has (or has had) problems with gambling.

According to Holdsworth et al. (2013), the problem gamblers tended to describe how their gambling had increased in times of stress. Some research has documented that gambling levels can increase at times of significant negative life events (McMillen et al., 2004). Twelve of the recreational gambling group and 10 of the problem gambling group reported to financial stresses (Holdsworth et al., 2013) in their lives. For the recreational gambling group, these stresses did not trigger increased gambling, but this was more evident amongst the problem gambling group.

Finding from a study by Jacoby et al. (2013) indicated that migrants have higher motivation and craving to gamble. Findings further suggest that acculturative stress was associated with severe gambling problems. In contrast, acceptance and popularity of gambling in the country of origin was not a significant predictor of gambling problems. At the same time, family gambling and peer gambling was significantly more prevalent among migrants, constituting an additional risk factor in the present sample. On the other hand, migrants in their sample benefit more often from a protective influence of religiosity.

The findings from Sobrun-Maharaj et al.’s (2013) study suggested that the migration and settlement experience may be an important antecedent of gambling and problem gambling for many Asian immigrants and refugees. Acculturation and settlement stress caused by cultural differences, financial difficulties and concomitant family stress; negative environmental factors such as social isolation and gambling culture, and the impact this had on their ability to cope with adversities, were all found to contribute to this. Cultural and language differences and subsequent difficulties with social interaction and integration into mainstream, financial stress and family stress were cited as the most important causes of acculturation and settlement stress. Participants in the study indicated that a convenient and safe venue for socialisation was the casino where language is not an impediment and various other facilities are easily available. International students showed higher levels of stressors and negative mood than domestic students, and that problem gambling would be associated with these high stress levels were both supported. International students in the study reported higher levels of relationship stress, financial stress and socio-cultural adaptation stress, as well as more anxiety and depression than domestic
students. This was consistent with prior researches indicating that international students have less social support, use less functional coping strategies, have more difficulty adjusting, and are more stressed than local students (Khawaja & Dempsey 2008; Moore et al., 2013). Results also revealed that both financial and adaptive stress, along with negative affect, were independent predictors of problem gambling, with financial stress and negative affect.

People with gambling problems often have high levels of stress, depression, anxiety and other mental illnesses, financial problems, relationship breakdown, employment concerns, drug and alcohol problems, ill physical health, housing-related stress and legal problems (Cultural Perspectives, 2005; Thomas & Jackson, 2008; Flatau et al., 2010; Holdsworth et al., 2013).

6. Comparison of adolescents with and without gambling tendencies on Parental Bonding, Satisfaction with time spent with Parents and Perceived Social Support

Based on the review of literature the following hypotheses were proposed:

6.1. Problem gambling group of adolescents were expected to score lowest on Perceived Parental Care dimension in comparison to at-risk gambling group of adolescents, social gambling group of adolescents, and non gambling group of adolescents.

6.2. Problem gambling group of adolescents were expected to score highest on Perceived Parental Overprotection dimension in comparison to at-risk gambling group of adolescents, social gambling group of adolescents, and non gambling group of adolescents.

6.3. Problem gambling group of adolescents were expected to score lowest on Perceived Social Support in comparison to at-risk gambling group of adolescents, social gambling group of adolescents and non gambling group of adolescents.

In addition, adolescents with gambling tendencies and non gambling adolescents were also compared on the scores obtained by adolescents on Satisfaction with time spent with father, Satisfaction with time spent with mother, Bonding with father and Bonding with mother.

A glance at t-ratios table 2.4 comparing adolescents with problem gambling tendencies and adolescents without gambling tendencies revealed that adolescents with problem gambling tendencies scored significantly higher than adolescents
without gambling tendencies on Perceived Maternal Overprotection and Perceived Paternal Overprotection. However, adolescents without gambling tendencies scored significantly higher than adolescents with problem gambling tendencies on Perceived Maternal Care, Perceived Paternal Care, Perceived Social Support, Satisfaction with time spent with Father, Satisfaction with time spent with Mother, Bonding with Father and Bonding with Mother.

A glance at t-ratios table 2.6 comparing adolescents with problem gambling tendencies and adolescents with social gambling tendencies revealed that adolescents with problem gambling tendencies scored higher than adolescents with social gambling tendencies on Perceived Paternal Overprotection. However adolescents with social gambling tendencies scored higher than adolescents with problem gambling tendencies Perceived Maternal Care, Perceived Maternal Overprotection, Perceived Paternal Care, Perceived Social Support and Satisfaction with time spent with Mother.

A glance at t-ratios table 2.7 comparing adolescents with problem gambling tendencies and adolescents with at-risk gambling tendencies revealed that adolescents with problem gambling tendencies scored higher than adolescents with at-risk gambling tendencies on Perceived Maternal care and Perceived Paternal Care. However, adolescents with at-risk gambling tendencies scored higher than adolescents with problem gambling tendencies on Perceived Maternal Overprotection, Perceived Paternal Overprotection and Perceived Social Support.

A perusal of Analysis of Variance tables (Tables 3.10 – 3.13 and 3.19) revealed the following: F-ratios for group comparisons on variables of Perceived Maternal Care, Perceived Maternal Overprotection, Perceived Paternal Care, Perceived Paternal Overprotection and Perceived Social Support emerged significant. A glance at table of means revealed that adolescents with problem gambling tendencies scored higher on Perceived Parental Overprotection (Perceived Maternal Overprotection and Perceived Paternal Overprotection) followed by at-risk gambling tendencies adolescents, adolescents with social gambling tendencies and adolescents without gambling tendencies.

A perusal of Post Hoc Analysis tables (Tables 4.10 – 4.13 and 4.19) revealed that the mean value of adolescents with problem gambling tendencies were significantly different from the other groups of adolescents on Perceived Maternal
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Care, Perceived Maternal Overprotection, Perceived Paternal Care, Perceived Paternal Overprotection and Perceived Social Support. Mean value of adolescents with at-risk gambling tendencies were significantly different from the other groups of adolescents on Perceived Maternal Care, Perceived Maternal Overprotection, Perceived Paternal Care, Perceived Paternal Overprotection and Perceived Social Support. Mean value of adolescents with social gambling tendencies were significantly different from the other groups of adolescents on Perceived Maternal Care, Perceived Paternal Overprotection, Perceived Paternal Care and Perceived Paternal Overprotection. Mean value of adolescents without gambling tendencies were significantly different from the other groups of adolescents on Perceived Maternal Care, Perceived Paternal Overprotection, Perceived Paternal Care and Perceived Paternal Overprotection.

A glance at table of means also revealed that adolescents without gambling tendencies scored highest on Perceived Parental Care, Perceived Maternal Care and Perceived Paternal Care followed by adolescents with social gambling tendencies, adolescents with at-risk gambling tendencies and adolescents with problem gambling tendencies. However, adolescents without gambling tendencies scored highest on Perceived social support followed by adolescents with social gambling tendencies, adolescents with at-risk gambling tendencies and adolescents with problem gambling tendencies.

Thus the hypotheses were upheld in all the cases. Review of earlier studies also revealed similar trends.

Several studies provided evidence attesting to the fact that problem gambling bears long lasting and negative repercussions for children. Lorenz and Shuttlesworth (1983) found that 25% of the children in their study had significant behavioural or adjustment problems, reflected in running away from home, committing crime and engaging in drug, alcohol, or gambling-related activities. Children of problem gamblers reported feeling abandoned, rejected, neglected, emotionally deprived, angry, hurt, sad, confused, isolated and/or lonely, guilty, helpless, anxious and depressed (Abbott et al., 1995). They often suffered from stress related illnesses including asthma and allergies, headaches and stomach problems (Lorenz & Yaffee, 1988). Inadequate stress management, poor coping skills and poor
school performance were also reported among this population (Franklin & Thoms, 1989). In addition, children of problem gamblers were more likely to gamble themselves at a younger age (Lesieur, 1992).

Gambino et al. (1993) found that veterans whose parents were described as problem gamblers had three times the risk of scoring as probable pathological gamblers; those whose grandparents were perceived to be problem gamblers were 12 times more likely to have gambling problems.

Research showed that the immediate social environment played a significant role in individual gambling behaviours and, more specifically, in the development of problem gambling (Gupta & Derevensky, 1997). Several studies have found significant familial influences in youth gambling behaviour. Gupta and Derevensky (1997) found that 86% of children who gambled regularly reported gambling with family members. Over half of students who reportedly gambled in the past year reported gambling with siblings, 46% gambled with other relatives and 40% gambled with their parents.

Another study found that 42% of parents who gambled reported that they occasionally gambled in the company of their children (Ladouceur et al., 1998; 2001). These researchers postulated that the positive attitudes of parents towards gambling could be a contributing factor in the initiation of gambling behaviour among youth.

In a study conducted by Makela (2000) have shown that parents who model or approve of gambling behaviour were more likely to have children who engaged in higher rates of gambling or were pathological gamblers.

Children of compulsive gamblers were four times more likely to gamble themselves, often being introduced to gambling by their parents (Ladouceur et al., 2001). This tendency has been described as the ‘intergenerational multiplier effect’ in children whose parents are problem gamblers (Abbott, 2001).

Interestingly, Walters (2001) found the ‘family history effect’ on the offsprings development of gambling behaviour. Researcher observed that the father’s gambling raised the risk factor for a son’s development of gambling behaviour more than that of the mother’s gambling raised the risk factor for a daughters’ development of gambling behaviour.
Hardoon et al. (2002) reported that at-risk adolescents and probable pathological gamblers reported significantly more family members as having gambling problems than non-gamblers and social gamblers.

Grant and Kim (2002) examined the role of perceived parenting behaviour in the childhood of patients with pathological gambling disorder (PGD). Thirty three outpatient subjects with DSM-IV pathological gambling disorder, and no other current Axis I disorders, completed the Parental Bonding Instrument (PBI), which measures subjects’ recollections of parenting on dimensions of care and protection. PBI scores of pathological gamblers were compared to normal controls. Subjects with pathological gambling disorder had significantly lower maternal and paternal care scores than the control subjects on maternal care and on paternal care. In terms of parental bonding patterns based on a combination of care and protection, the pathological gamblers reported low rates of optimal parenting and high rates of neglectful parenting. These preliminary findings suggest that neglectful parenting appears to be associated with pathological gambling disorder.

According to Winters et al. (2002), the relationship between parental gambling history and offspring gambling problems was confirmed in a longitudinal study.

Vachon et al. (2004) found that the severity of problem gambling on the father’s but not the mother’s side was associated with the severity of problem gambling among adolescents. Mother’s level of education was weakly associated with frequency of gambling among female (inverse relation) but not male adolescents (Barnes et al., 2005). The relation between parents’ level of education and adolescent gambling seems to be weak at best.

Langhinrichsen-Rohling et al. (2004) found that peer and family gambling was typically associated with more severe gambling problems. Several other studies supported this association (Hardoon et al., 2004). Peer and family gambling should be distinguished from the general acceptance and popularity of gambling, because certain forms of gambling (e.g. card games) can still be culturally embedded as convivial activities despite low acceptance and popularity of public gambling (Oggier & Ideli, 2005).
Magoon and Ingersoll (2006) confirmed that parental modeling of gambling behaviour was positively related to adolescent participation in gambling activities. Total scores for student perception of parental modeling were significantly related to both lifetime and past year gambling frequency. In terms of parental monitoring it has been demonstrated that this may be a protective factor for gambling problems among adolescents (Magoon & Ingersoll, 2006; Wanner et al., 2006), particularly for girls (Chalmers & Willoughby, 2006). With regard to family cohesion the findings were mixed. Magoon and Ingersoll (2006) also found a relationship between levels of parental attachment and gambling behaviours. The degree to which adolescents report that they have a trusting and communicative relationship with their parents, the less likely they were to gamble in games of skill and were more likely to be problem gamblers. Higher levels of parental gambling (Magoon & Ingersoll, 2006) and having family members with gambling problems (Cronce et al., 2007; Dickson et al., 2008) were associated with risk and problem gambling.

Those adolescents who have parents who do close monitoring gamble less, and if they did gamble, they were less likely to be classified as problem gamblers (Magoon & Ingersoll, 2006). However, caretakers were not alone in impacting gambling behaviours. Although parents served as prime influences on the lives of youth, peer influences strengthen over time. Magoon and Ingersoll (2006) found that high negative influences of parents and peers interact to affect gambling behaviour.

Dickson et al. (2008) showed a negative association between family cohesion and gambling severity among adolescents. Another study found no relationship between these variables (Langhinrichsen-Rohling et al., 2004).

According to researches done by Ward and Masgoret (2007), New Zealand Press Association (NZPA) (2008) and Sobrun-Maharaj et al. (2009), people who did not had family or friends to interact were encouraged to find companionship in the casino; a strategy that was widely reported by gamblers and family members across most of the ethnic groups in New Zealand.

According to Wickwire et al. (2010), adolescents hold well formed expectancies about gambling. Five expectancy domains viz. material gain, negative affect, positive self evaluations, negative social consequences and parent disapproval, accounted for significant variance in gambling problems and frequency, and together accounted for a majority of variance in gambling frequency, and approximately half
of variance in gambling problems. More frequent gamblers and problem gamblers had higher expectation of material gain, negative emotions and self-enhancement whereas lower expectations of negative social consequences and parental disapproval.

**Patford’s (2008, 2009)** research highlights the substantial negative effects problem gambling can have on partners and their children, including financial problems within the household, diminished quality of life, emotional distress and health problems. In essence, **Patford’s (2008, 2009)** research showed that problem gambling profoundly disrupted family’s lives. In reality, the financial, health and social impacts of problem gambling were considerable for partners and families of those with gambling problems (**Petry & Weiss, 2009; Productivity Commission, Canberra, Australia, 2010**).

Results by **King et al. (2010)** supported previous research by demonstrating that a familial history of gambling problems was associated with increased risk for time spent in gambling (**Black et al., 2006**). One possible explanation for this finding was that children learnt gambling behaviours vicariously through parental modeling.

Among those individuals who reported having experienced some form of childhood maltreatment, at-risk gamblers were more likely to report emotional abuse and neglect whereas the pathological gamblers reported significantly more emotional and physical neglect (**Felscher et al., 2010**). At the severe to extreme levels of maltreatment, at-risk and pathological gamblers reported more childhood emotional and physical neglect than non-gamblers and social gamblers. Sexual abuse was the least common form of maltreatment reported independent of gambling severity. However, twice as many at-risk and pathological gamblers reported experiencing some form of sexual abuse compared with non gamblers and social gamblers. The finding that pathological gamblers experienced a significantly greater degree of neglect compared to the sample suggests its overall negative impact upon one’s psychological adjustment.

**Dowling et al. (2010)** found that young adult positive gambling expectancies (self-enhancement, financial gain) mediated the association between familial (i.e., parent or sibling) and young adult problem gambling behaviour. Perceived negative outcomes of gambling (risk, guilt and shame) served as a protective factor against the effect of the transmission of familial to young adult problem gambling behaviour.
Discussion

Linking social and individual psychological factors, Felsher et al. (2010) reported that when parents and other significant adults gamble around children, there was a tendency for the children to later develop a gambling problem in early adulthood (Felsher et al., 2010). Importantly, they also highlighted that not only are children affected by parents’ gambling behaviour due to being exposed to gambling in childhood, but high levels of parental gambling had great impact on emotional problems within the family, which in turn lead to emotional vulnerability among children (Felsher et al., 2010).

Department of Justice, Victoria, Australia (2011), explored the area of social capital, particularly the aspects of being able to access help from family members, friends and neighbours if needed, and feeling like a valued member of society. Less than 45 per cent of participants experiencing gambling problems reported they could access help if needed. Furthermore, less that 32 per cent of participants experiencing gambling problems reported they felt valued by society (Department of Justice, Victoria, Australia, 2011).

According to Floros et al. (2013), mother’s and father’s care correlated with lower scores in the gambling outcome measure while overprotection was related with higher scores in gambling. This finding was consistent with the related literature where high maternal and paternal protection in combination with low maternal and paternal care (“affectionless control”) was associated with pathological gambling (Grant & Kim, 2002) as well as drug and alcohol dependence (Schweitzer & Lawton, 1989; Torresani et al., 2000). According to the researchers, good parenting plays a role in all addictive phenomena and gambling. Parents with a high degree of affection and care for their adolescents who also understand the needs of an adolescent for individuality and self-expression were more involved in their supervision to a degree that does not curtail autonomy of the adolescent but instead respect the personal boundaries of the adolescents. Those adolescents who were isolated from peers and instead joined an online community of gamblers had proved to be disconnected from significant others to the degree of having no one to care for their fortunes. Social networking has risen as a possible risk factor for the manipulation of adolescents into gambling behaviours, especially as the initiation may not require any real funds at all.
Lang and Randall (2013) examined associations between the gambling attitudes and behaviour of 213 young adults and their perceptions of the gambling attitudes and behaviour of their closest grandparent. Regression analyses showed that young adult gambling attitudes mediated the relations between perceived grandparent gambling attitudes and behaviour and young adult gambling behaviour. Grandparent–grandchild relationship quality experienced while growing up did not moderate the relations between young adult and perceived grandparent gambling attitudes and behaviour.

The results of Gori et al. (2014) suggested that good peer relationships were very influential on gambling behaviour for adolescent problem-gamblers and males at-risk-gamblers, as revealed by other researchers (Blinn-Pike et al., 2010). However the psychological literature has been ambiguous about the nature of this influence. A peers network, in some cases, protected a vulnerable adolescent from negative outcomes, but in other cases it enhanced an adolescent’s risk for gambling behaviour; given this uncertainty it was important to further examine its potential role within the gambling field (Rahman et al., 2012; Gori et al., 2014).

In line with other studies Gori et al. (2014) also found that when gambling becomes a regular activity among peers, adolescents consider it as a socially acceptable activity, desirable and risk free (Shead et al., 2010). Approval of gambling was also maintained within a culture by passing beliefs about gambling from one generation to another (McComb & Sabiston, 2010). These results suggests that family influences play a major role in instilling cognitions and perceptions about gambling that could deter individuals from becoming addicted to gambling (Gori et al., 2014).

According to Hanss et al. (2014), attitudes and behaviours of peers were also influential in promoting gambling behaviour among adolescents. Having peers who approve of gambling and who gamble has been shown to be positively associated with levels of gambling frequency and problem gambling (Dickson et al., 2008). Two of the social variables that were important covariates of gambling in Hanss et al. (2014) study represented descriptive social norms (having relatives and/or friends with a history of pathological gambling involvement) and injunctive social norms (family/friends’ approval of gambling). Two other social variables that were important covariates in their study were, parental monitoring which was negatively
associated with risk-problem gambling. Having a father with lower secondary education was positively associated with non-problem and risk-problem gambling. Adolescents who engaged in risk gambling had to hide this behaviour from their parents and this was easier for those whose parents had a less strict monitoring style. However, those who engaged in occasional non-problematic gambling were supported by their parents (e.g., getting a lottery ticket as a birthday gift). A possible explanation for the finding that father’s but not mother’s level of education was associated with adolescent gambling can be that fathers with lower education are more likely to engage in risky behaviours (Hampton et al., 2013) and act as strong role model for risk behaviours.

Scholes-Balog et al. (2014) investigated a broad range of both risk and protective factors viz. Gender (female), family conflict, family history of antisocial behaviour, family rewards for pro-social involvement, academic failure, low school commitment, rebelliousness, interaction with antisocial peers, friends use of drugs, peers rewards for antisocial involvement, antisocial behaviour, current use of cigarette and alcohol and belief in moral order, across multiple domains of the individual’s life. The partially adjusted analyses identified a number of adolescent risk factors in the family, school and peer/individual domains which were predictive of problem gambling during young adulthood. Similarly, protective factors in the family and individual domain were identified. While many of the identified risk factors in the partially adjusted analyses were novel and have not been investigated previously, some of the risk factors identified in their study were consistent with risk factors that have been identified in other cross sectional and longitudinal studies of gambling behaviour. For example, poor school performance (Winters et al., 2002), peer delinquency (Barnes et al., 2005), delinquency/antisocial behaviour (Hayatbakhsh et al., 2006) and substance use (Hayatbakhsh et al., 2006) have all been identified as risk factors for engagement in gambling and/or problem gambling previously. However, in the study conducted by Scholes-Balog et al, female gender emerged as the only statistically significant protective factor in the fully adjusted multivariate analyses. Female gender independently decreased the odds of problem gambling in young adulthood, which is consistent with a large body of literature showing that males are at increased risk of gambling (Jackson et al., 2008) and problem gambling (Hayatbakhsh et al., 2006; Johansson et al., 2009).
7. Comparison of adolescents with and without gambling tendencies on Satisfaction with Life, Perceived Health Status and Perceived Happiness Status.

Based on the review of literature following hypotheses was proposed

7.1. Problem gambling group of adolescents were expected to score lowest on Perceived Health Status, Perceived Happiness Status and Satisfaction with Life in comparison to at-risk gambling group of adolescents, social gambling group of adolescents and non gambling group of adolescents.

A glance at t-ratios table 2.4 comparing adolescents with problem gambling tendencies and adolescents without gambling tendencies revealed that adolescents without gambling tendencies scored significantly higher on Perceived Health Status, Perceived Happiness Status and Satisfaction with life.

A glance at t-ratios table 2.6 comparing adolescents with problem gambling tendencies and adolescents with social gambling tendencies revealed that adolescents with social gambling tendencies scored significantly higher on Satisfaction with Life.

A glance at t-ratios table 2.7 comparing adolescents with problem gambling tendencies and adolescents with at-risk gambling tendencies revealed no significant differences emerged between adolescents with problem gambling tendencies and adolescents with at-risk gambling tendencies on Perceived Health Status, Perceived Happiness Status and Satisfaction with Life.

A perusal of Analysis of Variance tables (Table 3.9, 3.36 and 3.37) revealed the following: F-ratios for group comparisons on variables of Perceived Health Status, Perceived Happiness Status and Satisfaction with Life emerged significant. A glance at table of means revealed that adolescents without gambling tendencies scored highest on Perceived Happiness and Satisfaction with life and were followed by adolescents with social gambling tendencies, adolescents with at-risk gambling tendencies. Adolescents with problem gambling tendencies scored lowest on Perceived Happiness and Satisfaction with life in comparison to adolescents with at-risk gambling tendencies, adolescents with social gambling tendencies and adolescents without gambling tendencies.
A perusal of Post Hoc Analysis table (Tables 4.9 and 4.36) revealed that the mean value of adolescents with problem gambling tendencies were significantly different from the mean values of adolescents with social gambling tendencies and adolescents without gambling tendencies on Satisfaction with Life and Perceived Health Status. Mean value of adolescents with at-risk gambling tendencies were significantly different from the mean values of adolescents with social gambling tendencies and adolescents without gambling tendencies on Satisfaction with Life. Mean value of adolescents with social gambling tendencies were significantly different from the mean values of adolescents with at-risk gambling tendencies and adolescents with problem gambling tendencies on Satisfaction with Life. Mean value of adolescents without gambling tendencies were significantly different from the mean values of adolescents with at-risk gambling tendencies and adolescents with problem gambling tendencies on Satisfaction with Life and Perceived Health Status.

A glance at table of means also revealed that adolescents with social gambling tendencies scored highest on Perceived Health followed by adolescents without gambling tendencies, adolescents with at-risk gambling tendencies and adolescents with problem gambling tendencies respectively.

Thus the hypotheses were upheld in most of the cases. Review of earlier studies also revealed similar trends.

Findings of Cyders and Smith (2008) suggested that individual differences in rates of college student gambling were not due to the need to pursue thrill or stimulation, as some previous research has suggested. Rather, increase in gambling was tied to positive affect. Variability in student gambling appeared not to follow variability in rash acts during negative emotional states; rather, it appeared to follow variability in rash acts during very positive emotional states. Perhaps some college students tended to act more rashly by gambling more heavily when they were in unusually positive mood states.

The focus of the study conducted by Sander and Peters (2009) was on the difference between abstinent and relapsed gamblers. The aim of the study was to understand the influence of psychological distress and quality of life on the maintenance of therapy success during a 1 year follow-up in pathological gamblers after inpatient cognitive-behavioural treatment. In a sample of 281 pathological
gamblers (247 men, 34 women) researchers administered tests on psychological distress (beginning and end of treatment, and follow up), quality of life and abstinence from gambling. The results in the first part of their study showed that patients who relapsed suffered from higher psychological distress at the end of treatment and at follow up and had lower quality of life at follow up. The second part of the results in their study focused on the relation between quality of life, psychological distress and relapse or abstinence. The statistical mediator model confirmed that quality of life mediated the relation between psychological distress and abstinence/relapse. This means that the influence of high psychological distress raised the risk for relapse especially in combination with low quality of life.

According to Derevensky et al. (2010), problem gamblers compared to non-gamblers and social gamblers held more positive attitudes about gambling, and perceived gambling as less harmful. Males and older students held more positive attitudes to gambling, and perceived gambling as less harmful.

People who were dissatisfied with their life (i.e. a low level of life satisfaction) were more likely to gamble and report further gambling problems (Grant & Kim, 2005; Lai, 2005; Tang & Oei, 2011). Life dissatisfaction increased the motives of boredom alleviation and sensation-seeking, which were the two other common gambling motives reported by Chinese gamblers (Tao et al., 2011; Wu et al., 2012). Those Chinese people, who were dissatisfied with their life, gambled more for passing time, changing their negative moods, and for excitement seeking. Wong (2010) also reported that enjoyment and entertainment were the most common reasons for internet gambling among Macao high school students.

According to Hwang et al. (2012), subjects with problem gambling shared similar affective states with patients with obsessive compulsive disorder. Both groups experienced less positive affect than did healthy controls. Patients with obsessive compulsive disorder felt more negative affect than did healthy controls, but not more than did those with problem gambling. A strong correlation between neuroticism and negative affect was revealed in their study, which partially explained why patients with obsessive compulsive disorder exhibited higher levels of both neuroticism and negative affect than did those with problem gambling. The notion of negative affect is closely related to that of neuroticism in terms of conceptual underpinnings (Watson
& Clark, 1984), and the constructs are known to be highly correlated with each other (Watson et al., 1992).

According to Atkinson et al. (2012), gambling severity was associated with negative affect. Negative affect, in turn, was correlated with the unitary Behavioural Inhibition Scales (BIS) and inversely associated with the Behavioural Activation Scales (BAS) (reward responsiveness scale). Reward responsiveness was also inversely associated with gambling severity. In the Structural Equation Modeling (SEM) models, the association between reward responsiveness and gambling severity was mediated by negative affect among males but not among females.

The study conducted by Pascual-Leone et al. (2012) examined the differences in arousal (physiologically and subjectively) between gamblers and non-gamblers in Windsor, Canada. Thirty students from a mid-sized university took part in the study for a chance to win money in a gambling task. Nearly half of the participants identified themselves as non-gamblers and slightly more than half of the participants considered themselves gamblers. Findings indicated that gamblers experienced a significantly higher increase in physiological arousal (heart rate) compared to non-gamblers during the gambling experience. The results suggested the possibility that physiological arousal may play a role in gambling in certain types of people. Furthermore, when gamblers suffered a loss at the end of the game, they reported feeling worse as compared to the non-gamblers. Moreover, this affective change explained 28.6% of the variance in gambling behaviour according to self-reports.

Sundqvist and Wennberg (2014) study aimed at examining the association between risk gambling and personality in a representative Swedish population. Risk gambling was positively correlated with Negative Affectivity (a facet of Neuroticism) and Impulsivity (an inversely related facet of Conscientiousness), but all associations were weak. When they took age and gender into account, they found no differences in personality across game preference groups, though preferred game correlated with level of risk gambling. Risk gamblers scored lower than the population norm data with respect to Negative Affectivity, but risk gambling men scored higher on Impulsivity.

The major findings from Oie and Goh (2014) study were that all the risk and protective factors except for life satisfaction were significantly and directly related to problem gambling severity. Significant interactions between risk and protective
factors also demonstrated moderating effects of protective factors (i.e., Resilience, Gambling Refusal Self-Efficacy, and Life Satisfaction) on risk factors (i.e., Gambling Cognitions, Gambling Urges, Psychological States). In addition, resilience and gambling refusal self-efficacy contributed uniquely to the prediction of problem gambling severity, after the effects of risk factors were taken into account. Specifically, gambling refusal self-efficacy was observed to negate the effects of psychological distress and to reduce frequency of gambling-related problems among individuals with minimal gambling urges. Having higher life satisfaction also reduced the likelihood of experiencing gambling-related problems when gambling urges were strong. Lastly, resilience was found to increase frequency of gambling-related problems among individuals with strong erroneous gambling beliefs or elevated psychological distress.

The research findings from Xiang and Mowen (2009), Tao et al. (2011), Wu et al. (2012) and Wu et al. (2014) suggested that Chinese pathological gamblers were motivated to gamble not only for a materialistic drive (rewards) but also for sense of enjoyment and excitement, which temporarily regulates their distress and dissatisfaction of life.

According to Goldstein et al. (2014), it was well established that young adults were at risk for problem gambling and they gamble for various reasons, including positive mood enhancement and negative mood reduction. Although these motives have been identified as important proximal predictors of gambling, the research to date has focused on between-subjects relationships. What was missing was a process-level of understanding of the specific within-subjects relations between mood-regulation motives for gambling, mood states, and gambling behaviours. Their study used experience sampling to assess the specific link between gambling motives, mood states, and gambling behaviour. Participants completed baseline measures of gambling motives and gambling problems and then reported on their mood states and gambling behaviour three times a day for 30 days. Multilevel modeling analyses revealed a significant positive moderating effect for enhancement motives on the relationship between positive mood and amount of time spent on gambling and number of drinks consumed while gambling. In addition, problem gambling status was associated with consuming fewer drinks while gambling at higher levels of positive mood, and spending more money than intended at higher levels of negative.
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mood. Unexpectedly, there was only one moderating effect for coping motives on the mood-gambling relationship; low coping motivated gamblers consumed more alcohol while gambling at higher levels of positive mood, whereas high coping motivated gamblers did not change their drinking pattern in response to positive mood. The findings highlighted enhancement motives as risky motives for young adult gambling, particularly in the context of positive mood, and suggest that gambling interventions should include strategies to address positive mood management.

B. GENDER DIFFERENCES

Based on review of literature the following hypothesis was proposed regarding gender differences:

1. Gender differences in gambling tendencies and their correlates were also explored in all the groups of adolescents with differential gambling tendencies as well as non gambling adolescents.

A glance at t-ratios table 2.8 comparing males and females adolescents with social gambling tendencies revealed that females scored higher than males on Internality and Extraversion while males scored higher than females on Boredom Seeking.

A glance at t-ratios table 2.9 comparing male and female adolescents with At-Risk gambling tendencies revealed that female adolescents with At-Risk gambling tendencies scored higher than male adolescents with At-Risk gambling tendencies on Social Desirability and Total Impulsivity.

A glance at t-ratios table 2.10 comparing male and female adolescents with problem gambling tendencies revealed that female adolescents with problem gambling tendencies scored higher than male adolescents with problem gambling tendencies on Stress Symptoms, Task Focused Coping, Satisfaction with Life, Perceived Maternal Care, Perceived Paternal Care, Boredom Seeking, Total Sensation Seeking, Extraversion, Perceived Stress, Impulsivity dimensions viz. Attention Impulsivity, Attention, Motor Impulsivity, Motor, Perseverance, Nonplanning Impulsivity, Self Control, Cognitive Complexity and Total Impulsivity. Male adolescents with Problem Gambling tendencies scored higher than female adolescents with Problem Gambling tendencies on Being Comfortable with Self, Avoidant Coping and Perceived Social Support.
A glance at t-ratios table 2.11 comparing male and female adolescents with gambling tendencies revealed that male adolescents with gambling tendencies score higher on Avoidant Coping and Perceived Social Support. Female adolescents with gambling tendencies score higher on Perceived Stress, Impulsivity dimensions viz. Attention Impulsivity, Attention, Nonplanning Impulsivity, Self Control, Cognitive Complexity and Total Impulsivity.

A glance at t-ratios table 2.16 comparing male and female adolescents without gambling tendencies revealed that female adolescents without gambling tendencies scored higher than male adolescents without gambling tendencies on Perceived Ability to Meet Life Demands, Total Mental Health, Satisfaction with Life, Perceived Maternal Care and Perceived Paternal Care. Male adolescents without gambling tendencies scored higher than female adolescents without gambling tendencies on Problem Gambling Severity Index Scores, Perceived Paternal Overprotection, Locus of Control, Dimensions of Impulsivity viz., Attention Impulsivity (total), Attention, Cognitive Instability, Motor Impulsivity (total), Perseverance and Total Impulsivity.

A perusal of Analysis of Variance tables (Table 3.6, 3.8- 3.10, 3.15, 3.19, 3.24, 3.25, 3.28, 3.32, 3.34 and 3.35) revealed the following: The F-ratios for gender differences on variables of Task Focused Coping, Avoidant Coping, Perceived Maternal Care, Boredom Susceptibility, Perceived Social Support, Social Desirability, Perceived Stress, Cognitive Instability, Nonplanning Impulsivity, Cognitive Complexity and Total Impulsivity emerged significant.

A glance at the table of mean scores revealed the following: Female adolescents with gambling tendencies scored higher than male adolescents with gambling tendencies on Perceived Ability to Meet Life Demands, Total Mental Health, Stress Symptoms, Task Focused Coping, Emotion Focused Coping, Satisfaction with Life, Perceived Maternal Care, Perceived Paternal Care, Boredom Susceptibility, Experience Seeking, Total Sensation Seeking, Locus of Control, Extraversion, Social Desirability, Perceived Stress, Attention Impulsivity (total), Attention, Motor Impulsivity (total), Perseverance, Nonplanning Impulsivity (total), Self Control, Cognitive Complexity, Total Impulsivity, Satisfactory time spent with Father, Bonding with Father, Satisfactory time spent with Mother and Perceived Happiness. However, Male adolescents with gambling tendencies scored higher than female adolescent with gambling tendencies on Gambling tendencies viz.,
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Problem Gambling Severity Index Scores, South Oaks Gambling Screen Revised Adolescents Scores, Young’s Diagnostic Questionnaire Score and Kimberly Young’s Gambling Test Scores; Being Comfortable with Self, Being Comfortable with Others, Avoidant Coping, Perceived Maternal Overprotection, Perceived Paternal Overprotection, Disinhibition, Thrill and Adventure Seeking, Perceived Social Support, Psychoticism, Neuroticism, Cognitive Instability, Motor, Bonding with Mother and Perceived Health.

Female adolescents with social gambling tendencies scored higher than female adolescents with at-risk gambling tendencies on Being Comfortable with Self, Being Comfortable with Others, Total Mental Health, Perceived Paternal Care and Perceived Social Support; Female adolescents with social gambling tendencies scored higher than female adolescents with problem gambling tendencies on Being Comfortable with Self, Being Comfortable with Others, Ability to meet Life demands, Total Mental Health and Perceived Social Support.

Female adolescents with at-risk gambling tendencies scored higher than female adolescents with social gambling tendencies on Problem Gambling Severity Index, South Oaks Gambling Screen- Revised Adolescents, Young’s Diagnostic Questionnaire, Kimberly Young’s Gambling Test, Perceived Ability to Meet Life Demands, Stress Symptoms, Impulsivity dimensions viz. Attention Impulsivity, Cognitive Instability, Motor Impulsivity, Perseverance, and Total Impulsivity; Female adolescents with at-risk gambling tendencies scored higher female adolescents with problem gambling tendencies on Perceived Social Support.

Female adolescents with problem gambling tendencies score higher on female adolescents with social gambling tendencies Problem Gambling Severity Index, South Oaks Gambling Screen- Revised Adolescents, Young’s Diagnostic Questionnaire, Kimberly Young’s Gambling Test, Stress Symptoms, Boredom Susceptibility, Psychoticism, Extraversion, Perceived Stress, Impulsivity dimensions viz. Attention Impulsivity, Attention, Cognitive Instability, Motor Impulsivity, Motor, Perseverance, Nonplanning Impulsivity, Self Control, Cognitive Complexity and Total Impulsivity; Female adolescents with problem gambling tendencies scored higher than female adolescents with at-risk gambling tendencies on South Oaks Gambling Screen- Revised Adolescents, Young’s Diagnostic Questionnaire, Kimberly Young’s Gambling Test, Stress Symptoms, Perceived Paternal Care,

**Male adolescents with social gambling tendencies** scored higher than male adolescents with at-risk gambling tendencies on Perceived Ability to Meet Life Demands, Total Mental Health, Task Focused coping, Perceived Paternal Care, Impulsivity dimension viz. Nonplanning Impulsivity and Satisfaction with Mother; Male adolescents with social gambling tendencies scored higher than male adolescents with problem gambling tendencies on Being Comfortable with Others, Satisfaction with Life, Perceived Maternal Care, Perceived Paternal Care, Thrill and Adventure Seeking, Perceived Social Support and Satisfaction with Mother.

**Male adolescents with at-risk gambling tendencies** scored higher than male adolescents with social gambling tendencies on Problem Gambling Severity Index, South Oaks Gambling Screen- Revised Adolescents, Young’s Diagnostic Questionnaire, Kimberly Young’s Gambling Test, Boredom Susceptibility, Total Sensation Seeking, Externality, Impulsivity dimensions viz. Attention Impulsivity, Cognitive Instability, Motor Impulsivity and Total Impulsivity

**Male adolescents with problem gambling tendencies** scored higher than male adolescents with social gambling tendencies on Problem Gambling Severity Index, South Oaks Gambling Screen- Revised Adolescents, Young’s Diagnostic Questionnaire, Kimberly Young’s Gambling Test, Stress Symptoms, Avoidant Coping, Boredom Susceptibility, Experience Seeking, Total Sensation Seeking, Impulsivity dimensions viz. Attention Impulsivity, Attention, Cognitive Instability, Motor Impulsivity and Total Impulsivity; Male adolescents with problem gambling tendencies scored higher than male adolescents with at-risk gambling tendencies on Problem Gambling Severity Index, South Oaks Gambling Screen- Revised Adolescents, Young’s Diagnostic Questionnaire, Kimberly Young’s Gambling Test, Being Comfortable with Self, Stress Symptoms, Avoidant Coping, Impulsivity dimensions viz. Non-Planning Impulsivity and Cognitive Complexity.

Results revealed significant gender differences on many psychosocial variables playing a role in gambling tendencies. Review of earlier studies showed similar trends.
Several studies have suggested that differences exist between the gambling attitudes and behaviour of men and women (LaBrie et al., 2003; Larimer & Neighbors, 2003).

Winters et al. (1998) found that 91% of college men and 84% of college women reported engagement with gambling (gambling at least once during the prior 12 months period). Of these emerging adults who gambled, 14% of men and 3% of women gambled at problematic levels.

Thomas and Moore (2001) investigated electronic gaming machine (EGM) players in Victoria (83 women and 72 men) regarding coping style and gambling frequency and found that women scored higher on measures of anxiety and depression than did men and concluded that negative mood (depression and anxiety) tended to result in women becoming particularly susceptible to excessive gambling. Given the evidence suggesting that women with gambling-related problems were particularly prone to co-morbid mental illness, investigating help seeking concerns for women is critical.

Grant and Kim (2002) examined progression to problem gambling from a gendered perspective. The quantitative study included 131 men and women and concluded that women tend to start gambling later in life and progress more quickly than men from recreational to problem gambling. However, they reported that the reasons for this are largely unknown.

Another quantitative study by Toneatto et al. (2002), involving 580 men and women admitted to a residential addictions programme, reported that women tend to have a shorter interval than men between non-problem gambling and problem gambling, but again no clear reasons were established.

In a national telephone survey examining the demographic patterns of gambling participation in the United States, men gambled more frequently and had higher losses and wins (Welte et al., 2004). Findings also indicated that 2.9% of women were problem gamblers compared to 4.2% of men.

Heater and Patton (2006) incorporated a quantitative survey to investigate gender differences regarding progression in a sample of 97 Canadian helpline callers (59 men and 38 women) and found that women tend to have a shorter duration of their gambling problem compared to men, but again the reasons for this were largely
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unknown. However, adopting a feminist approach, incorporating qualitative methodology such as in-depth interviews that allow for the participants to articulate their personal experiences, concerns and understandings, were more conducive to illuminate gender differences, including women’s shorter progression to problematic gambling.

According to LaPlante et al. (2006), gambling had been a predominantly male pastime; however, as legalized gambling had expanded, female participation had increased. Nevertheless, some research suggested that a divide remains between the play patterns of men and women. Using data from 2256 (1309 male) problem gambling treatment participants, LaPlante et al. (2006), examined the influence of gender on play patterns. They tested the ability of gender and a series of demographic, economic, and health-related factors to discriminate among three groups of gamblers with different game preferences: casino preferred, slots preferred, and non-institutional preferred. The results of multiple discriminant function analyses indicated that gender provided a minimal contribution to discrimination beyond that of specific demographic, economic, and health-related factors. This finding suggested that for understanding gambling patterns, gender is less informative than descriptive gambler profiles.

According to Stoletenberg et al. (2007), men and women have different levels of gambling involvement, with men having higher levels of engagement and problems than women.

According to Gordon (2008), some evidence suggested that women problem gamblers were more prone to co-morbid mental illness than men.

Gambling status was related to gender, such that higher-risk gamblers were more likely to be male and lower-risk gamblers were more likely to be female. This finding is congruent with previous research showing that male gender is a risk factor for problem gambling (Johansson et al., 2009), especially in young adults and adolescents (Welte et al., 2008).

King et al. (2010) study also addressed the effects of gender on gambling behaviours among college students. They found that being male predicted problematic gambling behaviours and beliefs, in line with many past studies (Dannon et al., 2006; Blanco et al., 2006; Ellenbogen et al., 2007). They further found that the relationship
between Negative Emotionality and problematic gambling behaviours was stronger for men than women. This suggested that personality factors had conferred different risks for men and women. At least one study found that women, relative to men, were less emotionally involved when gambling and play more for enjoyment, perhaps due in part to differences in gender socialization. Of note, findings of King et al. (2010) study contrasted those of Slutske et al. (2005), who found no interactive effects of gender and personality in predicting pathological gambling.

According to Holdsworth et al. (2013) gender differences do exist in various ways including gambling motivations such as gambling used as a coping strategy to alleviate or ‘escape’ from stress and anxiety, help-seeking and prevalence of comorbidity. In this Australian qualitative study, researchers explored the experiences and concerns of 20 women electronic gaming machine players through in-depth interviews. Ten women self-identified as recreational gamblers and 10 had received help for their gambling. Holdsworth et al. (2013), present findings as they relate to specific issues of comorbidity and complex needs. For the 10 women who had received gambling help the range of comorbid issues was extensive. Greater understandings of the range of complex issues often involved for women who gambled problematically will assist in the identification of moving from recreational to problem gambling and in the implementation of effective treatment strategies.

Considering high levels of sensation seeking (Nower et al., 2004) and parental and peer involvement in gambling (Langhinrichsen-Rohling et al., 2004; Wickwire et al., 2007) in an integrated way, Donati et al. (2013) study provided empirical evidence of the complexity of adolescent gambling behaviour.

Sensation seeking and superstitious thinking were significant predictors of at-risk/problem gambling in both gender groups (Donati et al., 2013). These results of their study were in accordance with past studies which have shown that the desire for intense sensory experiences was predictive of problem gambling behaviour in male and female youth (Nower et al., 2004), and that irrational beliefs were strong predictors of problematic gambling in both gender groups (Moore & Ohtsuka, 1999). As for gender differences, it has been found by Donati et al. (2013) that the susceptibility to the gambler’s fallacy, the economic perception of gambling, and peer gambling behaviour were predictors of at-risk/problem gambling among male adolescents, while parental gambling behaviour had a predictive power in female
adolescents. According to Donati et al. (2013), the peer groups’ were context to share gambling activities and to demonstrate maturity status through gambling wins. As a consequence, gambling was perceived as a mean to gain money. Vice versa, gambling was a less peer-approved activity for girls, who were rather influenced by their parents’ behaviour. Finally, gender differences in probabilistic reasoning might be related to a different approach when solving the tasks, with male adolescents appearing to be more intuitive.

Wong et al. (2013) examined gender differences among emerging adults at two levels of gambling involvement, engagement and problems and tested if certain aspects of impulsivity and social anxiety could account for these differences. The study found (1) gender differences in both gambling engagement and problem gambling among emerging adults, (2) risk-taking and impulsive coping partially accounted for the gender differences in gambling engagement, and (3) risk-taking and social anxiety partially accounted for the gender differences in problem gambling.

According to Lang and Randall (2013), men experienced gambling at a younger age and reported more positive gambling attitudes, more frequent gambling activity, higher levels of gambling pathology, and higher levels of gambling affinity than women.

According to Moore et al. (2013) gender was significantly associated with both gambling frequency and gambling problems, with males gambling more frequently and more problematically than females, as in previously published research (Clarke et al., 2006; Welte et al., 2008). Regression analysis in the study by Moore et al (2013) showed that gender remained a significant independent predictor of problem gambling even when frequency of gambling was taken into account.

Even with an increase in gambling opportunities for women (Welte et al., 2002), gender differences were still found for young adults. Emerging adult men were twice as likely to have gambled and almost three times more likely to have gambling problems compared to emerging adult women (Wong et al., 2013). There were a number of reasons why young adult men were gambling more and having more problems. First, adult men expected more positive benefits from gambling than women even at the early stages of adulthood. Leonard and Blane (1992) found that young adult men had higher levels of involvement in addictive behaviours because of more positive expectancies. Men also minimized the risk of gambling while
maximized the perceived benefits. For example, heavy smokers tend to deemphasize health risks of cigarettes while perceiving smoking as exercising their personal right to smoke (Hermansoon & Hansson, 2007). Similarly, emerging adult men minimized the health risks of drinking, and instead, perceive drinking to help with socializing and romantic interactions (Zimmerman & Monika, 2010). Second, men gambled more due to gender differences in role socialization (Hraba & Lee, 1996). For men, masculinity was often achieved or proven, and many times this involves acts of skilled and fearlessness in certain situations (Sibley & Harre, 2008). Gambling, especially high stakes gambling provided men the opportunity to show how skilled and fearless they were. Given this social norm, it was not surprising that men were engaged in more gambling that involves games of skill, such as black jack or poker (LaPlante et al., 2006).

Male participants in Hanss et al. (2014) sample were more likely than female participants to be at risk for developing gambling problems. A possible explanation for this finding was that, during adolescence, boys were more prone to engage in risk behaviours than girls (Gullone et al., 2000).

C. INTER-CORRELATION ANALYSIS

1. Problem Gambling Tendencies and Personality

Based on the review of literature following hypotheses were proposed

1.1 Problem gambling tendencies were expected to be positively related with Neuroticism, Psychoticism, Sensation Seeking and its dimensions, Externality and Dimensions of Impulsivity in all groups of adolescents with different gambling tendencies.

1.2 Problem gambling tendencies were expected to be negatively related with Extraversion in all groups of adolescents with different gambling tendencies in all groups of adolescents with different gambling tendencies.

Intercorrelation tables revealed the following:

Table 5.1 revealed that Problem Gambling Severity Index scores were significantly and positively related with scores obtained by adolescents on Dimensions of impulsivity viz. Attention Impulsivity, Attention, Cognitive Instability, Motor Impulsivity, Motor, Perseverance, and Total Impulsivity among adolescents with gambling tendencies (total sample of gamblers). Problem Gambling Severity
Index scores were found to be **significantly and negatively** related with scores obtained by adolescents on Extraversion among adolescents with gambling tendencies (total sample of gamblers).

Table 5.2 revealed that Problem Gambling Severity Index scores were **significantly and positively** related with scores obtained by adolescents on Dimensions of impulsivity viz. Attention Impulsivity, Cognitive instability, Motor Impulsivity, Motor, Perseverance, Self-control and Total Impulsivity among male adolescents with gambling tendencies. However, no **significantly negative** correlation of Problem Gambling Severity Index emerged in this group.

Table 5.3 revealed that Problem Gambling Severity Index scores were **significantly and positively** related with scores obtained by adolescents on Dimensions of Impulsivity viz. Attention Impulsivity, Cognitive Instability, Motor Impulsivity, Motor, Perseverance, Self-control and Total Impulsivity among female adolescents with gambling tendencies. However, no **significantly negative** correlation of Problem Gambling Severity Index emerged in this group.

Table 5.4 revealed no **significantly positive** correlation of Problem Gambling Severity Index emerged among adolescents with problem gambling tendencies. However, Problem Gambling Severity Index scores were found to be **significantly and negatively** related with scores obtained by adolescents on Extraversion among adolescents with problem gambling tendencies.

Table 5.5 and 5.6 revealed no **significantly positive as well as negative** correlation of Problem Gambling Severity Index emerged among male adolescents with problem gambling tendencies and among female adolescents with problem gambling tendencies.

Table 5.7 revealed no **significantly positive** correlation of Problem Gambling Severity Index emerged among adolescents with at-risk gambling tendencies. However, Problem Gambling Severity Index scores were found to be **significantly and negatively** related with scores obtained by adolescents on Neuroticism and Extraversion among adolescents with at-risk gambling tendencies.

Table 5.8 revealed no **significantly positive as well as negative** correlation of Problem Gambling Severity Index emerged among male adolescents with at-risk gambling tendencies.
Table 5.9 revealed no significantly positive correlation of Problem Gambling Severity Index emerged among female adolescents with at-risk gambling tendencies. However, Problem Gambling Severity Index scores were found to be significantly and negatively related with scores obtained by adolescents on Thrill and Adventure Seeking among female adolescents with at-risk gambling tendencies.

Table 5.10 revealed no significantly positive as well as negative correlation of Problem Gambling Severity Index emerged among adolescents with social gambling tendencies.

Table 5.11 revealed that Problem Gambling Severity Index scores were significantly and positively related with scores obtained by adolescents on Dimensions of impulsivity viz. Attention and Self Control among male adolescents with social gambling tendencies. However, no significantly negative correlation of Problem Gambling Severity Index emerged in this group.

Table 5.12 revealed no significantly positive as well as negative correlation of Problem Gambling Severity Index emerged among female adolescents with social gambling tendencies.

Thus the hypotheses were only partially supported. Review of earlier studies also revealed similar trends. There are many previous researches that line similar to the findings of this study.

In a study conducted by Tavares and Gentil (2007) comparing participants with pathological gambler with those with obsessive compulsive disorder and healthy controls using BIS-11, it was revealed that the pathological gambling group showed greater impulsivity than did the obsessive compulsive disorder and control groups when anxiety and depression were treated as covariates.

A quantitative observational study was undertaken by Chiu and Storm (2010) to examine the relationship between individual factors and level of gambling involvement, in particular problem gambling (PG). The specific factors under study were personality, perceived luck, and attitudes towards gambling. A sample of 185 university students completed a battery of questionnaires, consisting of the 16PF, Canadian Problem Gambling Index, Belief in Good Luck Scale (BIGL), Gambling Attitudes Scale (GAS), and the Impulsive Non-Conformity subscale (ImpNon) from
the Oxford-Liverpool Inventory of Feelings and Experiences. Four groups were formed (Non-problem gambling, Low-Risk, Moderate-Risk, and problem gambling) by the authors in their study. Personality profiles varied between groups, and there were significant main effects and interaction effects on gender and personality factors. The problem gambling group was higher on impulsivity, and belief in luck, and had more positive attitudes towards gambling. Multiple Regression Analysis and Discriminant Functions Analysis, using variables including some 16PF factors, Belief in Good Luck Scale and Gambling Attitudes Scale variables, produced models that were highly predictive of gambling severity and gambling membership. In both models, impulsivity was the strongest predictor.

Lai et al’s (2011) study tested 37 Chinese male pathological gamblers and 40 controls to understand the relationship between pathological gambling and impulsivity as a long-term trait or a short-term state in the cognitive and affective domain. Results of the study revealed that trait impulsivity was measured by the Barratt Impulsiveness Scale-11. Among the 30 items in BIS-11, the gamblers scored higher on items related to attitudes toward life, problem solving, and future planning, suggesting that these traits separated them from the control group. Pathological gamblers tended to be less future-oriented, less perseverant in problem solving, and more willing to endorse a happy-go-lucky attitude toward life over a more down-to-earth attitude. These impulsive traits might explain why they were more susceptible to pathological gambling. State impulsivity in the cognitive and affective domains were measured by the Stroop Color Word Test and the Emotional Conflict Task, respectively. The pathological gamblers scored significantly higher than the controls on the Barratt Impulsiveness Scale-11. However, there were no significant group differences in performance on the Stroop Color Word Test or the Emotional Conflict Task. Findings clearly show that pathological gambling is associated with trait but not state impulsivity. In other words, pathological gambling was associated with an impulsivity stemming from enduring personality characteristics that lead gamblers to focus on short-term gains (trait impulsivity) rather than momentary cognitive or affective disinhibition (state impulsivity).

Michalczuk et al. (2011) assessed the relationship between the level of cognitive distortions (using Gambling related cognitive distortion scale) and state and trait measures of impulsivity (using UPPS-P) in treatment-seeking pathological
gamblers. 30 pathological gamblers attending the National Problem Gambling Clinic, the first National Health Service clinic for gambling problems in the UK, were compared with 30 healthy controls in a case-control design. Study revealed that pathological gamblers had elevated impulsivity on several UPPS-P subscales but effect sizes were largest for positive and negative urgency. The pathological gamblers also displayed higher levels of gambling distortions, and elevated preference for immediate rewards, compared to controls. Within the pathological gamblers, authors found a strong relationship between the preference for immediate rewards and the level of cognitive distortions. Impulsive choice in the gamblers was correlated with the level of gambling distortions.

According to Brevers et al. (2012), impulsivity has been a hallmark of problem gambling. However, impulsivity was not a unitary construct and the study by Brevers et al. (2012) investigated the relationship between problem gambling severity and two facets of impulsivity: impulsive action (impaired ability to withhold a motor response) and impulsive choice (abnormal aversion for the delay of reward). The recruitment included 65 problem gamblers and 35 normal control participants. On the basis of DSM-IV-TR criteria, two groups of gamblers were distinguished: 38 participants in problem gamblers group and 27 participants in pathological gamblers group with similar durations of gambling practice. Impulsive action was assessed using a response inhibition task (the stop-signal task). Impulsive choice was estimated with the delay-discounting task. Possible confounds (e.g., IQ, mood, ADHD symptoms) were recorded. Results of the study conducted by Brevers et al. (2012) revealed that both problem and pathological gamblers discounted reward at a higher rate than their controls, but only pathological gamblers showed abnormally low performance on the most demanding condition of the stop-signal task. Thus, authors concluded that in comparison with non-gamblers, non-treatment seeking excessive gamblers were impaired on both impulsive action and impulsive choice and higher rate of discounting in pathological gamblers. Compared with non-gamblers, problem gamblers performed worse in the impulsive choice task but not in the impulsive action task. Finally, authors compared pathological gamblers with problem gamblers directly; authors found that both the groups performed similarly in the impulsive choice task. By contrast, on the impulsive action task, pathological gamblers were less efficient than problem gamblers. Specifically, only pathological gamblers showed
impaired performance in the most demanding condition of the stop-signal task. Thus, these results suggested that, whereas abnormal impulsive choices characterized all problem gamblers, pathological gamblers' impairments in impulsive action may represent an important developmental pathway of pathological gambling.

Hanss et al. (2014) found that Neuroticism, Openness, impulsiveness, and the sensation seeking sub-dimension Intensity (Arnett, 1994) distinguished between pathological and non-pathological gamblers (Myrseth et al., 2009). Pathological gamblers scored higher on Neuroticism, impulsiveness, and Intensity but lower on Openness than non-pathological gamblers. In other studies, Neuroticism was positively related to problem gambling (Bagby et al., 2007; Kaare et al., 2009) with Conscientiousness found to be negatively related to the condition.

Kraplin et al. (2014) aimed to explore different dimensions of impulsivity in a clinical sample including pathological gamblers. Furthermore, authors aimed to test which alterations of the impulsivity-related dimensions were disorder specific for pathological gambling. For this purpose participants were 51 individuals diagnosed with pathological gambling and two groups also characterized by various impulsive behaviours: 45 participants with alcohol dependence and 49 participants with Gilles de la Tourette syndrome. A healthy control group comprised of 53 participants was recruited as comparison group. A comprehensive assessment was used including impulsivity-related and antipodal parameters of the Stop Signal Task, Stroop Task, Tower of London Task, Card Playing Task, Iowa Gambling Task and the Barratt Impulsiveness Scale-11. Principal axis factor analysis revealed four impulsivity-related dimensions that were labeled ‘self-reported impulsivity’, ‘prepotent response impulsivity’, ‘choice impulsivity’ and ‘motor impulsivity’. The pathological gamblers group scored significantly higher on all four dimensions compared to the healthy control group. In contrast, the pathological gambling group did not differ on any of the dimensions from the alcohol dependence or the Gilles de la Tourette syndrome group, except for ‘choice impulsivity’ where the pathological gambling group exhibited higher factor scores compared to the Gilles de la Tourette syndrome group. Altogether, pathological gambling is associated with generally heightened impulsivity profiles compared to a healthy control group. However, heightened scores in the impulsivity dimensions were not disorder specific for pathological gambling.
Results of the present study showing negative correlation with Thrill and Adventure Seeking revealed a different trend in relation to studies previously done.

In study by Bagby et al. (2007), no significant differences were found between pathological and non-pathological gamblers on excitement-seeking but compared to normative data both groups scored higher. In the study conducted by Kaare et al. (2009), results revealed that pathological gamblers also tended to score higher on excitement-seeking but the effect was not significant. In essence this finding, possibly implying that excitement-seeking has been related to, but has not been a ubiquitous correlate of, pathological gambling, has been consistent with several other previous studies (Langewisch & Frisch, 1998).

Impulsivity and sensation seeking have also been shown to be predictive of gambling problems (Barrault & Varescon, 2014). However, one might expect that sensation-seeking individuals were gambling for positive reinforcement (e.g., arousal, winning money, etc.) rather than as an escape. Bonnaire et al. (2006) argued that pathological gamblers could be classified into two distinct groups: those who gamble to get the arousal accompanied by gambling and those who gamble as an escape (from negative emotions). Thus, one would not necessarily expect that people who score high in sensation seeking would be those who endorse gambling as an escape.

Results of the present study showing negative correlation with Extraversion were in line with the researches previously done.

A study by Kaare et al. (2009) attempted to identify psychological characteristics of Estonian pathological gamblers. It has been shown that a wide range of social, economic, and individual factors (e.g. personality traits and emotional states) predicted the likelihood of becoming a pathological gambler. In the study conducted by Kaare et al. (2009), 33 pathological gamblers’ personality traits, self-esteem, self-reported emotional states and cognitive ability were compared to the respective characteristics in a non-gambling control group of 42 participants matched for age, gender and educational level. Results revealed that compared to controls, pathological gamblers had higher scores on Neuroticism (especially on its immoderation facet) and lower scores on Conscientiousness (especially on its dutifulness and cautiousness facets) and on self-esteem scale. Pathological gamblers reported more negative emotional states during the previous month (especially
depression and anxiety). Finally, pathological gamblers had lower general cognitive ability. In a logistic regression model, the likelihood of being a pathological gambler was best predicted by high immoderation score and low cognitive ability.

High scores on the Neuroticism subscale of the NEO Five-Factor Inventory were also related to pathological gambling in the Myrseth et al. (2009) study. High scores on Neuroticism were generally associated with impulsivity and emotional vulnerability. Individuals who score high on Neuroticism were more likely to experience feelings of anxiety, anger, guilt and depression. The aim of the study done by Myrseth et al. (2009) was to investigate the relationship between different personality variables and pathological gambling (PG). The results of their study showed that educational level and all personality variables were significant predictors of PG in the crude analyses, however only four of the 12 significant predictor variables (Neuroticism, Openness, Impulsivity, and need for Stimulus Intensity) remained significant in the adjusted analysis. All predictor variables accounted for 71% of the variance in PG-status.

A growing literature has begun to document the relations between general personality traits and problem gambling with the suggestion that domains related to neuroticism, disinhibition, and interpersonal antagonism are among the most reliable correlates. According to MacLaren et al. (2011) study conducted on nontreatment-seeking undergraduate students who were screened for excessive and potentially addictive self-defeating behaviours, scores on the gambling subscale showed modest but statistically significant correlations with high Neuroticism, low Agreeableness, and low Conscientiousness. Regression of the gambling subscale onto the facet scores found significant effects of high Impulsiveness and Self-discipline, and low Straightforwardness and Dutifulness. Their results suggested that negative affect and disinhibited traits may be risk factors for the development of problem gambling. These traits were similar to those related to other externalizing behaviours (Jones et al., 2011; Kotov et al., 2010).

Hwang et al. (2012) aimed to explore whether Pathological gambling (PG) resembles obsessive compulsive disorder (OCD) in terms of personality and temperament. Fifteen patients with PG, 18 patients with obsessive compulsive disorder, and 33 healthy control subjects were included in the study. The study subjects were all male and drug naïve. Authors analyzed data obtained from three
Discussion

self-report questionnaires assessing personality, impulsiveness, and affect: the short version of the NEO Personality Inventory-Revised (NEO-PI-R), the Barratt Impulsiveness Scale-11 (BIS-11), and the Positive Affect and Negative Affect Schedule (PANAS). Results of Hwang et al.’s (2012) study showed that Pathological gamblers and obsessive compulsive disorder shared similar profiles with regard to personality and temperament. Compared with healthy controls, individuals with Pathological gamblers and those with obsessive compulsive disorder exhibited lower levels of conscientiousness and openness to experience according to the NEO-PI-R and lower levels of positive affect according to the PANAS. The Pathological gamblers and obsessive compulsive disorder groups did not differ from each other in overall impulsiveness, but subscale analysis revealed an interesting relationship among the three factors of impulsiveness. The groups also did not differ from each other in negative affect according to the PANAS. Differences between the disorders were observed only on the neuroticism scale of the NEO-PI-R and the non-impulsiveness factor of the BIS-11. As expected by the authors, participants with Pathological gambling showed substantial differences from healthy controls on all three instruments.

Tackett et al. (2014) examined associations among Five Factor Model personality traits, motives for gambling, and gambling behaviour and problems using latent class analysis. A sample of 220 College students completed online measures of personality and gambling behaviour as part of a larger intervention trial. Agreeableness and conscientiousness were negatively associated with indicators of gambling behaviour. Low agreeableness and high neuroticism were associated with gambling-specific motives, particularly for less frequently endorsed motives. Personality-based latent class analyses of emerging adult gamblers revealed support for three distinct groups reflecting a resilient personality group, a normative personality group, and a vulnerable personality group, which were further differentiated by gambling behaviours and gambling-specific motives. Associations between personality traits and gambling-specific motives highlighted potential heterogeneity among college students who gambled. Higher rates of at-risk gambling among college students was of noticeable concern, as at-risk and pathological gambling were associated with serious health and social consequences.
Sundqvist and Wennberg (2014) aimed at examining the association between risk gambling and personality in a representative Swedish population. A random Swedish sample of 19,530 individuals was screened for risk gambling using the Lie/Bet questionnaire. The study sample of 257 individuals consisted of those screening positive on Lie/Bet and completing a postal questionnaire about gambling and personality (measured with the NODS–PERC and the HP5i respectively). Risk gambling was positively correlated with Negative Affectivity (a facet of Neuroticism) and Impulsivity (an inversely related facet of Conscientiousness), but all associations were weak. When authors took age and gender into account, there were no differences in personality across game preference groups, though preferred game correlated with level of risk gambling. Risk gamblers scored lower than the population norm data with respect to Negative Affectivity, but risk gambling men scored higher on Impulsivity. Authors conclude that risk and problem gamblers should not be treated as a homogeneous group, and prevention and treatment interventions should be adapted according to differences in personality, preferred type of game and the risk potential of the games.

According to Tackett et al. (2014), most of the work had examined associations between personality and gambling outcomes across an entire population of interest, with less attention to the utility of personality traits for demonstrating differential patterns among groups of gamblers. One study conducted by Vachon and Bagby (2009) examined groups of adult pathological and non-pathological gamblers emerging from cluster analysis, based on personality traits. Tackett et al. (2014) found evidence for four groups, which they termed (in order of severity): control non-pathological gamblers, simple pathological gamblers, hedonic pathological gamblers, and demoralized pathological gamblers. These groups showed notable personality trait differences, particularly such that hedonic pathological gamblers scored highest on extraversion and openness, whereas demoralized pathological gamblers scored highest on neuroticism and lowest on extraversion and conscientiousness. These findings were consistent with motivational theories of addictive behaviour, which have often differentiated enhancement motives from coping motives (Stewart & Zack, 2008; Milosevic & Ledgerwood, 2010). Enhancement and coping motives show clear associations with the personality traits of extraversion and neuroticism (Cooper et al., 2008), positioning them as additional candidates for differentiating personality-based subgroups.
Discussion

2. **Problem Gambling Tendencies, Stress (Stress Symptoms and Perceived Stress) and Styles of Coping**

Based on the review of literature following hypotheses were proposed

2.1. Problem gambling tendencies were expected to be positively related with Stress Symptoms, Perceived Stress and Avoidant Coping in all groups of adolescents with different gambling tendencies.

2.2. Problem gambling tendencies were expected to be negatively related with Emotion Focused Coping and Task Focused Coping in all groups of adolescents with different gambling tendencies.

Intercorrelation tables revealed the following:

Table 5.1 revealed that Problem Gambling Severity Index scores were **significantly and positively** related with scores obtained by adolescents on Stress Symptoms and Avoidant Coping, among **adolescents with gambling tendencies (total sample of gamblers)**. However, no **significantly negative** correlation of Problem Gambling Severity Index emerged in this group.

Table 5.2 revealed that Problem Gambling Severity Index scores were **significantly and positively** related with scores obtained by adolescents on Stress Symptoms and Avoidant Coping among **male adolescents with gambling tendencies**. However, no **significantly negative** correlation of Problem Gambling Severity Index emerged in this group.

Table 5.3 revealed that Problem Gambling Severity Index scores were **significantly and positively** related with scores obtained by adolescents on Stress Symptoms and Avoidant Coping among **female adolescents with gambling tendencies**. However, no **significantly negative** correlation of Problem Gambling Severity Index emerged in this group.

Table 5.4 revealed that Problem Gambling Severity Index scores were **significantly and positively** related with scores obtained by adolescents on Avoidant Coping among **adolescents with problem gambling tendencies**. Problem Gambling Severity Index scores were found to be **significantly and negatively** related with scores obtained by adolescents on Perceived Stress among **adolescents with problem gambling tendencies**.
Table 5.5 revealed that Problem Gambling Severity Index scores were \textit{significantly and positively} related with scores obtained by adolescents on Avoidant Coping among male adolescents with problem gambling tendencies. However, no \textit{significantly negative} correlation of Problem Gambling Severity Index emerged in this group.

Table 5.6 revealed that Problem Gambling Severity Index scores were \textit{significantly and positively} related with scores obtained by adolescents on Avoidant Coping among female adolescents with problem gambling tendencies. However, no \textit{significantly negative} correlation of Problem Gambling Severity Index emerged in this group.

Table 5.7 revealed that Problem Gambling Severity Index scores were \textit{significantly and positively} related with scores obtained by adolescents on Stress Symptoms and Avoidant Coping among adolescents with at-risk gambling tendencies. However, no \textit{significantly negative} correlation of Problem Gambling Severity Index emerged in this group.

Table 5.8 revealed that Problem Gambling Severity Index scores were \textit{significantly and positively} related with scores obtained by adolescents on Stress Symptoms among male adolescents with at-risk gambling tendencies. However, no \textit{significantly negative} correlation of Problem Gambling Severity Index emerged in this group.

Table 5.9 revealed that Problem Gambling Severity Index scores were \textit{significantly and positively} related with scores obtained by adolescents on Avoidant Coping among female adolescents with at-risk gambling tendencies. However, no \textit{significantly negative} correlation of Problem Gambling Severity Index emerged in this group.

Table 5.10 revealed that Problem Gambling Severity Index scores were \textit{significantly and positively} related with scores obtained by adolescents on Stress Symptoms among adolescents with social gambling tendencies. However, no \textit{significantly negative} correlation of Problem Gambling Severity Index emerged in this group.

Table 5.11 revealed no \textit{significantly positive} correlation of Problem Gambling Severity Index emerged among male adolescents with social gambling tendencies. However, Problem Gambling Severity Index scores were found to be \textit{significantly and negatively} related with scores obtained by adolescents on Emotion Focused Coping, among male adolescent with social gambling tendencies.
Table 5.12 revealed that Problem Gambling Severity Index scores were **significantly and positively** related with scores obtained by adolescents’ Emotion Focused Coping among female adolescents with social gambling tendencies. However, no **significantly negative** correlation of Problem Gambling Severity Index emerged in this group.

Thus the hypotheses were partially supported in majority of cases. Review of earlier studies also revealed similar trends. Results obtained in the present study were inline with the researches previously done.

Qualitative research has found that the initial trigger for excessive gambling has often been a major traumatic/stressful event such as divorce, loss of employment or children leaving home (Saugeres et al., 2012). In a study conducted by Surgey’s (2000) focus group study with 28 female problem gamblers, some participants reported that the need to manage the impacts associated with a time of change in their life precipitated their participation in gambling. These changed circumstances included significant events such as unemployment, separation or divorce, when children left home, sudden increased income, immigration or resettlement, and developing a serious health problem. A small qualitative study conducted by Thomas et al. (2009) with both male and female problem gamblers developed a grounded theory of problem gambling relating to electronic gaming machines which depicted gambling as a means of managing problems, including loss of an important relationship through separation or death of a loved one, and times of transition and crisis including unemployment and retirement.

Holdsworth et al. (2014) aimed to explore how gambling involvement and gambling-related problems were affected by significant life events, psychological co-morbidities and related social factors. 20 recreational gamblers and 20 people experiencing gambling problems were interviewed, with reflective first-person accounts being analysed to develop a grounded theory. Participants in both the recreational and problem gambling groups had experienced various significant life events and many had experienced psychological co-morbidity. However, the two groups coped with the associated stresses in distinctly different ways. The recreational gamblers did not appear emotionally vulnerable and drew on their resilience, which involved being knowledgeable, confident, strong and level-headed, and maintaining a positive attitude to life. Overwhelmingly evident was that all recreational gamblers had strong social support networks, which had been crucial to their coping.
the recreational gamblers increased their gambling when faced with life stressors. Having strong social networks that provided care, support and encouragement both within and outside the immediate family, personal characteristics such as positive outlook to life’s challenges, and capacity to deal with strong feelings and impulses, influenced a person’s ability to cope with stress involved with dealing with trauma and loss, and are all characteristics of resilience (Ungar, 2004; 2008). Participants in the recreational gambling group tended to utilise task-focused ways of coping, such as accessing support, identifying and utilising helpful resources, and adopting good communication skills. Because resilience has been a protective factor that helps people cope in the face of adversity, improving resilience was an important target for treatment and prevention across a range of issues (Davydov et al., 2010), including problem gambling. In contrast to the recreational gamblers, participants experiencing gambling problems did not identify factors that relate to resilience, tended to have weaker support networks, and were inclined to increase their gambling when faced with adversity. Avoidance-focused coping diverts emotions associated with a stressful situation away from the situation, to ‘escape’, and temporarily lift mood (Folkman & Moskowitz, 2004). The problem gambling participants tended to increase their gambling when coping with adversity, reflecting their emotional vulnerability. All 40 participants discussed experiencing one or more significant life events.

As regards coping it may be possible that people who gambled as an escape did so not because of emotional problems, but rather because they lacked other capabilities (social skills; Jackson et al., 2013). Indeed, Delfabbro et al. (2006) found that adolescents who could be classified as problem gamblers scored lower on a number of measures of psychosocial health relative to controls. Participants also reported feeling unpopular with, and alienated from, their peers. Thus, it could be the case that individuals who were not well socially adjusted were at increased risk for turning to gambling as an escape.

Hodgins and Racicot (2013) demonstrated that college students who reported drinking as a coping mechanism were more likely to have gambling-related problems. Research has also indicated that people have gambled as an escape as a way to cope with negative emotions (Wood & Griffiths, 2007; MacLaren et al., 2012). In a study Williams et al. (2012) reported that pathological gamblers showed deficits in emotion-regulation strategies relative to controls. Weatherly and Miller (2013) further reported that endorsing gambling as an escape was associated with deficits in
emotion regulation, and that association was related to long-term deficits rather than current emotional state. Thus, individuals who lack proper strategies for coping with negative emotions were likely to turn to gambling as a means of escape.

Previous researches had suggested that gambling as an escape was strongly related to disordered gambling. The study conducted by Weatherly and Cookman (2014) tested whether factors related to disordered gambling were predictive of endorsing gambling as an escape. 311 adults from the United States completed several measures of gambling and questionnaires on alcohol expectancies, emotion-regulation strategies, social-adjustment level, and sensation seeking. Consistent with previous research, endorsing gambling as an escape was strongly associated with reporting of gambling problems. Drinking as a coping mechanism and several emotion-regulation strategies were significant predictors of endorsing gambling as an escape. However, levels of social adjustment and sensation seeking were not predictive of gambling as an escape. The results suggested that escape had been a higher-order factor that links substance abuse and disordered gambling. Likewise, authors suggested that endorsing gambling as an escape was rooted in affect.

Understanding disordered gambling was an important endeavour and also a complex one. Weatherly and Cookman (2014) research results also suggested that the correlation between gambling problems and endorsing gambling as an escape has been very strong. For instance, Weatherly and Derenne (2012) had a large number of university students complete the Gambling Functional Assessment-Revised (GFA-R; Weatherly et al., 2011), which measures the contingencies maintaining the respondent’s gambling behaviour, and the South Oaks Gambling Screen (SOGS; Lesieur & Blume, 1987), which was a commonly used screening measure for pathological gambling. Results showed that escape scores on the GFA-R correlated with SOGS scores at 0.69, suggesting that endorsing gambling as an escape accounted for nearly 50% of the variance in participants’ SOGS scores.

3. **Problem Gambling Tendencies, Parental Bonding and Perceived Social Support.**

   Based on the review of literature following hypotheses were proposed

3.1. Problem gambling tendencies were expected to be positively related with Perceived Parental Overprotection in all groups of adolescents with different gambling tendencies.
3.2. Problem gambling tendencies were expected to be negatively related with Perceived Parental Care and Perceived Social Support in all groups of adolescents with different gambling tendencies.

In addition, relationship of gambling tendencies were explored on Satisfaction with time spent with father, Satisfaction with time spent with mother, Bonding with Father and Bonding with Mother.

Intercorrelation tables revealed the following:

Table 5.1 revealed that Problem Gambling Severity Index scores were significantly and positively related with scores obtained by adolescents on Perceived Maternal Overprotection and Perceived Paternal Overprotection among adolescents with gambling tendencies (total sample of gamblers). Problem Gambling Severity Index scores were found to be significantly and negatively related with scores obtained by adolescents on Perceived Maternal Care, Bonding with Father and Bonding with Mother among adolescents with gambling tendencies (total sample of gamblers).

Table 5.2 and 5.3 revealed no significantly positive as well as negative correlations of Problem Gambling Severity Index emerged among male and female adolescents with gambling tendencies.

Table 5.4 revealed that Problem Gambling Severity Index scores were significantly and positively related with scores obtained by adolescents on Perceived Maternal Overprotection among adolescents with problem gambling tendencies. Problem Gambling Severity Index scores were found to be significantly and negatively related with scores obtained by adolescents on Perceived Maternal Care, among adolescents with problem gambling tendencies.

Table 5.5 revealed no significantly positive correlations of Problem Gambling Severity Index scores emerged in the group of male adolescents with problem gambling tendencies. However, Problem Gambling Severity Index scores were found to be significantly and negatively related with scores obtained by adolescents on Perceived Maternal Care among male adolescents with problem gambling tendencies.

Table 5.6 revealed no significantly positive as well as negative correlations of Problem Gambling Severity Index emerged among female adolescents with problem gambling tendencies.
Table 5.7 revealed no **significantly positive as well as negative** correlations of Problem Gambling Severity Index emerged **among adolescents with at-risk gambling tendencies**.

Table 5.8 revealed no **significantly positive** correlation of Problem Gambling Severity Index emerged **among male adolescents with at-risk gambling tendencies**. Problem Gambling Severity Index scores were found to be **significantly and negatively** related with scores obtained by adolescents on Perceived Maternal Care **among male adolescents with at-risk gambling tendencies**.

Table 5.9 revealed no **significantly positive as well as negative** correlations of Problem Gambling Severity Index emerged **among female adolescents with at-risk gambling tendencies**.

Table 5.10 revealed no **significantly positive as well as negative** correlations of Problem Gambling Severity Index emerged **among adolescents with social gambling tendencies**.

Table 5.11 revealed no **significantly positive** correlation of Problem Gambling Severity Index emerged **among male adolescents with social gambling tendencies**. However, Problem Gambling Severity Index scores were found to be **significantly and negatively** related with scores obtained by adolescents on Perceived Paternal Care **among male adolescent with social gambling tendencies**.

Table 5.12 revealed that Problem Gambling Severity Index scores were **significantly and positively** related with scores obtained by adolescents on Bonding with Mother **among female adolescents with social gambling tendencies**. However, **no significantly negative** correlations of Problem Gambling Severity Index emerged **among female adolescents with social gambling tendencies**.

Thus the hypotheses were supported in majority of cases. Review of earlier studies also revealed similar trends regarding Social Support and Parental Bonding.

Evidences from the studies conducted by **Thomas et al. (2009)** and **Department of Justice (2011)**, suggested that problem gamblers tended to have lower social support than non-problem gamblers, including being able to access help from family members, friends and neighbours if needed. In addition, social isolation has been linked with gambling problems; using the UCLA Loneliness Scale, **McQuade and Gill (2012)** demonstrated a significant positive relationship between loneliness and problem gambling.
Edgerton et al. (2014) found no significant effects for perceived level of social support on either the initial level of problem gambling or its trajectory. Although, impulsiveness had a significant positive effect on initial level of problem gambling severity (greater impulsiveness, greater problem gambling), but had an unexpected negative association with problem gambling over time. That is to say, there was some decline in problem gambling longitudinally despite higher levels of impulsivity. This has been a puzzling finding considering that studies have consistently shown a positive correlation between impulsivity and more severe problem gambling among samples of adults and youth (Nower et al., 2004).

The presence of co-morbidity was greater amongst participants in the problem gambling group. Holdsworth et al. (2014) explored that the recreational gamblers tended to have positive social influences such as strong social support and community networks, and they adopted positive task-focused coping mechanisms linked to their internal resilience which they drew on in times of adversity rather than increasing their gambling. Conversely, the problem gambling participants tended to have negative social influences such as weak social support, and increased their gambling to cope with a significant life event and/or co-morbidity. Many were exposed to gambling as children and returned to this familiar activity in times of stress.

Hsu et al. (2014) conducted a survey to examine the impact of parental gambling on adolescent gambling behaviour and mental health status. A self-administered standardized questionnaire was distributed to 1,095 high school students. The response rate was 84.5%. Almost half of the participants (46.5%) reported gambling in the past year. Using the DSM-IV-MR-J (2000), 3.3% (31 participants) of the participants could be identified as at-risk gamblers, and 0.9% (8 participants) could be classified as probable pathological gamblers. Only 16.7% of the participants (155 participants) disclosed having a parent who gambled excessively but the perceived harms in the family were alarming including disrupted family relationships, family financial difficulties and diminished need fulfilment. When compared with participants without parental gambling problems, adolescents with perceived parental gambling problems had significantly higher scores on the Depression, Anxiety and Stress Scales (DASS-21) (1995). The findings on adolescent gambling were comparable to earlier studies in non-Chinese culture. First, problematic gambling was more prevalent among male adolescents (Jackson et al., 2008; Blinn-Pike et al., 2010; Splevins et al., 2010). Several studies on parental
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gambling reveal a modest association between parental gambling and adolescent gambling (Winters et al., 2002; Vachon et al., 2004; Wickwire et al., 2007). For example, the correlation between parental gambling and adolescent gambling was 0.28 (Vitaro et al., 2008). In the study conducted by Hsu et al. (2014) the subjective reports of mental health status and perceived family support of adolescents who were distressed with parental gambling problems provide support to this hypothesis. Past research also indicated family support and sound adolescent mental health mediated or buffered the negative impact of parental excessive gambling on adolescent gambling behaviour (Dowling et al., 2010).

According to Hayer and Griffiths (2015), commercial and self-organized (i.e., non-commercial) forms of gambling were highly reinforcing activities that were popular among adolescents. While for most adolescents gambling has been an enjoyable and harmless activity, for a small minority gambling has become problematic with severe and negative consequences. Risk factors of adolescent problem gambling included certain biological/genetic factors, individual variables (e.g., gender, ethnicity, personality, coping, gambling-related cognitions), family and peer influences (e.g., parental attitudes/behaviours, parental monitoring, influence of the peer group), social and community factors as well as situational and structural characteristics of the gambling products.

4. Problem Gambling Tendencies, Mental Health, Satisfaction with Life, Perceived Health Status and Perceived Happiness Status.

Based on the review of literature following hypothesis was proposed

4.1. Problem gambling tendencies were expected to be negatively related with dimensions of Mental Health, Satisfaction with Life, Perceived Health Status and Perceived Happiness Status in all groups of adolescents with different gambling tendencies.

Intercorrelation tables revealed the following:

Table 5.1 revealed no significantly positive correlations of Problem Gambling Severity Index emerged among adolescents with gambling tendencies (total sample of gamblers). However, Problem Gambling Severity Index scores were found to be significantly and negatively related with scores obtained by adolescents on Being Comfortable with Others, Perceived Ability to Meet Life Demands, Total Mental Health, Satisfaction with Life, Perceived Health Status and Perceived
Happiness Status among adolescents with gambling tendencies (total sample of gamblers).

Table 5.2 revealed no significantly positive correlations of Problem Gambling Severity Index emerged among male adolescents with gambling tendencies. However, Problem Gambling Severity Index scores were found to be significantly and negatively related with scores obtained by adolescents on Being Comfortable with Self, Being Comfortable with Others, Perceived Ability to Meet Life Demands, Total Mental Health and Satisfaction with Life among male adolescents with gambling tendencies.

Table 5.3 revealed no significantly positive correlations of Problem Gambling Severity Index emerged among female adolescents with gambling tendencies. However, Problem Gambling Severity Index scores were found to be significantly and negatively related with scores obtained by adolescents on Being Comfortable with Self, Being Comfortable with Others, Perceived Ability to Meet Life Demands, Total Mental Health and Satisfaction with Life among female adolescents with gambling tendencies.

Table 5.4 revealed no significantly positive correlations of Problem Gambling Severity Index emerged among adolescents with problem gambling tendencies. However, Problem Gambling Severity Index scores were found to be significantly and negatively related with scores obtained by adolescents on Satisfaction with Life, Perceived Health Status and Perceived Happiness Status among adolescents with problem gambling tendencies.

Table 5.5 revealed no significantly positive correlations of Problem Gambling Severity Index emerged among male adolescents with problem gambling tendencies. However, Problem Gambling Severity Index scores were found to be significantly and negatively related with scores obtained by adolescents on Satisfaction with Life, Perceived Health Status and Perceived Happiness Status among male adolescents with problem gambling tendencies.

Table 5.6 revealed no significantly positive as well as negative correlations of Problem Gambling Severity Index emerged among female adolescents with problem gambling tendencies.

Table 5.7 revealed no significantly positive correlations of Problem Gambling Severity Index emerged among adolescents with at-risk gambling tendencies. However, Problem Gambling Severity Index scores were found to be significantly
and negatively related with scores obtained by adolescents on Satisfaction with Life among adolescents with at-risk gambling tendencies.

Table 5.8 and 5.9 revealed no significantly positive as well as negative correlations of Problem Gambling Severity Index emerged among male and female adolescents with at-risk gambling tendencies.

Table 5.10 revealed no significantly positive as well as negative correlations of Problem Gambling Severity Index emerged among adolescents with social gambling tendencies.

Table 5.11 revealed no significantly positive correlations of Problem Gambling Severity Index emerged among male adolescents with social gambling tendencies. However, Problem Gambling Severity Index scores were found to be significantly and negatively related with scores obtained by adolescents on Satisfaction with Life among male adolescent with social gambling tendencies.

Table 5.12 revealed no significantly positive as well as negative correlations of Problem Gambling Severity Index emerged among female adolescents with social gambling tendencies.

Thus the hypotheses were supported in majority of cases. Review of earlier studies also revealed similar trends as results of the present study were inline with the researches conducted previously.

According to Hodgins et al. (2005), multiple studies have suggested significant comorbidity exists between disordered gambling and negative mood. In a sample of pathological gamblers, authors found that the lifetime prevalence rate of mood disorders was 60%, and in the past year was 20%. Comorbidity rates in national samples indicate that up to 38–50% of pathological gamblers also had a mood disorder (Lorains et al., 2011), “suggesting that treatment for one condition should involve assessment and possible concomitant treatment for comorbid conditions” (Petry et al., 2005).

In the Hwang et al. (2012) study, which included only psychotropic-naïve participants, neuroticism was the only personality characteristic that differentiated between the pathological gamblers and obsessive compulsive disorder groups. Given that neuroticism indicates a tendency to experience negative emotions such as anger, depression, and anxiety, this difference was expected in view of the general clinical presentation of obsessive compulsive disorder group. Indeed, patients with obsessive compulsive disorder were known to have more critical attitudes toward their
symptoms and themselves than do individuals with pathological gambling. On the other hand, the neuroticism scores of those with pathological gambling were slightly but non-significantly higher compared with those of healthy controls. Interestingly, both pathological gambling and obsessive compulsive disorder groups showed less conscientiousness and less openness compared with healthy controls.

Problem gambling was a significant mental health problem that created a multitude of intrapersonal, interpersonal, and social difficulties. Recent empirical evidence by Brown et al. (2014) suggested that personality disorders, and in particular borderline personality disorder (BPD), were commonly co-morbid with problem gambling. Despite this finding there has been very little research examining overlapping factors between these two disorders. The aim of the review conducted by Brown et al. (2014) was to summarise the literature exploring the relationship between problem gambling and personality disorders. The co-morbidity of personality disorders, particularly borderline personality disorder, was reviewed and the characteristics of problem gamblers with co-morbid personality disorders were explored. An etiological model from the more advanced borderline personality disorder literature—the biosocial developmental model of borderline personality disorder—was used to review the similarities between problem gambling and borderline personality disorder across four domains: early parent–child interactions, emotion regulation, co-morbid psychopathology and negative outcomes. It was concluded that personality disorders, in particular borderline personality disorder were commonly co-morbid among problem gamblers and the presence of a personality disorder complicates the clinical picture.

According to Yip et al. (2014), elevated levels of both pathological gambling (PG) and problem shopping (PS) have been reported among adolescents, and each has been associated with a range of other negative health/functioning measures. Authors explored the relationship between different levels of problem-gambling severity and health/functioning characteristics, gambling-related social experiences, gambling behaviours and motivations among adolescents with and without at-risk/problematic shopping (ARPS). Survey data from 2,100 Connecticut high school students were analyzed using bivariate analyses and logistic regression modeling. Although at-risk/problematic gambling (ARPG) was not increased among adolescents with at-risk/problematic shopping, adolescents with at-risk/problematic gambling (vs non-gamblers) were more likely to report having experienced a growing tension or anxiety
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that could only be relieved by shopping and missing other obligations due to shopping. In comparison to the non- at-risk/problematic shopping group, a smaller proportion of respondents in the at-risk/problematic shopping group reported paid part-time employment, whereas a greater proportion of respondents reported excessive gambling by peers and feeling concerned over the gambling of a close family member. In general, similar associations between problem-gambling severity and measures of health/functioning and gambling-related behaviours and motivations were observed across at-risk/problematic shopping and non-at-risk/problematic shopping adolescents. However, associations were weaker among at-risk/problematic shopping adolescents for several variables: engagement in extracurricular activities, alcohol and caffeine use and gambling for financial reasons. These findings suggested a complex relationship between problem-gambling severity and at-risk/problematic shopping. They highlight the importance of considering co-occurring risk behaviours such as at-risk/problematic shopping when treating adolescents with at-risk/problem gambling.

Results of the present study regarding perceived health, perceived happiness and satisfaction with life were consistent with the findings of previous researches.

Moreover, relief of negative affective states was a common motivation for gambling among individuals seeking treatment (e.g., 40%; Beaudoin and Cox, 1999), as well as among non-treatment seeking college student gamblers (10%; Neighbors et al., 2002). The evident use of gambling as a means to regulate “negative mood states or physiological states of hyper- or hypo-arousal” led Blaszczynski and Nower (2002) to include emotional vulnerability as a primary pathway in their integrated model of problem gambling.

Neighbors et al. (2002) found that students scoring three or higher on the South Oaks Gambling Screen (SOGS) experienced negative consequences including academic problems, financial difficulties, social disruption (e.g., gambling-related fights and arguments with friends and family), struggles to stop or reduce gambling despite attempts to do so, and escalating amounts gambled in order to get the same effect. These findings were replicated in a recent study, wherein students with SOGS scores of three or higher reported, on average, nine current negative consequences of gambling, including interference with studying and exams, spending too much money, getting into fights or arguments about their gambling, being told to stop or cut
down gambling, and needing to wager larger amounts of money. Another research by conducted by Weinstock et al. (2008), found gambling to be associated with increased rates of psychological distress, suicide and attempted suicide, work or academic disruption, and financial, relationship, and legal difficulties.

The biosocial developmental model proposed that negative outcomes across multiple domains contributed to the development of borderline personality disorder (Crowell et al., 2009). These domains included: (1) the social domain, which included the negative outcomes of social isolation, problematic peer relationships and ineffective individuation from the parent; (2) the cognitive domain, which included the negative outcomes of low self-efficacy, self-hatred, hopelessness, disorganization and dissociation; (3) the emotional domain, which included the negative outcomes of generalized emotional vulnerability, sadness, shame and anger; and finally, (4) the behavioural domain, which included the negative outcomes of withdrawal, avoidance and frequent impulsive behaviours. There has been a large literature which examined various aspects of interpersonal difficulties experienced by individuals with borderline personality disorder. For example, social isolation and problematic peer relationships were indicated by findings that individuals with borderline personality disorder experience fewer social interactions and their social interactions tended to be associated with more negative emotions than healthy controls (Stepp et al., 2009).

A longitudinal study conducted by Choi-Kain et al. (2010), of the interpersonal features of borderline personality disorder, found that certain types of interpersonal difficulties, such as affective consequences when alone, fear of abandonment, discomfort with care and dependency (labelled as ‘affectively-oriented facets of interpersonal experience’) were more resistant to improvement than other aspects of interpersonal difficulties, such as recurrent break ups, demandingness and boundary violations.

According to Hwang et al. (2012) those with pathological gambling (PG) shared similar affective states with patients with obsessive compulsive disorder (OCD). Both groups experienced less positive affect than did healthy controls. Patients with obsessive compulsive disorder felt more negative affect than did healthy controls, but not more than did those with pathological gambling. A strong correlation between neuroticism and negative affect was revealed in the study by Hwang et al. (2012), which partially explained why patients with obsessive compulsive disorder exhibited higher levels of both neuroticism and negative affect than did those with
pathological gambling, irrespective of whether such difference reached significance. The notion of negative affect is closely related to that of neuroticism in terms of conceptual underpinnings (Watson & Clark, 1984), and the constructs were known to be highly correlated with each other (Watson et al., 1992).

The purpose of the study conducted by Castren et al. (2013) was to compare the socio-demographic characteristics of non-problem gamblers, problem gamblers and pathological gamblers; to investigate the association between gambling related factors and perceived health and well-being (including gamblers’ perceptions of loneliness, daily smoking, risky alcohol consumption, mental health and general health using rating scales) among the three subgroups of gamblers; and to analyse simultaneously socio-demographic characteristics, gambling related factors and perceived health and well-being and the severity of disordered gambling (problem gamblers and pathological gamblers). The data was collected through a nationwide telephone survey in 2011. Participants were selected through a random population sample of 15-74-year-old Finns. From that sample, 3,451 persons with any past-year gambling involvement were selected for a subsample for the descriptive and inferential analysis. Gambling was assessed using the South Oaks Gambling Screen. Statistical significance was determined by chi-squared tests. The odds ratio and effect size were computed by using multivariate-adjusted multinomial logistic regression analysis. Results revealed that the most significant socio-demographic characteristics (male gender, young age, education ≤12 years), gambling related factors (slot machine gambling, internet gambling) and perceived health and well-being (feeling lonely, smoking daily, risky alcohol consumption, mental health problems) explained 22.9 per cent of the variation in the severity of disordered gambling. Results revealed that problem gamblers reported feelings of loneliness more often than the other subgroups of gamblers; problem gamblers also smoked slightly more on a daily basis than other subgroups of gamblers. Castren et al’s results also revealed that pathological gamblers consumed more alcohol in a risky level (71.4%) than problem gamblers (68.8%) and non-problem gamblers (26.9%); pathological gamblers also experienced clinically significant mental health problems more often than the other subgroups of gamblers. However, with general health, there were no significant differences between the studied subgroups of gamblers. Authors concluded that male gender and loneliness were found to be associated with problem gambling in particular, along with smoking and risky alcohol consumption. Mental health problems and risky alcohol consumption were associated with pathological gambling.
According to Geisner et al. (2014), disordered gambling has been linked to increased negative affect. They examined the relationship between gambling-related problems and mental health symptoms in college students. Specifically, the three-group design tested the effects of two brief interventions for gambling—an individual, in-person personalized feedback intervention (PFI) delivered using motivational interviewing and group-based cognitive behavioural therapy, versus assessment only on mood outcomes. The mediating effect of gambling-related problems on mood was also explored. In the sample of 141 Participants out of which 65% men; 60% Caucasian and 28% Asian were at-risk college student gamblers (on the basis of score of ≥3 on South Oaks Gambling Screen), assessed at baseline and 6-month follow-up. Gambling problems were assessed using the Gambling Problems Index (Neighbors et al., 2002). Mental health symptoms were assessed using the depression, anxiety, and hostility subscales of the Brief Symptom Inventory (Minneapolis, 1993). Results revealed that the personalized feedback intervention condition differentially reduced negative mood, and that reductions in gambling-related problems partially mediated this effect.

Edgerton et al. (2014) examined problem gambling severity trajectories in a sample of young adults in a study, using four wave longitudinal data. Using latent growth curve modeling, Authors examined how initial level of problem gambling severity and the rate of change were affected by 11 time-invariant predictors (gender, age of onset of gambling, experiencing a big win early in gambling career, experiencing a big loss early in gambling career, alcohol dependence, drug dependence, anxiety, depression, perceived social support, illusion of control, and impulsiveness). Five of the eleven predictors affected initial levels of problem gambling severity; however only impulsiveness affected the rate of change across time. The mean trajectory was negative (lessening of problem gambling risk severity across time), but there was significant inter-individual variation in trajectories and initial levels of problem gambling severity. Authors found a negative correlation between initial level of problem gambling severity and rate of lessening; higher initial levels of problem gambling were associated with a slightly more rapid decline in problem gambling severity over time. The findings presented by Edgerton et al. (2014) was challenge to the conventional picture of problem gambling as an inevitable “downward spiral”, at least among young adults, and were more consistent with findings that suggested problem gambling among young adults may “be more
transitory and episodic than enduring and chronic” and, for many, will “resolve naturally” at less severe subclinical levels of severity (Slutske et al., 2003).

D. REGRESSION ANALYSIS

One of the objectives of the present study was to derive regression equations to delineate the significant predictors for the Gambling tendencies among adolescents using the scores obtained from adolescents on Diagnostic Statistical Manual-IV multiple response- juvenile scale for pathological gambling as criterion variable.

Regression analysis was done for the adolescents with gambling tendencies (total sample of gamblers), male adolescents with gambling tendencies, female adolescents with gambling tendencies, adolescents with at-risk and problem gambling tendencies, male adolescents with at-risk and problem gambling tendencies, female adolescents with at-risk and problem gambling tendencies, adolescents with at-risk and social gambling tendencies, male adolescents with at-risk and social gambling tendencies, female adolescents with at-risk and social gambling tendencies, adolescents with problem gambling tendencies, male adolescents with problem gambling tendencies and female adolescents with problem gambling tendencies.

Stepwise multiple regression analysis using the SPSS version 16 was employed.

Regression analysis was run for the criterion variables (i.e. gambling tendencies, at-risk and problem gambling tendencies, at-risk and social gambling tendencies and problem gambling tendencies) and the groups mentioned above. The following variables were entered as common predictors for the same viz. Psychoticism, Extraversion, Neuroticism, Social Desirability, Internal/External Locus of Control, Thrill and Adventure Seeking, Experience Seeking, Disinhibition, Boredom Susceptibility, Attention, Cognitive Instability, Motor, Perseverance, Self Control, Cognitive Complexity, Being Comfortable With Self, Being Comfortable with Others, Ability to Meet Life Demands, Stress Symptoms, Perceived Stress, Task Focused Coping, Emotion Focused Coping, Avoidant Coping, Satisfaction with Life, Perceived Social Support, Perceived Maternal Care, Perceived Maternal Overprotection, Perceived Paternal Care, Perceived Paternal Overprotection, 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.
Gambling Tendencies and its Predictors

Table 6.1 shows regression equation for adolescents with gambling tendencies (total sample of gamblers, n=180). It revealed that five variables turned out to be relevant and were retained as predictors. They explained 40% ($R^2=.40$) of the variance in the criterion variable. The predictors were Stress symptoms ($\beta=.27$), Perceived Social Support ($\beta=-.28$), Motor (Impulsivity) ($\beta=.14$), Avoidant Coping ($\beta=.19$) and Self Control (Impulsivity) ($\beta=.19$).

Table 6.2 shows regression analysis for male adolescents with gambling tendencies (total sample of male gamblers, n=90). It revealed that four variables turned out to be relevant and were retained as predictors. They explained 33% ($R^2=.33$) of the variance in the criterion variable. The predictors were Satisfaction with Life ($\beta=-.22$), Perceived Social Support ($\beta=-.27$), Avoidant Coping ($\beta=.22$) and Perceived Paternal Care ($\beta=-.23$).

Table 6.3 shows regression analysis for female adolescents with gambling tendencies (total sample of female gamblers, n=90). It revealed that six variables turned out to be relevant and were retained as predictors. They explained 56% ($R^2=.56$) of the variance in the criterion variable. The predictors were Stress Symptoms ($\beta=.34$), Motor (Impulsivity) ($\beta=.19$), Perceived Social Support ($\beta=-.28$), Experience Seeking ($\beta=-.19$) Bonding with Father ($\beta=.18$) and Self Control Impulsivity ($\beta=.22$).

Table 6.4 shows regression equation for adolescents with At-Risk and Problem gambling tendencies (n=120). It revealed that four variables turned out to be relevant and were retained as predictors. They explained 29% ($R^2=.36$) of the variance in the criterion variable. The predictors were Stress Symptoms ($\beta=.22$), Stress Symptoms ($\beta=.31$), Being Comfortable with Self ($\beta=.20$) and Motor (Impulsivity) ($\beta=.19$).

Table 6.5 shows regression equation for male adolescents with At-Risk and Problem gambling tendencies (n=60). It revealed that four variables turned out to be relevant and were retained as predictors. They explained 29% ($R^2=.29$) of the variance in the criterion variable. The predictors were Stress Symptoms ($\beta=.36$), Being Comfortable with Self ($\beta=.27$), Locus of Control ($\beta=-.25$) and Cognitive Complexity (Impulsivity) ($\beta=.23$).
Table 6.6 shows regression equation for female adolescents with At-Risk and Problem gambling tendencies (n=60). It revealed that two variables turned out to be relevant and were retained as predictors. They explained 33% (R^2=.33) of the variance in the criterion variable. The predictors were Self Control (Impulsivity) (β=.42) and Perceived Social Support (β=-.28).

Table 6.7 shows regression equation for adolescents with At-Risk and Social gambling tendencies (n=120). It revealed that four variables turned out to be relevant and were retained as predictors. They explained 23% (R^2=.23) of the variance in the criterion variable. The predictors were Cognitive Instability (Impulsivity) (β=.25), Satisfaction with Life (β=-.23), Perceived Social Support (β=-.18) and Being Comfortable with Self (β=-.18).

Table 6.8 shows regression equation for male adolescents with At-Risk and Social gambling tendencies (n=60). It revealed that two variables turned out to be relevant and were retained as predictors. They explained 19% (R^2=.19) of the variance in the criterion variable. The predictors were Cognitive Instability (Impulsivity) (β=.32) and Boredom Susceptibility (β=.26).

Table 6.9 shows regression equation for female adolescents with At-Risk and Social gambling tendencies (n=60). It revealed that three variables turned out to be relevant and were retained as predictors. They explained 32% (R^2=.32) of the variance in the criterion variable. The predictors were Stress Symptoms (β=.46), Being Comfortable with Self (β=-.30) and Cognitive Complexity (Impulsivity) (β=-.29).

Table 6.10 shows regression equation for adolescents with Problem gambling tendencies (n=60). It revealed that two variables turned out to be relevant and were retained as predictors. They explained 14% (R^2=.14) of the variance in the criterion variable. The predictors were Satisfaction with Life (β=-.35) and Psychoticism (β=.25).

Table 6.11 shows regression equation for male adolescents with Problem gambling tendencies (n=30). It revealed that one variable turned out to be relevant and was retained as predictor. It explained 18% (R^2=.18) of the variance in the criterion variable. The predictor was Satisfaction with Life (β=.48).

Table 6.12 shows regression equation for female adolescents with Problem gambling tendencies (n=30). It revealed that one variable turned out to be relevant and was retained as predictor. It explained 23% (R^2=.23) of the variance in the criterion variable. The predictors was Psychoticism (β=-.42).