DISCUSSION OF RESULTS

The results of the present study have been presented and discussed in the subsequent pages in the context of the following parameters:

a) Relevant studies
b) Hypotheses formulated

Many philosophers have written searchingly on the topic of suicide, including Descartes, Voltaire, Kant, Heidegger, and Camus. In addition, novelists such as Hermann Melville and Leo Tolstoy have provided insights on suicide, as have writers who have killed themselves, such as Virginia Woolf and Sylvia Plath (Kring, Johnson, Davison, & Neale, 2010, p. 246). The writers who killed themselves, such as Sylvia Plath have provided insights into the causes of death. No other kind of death leaves friends and relatives with such long-lasting feelings of distress, shame, guilt and puzzlement as does suicide (Pfeffer, 2003).

Thus, suicide poses a serious health threat to society in different geographical areas of the world. But some of the difficulties in conducting suicide researches are due to fact that the researchers have been unable to obtain a definition of suicidal phenomenon. It is possible, however, to propose a more exclusive definition. The underlying assumption of the definition is that there are basically four different stages of suicidal behaviour, namely ideators, threats, attempts and commits. More specifically, it can be noticed that ideation is a pre-requisite of threatened suicide, attempted suicide or committed suicide. There is a growing understanding that ideating and planning are important steps in a process of suicide, characterized by a stepwise hierarchy of action with an underlying gradient of severity. Intensity of ideation has been associated with a history of previous suicide attempts (Joiner & Rudd, 2000), future suicide attempts (Lewinsohn et al., 1996) and future suicide completion (Beck et al., 1999).

It is equally important to emphasis that suicide is such a complex and multifaceted act that no single cultural, social, situational, psychological and biological model can hope to explain it. Myths about suicide abound, highlighting the need for careful research. Also, the study of suicide involves many different ethical questions and forces people to consider their own view of life and death.
The term suicidal behaviour can be understood as a process ranging from suicide ideation and communications to suicide attempts and completed suicide. It is important to differentiate between suicide ideation, suicide attempt and completed suicide. Suicide ideation refers to thoughts of killing oneself and is much more common than attempted/successful suicide. Suicide attempts involve behaviors that are intended to cause death but do not result in death and actually do so. About 10-20 percent people report suicide ideation at least once in their lives, 3-5 percent had made at least one suicide attempt (Weisman et al., 1999).

Suicide behaviour does not happen out of the blue. Rather, available evidence shows that many persons with mood disorders have suicidal thoughts and some engage in suicidal behaviour. More than half of those who try to think about committing suicide and kill themselves are depressed at the time of act (Centre for Disease Control and Prevention, 2006) and as many as 15 percent of people who have been hospitalized with depression ultimately die from suicide (Angst, Stassen, Clayton & Angst, 2002). Other mental illnesses are also important in understanding suicide: as many as 90 percent of people who attempt suicide are suffering from a mental illness. Among people hospitalized from schizophrenia, bipolar I disorder or bipolar II disorder, 10-12 percent dies from suicide eventually (Angst et al., 2002; & Roy, 1982). Even less severe mental disorders, such as panic disorder, eating disorder and among men, alcohol dependence are associated with suicide (Linehan, 1997; & Schmidt, Woolaway-Bickel, & Bates, 2000). With most disorders, suicides are most likely when a person is experiencing comorbid depression (Angst et al., 2002; Linehan, 1997; Schmidt et al., 2000).

Keeping in view what has been said in the preceding paragraphs, it is clear that the research on suicide clearly reveals that depression is a salient associate of suicide. Although understanding suicide within the context of depressive severity is extremely important, most people with depression do not die from suicide. Also, a significant number of people who are not depressed, however, make suicidal attempts or kill themselves. In the context of this assertion, the current study was designed to explore the structure of suicide ideation among non-depressed college students.
For exploring the structure of suicide ideation among non-depressed college students, the following hypotheses were formulated:

1) The scores on different measures included in the current study would be normally distributed and follow a smooth curve.
2) Females in comparison to males would score higher on different measures referring to suicide ideation, negative cognition, affective dysregulation, psychoticism and neuroticism.
3) There will be no difference between males and females on different dimensions of perceived family environment.
4) Suicide ideation would show positive association with two measures of negative cognition, namely hopelessness and automatic negative thoughts for both male and female college students.
5) Suicide ideation would show positive association with psychoticism, neuroticism and introversion for male and female college students.
6) Affective dysregulation would show more marked positive association with suicide ideation for female than male college students.
7) Suicide ideation would be differentially related to different dimensions of perceived family functioning.
8) Optimism would show more marked negative association with suicide ideation for male than female college students.

Hypothesis 1

In the first instance, hypothesis 1 was subjected to empirical verification. The results reported in chapter IV clearly revealed that the scores on the different measures (suicide ideation, hopelessness, negative automatic thoughts, optimism, psychoticism, neuroticism, extraversion, social desirability and different dimensions of family environment) included in the present study satisfy the conditions essential for normal distribution. Thus, hypothesis 1, namely “the scores on different measures included in the current study would be normally distributed and follow a smooth curve” stands supported.

Hypotheses 2 and 3

Hypotheses 2 and 3 refer to gender differences on suicide ideation and other key measures of negative cognition, personality dimensions, affective dysregulation, and perceived family environment. The findings reported in chapter IV revealed
preponderance of suicide ideation in non-depressed male college students in comparison to female non-depressed college students. (Mean: 13.21 vs 10.32, SD: 5.58 vs 6.12, t = 3.49, p < .001), suggesting thereby the rejection of proposed hypothesis which refers to preponderance of suicide ideation in non-depressed female college students.

In the context of enormous research evidence suggesting higher psychopathology among females, it is difficult to account for higher intensity of suicide ideation among male college students of the current study. However, few possible explanations seem to be in order:

1. In the present scenario, males in late adolescence and early adulthood face more markedly the key developmental task to resolve the conflict between identity formation and role confusion. Failure to resolve the conflict of identity formation and identity explorations leads to mistrust and shame. This could be more prevalent for males than females. It could be the reason for higher suicide ideation in males in late adolescence and early adulthood.

   According to Erikson⁴, if we do not reach a successful resolution of the conflict confronted at the particular stage, we may find it harder to meet the challenges of subsequent stages. A number of other theorists and researchers have also highlighted the critical role that identity formation plays while teens are seeking to negotiate their way through adolescence successfully (Marcia, 2007).

2. It is equally possible that the higher intensity and pervasiveness of suicide ideation in males is due to the salient finding (chapter IV) referring to lower perceived social support, both qualitative and quantitative among males in comparison to females (Table 4.22). In the fast changing social scenario, the lower perceived social support of males in late adolescence and early adulthood could be due to the increased desire for dominance, independence, overcoming identity crisis and miscommunications with parents and teachers. As a consequence, they tend to feel less organized in the social setup. This

   ⁴Note: German psychologist Erick Erikson is one of the few major developmental theorists to look at the development across the entire lifespan (Erikson, 1985, 1984, 1959) Erikson divided the span form birth to old age into eight stages. Each of Erikson’s stages is associated with “main task”, a challenge the person must meet and reconcile. An individual’s achievement at each stage has a direct impact on how he or she meets the challenges of the next stage. Erikson believes that culture and relationships play strong role in personality formulation.
might result in internalizing the symptoms of distress which may lead to suicidal thinking.

3. Higher scores of males on psychoticism as derived from Eysenck Personality Questionnaire could also be the reason for higher suicide ideation scores of males in comparison to females.

4. In the context of Indian setup governed by moral-religious emphasis in the family environment, the results have clearly shown lower mean scores of males on perceived moral and religious emphasis in the family environment. Thus, the lower perceived moral and religious emphasis in the family environment may fail to produce salutary emotions: gratitude, humility, grace, forgiveness and love with preventive and therapeutic benefits. This may be detrimental in maintaining good mental health and seems to increase the probability of psychopathology, including suicidal thoughts. It conveys a pessimistic trend on the part of males from the viewpoint of connection between religious emphasis and mental health.

Religious involvement in the family in the Indian set up, broadly defined, exhibits a salutary and primary-preventive function in relation to psychological distress and outcomes related to mental health and well-being. The weight of evidence suggests that moral and religious family environment is generally a protective factor for mental illness (Levin, 2010). These positive effects may serve as sorts of psychic beta blockers or emotional placebos. Khan (2012) asserted that in the Indian set up, faith and religious certainty may engender positive expectations that instill hope and optimism capable of preventing and ameliorating distress.

Further, it is imperative to stress that an examination of quantitative differences between males and females on key and relevant variables may not reveal useful and scientific information about the structure of suicide ideation.

Hypotheses 4 to 7

Hypotheses 4 to 7 were formulated in the context of structure of suicide ideation. Suicide has been viewed as retaliation, intended to induce guilt in others; as an effect to force love from others; as an effect to make amends for wrongs; as an effect to rid oneself of unacceptable feelings; as an expression of a desire to rejoin a dead loved one; and as an expression to escape form emotional pain or an emotional
vacuum. Undoubtedly, the psychosocial variables involved in suicide vary across people, but many researchers have attempted to identify risk factors.

In the context of above assertion and hypotheses 4 to 7 of the current study, factor analysis was used to ascertain the structure of suicide ideation, separately for male and female college students in late adolescence and early adulthood.

The results lend differential support to Hypotheses 4 to 7 highlighting the separate salience of male and female college students. For males, negative thoughts and beliefs about future (hopelessness), a component of Beck’s cognitive triad showed positive association with suicide ideation, and optimism showed negative association with suicide ideation as measured by Beck’s Scale for Suicide Ideation. These associations were not found for female adolescents, suggesting thereby the differential role of gender.

For females, two personality dimensions referring to psychoticism and introversion as measured by Eysenck Personality Questionnaire-Revised emerged as salient positive associates of suicide ideation. Thus, cognitive biases and distortions*, or tendencies to process information in certain negative ways were found to be relevant to suicide ideation only for males, and personality dimensions (psychoticism, neuroticism) were found to be salient associates of suicide ideation only for females. Thus, non-depressed males are more vulnerable to negative cognition, especially hopelessness, while non-depressed females are more vulnerable to the few facets of personality.

It is equally imperative to emphasize that several measures referring to negative automatic thoughts (self-deprecation), introversion, affective dysregulation and family environment have emerged to be irrelevant from the viewpoint of suicide ideation among both male and female non-depressed college students.

**Negative cognition and suicide ideation**

The cognitive view of behaviour assigns primary importance to the self-evident fact that people think. It assumes that the nature and characteristics of thinking and resultant conclusions determine what people feel and do and how they

* Cognitive factors includes a negative schema; negative beliefs about self, world, and future; biases to attend to and recall negative rather than positive information; stable, global, and internal attributions for stressors; and hopelessness.
act and react. This view of behaviour and psychopathology has a long history that bridges the disciplines of clinical psychiatry, clinical and academic psychology, and philosophy (Broadbent, 1971; Beck, 1967). This increasing emphasis on the role of cognition in behaviour has been termed as “cognitive revolution”. It can be noted that cognition has played an increasingly important role in recent theories of personality and psychopathology (Mischel, 1973). In this context, much of the impetus has come from the theoretical and empirical work of Aaron Beck (1967, 1974), and Martin Seligman (1975).

The cognitive approach focuses on self-castigation, exaggeration of external problems, and hopelessness as the most salient symptoms. Beck (1967, 1974) has provided the most comprehensive exposition of cognitive view of depression. Beck has posited a “cognitive triad” of negative constructions about the self, the environment, and the future. The depressed person is seen as having a negative view of self, of the world, and of future. Cognitive factors include a negative schema; negative beliefs about self, world, and future; biases to attend to and recall negative rather than positive information; stable, global, and internal attributions for stressors; and hopelessness. Once a person becomes hopeless, increases in negativity and reassurance- seeking may lead to more negativity and rejection from other people, potentially prolonging the episodes.

These cognitive distortions are seen to develop from early life experiences, and to be triggered by present environmental conditions or events, thus leading the person to view the self, the world and the future in a negative ways.

In the context of the salient role of cognitive distortions in psychopathology, the current study included in its purview two different measures of negative cognition referring to self and the future. These two different measures were derived from Beck’s Hopelessness Scale and Hollan and Kendall’s Automatic Thought Questionnaire.

The results have revealed positive association of hopelessness with suicide ideation only for males. The association of hopelessness and optimism with suicide ideation was found to be negligible for females.
The positive association between hopelessness and suicide ideation for male college students could be explained on the basis of following observations:

1. Depressive tendencies refer to an emotional state characterized by exaggerated feelings of sadness, dejection, worthlessness, hopelessness, self-deprecation (negative automatic thoughts), psychomotor retardation, fatigue, anorexia, constipation, reduced libido or suicide ideation, to an extent which is inappropriate or out of proportion to reality.

In the context of depressive symptoms, hopelessness is an important element of Beck’s Cognitive Triad comprising of self-deprecation, hopelessness and dysfunctional attitude.

2. Studies focusing on global hopelessness, defined as global attitudes of pessimism for the future, have been common and fruitful for many decades.

3. Hopelessness, a salient element of Beck’s cognitive triad, leads to reduced ability to motivate oneself to use available pathways to reach one’s goals or to generate multiple or alternate routes to reach one’s goals. In hopelessness depression, there is an expectation that a negative outcome will occur or that a positive outcome will fail to occur. There is also a feeling of helplessness regarding once ability to change the probability of the outcome. Further, hopelessness as defined as the “expectation that negative events will occur or positive events will not occur” leads to a sense of helplessness or powerlessness regarding one’s ability to change the impending outcome.

This kind of negative cognition leads to stress and is detrimental to psychological well-being. Further, individuals high in hopelessness are likely to have less emotional enthusiasm responsible for higher intensity of suicide ideation.

4. Abramson et al. (1989) posit the existence of a subtype of depression, namely hopelessness depression. They suggested that although symptoms such as sad affect, sleep disturbance, lack of motivation and concentration difficulties partially overlap with those of major depression, other symptoms such as suicide ideation and behaviour are specific to hopelessness.

5. The present finding is corroborated by the findings of various earlier researches.
a) Hopelessness has been identified as a strong predictor of suicide even among different cultures (Zeyrek et al., 2009).

b) Hopelessness, defined as a state of extreme pessimism, is a strong proximal predictor of suicide ideation and behaviour (Chioqueta & Stiles, 2003).

c) Hopelessness theory further purports that hopelessness as a cognitive factor is perhaps an even more significant precursor of suicide ideation than global depression (Malone et al., 2000).

d) Western theories propose that cognitions are central to mood, that depression is a frequent concomitant of suicide ideation and behaviour, and that hopelessness is the most proximal variable to depression leading to suicidal tendencies (Abramson et al., 1998).

e) Studies focusing on global hopelessness, defined as global attitudes of pessimism for the future have been common and fruitful for many decades. Abela et al. (2004) suggest that hopeless individuals are likely to experience depression and suicidal thoughts because of the problems in their world as “global and stable” (Abela et al., 2007).

f) Researches have clearly shown that hopelessness, which can defined as the expectations that life will be no better in the future than it is now, is strongly tied to suicidality. High level of hopelessness are associated with a fourfold elevation in risk of suicide (Brown et al., 2000), and hopelessness is important even after controlling for depression levels (Beck et al., 1975).

6. Hopelessness reflected in a broad pattern of cognitive, emotional and behavioral inflexibility, is thought to be associated with more specific difficulties such as rigid and automatic body image related thoughts and behaviour, contributing to greater dissatisfaction responsible for higher intensity of suicide ideation. This may be more true for males than females because males scored markedly low on perceived social support, both quantitative and qualitative, and high on psychoticism. As a consequence, they (males) might fail to notice or to remember positive feedback about themselves. People with underlying ineptness schema might
readily notice signs that they are inept and remember feedback that they are inept. Signs that they are competent, though, are not noted or remembered. These cognitive biases seem to lead to suicidal intention.

**Personality and suicide ideation**

Furthermore, in the context of the role of personality in suicide ideation, the results revealed the salience of personality dimension in suicide ideation only for non-depressed female college students in late-adolescence and early adulthood. In the context of personality, two personality dimensions referring to psychoticism* and neuroticism* as derived from **Eysenck Personality Questionnaire** emerged to be markedly relevant for suicide ideation only among females. These two personality dimensions were found to be redundant for males.

The factor structure in the context of marked significant loadings on psychoticism (+), neuroticism (+) and suicide ideation (+) revealed the existence of borderline personality factor, associated positively with suicide ideation for females.

The core features of borderline personality disorder (BPD) are impulsivity**, emotional dysregulation, and instability in relationships and mood. For example, attitude and feelings toward other people might change drastically and inexplicably very quickly. Emotions are intense, erratic and shift abruptly, particularly from passionate idealization to contemptuous anger. The intense anger of people with BPD often damages interpersonal relationships. They rarely experience strong emotions, are not interested in sex and have few pleasurable activities. Indifferent to praise and criticism, and the sentiments of others, people with this disorder are loners who pursue solitary interests. There is absence of cognitive disorganization that is characteristic of schizophrenia. These features seem to be salient and of particular concern from the viewpoint of intense suicide ideation for female adolescents.

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*Psychoticism is an independent dimension which describes the personality as solitary, troublesome, cruel, lacking in feeling and empathy, sensation seeking, liking odd and unusual things. In contrast, neuroticism refers to the general emotional liability of person, his emotional over-responsiveness and his liability to neurotic breakdown under stress.

**To understand the neurobiology of BPD, it helps to separate two types of symptoms of BPD: emotion dysregulation and impulsivity. Deficit in sensitivity of neurotransmitter serotonin are associated with impulsivity and emotion dysregulation. People with BPD demonstrate lower serotonin function than do control (Soloff et al., 2000). Beyond serotonin, separable aspects of genetic and neurobiological vulnerability may contribute to the components of emotion dysregulation or impulsivity rather than to the disorder as a whole (Siever, Torgersen, Gunderson et al., 2002).
The nature of the factor for females explained in chapter IV clearly suggests, that the borderline personalities referring to high psychoticism and high neuroticism may have short episodes in which they appear to be out of contact with reality and experience delusions or other psychotic like symptoms, such as recurrent illusions, magical thinking, and paranoid beliefs (O’Connell, Cooper, Persey, & Hoke, 1989). The core features of borderline personality disorder (BPD) are impulsivity, emotional dysregulation, and instability in relationships and mood. For example, attitude and feelings toward other people might change drastically and inexplicably very quickly. Emotions are intense, erratic and shift abruptly, particularly form passionate idealization to contemptuous anger. Inability to regulate emotions appropriately and susceptibility to irritability and negative affect seems to be more pronounced in females (Mezzich et al., 2001).

Speaking in the same vein, it can be asserted that individuals with borderline personalities are frequently impulsive and unpredictable, angry, empty and unstable. They have low tolerance for frustration. Their extreme instability is reflected in their drastic mood shifts and erratic, self-destructive behaviour. They commonly have a history of intense but stormy relationships, typically involving over idealizations of friends or lovers that later end in bitter disillusionment and disappointment (Gunderson & Singer, 1986). They typically display intense anger outburst with little provocation and they may show disturbances in basic identity that preoccupy them and produce basically a negative outlook. Feeling sighted, they might, for example, become verbally abusive toward loved one or might threaten suicide over minor setbacks. Suicide ideation and attempts, often flagrantly manipulative, are frequently part of clinical picture (Fine & Sansone, 1990), and self-mutilation is one of the most discriminating signs for individuals high in psychoticism and neuroticism. This results from the experience of transient psychotic and dissociative symptoms when stressed.

Likewise, it can be asserted form the available literature that their (high psychoticism and high neuroticism) egos are as fragile as spun sugar, their psyches irretrievably fragmented like a jigsaw puzzle with crucial pieces missing. They play roles with alacrity, excel at being anyone but themselves, crave intimacy but repel it when they find it. As a consequence, suicidal behaviour is a particular concern, and symptoms of self-harm and suicidality are evident.
The present findings are corroborated by the findings available in the literature:

a) The available evidence (Yan et al., 2003) indicates that suicidal behaviour is a particular concern in borderline personality disorder.

b) One study (Linehan & Heard, 1999) found that, over a 20 year period, approximately 7.5 percent of people with borderline personality disorder (BPD) committed suicide. In a study of 621 people with BPD, 15.5 percent were found to have engaged in at least one suicidal behaviour within the previous year (Yan et al., 2003). People with BPD are also particularly likely to engage in self-mutilating behaviour. For example, they might slice their legs with a razor blade or burn their arms with cigarettes - behaviours that are harmful but unlikely to cause death. At least two third of people with borderline personality disorder will engage in self-mutilation at some point during their lives (Stone, 1993).

c) People with BPD are highly likely to have a comorbid axis I anxiety disorder, especially post traumatic stress disorder or mood disorder (McGlashan et al., 2000). They are also at risk for comorbid substance-related and eating disorders, as well as for other personality disorders from the odd/eccentric cluster (McGlashan et al., 2000). When present, comorbid axis I conditions predict greater likelihood that BPD symptoms showing salience for suicide ideation will be sustained over a 6-year period (Zanarini et al., 2004).

d) People with BPD are also particularly likely to engage in self-mutilating behaviour. At least two third of people with BPD will engage in self-mutilation at some point during their lives (Stone, 1993).

e) Borderlines go from therapist to therapist, hoping to find a magic bullet for the crushing feelings of emptiness. They turn to chemical bullets, gobble tranquilizers and antidepressants and alcohol. Embrace gurus and heaven-hucksters, any charismatic creep promising a quick fix of the pain. And they end up taking temporary vacations in psychiatric wards and prison cells, emerge looking good, raising everyone’s hopes. Until the next letdown, real or imagined, the next excursion into self-damage (Kellerman, 1989, pp. 113-114).
f) BPD individuals cannot bear to be alone, have fear of abandonment, demand attention and experience **chronic feelings of depression and chronic feelings of emptiness**. They may experience transient psychotic and dissociative symptoms **leading to higher intensity of suicide ideation**, which is a particular concern in borderline personality disorder. Likewise, key features of unstable interpersonal relationships, intense and erratic emotions, and unstable sense of self may add to the feelings of suicide ideation.

g) **Kernberg (1985)** proposed that adverse childhood experiences –for example, having parents who provide love and attention inconsistently, perhaps praising achievements but being unable to offer emotional support and warmth, cause children to internalize disturbed object representations that fail to integrate the loving and unloving aspects of the people who are close to them.

*As a result of these disturbed object relations, they develop insecure egos, another major feature of BPD. The fragile sense of self probably more prevalent among female college students might be responsible for thinking in terms of committing suicide.* It might be more true for female adolescents who feel relatively more insecure in the present scenario, responsible for pain and turmoil. Suicide ideation is seen as a way of defending against intense insecurity and low self-esteem (**Apt & Hurlbert, 1994**).

h) **Moreover, the salience role of borderline personality disorder in suicide ideation among female adolescents** could be due to relatively more of emotional dysregulation in females (**Mezzich et al., 1997, 2001**) and its interaction with the available invalidating family environment for females. In an invalidating environment, the person’s feelings are discounted and disrespected—that is, the person’s efforts to communicate feelings are disregarded or even punished. An extreme form of invalidation is child abuse, either sexual or non-sexual, where the abusive parent claims to love the child and yet hurt the child. This seems to be more true for female adolescents even in the present scenario.

i) The emotionally dysregulated child makes enormous demands on his or her family. The exasperated parents ignore or even punish the child outbursts,
which leads the child to suppress his or her emotions. The suppressed emotions in invalidating environment may lead to marked feelings of suicide ideation.

Many other patterns are possible, of course, but what they have common is a vicious circle, a constant back and forth between dysregulation and invalidation. Linehan’s Diathesis-Stress theory supports this assertion. This is probably more true for females in late-adolescence and early adulthood.

j) Another plausible explanation regarding the significant role of borderline personality disorder in suicide ideation for female adolescents resides in the fact that females in comparison to males relatively fail to integrate the loving and unloving aspects of the people who are close to them. As a consequence, they develop insecure egos. Females with insecure egos cope with their fragile sense of self by indulging in suicidal thoughts to avoid perceived relationship threats.

**Affective dysregulation and suicide ideation**

Affective dysregulation is another potential contributory predictor for suicide ideation (Plattner et al., 2007). Affective dysregulation was assessed by using the subscale from the Dysregulation Inventory (DI). The DI measures several temperament subscale characteristics associated with increased risk for developing substance use disorders (Mezzich et al., 2001).

The present study stated the hypothesis VI that affective dysregulation indicative of high emotional reactivity and low control over one’s emotional world would show more marked positive association with suicide ideation for females than males in late adolescence and early adulthood. The **structural analysis revealed that affective dysregulation showing positive association with negative automatic thoughts** (component of Beck’s cognitive triad) emerged as independent factor in case of both males and females. The **finding suggests rejection of proposed hypothesis 6 linking affective dysregulation and suicide ideation.** The results contradict earlier findings in the Indian setup which report close positive association between affective dysregulation per se and suicide ideation for the **females in the mid-adolescence.** The contradiction could be due to different nature of samples and the objectives of the study in the sense that the current study included non-depressed
college students in late-adolescence and early adulthood in its purview, while Khan (2012) used depression as a predictor in association with affective dysregulation and other variables, using males and females belonging to mid-adolescence. Possibly, non-depressed affectively dysregulated individuals may not experience a confluence of negative emotions (i.e., fear, sadness and anger) in a way that causes them to react in an overly aggressive manner, including higher intensity of suicide ideation. Admittedly, the present finding may reflect heterogeneity in the mechanisms that lead to suicide ideation in male and female college students at the stage of late-adolescence and early adulthood.

**Conclusion**

Suicide ideation, threatened suicide, attempted suicide and committed suicide are tragic and painful events both for the individual who engage in any parameter of the suicide behaviour as well as for their significant others. However, suicidal ideation presents unique challenges to both researchers and clinician. “Suicide ideation” refers to suicidality without action, i.e. all types of suicidal thoughts and plans.

This study has identified several potential targets for suicide prevention initiatives directed at non-depressed college students at stage of late-adolescence and early adulthood (20 to 25 years). Hopelessness, a salient component of Beck’s cognitive triad has emerged as important positive correlate for suicide ideation for non-depressed males, while borderline personality disorder referring to higher psychoticism and neuroticism emerged as a salient positive correlate of suicide ideation for non-depressed females at the stage of late adolescence and early adulthood.

The present findings draw attention to the differential role of negative cognition (hopelessness) and borderline personality (psychoticism, neuroticism) in suicide ideation for non-depressed male and female college students at the stage of late-adolescence and early adulthood. **This trend highlights the possibility of different intervention targets for non-depressed males and females to deal with the earliest stage of suicide behaviour i.e., suicide ideation.** If replicated, these findings of the present investigation may point to promising new strategies for suicide prevention.
SUMMARY

Concept of suicide and the act of suicide

Suicidal behavior includes acts of self-harm with lethal intent, usually having the purpose of ending intolerable emotional pain. It is a complex mode of death, involving multifaceted behavioral pattern. It is the rare and shocking act involving the interaction of numerous cultural, social, situational, psychological, and biological factors. A gradual developmental process which leads to suicidal ideation, suicidal communication, self-destructive behavior, in some cases even to suicide, and its consequences to the survivors are often referred to as a suicidal process. The suicide process model is generally referred to understand the complexity of factors associated with suicide and suicide behavior. The suicide process model can be understood with the help of following flow diagram:

Understanding the suicide process model

It implies that the phenomenon of interest covers suicide ideation of various degrees and types, suicidal attempts, and acts of self-harm without intent (Bebbington et al., 2009). Although completed suicide clearly represents the most extreme form of suicidal behavior, suicide attempts and suicide ideation also represent important public health concern. More precisely speaking, suicide ideation is considered to be the part of continuum that culminates in suicide attempts, and completed suicide. Suicidal ideation, defined as having thoughts or fantasies about killing oneself, can range from transient thoughts about death to more severe rumination and creation of a plan to take one’s life (Fitzpatrick, 2005). These behaviours are linked to the same risk factors, with variations more likely to occur in the degree rather than in the type of risk factor. (Kosky et al., 1990; Pelkonen et al., 1997). Previous studies have shown that suicide ideation is a powerful predictor of
completed suicide (Hawley et al., 1991). Suicide ideation, an important first component of suicidal behavior, is considered to be an important precursor to later attempted and completed suicide (Gili-Planas et al., 2001; Kulhberg et al., 2010; Reinherz et al., 2006). Thus, knowledge of the risk factors for suicide ideation is important in suicide prevention.

**Rationale of the Present Study**

Suicidal thoughts often lead to extreme emotional suffering in affected individuals (Upmanyu, 2008). Recent scientific evidences show that young people’s suicidal behaviours are complex phenomena that seem to be rising, composing an important highlight of attention for social policies. The suicidal downward spiral starts with ideation, which functions as an indication of vulnerability and might lead to a suicide attempt or suicide. Suicidal ideation specifically involves thoughts about ending one’s own life, from a range of general thoughts about death to more specific and elaborate ways to commit suicide. Suicidal ideation presents itself as one of the main predictors of suicidal risk, being used in many researches to estimate the presence of a suicidal process. In other words, according to the continuity approach on suicidal phenomenology, suicidal ideation, suicide attempt and complete suicide represent different aspects of the same psychopathological phenomenon ranging on a single continuum and differentiated only by the seriousness of the intent. This view is supported by studies indicating that suicidal ideation and suicidal attempts serve as strong predictors for complete suicide (Conard et al., 2009; Gil, 2005; Mittendorfer-Rutz et al., 2012; Oquendo et al., 2007; Preti & Cacio, 2006; Reinherz et al., 2006; Rothenhausler et al., 2006). Typically suicidal ideation precedes suicide planning and attempted suicide. Sometimes, but not always, thoughts about death and feelings of hopelessness are significant antecedents of both suicidal ideation and attempted suicide (Beck et al., 1990; Kessler et al., 1999; Ruuska et al., 2005).

Many studies support the notion that a mental disorder is the most significant risk factor for both attempted and completed suicide, particularly when it coexists with substance abuse, or conduct disorders, or, still, with antisocial disorders (Harris & Barraclough, 1997; Kessler et al., 1999).
Although there are some studies on suicide ideation prevalence in higher education students, the results vary depending on the methodology and the time lapse targeted for the study (last week, last month, last year, or throughout life). In the context of overcoming the gaps or limitations of early studies, it is important to get a deeper insight into those cognitive, personality and family factors that may be limited to suicide ideation in non-depressed college students.

A study of suicide ideation in non-depressed college students is of special importance to understand suicidal phenomenology. The present study chose to focus on suicidal ideation because clinical experiences with college students indicated that this is a relatively common phenomenon that must be addressed in providing therapeutic care for these groups. This focus is also supported by the findings of the recent epidemiological research that the vast majority of adolescent suicide attempts are premeditated in the sense that suicidal ideation is a strong predictor of future suicide attempts even after controlling for its association with current depression, and that the presence of any degree of suicidal ideation serves as a risk factor for future attempts, with level of risk augmenting linearly as a function of the intensity and duration of suicidal ideation.

**Conclusion**

Keeping in view the salient features of researches in the area of suicide, the present study expands and refines the previous work by Beck and his associates as well as Upmanyu and his associates by examining the structure of suicide ideation in non-depressed college students. Although earlier researches have made valuable contributions to the literature on suicidality, the merit of this study is based on the fact that it includes in its purview non-depressed college students at the stage of late adolescence and early adulthood which have been identified as a period of increased risk for the onset of suicidal thoughts and behaviors. Results from the National Comorbidity Survey shows the lifetime correlates of suicide ideation, plans, and attempts in adolescents to be 12.1%, 4.0%, and 4.1%, respectively (Nock et al., 2013). Since prior studies have failed to examine the correlates of suicide ideation in the absence of depressive symptomatology, it would help to identify additional risk factors for suicidal thoughts and behaviours in non-depressed sample of college students and to develop model of risk that offer greater explanatory power. Further, “the transition to adolescence coincides with a dramatic increase in suicidal ideation
and attempts” (Gallagher et al., 2014), making it especially important to study the precursors of suicide ideation in this age group.

**Objectives of the Study**

1. To examine the relationship of **hopelessness as a measure of negative cognition with suicide ideation** in non-depressed college students.

2. To examine the relationship of **self-deprecation as a measure of negative cognition with suicide ideation** in non-depressed college students.

3. To examine the relationship of **psychoticism, neuroticism, extraversion and social desirability with suicide ideation** in non-depressed college students.

4. To examine the relationship of **affective dysregulation with suicide ideation** in non-depressed college students.

5. To examine the relationship of **social support with suicide ideation** in non-depressed college students.

6. To examine the relationship of **optimism with suicide ideation** in non-depressed college students.

7. To examine the relationship of **different dimensions of family environment with suicide ideation** in non-depressed college students.

**Hypothesis of the Study**

1. The scores on different measures in the current study would be **normally distributed and follow a smooth curve**.

2. Females in comparison to males would score higher on different measures referring to **suicide ideation, negative cognition, affective dysregulation, psychoticism and neuroticism**.

3. There will be no difference between males and females on different dimensions of **perceived family environment**.

4. Suicide ideation would show positive association with two measures of negative cognition, namely **hopelessness and automatic negative thoughts** for both male and female college students.
5. Suicide ideation would show positive association with psychoticism, neuroticism and introversion for male and female college students.

6. Affective dysregulation would show more marked positive association with suicide ideation for female than male college students.

7. Suicide ideation would be differentially related to different dimensions of perceived family functioning.

8. Optimism would show more marked negative association with suicide ideation for male than female college students.

**SAMPLE**

The final sample for the current study was drawn by using multistage sampling technique. In the first stage, an initial sample comprised of 1200 college students* (600 males, 600 females). The age of the participants ranged from 20-25 years (S.D= 0.87).

The reasons for selecting college students refer to the fact that college students are at the elevated risk of suicidal thoughts and behaviors, perhaps because of the numerous developmental challenges (internal) and psychosocial changes (external) they experience. These challenges include exploring or developing their identity (e.g., making career choices), navigating the transition from a state of full dependence to a state of semi dependence on their parents, creating social relationships in a different environment, managing the financial burden of increasingly high college tuition and leaving their primary support system.

Further, the reasons for selecting Government colleges pertain to the differential availability of infrastructure and socio-cultural climate in these colleges in comparison to Government aided colleges / private colleges. It was considered as an essential factor. Further, the sample of the current study was delimited to Ludhiana because of the following reasons:

1. Research on suicide ideation among college students of Ludhiana is relatively scant.

* The variables referring to marital status, employment status, educational status, living situation and age were controlled in the sense that participants were unmarried, unemployed college students of more or less similar age. Moreover, all participants lived off campus with their families.
2. There is a marked differential salience of social processes, cultural factors and industrial conditions.

3. There is mushroom growth of industries rooted in extreme migration from different places, leading to emotional consequences of homelessness. Goodman and colleagues use “trauma theory” to explain the psychological stress experienced by adults who become homeless (Goodman, Saxe, & Harvey, 1991). They suggest that experiencing homelessness is traumatic in three ways:

A. First, the process of becoming homeless may produce symptoms of psychological distress.

B. Second, the condition of homelessness due to migration is incredibly stressful.

C. Also, if the individual is already experiencing distress, the experience will almost certainly exacerbate existing symptoms.

4. There is a mushroom growth of population due to industrial explosion.

The initial sample comprising of 1200 college students was administered Zung self-rating Depression Scale (Appendix I) for assessing the severity of depressive symptomatology. The depression scores of 600 males and 600 females are shown in Appendix II. In the second stage, following statistical criterion of $P_{20}$ as the cut off point, 100 male and 100 female non-depressed college students scoring below $P_{20}$ were selected. This was done in the context of the focal theme of the current study which is concerned with non-depressed college students.

The following considerations were also kept in view :-

A. Exclusion criterion

a. The subjects satisfying the criterion of psychiatric diagnoses (e.g., depressive disorders, bipolar disorders, and alcohol and drug-use disorders) were excluded.

b. The subjects satisfying the criterion of psychiatric history (e.g., previous psychiatric treatment) were excluded.

c. The older subjects were also excluded.
d. The subjects belonging to broken families were excluded.

e. The subjects with the family history of suicide were also excluded.

f. The subjects residing in hostels were excluded.

B. Inclusion criterion

a. The study was delimited to the college students of Ludhiana (Punjab) due to the paucity of research in this specific area of suicide in that region.

b. The subjects in the age range of 20-25 years were included.

c. The subjects who were willing to participate in the research were included.

C. Ethical consideration

a. Confidentiality of information given by participants was maintained.

b. Cooperation of the participants was sought.

c. Avoiding duplication.

**DESCRIPTION OF THE TESTS**

The following tests were used:

(A) Scale for Suicide Ideation (Beck, Kovacs, & Weissman, 1979).

(B) Beck Hopelessness Scale (Beck et al., 1974).

(C) Affective Dysregulation Sub- Scale (Mezzich et al., 2001).

(D) Family Environment Scale (Moos & Moos, 1994).

(E) Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975).

(F) Automatic Thought Questionnaire (Hollon & Kendall, 1980).

(G) Revised- Life Orientation Scale (Scheier & Carver, 1985).

(H) Social Support Questionnaire (Sarason, Levine, & Basham, 1983).
SCORING OF THE TESTS

The tests were scored strictly in accordance with the procedure suggested by the authors. Following the procedure given in the manuals, “Scale for Suicide Ideation” was scored pertaining to the level of suicide ideation in the subjects.

“Eysenck Personality Questionnaire- Revised” was scored for Extraversion, Psychoticism, Neuroticism and Lie Scale measures respectively which were labeled as E, P, N and L. “Beck Hopelessness Scale” was scored for the measure pertaining to hopelessness about future perspectives of life. “Affective Dysregulation Sub- Scale” was used to measure several temperamental characteristics and a measure of affective/ emotional dysregulation was scored using the questionnaire. “Family Environment Scale” was scored for a measure of current family environment and its functioning including sub- scales such as Cohesion, Expressiveness, Conflict, Independence, Achievement- Orientation, Intellectual- Cultural Orientation, Active- Recreational Orientation, Moral- Religious Emphasis, Organization and Control. “Social Support Questionnaire” was scored to measure interpersonal transaction involving concern and information about oneself and the environment. “Revised- Life Orientation Scale” was scored for Optimism. “Automatic Thought Questionnaire” was also scored to identify and assess the frequency of automatic negative self- statements which are linked to depression.

Thus, as a result of scoring different tests, twenty one measures of non- depressed college students as mentioned below were obtained-

1. Four measures concerning extraversion, neuroticism, psychoticism and social desirability.
2. One measures each of hopelessness and suicide ideation.
3. One measure each of emotional dysregulation.
4. One measure of optimism.
5. One measure to assess automatic negative thoughts.
6. Ten measures concerning cohesion, expressiveness, conflict, independence, achievement- orientation, intellectual-cultural orientation, active- recreational orientation, moral- religious emphasis, organization and control.
7. Two measures of social support referring to quantitative and qualitative social support.

**ANALYSES**

The data were analyzed to obtain the following information –

1. Frequency distributions, mean, median, standard deviation, skewness and kurtosis for different measures, separately for males and females.

2. Intercorrelations among different variables separately for males and females.

3. Structural relationship among different variables separately for males and females.

**Main Findings**

Keeping in view what has been said in the preceding paragraphs, the current study reveals the following salient findings:

1. Scores on different variables included in the study satisfy the assumptions underlying normal distribution.

2. In the context of gender difference, male adolescents in comparison to female adolescents scored markedly higher on suicide ideation.

3. Hopelessness was found to be a salient positive associate of suicide ideation among male adolescents, while borderline personality disorder (P+, N+) emerged to be salient positive associate of suicide ideation among female adolescents.

4. Suicide ideation was found to be structurally unrelated to different dimensions of perceived family environment.

Thus for male adolescents with minimum level of depression, negative cognition in the form of hopelessness emerged as a remarkable positive associate of suicide ideation, while for female adolescents, personality as envisaged by borderline personality disorder (high psychoticism and neuroticism) emerged as a salient positive associate of suicide ideation.
IMPLICATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

The concept of “suicidality” referred to the thoughts and plans of suicide, suicide attempts and completed suicide, and thus comprised a wide range of phenomena. In this context, suicide ideation, threatened suicide, attempted suicide and completed suicide are tragic and painful events both for the individuals who engage in the behaviour as well as for their significant others. Repetition of attempted suicide is not uncommon in persons suffering from some aspect of psychopathology, and the risk for completed suicide is elevated among suicide attempters. In accordance with the general postulate that “the best predictor of future suicidal behavior is past suicidal behavior,” it has been found that a suicide attempt in the past is one of the most powerful risk factors for completed suicide (Consoli et al., 2013; Leon, Friedman, Sweeney, Brown & Mann, 1990; Park, Soo, Strother & Ratcliff, 2013; Retterstol & Mehlum, 2001; & Van Egmond & Diekstra, 1990). In the process of suicide, suicide ideation is of utmost importance. According to Michel and Valach (2001), the “suicidal process” refers to the development of suicidality over time, starting with suicide ideation. In general, suicide ideation is “thoughts of serving as the agents of one’s own death” (American Psychiatric Association, 2003; p.3). Suicidal ideation or thoughts range from milder forms that involve general thoughts about death (e. g. believing that it would be easier to be dead) and suicide (e. g., reactions of others if suicide were attempted) to more serious ideation that involves current plans and/or wishes to die by suicide (Reynolds, 1991).

Thus, understanding suicide has a salient clinical, social and therapeutic utility since it is the first stage in the process of suicidality, though all ideators may not indulge in attempted/completed suicide. However, prevention is better than cure.

On the basis of the interpretation and discussion of the results concerning structure of suicide ideation, some implications in the context of the practicality of research findings can be mentioned.

Firstly, suicide ideation is the best possible predictor itself for the further attempt and committing suicide among youth. There is considerable debate in suicide research as to whether suicide prevention efforts should focus on low-risk common factors such as ideation or alternatively high risk factors such as parasuicide or
psychiatric illness (Goldney, 1998; Gunnell & Frankel, 1994). However, the salience of suicide ideation leading to attempted suicide or completed suicide cannot be minimized. Researches have shown that suicide ideation definitely is a risk factor. Suicide ideators are an important group because most suicide and parasuicide have engaged in suicide thoughts prior to their acts (Shneidman, 1996). Suicide ideation is therefore a clinical priority despite the available evidence that many ideators may not engage in over self-harm.

Further, results of the current study clearly reveal differential pattern of correlates of suicide ideation in male and female college students in late adolescence and early adulthood. For males, hopelessness a measure of negative cognition as emphasized in Beck’s cognitive triad emerged as a salient correlate of suicide ideation, while for females, borderline personality disorder referring to high psychoticism as well as neuroticism emerged as a salient correlate of suicide ideation.

Thus, in the context of suicide ideation, the differential role of negative cognition in the context of hopelessness and borderline personality disorder in males and females, respectively have important implications from the viewpoint of therapeutic intervention requiring more focused and targeted interventions.

The findings in the context of suicide ideation among males and females lead to several considerations in regard to intervention and therapeutic approaches. First, a universal intervention designed for all college students, regardless of gender cannot serve as a prevention tool. Second, more focused and targeted interventions may be needed, for males and females to overcome the signs of psychopathology. Third, the intervention must be matched with the needed requirements, for example, for males, with an underlying ineptness schema responsible for suicide ideation, the intervention should aim at the correction of negative schemata, believing to cause cognitive biases, tendencies to process information in certain negative ways. Their tendency of failure to notice or to remember positive feedback about themselves, leading to biased conclusions must be corrected. This can be achieved by making use of a rich array of cognitive behavioral approaches, namely Beck’s cognitive therapy, Ellis’s rational emotive behaviour therapy, mindfulness-based cognitive therapy, and acceptance and commitment therapy. The newer treatment approaches focus on spirituality, values, emotions and acceptance (Hayes, 2004). The persons especially males might be taught that much of the destructive power of emotions lies in the ways we respond to
them cognitively and behaviorally. The use of meditation is useful and beneficial for overcoming cognitive biases. The use of these therapies can help male adolescents to become more aware of their maladaptive thoughts which are major determinant of psychological disorders.

The findings of the current research on females showing the relevance of borderline personality disorder (high psychoticism, high psychoticism) in suicide ideation suggest different type of therapeutic intervention. **In this context, dialectical behavioral therapy (DBT), which combines the client centered empathy and acceptance with cognitive behavioral problem-solving, emotion regulation techniques, and social skills training might be more useful.**

**In DBT, the term dialectical is used in two main ways:**

1) In one sense, it refers to the seemingly opposite strategies that the therapist must use when counseling people with borderline personality disorder—accepting them as they are and yet helping them change.

2) In the other sense, it refers to the patient’s realization that splitting the world into good and bad is not necessary; instead, one can achieve a synthesis of these apparent opposites. For example, instead of seeing a friend as either all bad (thesis) or all good (antithesis), the friend can be seen as having both kinds of qualities (synthesis).

**The therapy involves four stages**

In the first stage, dangerously impulsive behaviours are addressed, with the goal of promoting greater control. In the second stage, the focus is on learning to modulate the extreme emotionality. This phase might involve coaching to help a person learn to tolerate emotional stress. Stage three focus on improving relationships and self-esteem. Stage four is designed to promote acceptance, connectedness and happiness. Clients learn more effective and socially acceptable ways to handle their day-to-day problems, responsible for their high intensity of suicide ideation.

In the context of the utility of DBT, **Linehan and colleagues (1991)** found that client showed less intentional self-injurious behaviour, including fewer suicide attempts; dropped out of treatment less; and spent fewer days in the hospital. The client reported less anger. DBT may help in improving quality of life to cope with suicidal thoughts.


Suggestions for Further Research

A similar more comprehensive study may be conducted on larger non-depressed sample to make more assertive generalization related to suicide ideation among male and female college students. In addition, the role of other variables referring to stress, coping resources and strategies, deliberate self-harm behaviour, substance use disorder, mood disorders and traumatic experiences like sexual abuse, child abuse, financial and social stigmas can also be examined. Further, rural and urban populated can be compared on such variables.

The present study has used self-report measures for different constructs. In order to overcome the limitations of the self-report measures, multiple measures should be employed for measuring any construct. Indeed, it may help to make efficient steps to add more literature in the suicide related researches and to provide a guideline to frame more applicable suicide prevention programmes.

The conclusions drawn from the present study provide a significant landmark to formulate hypothesis and framework to explore more in the field of suicide ideation and similar phenomenon among college students in different regions.