CHAPTER II
Suicide is unique to man. The definition of suicide - conscious behaviour which is intended to result in self murder - requires an ability to conceptualize death which is not possessed by other living creatures. Some animals in their natural habitat do behave in a way which results in their own immediate death. Whales and lemmings for instance, among mammals, and some social insects. Primates kept in stressful captivity have been seen to mutilate themselves fatally, but death does not seem to have been their intention.

Suicide is sometimes viewed as a brave and noble act, the free choice of the free man in a philosophical crisis. These romantic views are sustained by the idealization of suicide often found in literature and on the stage. Such concepts of suicide bear scant relationship to suicide in the real life, which so often takes place in sordid circumstance as the culmination of prolonged, intractable mental illness and disordered social lives. Other opponents of suicide prevention, more pragmatic in their approach, argue that the suicide of the incurable physically or mentally ill should not be obstructed, or even that should be encouraged. This argument is sound for those cases in which every avenue of treatment has been thoroughly pursued, and if there is no hope for eventual recovery.

Going back in time, in the early nineteenth century, attitudes toward suicide were revealing a less moral or theological bias and in the middle of the nineteenth century, opinions with noticeable social and medical overtone were being heard. Medical writers began to have an influence on public opinion about suicide, giving rise to the popular feeling that no decent and respectable person ever takes his life. Medical workers were at that time seeking the psychological causes of suicide and they came to the conclusion that the person who seeks his life was insane. This view intensified existing prejudice against suicide by casting aspersion on the sanity of the entire family. Thus, suicide stigmatized an entire family and its descendents. These prevailing attitudes caused families to avoid any talk of suicide in order to protect the family reputation. Suicide had over the years changed status from a sin to a disgrace and a topic of discussion, a taboo-an-attitude still quite prevalent today.
Thus, in the historical perspective it can be seen that probably there has been no human society or period in recorded history in which the phenomenon of ‘suicidal behaviour’ was non existence (Latha, Bhat, & D’Souza, 1996, p.26). Much has been written on this subject. Suicides are numerous in Shakespeare’s play and the entire romantic theater. Suicide has a place in ethics, history, literature and art. Physician, jurist and theologians are concerned about it. It continues to provoke curiosity, to awaken sentiments of pity and terror and to offer rich, paradoxical material for discussion. Many facets exist which arouse deeper human interest and which the sciences of man have more reason to examine. Though, suicide is ancient, undoubtedly as ancient as humanity, its study did not advance much before the middle of the nineteenth century, when the psychopathology of the individual became an active field of research. Research on the suicide attempts in the past has revealed that the phenomenon has now assumed the properties of the major health problems. There is substantial evidence of the disturbing nature and extent of suicidal behaviour as an epidemiological problem.

Prevalence of Suicide Ideation

Suicide is a significant, worldwide, public health problem among people (Mehlum, 2004; Breton et al., 2002; Pearson, Phillips, He, & Ji, 2002; Pfaff, Acres, & Mckelvey, 2001). Suicide is the third leading cause of death during late adolescent and early adulthood (National Centre for Health Statistics, 2004), and the fifth leading cause of years of potential life lost before age 65 in the United States (National Centre for Injury Prevention and Control, 2005). For young adults attending college, suicide is the second leading cause of death (SPRC, 2004). Risk for suicide ideation is greater than for same age counterparts not attending college (Konick & Gutierrez, 2005), although suicide rate may be slightly lower (Hirsch, Conner, & Duberstein, 2007; Schwartz, 2006).

The literature on suicidal ideation indicates that 14%-33% of the general population reported a lifetime prevalence of suicide thoughts (Pirkis, Burgess, & Dunt, 2000; Gilato & Rai, 1999; Weissman et al., 1999; Claussen, 1998; Gex, Narring, Ferron, & Michaud, 1998; Goldney, Harris, Badri, Michael, & Fisher, 1998; Mehlum, 1998). Suicide ideation is not only prevalent in the general population (Pirkis, Burges, & Dunt, 2000; Mehlum, 1998) but is also an important public health
problem (Barnett, 1986) and a precursor for attempted suicide and suicide (Pirkis, Burgess, & Dunt, 2000; Weissman et al., 1999; Goldney et al., 1998). Among young people in Western countries the lifetime prevalence of suicide ideation ranges from 9%-65% with the rates reported depending on the definition of suicide ideation.

In 2001, a nationwide study in the United States revealed that 9.5% of college students, in the years 1999-2000, had serious thoughts of suicide, and 1.5% reported making a suicide attempt (American College Health Association, 2001). Other studies suggest that as many as 8% to 15% of the college students in United States report acting on their thoughts of suicide (Brener, Hassan, & Barrios, 1999; Bonner & Rich, 1988). Patterns are similar outside the United States; 14.6% of Chinese college students endorsed having suicide ideation in the past year, 2.4% had planned a suicide attempt, and 1.8% had made a suicide attempt (Xu, Xiau, Feng, & Chen, 2004). In Switzerland, 26% of a sample of 15-20 year olds reported suicide ideation, 15% planned an attempt, and 3% had made an attempt (Rey, Narring, Ferron, & Michaud, 1998).

Asian Trend

Although suicide in Asia is widely recognized as a compelling problem, obtaining accurate data on suicide in Asia has proved difficult. In many Asian countries suicide contravenes religious, cultural and legal traditions (suicide is still criminalized in several countries) or is seen as a reflection of poor governance, there is an understandable reluctance to complete and report accurate suicide statistics (Asian Legal Resource Center, 2003).

1. **Malaysia**: Despite the relatively good morality registration in Malaysia, its official statistics on suicide are still regarded as underestimates primarily due to misclassification. Systematically misclassification of medically certified suicide’s as ‘violent death from undetermined cause’ seem to be a primary reported in the drastic drop in Malaysia’s suicide rate starting in 1975. At the same time the ratio of uncertified to certify suicide went up four-fold after 1975 (Maniam, 1995). Non-reporting and under-reporting in predominantly Muslim countries have been attributed to religious, cultural, and legal factors (in Malaysia attempting suicide is illegal) (Khan, 2005)
2. **China:** The official suicide rate for China comes from the National Surveillance of Disease System which includes 145 surveillance sites across the entire country. These surveillance sites are sample based using cluster random sampling. The population surveillance sites represents about 10% of the overall population in China or more than 100 million individuals (Philips, Li, & Zhang, 2002). The statistics from these sample sites are used to calculate the suicide rates for the country (Centre for Chronic Disease Control, China CDC, 1999). Death registration is one of the major components in this system. The surveillance system projected the death rate due to suicide as 13.9/100000 for the year 1999; a higher suicide rate was projected for the rural area (16.8/100000) than the urban area (4.0/100000). With 21% of the world’s population, China has been estimated to account for 30% to 44% of global suicides (Beautrais, 2006).

3. **Sri Lanka:** Although Sri Lanka has a high reported suicide rate, there is still substantial under-reporting. Civil war resulting in large number of refugees is believed to contribute to the suicide rate (Berger, 1988), but has also made it impossible to collect suicide data from the North-Eastern region of Sri Lanka, which is known to have the highest suicide rate in country. Moreover, a large number of deaths from pesticides – the most common method of suicide in the country are misclassified as accidental or as death of undermined cause (Asian Legal Resource Center, 2003).

4. **Pakistan:** In Pakistan, National Suicide Data are not reported but there are published estimates based on police and hospital data: these estimates are considered underestimates by experts who have analyzed them. Pakistan has prevalence of suicide less than 3 per 100000 (Khan & Hyder, 2006).

5. **India:** As per annual report 2010 of National Crime Record Bureau of India, Delhi, more than one lakh persons (1,27,151) in country lost their lives by committing suicide by during the year 2009. West Bengal has the highest numbers of suicides (14,648) accounting for 11.5% of total suicides followed by Andhra Pradesh (14,500), Tamil Nadu (14,328) accounting for 11.4%, 11.3%, 11.2% and 9.6% respectively of the total suicides in the country. These five states together accounted for 55.1% of the total suicide reported in the country. The remaining 46.9% suicides were reported in the rest 28 states and 7 UTs. Uttar Pradesh, the most populous state (16.7% share of population) has reported comparatively lower percentages of suicidal deaths, accounting for only 3.3% of the total suicides reported in the country. The State/UT and city...
wise information on the number of suicides reported its percentage share in the
total suicides and rate of suicide during the year are presented. Delhi has
reported highest number of suicide (1, 477) among UTs, followed by
Pondicherry (518). Seven UTs together accounted for 1.8% of the total
suicides in the country. 35 mega cities on the country, accounted for 10.6% of
the total suicides in the country. 1 suicide was reported from Lakshadweep in
2009 against none in 2008. The States and UTs which has reported significant
increase in suicide in 2009 over 2008 were Uttarakhand (from 191 in 2008 to
342 in 2009 – an increase of 79.1%). Followed by Mizoram (an increase of
68.3%), Meghalaya (31.8%), Jharkhand (22.1%), Daman and Diu (21.1%),
Madhya Pradesh (19.5%) and Chhattisgarh (19.0%) as composed to national
average of 1.7%.

More than one lakh persons (1, 18, 112) in the country lost their lives by
committing suicide during the year 2006. This indicates increase of 3.7 percent over
the previous figure (1, 13, 914). The number of suicide in the country during the
decade (1996-2006) has recorded an increase of 33.9 percent (from 88,241 in 1996 to
1, 18, 112 in 2006). The increase in incidence of suicides was reported each year
during the decade except in 2000 and 2001. The population has increased by 20.2
percent during the decade and the rate of suicides has increased by 10.5 percent. The
rate of suicide has shown a declining trend since 1999 to 2002. A mixed trend was
observed during 2003 to 2006. Following graphical presentation depict rate of suicide
in India from 2000 to 2006.

Figure 1
Rate of Suicide in India

![Graph showing rate of suicide in India from 2000 to 2006]

Source: National Crime Record Bureau, 2010
The states which have witnessed significantly higher cases of suicidal deaths during the year 2007-2009 are presented in the Table 2. Rate of suicides, i.e., the numbers of suicides per lakh population, has been widely accepted as a standard yardstick. These states have accounted for about 10% or more of the total suicides reported in the country.

**Table 2**

*States with Higher Percentage Share of Suicides during 2007-2009*

<table>
<thead>
<tr>
<th>S. No</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Maharashtra (12.4)</td>
<td>West Bengal (11.9)</td>
<td>West Bengal (11.5)</td>
</tr>
<tr>
<td>2</td>
<td>Andhra Pradesh (12.1)</td>
<td>Andhra Pradesh (11.5)</td>
<td>Andhra Pradesh (11.4)</td>
</tr>
<tr>
<td>3</td>
<td>West Bengal (12.1)</td>
<td>Maharashtra (11.5)</td>
<td>Maharashtra (11.3)</td>
</tr>
<tr>
<td>4</td>
<td>Tamil Nadu (11.3)</td>
<td>Tamil Nadu (11.5)</td>
<td>Tamil Nadu (11.2)</td>
</tr>
<tr>
<td>5</td>
<td>Karnataka (10.0)</td>
<td>Karnataka (9.8)</td>
<td>Karnataka (9.6)</td>
</tr>
</tbody>
</table>

Source: National Crime Record Bureau, 2010

All the five states viz. West Bengal, Andhra Pradesh, Tamilnadu, Maharashtra and Karnataka have registered consistently higher numbers of suicidal deaths during the last few years.

According to The Lancet, the British medical journal, south India accounts for the world's largest number of suicides by young people. The study conducted by the Vellore-based Christian Medical College on teenagers in Tamil Nadu, especially in the Vellore region, also found that the average suicide rate for women is as high as 148 per 100,000, and 58 per 100,000 for men (DakshinaMurthy & Panner Selvam, 2012).

The all India rate of suicides was 10.9 during the year which is marginally higher than 10.8 reported in the year 2008. Pondicherry reported highest rate of suicides (47.2) followed by Sikkim (39.9), Andaman and Nicobar Islands (31.0), Kerala (25.3) and Chhattisgarh (24.4). The details of states/UTs which have recorded higher rate of suicides during 2007-2009 are in the following figure:
Figure 2

Percentage Share of Suicides in States and UTs (2009)

Percentage Share of Suicide in States/UTs during 2009

- Other States 17.8%
- Chhattisgarh 4.6%
- Rajasthan 4.0%
- GUJRAT 4.8%
- Madhya Pradesh 7.2%
- Kerala 6.9%
- Karnataka 9.6%
- Tamilnadu 11.3%
- Maharrastra 11.2%
- Andhra Pradesh 11.4%
- West Bengal 11.5%

Source: National Crime Record Bureau, 2010

Psychological Explanation of Suicide

The physician is no stranger to death. Clearly, a major goal of the practice of medicine is to avert untimely mortality. Therefore, the clinician may be particularly perplexed by patients who willfully want to end their lives. There is no one reason why people decide to kill themselves. Suicide is a complex human behaviour and is the final common pathway for many human problems. The self-destructive act can reflect many motivational determinants-personal and interpersonal, biological, familial, and cultural. For many, it is a response to loss, separation and abandonment. For some young people, it may represent a release from the despair of what seems to be a barren future or the hopelessness of being a victim of child abuse. For others, it may be an impulsive act, experienced as revenge for rejection. For some persons, it may symbolize the desire to be reunited with a lost loved one. Suicide can also be a response to the disordered thinking of psychoses, a toxic state such as drug use, or the cognitive distortions that occur with depressive illness or schizophrenia (Bluementhal, 1988).
Sociocultural Perspective

In 1897, Durkheim (Durkheim, 1951) examined society’s effects on individual behaviour and posited that suicide was the result of society’s influences and control over the individual. In his book Le Suicide, Durkheim formulated four types of suicide. The first, the “altruistic” suicide occurs as a result of society’s expectations of the individual. An example of this would be hara-kiri, where the society’s customs dictate that the honorable action for the individual is to end one’s own life. In the United States, the most frequent form of suicide is the egoistic type, where the individual has poor social supports and few connections to the society. The third category of suicide according to Durkheim’s theory is anomie suicide, where the individuals’ relationship to society is suddenly shattered, such as when a young person is confronted by the law or unexpectedly loses a job. Fatalistic suicides, the fourth type described by Durkheim, occur when individuals lose control over their own destiny (Shneidman, 1979).

Psychiatric Perspective

The risk for suicidal behaviour and suicide is increased with almost every major psychiatric disorder. Psychological explanations of suicide were first developed by Freud. Where, Durkheim conceptualized the explanation of suicide in terms of societies’ influence on the individual. Freud theorized in his work, “Mourning and Melancholia” that suicide represents unconscious – hostility aimed at the introjected (ambivalently viewed) love object; for Freud, suicide was “murder in the 180th degree” (Shneidman, 1979). Other psychoanalysts have extended Freud’s perspective. In 1936, Zilboorg proposed a cultural ethnologic model which suggested that people at highest risk for suicide unconsciously identified with a dead person and wished to be reunited with them. Karl Menninger (1938) in his book “Man against Himself” formulated the psychodynamics of hostility, postulating that the hostile drive in suicide had three components: (1) the wish to kill, (2) the wish to be killed, and (3) the wish to die.

Later work has questioned the observation by Zilboorg (Zilboorg, 1936) that the loss through death of a parent during the patients’ childhood was a significant factor in suicide. Barraclough (1987) found that loss of a parent in childhood was not more frequent in his sample of subjects who had committed suicide than it was in his control group. He did find, however, that the recent death of a parent or spouse had occurred significantly more frequently among the subjects who committed suicide.
In adolescents the factors of parental death and recent object loss tend to merge, since a parent’s death is likely to have been a recent event. In any case, what Zilboorg was observing was the impact of such deaths on his patients, an impact he attributed to the patient’s identification with a dead parent. It is possible that for suicidal patients, even if the frequency of parent death is not extraordinary, its impact is greater, perhaps, because of such identification.

Interpersonal theorists including Sullivan, Horney, and Fromm rejected Freud’s drive theory and stressed the importance of the social and cultural context affecting the individual in understanding suicidal behaviour. Object relations theorists further extended the psychoanalytic explanation of suicide suggesting that suicidal acts represent a developmental failure to negotiate the transition from the symbiotic phase of attachment to mother to the separation/individuation phase (Kohut, 1971). Kohut (1971) suggested that self destructiveness is often precipitated failures that elicit intense feelings of shame. The suffering ego attempts to do away with the self in order to erase the disappointing reality of failure. The products of narcissistic injury (i.e. fragmentation and narcissistic rage) lead to self destructive acts. Kernberg (1970) describes three types of self-destructive patients: (1) the borderline whose self-mutilation is a means of control over inner chaos; (2) the pathologic narcissistic who is at extremely high risk because of grandiosity that is particularly vulnerable to trauma and heightened by aggression; and (3) those patients with psychotic features whose suicide attempts may correspond to autistic fantasies about somatic or psychological transformation.

**Risk Factors in Suicide**

Studies pertaining to youth suicide have demonstrated an important number of risk factors for suicidal behaviour. The risk factors range from a lack of problem-solving skills (Sadowaski & Kelley, 1993), recent life stress (Beautrais, 2003; Sandin, Chorot, Santed, Valiente, & Joiner, 1998; Brent, Kolko, Warkella, & Boylan, 1993), previous suicidal behaviour (Groholt, Ekeberg, Wichstrom, & Haldorsen, 1998; Shaffer, Gould, & Fisher, 1996; Lewinsohn, Rohde, & Seeley, 1994; Spirito et al., 1992), psychiatric problems, especially depression (Brent, Baugher, Bridge, Chen, & Chiappetta, 1999; Groholt et al., 1998; Negron, Piacentini, Graae, Davies, & Shaffer, 1997; Andrews & Lewinsohn, 1992; Swanson, Linskey, Quintero-Slinus, Pumariega, & Holzer, 1992), hopelessness (Marcenko, Fishman, & Frieden, 1999;
Blumenthal, 1990), substance abuse (Gould, Greenberg, Veltirg, & Shaffer, 2003; Gamefski & De Wilde, 1998) and lethality of method (Beautrais, 2003).

Although suicide often appears to be a form of affect regulation in individuals who feel that their lives are out of control, in some cases the dysregulation and the suicide attempt appear to be expressed in an impulsive manner akin to that seen in violent behaviour (Apter et al., 1990; Peterson, Peterson, O’Shanick, & Swann, 1985). The possibility of measuring the use of particular defense mechanisms to differentiate the relative risks of suicidal and violent behaviour is attracting investigators. Pfeffer, Plutchik, Mizruchi and Lipkins (1987) found that introjections and splitting were fundamental defenses in suicidal children, while compensation, projection, and displacement were correlated with assaultive behaviour. Apter et al. (1989) found that repression was correlated with risk of suicide, and projection and denial were correlated with risk of violence, while denial was negatively correlated with risk of suicide. Substantial evidence from psychological autopsy studies of adults (Hagnell, Lanke, & Rorsman, 1981; Robins, 1981) and adolescents’ suicides (Brent et al., 1990; Shaffer, Garland, Gould, Fisher & Trautman, 1988; Shaffii, Carrigen, & Whittinghill, 1985) revealed that most people who commit suicide were suffering from a major psychiatric illness at the time of their death, although only a small percentage were being treated (Shaffii, Steltz-Lenarsky, Derrick, Beckner, & Whittinghill, 1988; Robins, 1981). The risk for suicidal behaviour and suicide is increased with almost every psychiatric disorder: less than 10% of people who kill themselves have no documentable psychiatric illness (Shaffii et al., 1988). Affective disorders followed by alcoholism are the major psychiatric diagnoses associated with suicide (Winkour & Black, 1987; Hangell, Lanke, & Rorsman, 1981). Of the 90% of adult suicide completers with a psychiatric disorder in these studies, 60 to 80% suffered from a major affective illness. A study (Weissman, Klerman, Markowitz, & Ouellette, 1989) reports that 20% of patients with panic disorder and 12% of patients with panic attacks have made suicide attempts. For adolescent populations, between 63-95% of suicide victims suffer from psychiatric illness (Shaffii, Carrign, Whittinghill, & Derrick, 1985), with one study demonstrating that one fifth of the suicide victims had a diagnosis of bipolar disorder (Brent et al., 1988).
Depression and Suicide Ideation

On the basis of psychological autopsy studies, it has been concluded that 30-70% of suicide victims are depressed (Isometsa et al., 1994). The reported prevalence of depression among suicide attempters ranges from 30% to 66% (Ennis, Barnes, Kennedy, & Trachtenberg, 1989). Esposito and associates have reported that mood disorder along with symptom severity were the strongest predictors of suicide ideation (Esposito & Clum, 2002; Pirkis, Burgess, & Dunt, 2000; Weissman et al., 1999).

Research on the broader concept of suicidal behaviour from Africa is sparse as suicide in many countries of Africa is a criminal offence, highly stigmatized and considered a taboo subject, which is not readily discussed in public. Orley reported in 1970 that suicide was rare in Uganda at an estimation of 1-2 per 100,000 inhabitants per annum (Orley, 1970). In his review of psychiatric aspects of sub-Saharan Africa, German estimated that the incidence of suicide attempts in Busoga in eastern Uganda where part of the study was conducted was 8.5 per 100,000 inhabitants (German, 1982), while Okasha and Lotaif estimated the incidence of suicide attempts in Egypt at 38.5 per 100,000 of the population (Okasha & Lotaif, 1979).

The above findings show that the relationship between depression and suicidal acts is a robust one, although not all depressed patients make suicide attempt. In this respect, it has been reported that suicide completers show higher level of suicidal intent than suicide attempters (Brent et al., 1988).

Depression has been strongly related to suicidal behaviour (Spirito, Valeri, Boergers, & Donaldson, 2003). However, there is no consensus as to whether depression is a factor that can differentiate suicidal attempters from ideators. Although Fergusson and Lynskey (1995) found significantly higher rates of mood disorders in adolescent suicide attempters compared to ideators, other studies have reported similar levels of depression for both suicidal groups (Wetzler et al., 1996; Kosky, Silburn, & Zubrick, 1990). As well, substance abuse/dependence seems to be more strongly associated with suicide attempts than with suicide ideations (Gould, King, & Greenwald, 1998).

Handley et al. (2012) conducted an investigation of clinical sample and reported that the diagnostic criteria for lifetime depressive disorder were met by 28% (174) of the sample: 25% (154) had a history of suicidal ideation. Overall, 41% (63) of participants with lifetime suicidal ideation and 34% (16) of participants with a
lifetime suicide attempt had no history of depression. When lifetime depression was controlled for, suicidal ideation was predicted by younger age, being currently unmarried, and lifetime anxiety or post-traumatic stress disorder. Depression is considered a key risk factor for suicidal ideation and history of suicide behaviour, due to high contribution in suicidal population.

It is suggested that mood disorders which leads to suicide ideation, are associated with early childhood victimization including parenting style and household adversities with a substantial independent effect of sexual assault on suicide ideation. It brings motivation for suicide due to depressed mood and prevalent agitation among adolescents (Turner, Finkelhor, Shattuck, & Hamby, 2012)

Hopelessness and Suicide Ideation

Another important factor in suicide is hopelessness. Beck (1963, 1967) contended that specific cognitive factors (e.g., hopelessness and pessimism about the future) are more closely related to suicidal intent than are affective aspects of depression.

Wetzel, Margulies, Davis, and Karam (1980) examined the relationship of hopelessness to suicide ideation in 73 psychiatric inpatients. They found that, although both hopelessness and depression were correlated significantly with suicide ideation, hopelessness accounted for more of suicide ideation’s variance (56% versus 13%) than depression. When depression was partialled out of the correlation between hopelessness and suicide ideation the partial correlation remained significantly high ($r = .72$, $p < .05$). On the other hand, when hopelessness was partialled out of the correlation between depression and suicide ideation, the partial correlation was non-significant ($r = .10$).

A study (Beck, Steer, Kovacs, & Garrison, 1985) of hospitalized patients with suicidal ideation found that after a 5 to 10 year follow up period, 14 of the 207 patients in the study committed suicide. Of all the data collected during hospitalization, only the hopelessness scale and the pessimism item of the Beck Depression Inventory predicted the eventual suicides, correctly identifying 91 percent of the completed suicides. These findings, in conjunction with previous studies showing the relationship between hopelessness and suicidal intent, indicate the importance of the degree of hopelessness as an indicator of long term suicidal risk across psychiatric diagnoses (Beck et al., 1985; Beck, Kovacs, & Weissman, 1979;
Weissman, Beck, & Kovacs, 1979; Beck, Kovaes, & Weissman, 1975; Beck, Resnik, & Lettieri, 1974; Beck et al., 1973; pp. 7-12).

Further, many clinical studies have also supported Beck’s claim showing that the correlation between self-reported depression and suicidal ‘intent’ is due to the influence of hopelessness (Emery, Steer, & Beck, 1981; Wetzel, Margulies, Davis, & Karum, 1980; Weissman, Beck, & Kovaes, 1979; Minkoff, Bergman, Beck, & Beck, 1973). Beck (1986) also described a preliminary study with 1,969 out-patients evaluated between 1978 and 1984 in which a Beck Hopelessness score of 9 or above identified 15 (93.8%) of 16 suiciders.

Petrie and Chamberlain (1983) administered measures of depression, hopelessness, suicidal behaviour, and social desirability to a sample of suicide attempters. They used the Marlowe-Crowne Social Desirability Scale (MCSDS; Crowne & Marlowe, 1964). As in the previous studies, they found a significant correlation between hopelessness and social desirability \((r = -0.30)\). Unlike the previous studies, the correlation between hopelessness and parasuicide did not diminish when social desirability and depression were controlled for. However, the correlation between depression and parasuicide did drop when social desirability was covaried. Petrie and Chamberlain (1983) attributed the discrepancies between their results and Linehan and Nielsen’s (1981) findings to differences between treatment and non-treatment populations.

Cole (1988) examined the relations between hopelessness, depression, social desirability, and parasuicide. Subjects for the study were college undergraduate volunteers at a private Midwestern university. Approximately half \((n = 130)\) were volunteers from undergraduate psychology classes. The others \((n = 125)\) were students seeking therapy at the university psychology clinic. Subjects cited reasons for seeking treatment as emotional/personal (53%), social/interpersonal (27%), family related (26%), academic/career related (19%), and others (15%). All subjects were administered eight questionnaires: three depression inventories, including the Beck Depression Inventory (BDI; Beck, Ward, Mendelsohn, Mock, & Erbaugh, 1961), the Zung Depression Scale (ZDS; Zung, 1965), and the MMPI Depression Subscale (MMPI-D); three social desirability measures, including the ESDS, the MCSES and the MMP1-K subscale; and two measures of hopelessness, including the Beck Hopelessness Scale (BHS) and a five-item questionnaire consisting of the rating scales that Beck et al., (1974) used to validate the Beck Hopelessness Scale.
Hopelessness did relate to parasuicide for the seeking-treatment group, even after controlling for social desirability and depression. However, the hopelessness-parasuicide relation was non-significant for the nontreatment group. These results largely resolve some of the contradictions in the previous literature. For nontreatment samples, Linehan and Nielsen’s (1981) claim was supported: social desirability did account for correlation between hopelessness and parasuicide. For treatment sample however, Petrie and Chamberlain’s (1983) claim was supported that the MCSDS did not account for the hopelessness-social desirability relation. The present research reveals that the different operationalizations of social desirability account for this contradiction.

The practical implications for these findings are noteworthy. With the growing rate of suicide among certain subgroups, psychologists are increasingly concerned with the detection of suicide risk factors. Hopelessness has long been considered one such risk factor, even more than depression. However, in nonclinical samples, self-reported hopelessness has at best a very weak relation to parasuical behaviours. Consequently, clinicians might be well-advised to look elsewhere for suicidal screening instruments.

Mendonca and Holden (1996) investigated the link between hopelessness and suicidal intent for two categories of suicidal thoughts, and the associations of these two categories of thoughts with a range of symptoms were also examined. Ideation items describe the frequency, duration and acceptance of a wish to die were significantly correlated with feelings of hopelessness. However, items reflecting preoccupation with a method of self-harm showed only a weak correlation with hopelessness, although the relationship varied according to diagnosis. That is, this preoccupation was significantly associated with hopelessness for depressed patients, but this was not the case for the personality disorder, anxiety disorder and substance-abuse subgroups. Finally, analyses indicated that the primary predictor of suicidal intent was the patient’s cognitive distortion, not hopelessness. The authors concluded that factors other than hopelessness appear to be relevant for understanding suicidal ideation. In particular, self-reported unusual thinking was found to be the most important predictor of various facets of suicidal intent. The evaluation of cognitive distortion may be an important aspect of the assessment of suicidal ideation and risk.

Van Gastel, Schotte, and Maes (1997) examined the relationships between suicidal ideation or suicidal attempts and severity of depression, presence of
personality disorders, and sociodemographic factors in a population of depressed in-patients. The authors found that suicidal ideation was significantly related to severity of depression. The items with the strongest predictive value for suicidal ideation were hopelessness, depressed mood, feelings of guilt, loss of interest and low self-esteem. These symptoms predicted 43% of the variance in suicidal attempts. Depressed patients with a personality disorder attempted significantly more suicidal attempts and showed more suicidal ideation than depressed patients without personality disorder. No significant correlations were found between suicidal ideation or suicide attempts and gender, marital status, employment status or psychosocial stressors during the previous 6 months.

Lindeman, Laara, Vuori, and Lonnqvist (1997) studied the number of admissions to hospital, reported diagnosis, prevalence of reported depression and contributory causes to death among Finnish physicians, engineers and teachers who attempted and completed suicide between 1986 and 1993. It was found that physicians had more somatic diagnoses than the reference groups, and the prevalence of reported depression was higher among females than males. A minority of the depressed subjects had been admitted to hospital, although depression was observed to be the most prevalent contributory cause of death in all of the groups studied. The physicians used solid or liquid substances, especially barbiturates, as the main method of suicide. The Finnish physicians who died as a result of suicide were similar in many respects to other professionals, at least with regard to reported depression and admissions to hospital. Physicians (especially females) were often depressed, and their depression was not necessarily adequately treated. The number of hospital admissions among female physicians was higher than that among males. These differences appear to increase when only admissions because of depression are taken into account. It is possible that depression in physicians, especially in males, is undertreated in psychiatric hospitals.

**Anxiety and Suicide Ideation**

Anxiety is one of the most common psychological disorders in school-aged children and adolescents worldwide (Costello, Mustillo, Erkanli, Keeler, & Angold, 2003). Anxiety is considered to be a universal phenomenon existing across cultures, although its contexts and manifestations are influenced by cultural beliefs and practices (Guarnaccia, 1997; Kleinman & Good, 1985).
The prevalence rates range from 4.0% to 25.0%, with an average rate of 8.0% (Boyd, Kostanski, Gullone, Ollendick, & Shek, 2000; Bernstein & Borchardt, 1991). Many studies show that between 10% and 20% of young people experience moderate to severe anxiety symptoms. A vast majority (up to 70%) of those who suffer from an anxiety disorder will also experience depressive symptoms. Anxiety disorders will interfere in the young person’s functioning at the academic, social and family level. Adolescents and children with an anxiety disorder are often described as sad, tired and preoccupied. Anxiety can play a significant contributor as risk factor for suicide attempts. These figures could be underestimated since anxiety among a large number of children and adolescents goes undiagnosed owing to the internalized nature of its symptoms (Tomb & Hunter, 2004). Anxiety is associated with substantial negative effects on children’s social, emotional and academic success (Essau, Conradt, & Petermann, 2000). Specific effects include poor social and coping skills, often leading to avoidance of social interactions (Weeks, Coplan, & Kingsbury, 2009; Albano, Chorpita, & Barlow, 2003), loneliness, low self-esteem, perceptions of social rejection, and difficulty in forming friendships (Weeks et al., 2009; Bokhorst, Goossens & De Ruyter, 2001). Importantly, school avoidance, decreased problem-solving abilities, and lower academic achievement have also been noted as consequences (McLoone, Hudson, & Rapee, 2006; Rapee, Kennedy, Ingram, Edwards, & Sweeney, 2005; Donovan & Spence, 2000).

Previous studies concluded that there might be an existence of a sub-group of “anxious-suicidal” youth who are significantly impaired and possibly at high risk for self-harm. Bettes and Walker (1986), using a clinical interview method among 7,828 black children, ranging in age from 11 to 18 years, identified a higher prevalence of anxiety among those who reported suicidal ideation compared with those without suicidal ideation. They also found that the suicidal boys were markedly more anxious than the suicidal girls. Brent and colleagues (1986), using the Diagnostic Interview Schedule for Children (DISC; Costello et al., 1982), identified high levels of anxiety among suicidal children and adolescents, ranging in age from 6 to 18 years, who had been referred for an outpatient evaluation. In contrast, in a community study, Lewinsohn et al. (1993) found that past history of suicidal attempts among adolescents was not associated with presence of anxiety. Similarly, Khan (1987) did not found significant differences on Axis I and Axis II disorders among hospitalized suicidal and non-suicidal adolescents. However, the group comparisons were limited.
to DSM-III syndromes and did not examine the role of symptoms, therefore possibly missing anxiety and other symptoms associated with suicidal behaviours. Review of the above studies suggests that, first, there is inadequate data with regard to the role of anxiety among suicidal adolescents with the current data largely derived from relationship between adult and pre-adolescent literature; second, the role of anxiety as a symptom is relatively less well explored compared with syndromes of anxiety; and third, understanding the role of anxiety, a common symptom in clinical practice, would improve the evaluation of suicidal youth (Ghaziuddin, King, Naylor, & Ghaziuddin, 2000).

Carter et al. (2008) suggested that the psychological tools matter when examining the relations between anxiety and suicide-related behaviours. Existing research suggests that associations between anxiety and suicidal outcomes are most likely to be detected using measures of stable, trait-like anxiety rather than measures of transient, state anxiety (Goldston et al., 1999; Ohring et al., 1996). It is further emphasized by Carter et al. (2008) that these authors compared two mediational models of anxiety, depression, and suicidal ideation in a cross-sectional study, where depression was theorized to mediate the influence of anxiety on suicidal ideation. In the first model, dimensional depression and anxiety inventories were used. In the second model, overlapping items were removed from each inventory, so that the depression scale did not include any anxiety related items and vice versa. Results showed that anxiety was an independent predictor of suicidal ideation (partial, compared to full, mediation) only when overlapping items were removed from the two scales. This suggests that measurement issues may be confounding the relationship between anxiety and suicidal ideation even when depression is statistically controlled. None of the other studies cited in this review adjusted for item overlap in measures of depression and anxiety. Future research must consider overlap between anxiety- and depression related measures. Failing to consider overlapping item content may lead to inappropriately stringent statistical controls, masking the true relationship between anxiety and suicide-related behaviours (Hill, Castellanos, & Pettit, 2011).

The literature on anxiety and suicide ideation and suicidal behaviour is less explored by the researchers and it is prerequisite to investigate the relationship of anxiety sensitivity with suicidal behaviour despite other potential correlates.
Family Environment and Suicide Ideation

An important contribution to this knowledge was made through the implementation of psychological autopsy studies. The psychological autopsy approach is the most informative method of studying the causes of suicide (Hawton et al., 1998; Marttunen, Aro, & Lonnqvist, 1993).

Psychological autopsy studies* consist of semi-structured interviews with relatives, friends and other possible informant of the deceased to obtain all available information and to reconstruct a life history for that person (Beautrais, 2000).

Psychiatric characteristics have always been the main focus of attention in autopsy studies. Previous studies have consistently found a high prevalence of psychiatric disorders in adolescents and adult persons, which demonstrates the substantial significance of psychiatric disorders on the pathway to suicide. The most common psychiatric disorders have been affective disorders and substance abuse.

The relationship between psychosocial effects and suicide has received less attention in psychological autopsy studies, but Gould et al. (1996) showed a significant impact of psychosocial factors on suicide risk, and stated that the effect of psychosocial factors is comparable with that of psychiatric disorders. Psychosocial risk factors include adverse life events, personal relationships and familial characteristics such as a family history of depression, substance abuse and parent-child discord (Gould, Fisher, Parides, Flory, & Shaffer, 1996).

Other identified risk factors include: being unmarried or divorced/separated (Barnett, 1986; Beck, Kovacs, Weissman, 1979), being unemployed (Pirkis, Burgess, & Dunt, 2000; Claussen 1998; Hintikka et al., 1998), inability to meet one’s financial obligations (Hintikka, et al., 1998) and being disabled (Pirkis, Burgess, & Dunt, 2000). Adverse life events appear to be characteristic precursors of suicide attempts and suicide ideation (Mehlum, 1998).

A variety of family difficulties such as abuse, negligence, physical violence and incest have been reported to play an important role in the development of suicidal

*Psychological autopsy studies have been carried out in several countries such as Sweden (Runeson, Beckom, & Waern, 1996), Finland (Henriksson et al., 1993), Scotland (Cavanagh, Carson, Sharpe, Laurie, 2003), the US (Schaffer et al., 1996; Brent, 1999), Taiwan (Cheng, Chen, Chen, & Jenkins, 2000), New Zealand (Cavanagh, Owens, & Johnstone, 1999), and the UK (Houston, Hawton, & Shepherd, 2001), thus providing global information about possible risk factors for suicide.
behaviour in youth (Garland & Zigler, 1993; Miller, King, Shain & Naylor, 1992; Spirito, Brown, Overhosler & Fritz, 1989). In addition, family dysfunction (Adams, Overhosler, & Lehnert, 1994), parental control, the lack of parental social support (De Man, Labreche-Gauthier, & Leduc, 1992), and interpersonal conflict with parents (Brent, Kolk, Wartella & Boylan, 1993) have been reported in suicidal adolescents.

Studies have found that young persons who attempt suicide compared to ideators reported more chronic family discord (Spirito, Valeri, Boergers, & Donaldson, 2003; Kosky, Silburn, & Zubrick, 1990), adjustment problems (Fergusson & Lynskey, 1995; Dubow, Kausch, Blum, & Reed, 1989) and experienced more negative life events and less family support (Dubow et al., 1989). In a study of 1050 adolescents from grades 7 through 12, Wagner, Cole and Schwartzman (1995) examined psychosocial factors between adolescents reporting a history of suicide attempts and those reporting high levels of depressive mood or suicidal ideation. They found that attempters compared to depressed/suicidal ideators reported more frequent daily stress, had run away from home, lived without either biological parent, had been physically hurt by their parents, and are more likely to know someone who committed suicide.

In a study of a birth cohort of 16-year-old New Zealanders, Fergusson and Lynskey (1995) found that suicide attempters compared to ideators had higher exposure to psychosocial risk factors such as psychiatric disorder, adjustment problems, and adverse childhood circumstances. These findings were consistent with a previous study suggesting that the risk of making a suicide attempt is proportional to the number of risk factors (Lewinsohn, Rohde, & Seeley, 1994).

Some reports suggest that exposure to family stress is a risk factor for suicidal ideation (Dubow et al., 1989). Others claim that the adjustment to family stress and not the exposure itself predicts suicidal ideation (Warheit, Zimmerman, Khoury, Vega, & Gill, 1996; De Man & Leduc, 1995). Among the expressions of adjustment difficulties that predict suicidal ideation in adolescents are depression (De Man & Leduc, 1995), anxiety (Reynolds, 1991), stress reactions (Warheit et al., 1996), helplessness (Overholser, Adams, Lehnert, & Brinkman, 1995), physical symptoms (Jin & Zhang, 1998; Dubow et al., 1989) and perceived health (De Mann & Leduc, 1995).
Neuropsychological Functioning

Over all poor cognitive functioning is significantly associated with the presence of a death wish and suicidal ideation (Dombrovski et al., 2008; Ayalon, Mackin, Arean, Chen, & McDonel Herr, 2007), although this link might be mediated by depression and/or hopelessness (Heisel, Flett, & Besser, 2002). Global lower cognitive functioning was found to be associated with lower levels of planning in a sample of depressed suicide attempters (Conner et al., 2007) but not with the degree of lethality of suicide attempt (Dombrovski et al., 2008). With regard to specific cognitive functions, depressed suicide attempters were found to have lower capacities of mental sequencing and lower flexibility compared with depressed non-attempters (King et al., 2000); depressed suicidal people were found to perform purely on executive functioning (Dombrovski et al., 2008), although executive function was not found to be associated with severity of suicidal ideation (Belderbos & Shah, 2003), and people with a death wish were more impaired on a time orientation task (Ayalon & Litwin, 2009).

Parental Suicide and Offspring Suicide

Childhood exposure to severe parental psychiatric problems such as suicidal behaviour, mental illness and substance abuse increases the risk of suicide later in life (Dube et al., 2001). Evidence from family, twin and adoption studies supports the hypothesis that genetic factors contribute to this risk (Brent & Mann, 2005; Baldessarini & Hennen, 2004). Other studies demonstrate that childhood environmental adversities-such as sexual abuse, foster care, parental divorce and lone parenthood- also elevate the risk for suicidal behaviour in adult life (Fergusson et al., 2007; Vinnerljung, Hjern. & Lindblad, 2006; Dong et al., 2005; Hjem, Vinnerljung, & Lindblad, 2004; Dube et al., 2001, 2003).

Parental suicide may be linked to offspring suicide in both ways. The risk is partly heritable (Brent & Mann, 2003) and various mechanisms have been suggested. The seemingly self-evident way via psychiatric illness most probably explains only a minor part of heritability (Brent & Mann, 2005). However early onset major depression is one subtype of depression associated with an increased risk of suicide (Thompson, 2008) that has a well established heritability (Lyons et al., 1998). Studies based on endophenotypes- internal phenotypes between gene and disease (Gottesman & Gould, 2003) - constitute a promising approach for identifying relevant genetic
mechanisms. For instance, impulsive-aggressive traits, neurocognitive prerequisites and hypothalamic-pituitary-adrenal axis dysfunction all seem to be associated with suicide (Mann et al., 2009). The strongest evidence for specific genes involved in suicidal behaviour concerns serotonin transport and tryptophan hydroxylase (Roy, Hu, Janal, & Goldman, 2007).

Parental suicide also means a painful loss for the survivors and the environmental conditions may be changed dramatically for the afflicted child. Hypothetically, a parental suicide may inspire suicidal behaviour in the offspring even if there is a little empirical support for such mechanisms (Burke et al., 2010). However, few attempts have been made to test this hypothesis in population data of mortal suicidal behaviour.

Danish National Register (DNR) studies have reported inconclusive results about parental psychiatric illness and offspring suicide, one with no significantly increased suicide in study group followed up until middle adult life (Sorensen et al., 2009) and two with increased suicide risk in adolescents and young adults (Stenager & Qin 2008; Qin, Agerbo, & Mortensen, 2002). Any influence of a parental psychiatric disorder is dependent on the course and timing of the disorder and may be mediated in many ways in the family sphere (Goodman & Gotlib, 1999). The health of the other parent as well as the involvement of this parent with the child will moderate the risks (Goodman & Gotlib, 1999), illustrating the dilemma of the lone parent family. The quality of the relationship between the child and the parent in focus is one potential mediator. In an experimental study using a problem solving task design, mothers with current depressive symptoms displayed a low level of positivity towards their child (Mean age 11.9 years) and a high level of negativity, which in turn was related to externalizing problems in the child (Foster, Garber, & Durlak. 2008).

Psychiatric disorders in parents also have environmental consequences, for instance, by a downwards social drift of the living conditions of the household which in turn may influence suicide risk (Agerbo, 2007). Goldberg even proposes that social drifts may extend over several generations through hereditary factors (Timms, 1998; Goldberg & Morrison, 1963).

Most previous studies have reported an association between parental substance abuse and offspring suicide (Christoffersen & Soothill, 2003; Brent et al., 1994). One case-control study of young (<20 years of age) suicide victims is an exception, demonstrating no such association (Gould et al., 1996). Studies of genetic influence
have not been conclusive. A genetic polymorphism associated with suicide and alcoholism has been described (Nielsen et al., 1998). In a children-of-twins study, Glowinski et al., (2004) found a relationship between paternal alcoholism and suicidal behaviour in the offspring, but their data did not support a purely genetic relationship. They concluded that without a high-risk environment, even a group at high or intermediate genetic risk was not at higher risk for suicide attempts than group with low genetic risk. Parental alcohol abuse is also associated with - and may indeed be a causal agent for - various forms of environmental adversity such as abuse and neglect (Lieberman, 2000; Johnson & Leff, 1999; Kelleher, Chaffin, Hollenberg, & Fischer, 1994) which in turn influence the risk of suicide (Christoffersen & Soothill, 2003).

Two methodological approaches are suitable for estimating the strength of genetic versus environmental factors: twin and adoption studies. In several twin studies a greater concordance for both suicide and suicide attempts in monozygotic than in dizygotic twins has been demonstrated (Chao, Chazdon, Colwell, & Shen, 2006; Statham et al., 1998; Roy et al., 1991, 1995). Adoption studies offer even better possibilities to separate genetic from environmental effects. Adopted children who are separated from their biological parents at birth or shortly afterwards share their genes but, with exception of intra-uterine influence during the usually short period before adoption, not the environmental effects of a parental suicide or a parental psychiatric disorder. So far two landmark adoption studies have addressed the topic of familial factors and suicide, both using a retrospective case-control design (Wender et al., 1986; Schulsinger, Kety, Rosenthal, & Wender, 1979). Wender et al., (1986) carried out an adoption study of affective disorders. They identified a 15-fold increased risk of suicide among family members in biological families of 71 national adoptees with affective disorder, compared with biological family members of 71 healthy adoptee controls. In a study of 57 adoptee suicides from the same Danish adoption registry, Schulsinger et al., (1979) found a six-fold elevated rate of suicide in the biological relatives of adoptees that had committed suicide compared with relatives of non-suicidal adoptee controls.

Cognitive Rigidity and Suicidal Behaviour

Cognitive rigidity has been defined as a rigid style of perceiving and reacting to the environment that render it difficult for a suicidal individual to formulate alternative approaches to problem (Patsiokas, Clum, & Luscomb, 1979). Cognitive
rigidity is also viewed as the relative inability to identify problems and associated solutions (Schotte & Clum, 1987). Earlier research studies has documented that suicide attempters are more cognitively rigid than non suicidal individuals (Goodstein, 1982; Neuringer, 1968; Shneidman & Farberow, 1976). For instance, Neuringer (1964) hypothesized that suicidal individuals would evidence rigid thinking to a greater degree than would other emotionally disturbed individuals and normals. Cognitive rigidity was measured by the California F Scale, a measure of the disposition to think in rigid categories, and the Rokeach Map Test, a measure to test ability to generate alternative solutions in finding the shortest route between point A and B on a street map. Results indicated that suicidal subjects manifested significantly more rigid thinking than did other emotionally disturbed individuals and normals. Neuringer (1964) concluded that the cognitive rigidity hypothesis has some value in the assessment of suicidality. Although the results of subsequent studies have been equivocal, most studies support the observation that cognitive rigidity may be characteristic of suicidal individuals who seem to have a decreased ability to alter or adapt their thinking and behaviour choices relevant to environmental demands, or to generate alternative solutions to perceived problems (Bartfai, Winborg, Nordstrom, & Asberg, 1990; Arffa, 1983). Whether cognitive rigidity is a personality trait of suicide attempters or a transient characteristic present only during the crisis period is an unresolved issue. Linehan, Camper, Chiles, Strosahl, and Shearin (1987) investigated whether measures of problem-solving, assertiveness, and suicidal behaviour could differentiate suicidal from nonsuicidal psychiatric patients and suicide ideators from parasuicides (i.e., "deliberate, self-inflicted injury often labeled suicide attempt").

One interactional model that has been used in suicide research is the Diathesis-Stress Hopelessness Model in which cognitive rigidity is the focal diathesis (Schotte, Cools, & Payvar, 1990; Schotte & Clum, 1987). Diathesis refers to a constitutional disposition, or predisposition, to a potential disease condition. According to this model, when individuals with deficits in alternative or divergent thinking and problem-solving encounter naturally occurring conditions of high life stress, these individuals are cognitively unprepared to formulate effective alternative solutions to cope with the experienced stressors. As a result, they feel helpless or hopeless in their situation, and are thus at increased risk for suicidal behaviour. Beck et al. (1985) postulate that the cognitive factors are more central to depression and problem-solving than are emotional factors. For instance, in suicidal patients, recurring themes
of negative self-evaluation, self-blame, expectations of future incompetence, and hopelessness about one's own self, world, and future may result in a pervasive, rigid cognitive style.

Schotte and Clum (1982) examined a model of suicidal behaviour with 65 undergraduate suicide ideators and reported that participants who were under higher levels of negative life stress, were more hopeless, and had higher levels of depression than their nonideating peers. Although no relationship was observed between suicide ideation and cognitive rigidity or between suicide intent and cognitive rigidity, poor problem-solvers under high stress were found to be significantly higher on suicide intent than any other group. Results support a stress/problem-solving model of suicidal behaviour in which poor problem-solvers under high life stress are considered to be at risk for depression, hopelessness, and suicidal behaviour. Baumeister's (1990) escape theory of suicide posited that suicidal behaviour is the end stage of a chain of events and decisions beginning with perceptions of failure to meet rigid self-strivings. These negative self-perceptions can lead to painful self-awareness and might foment a state of "cognitive deconstruction (constricted temporal focus, concrete thinking, immediate or proximal goals, cognitive rigidity, and rejection of meaning)" initiated in an attempt to escape from painful cognitions (Baumeister, 1990). This state of cognitive deconstruction might then engender irrational thinking, leading to a disinhibition of self-destructive tendencies. The theory also mention about the role of cognitive rigidity as a predictor of suicidal behaviour.

Longitudinal measures of cognitive characteristics, including cognitive rigidity, problem-solving deficits, and dichotomous thinking are needed in various populations, including persons who manifest suicidal ideation. Patients who were beyond the crisis of their suicide attempt showed less cognitive rigidity than did attempters who were hospitalized and still in crisis (Perrah & Wichman, 1987). So, manifestations of cognitive rigidity may differ at different times for different people. Because hopelessness seems to be positively associated with suicidal ideation and intent, the behavioural manifestations of hopelessness should be further investigated.

Those who are suicidal also may present with cognitive rigidity and dichotomous, or all-or-nothing, thinking (Weishaar, 2000; Shneidman, 1996; Bonner & Rich, 1988; Ellis, 1986; Neuringer & Lettieri, 1971). Dichotomous thinking has been conceptualized as a form of cognitive rigidity (Weishaar, 2000). These two constructs are involved in the problem-solving process, as rigid thoughts and
dichotomous thinking impair abilities to form alternative solutions, and deficits in these two domains may account for the noted problem-solving difficulties in suicidal people (Ellis, 1986). As individuals become increasingly upset, they begin to move into more and more rigid dichotomous thinking and eventually view suicide as the only option to escape their subjective pain (Shneidman, 1987). This becomes a vicious cycle as cognitive rigidity and dichotomous thinking deficits lead to poor problem solving and associated distress, and the distress exacerbates the rigid and dichotomous thinking. There is empirical support that cognitive rigidity and dichotomous thinking play a role in suicidal thoughts and behaviours. Individuals in a high suicide-risk group evaluated life and death more extremely and displayed more dichotomous thinking in comparison to those with lower risk (Neuringer & Lettieri, 1971). In a different study, suicidal adolescents continued to use ineffective problem solving strategies even after more effective strategies were presented, indicating higher levels of rigidity and its importance in problem-solving deficits (Levenson & Neuringer, 1971). These two studies support the fact that rigidity and dichotomous thinking are two additional cognitive factors or causes for suicidal thoughts and behaviours.

Cognitive rigidity and dichotomous thinking play a significant role in suicide ideation and self-destructive methods. These aspects of self-destructive behaviour have mostly been observed in clinical settings (Shneidman, 1985), but there are also some empirical studies that have provided evidence for the existence of these features in suicidal individuals. Suicidal individuals have been found to be rigid in their personality structure, cognition, self-definition and behaviour (Duberstein, 1995; Clark & Fawcett, 1992; Ellis, 1962). Similarly, Eliason (2001) compared psychiatric suicide attempters and non-attempters. The attempters were found to have much more rigid personalities and rigid cognitions than the former. Gil (2003) also found that rigidity and impulsivity were two of the five factors that explained suicidal ideation among psychiatric patients.

The literature on cognitive function and suicidal ideation is limited and the majority of research has focused on suicidal acts. It has been maintained that suicidal individuals suffer from cognitive rigidity that leads them to believe that suicide is their only option. This hypothesis has received support in several studies that found a link between cognitive functioning and suicide ideation or attempts (Ayalon et al., 2007; Jollant et al., 2005; Kellip et al., 2001; King et al., 2000). It was further argued
that individuals who were presented with limited problem solving ability are also more likely to report a sense of hopelessness and dysphoria and, as a result, resort to suicidal ideation and attempts (Heisel et al., 2002; Dixon et al., 1994; Schotte et al., 1990; Schotte & Clum, 1987). However, other studies have found no such relationship between cognitive functioning and suicidality (Potkin, Anand, Alphs, & Fleming, 2003; Ellis, Berg, & Franzen, 1992).

With regard to sensitivity to life events, early studies focused on the hypothesis that a generalized cognitive rigidity mediates the relationship between stressful life events and suicidal behaviour. However, more recent findings are consistent with the possibility that among people with depression those who attempt suicide differ from those who do not on some but not all neuropsychological tests (King et al., 2000). Using a modified Stroop task, Becker, Strohbach, and Rinck (1999) found that the level of suicidal ideation in people with depression correlated particularly with biases in selective attention.

Suicidal ideation may not always be a function of hopelessness but other psychological processes such as cognitive distortion and/or deficit (Weishaar, 1996; Beck & Weishaar, 1995). Lending support to this view, cognitive distortion rather than hopelessness has been found to be a primary predictor of suicidal intent (Mendonca & Holden, 1996), and cognitive rigidity has been found to moderate the relationship between personality and affective variables, and suicidal ideation. Hopelessness has been found to be a correlate of suicidal ideation only for cognitively rigid participants (Upmanyu, Narula, & Moein, 1995). Some researchers view suicidal behaviour primarily as a function of poor social problem-solving as well as cognitive distortion. We speculate that poor problem-solving, particularly problem orientation deficits may also play a part in help-negation in non-clinical samples. Levenson and Neuringer (1971) examined components of the social problem-solving process in suicidal adolescents and found they persisted with ineffective solutions even when a more effective strategy was offered. The researcher suggested this effect could be a function of cognitive rigidity or the dichotomous thinking characteristic of suicidal persons.

Efforts to understand and prevent suicidal behaviour have led clinical investigators to examine the cognitive styles and capabilities of suicidal individuals. Following the work of Aaron Beck and colleagues (Beck et al., 1979) some investigators focused on cognitive “distortions” or “schemas” that might cause or
perpetuate depression and suicidal behaviour (Holden, Mendonca, & Serin, 1989; Prezant & Neimeyer, 1988) Another popular model proposed that “cognitive rigidity” mediates the relationship between stressful life events and suicidal behaviour (Schotte & Clum, 1987; Perrah & Wichman, 1987; Clum, Patsiokas, & Luscomb, 1979; Patsiokas, Clum, & Luscomb, 1979). According to this view, individuals become suicidal in the midst of stressful life circumstances because of a rigid style of perceiving and reacting to the environment that makes it difficult to formulate alternative solutions to problems. “Cognitive rigidity” has been operationalized and assessed in a variety of ways, involving personality, interpersonal problem-solving or neuropsychological constructs. Personality theorists have found that individuals categorized as rigid (Neuringer, 1964) or less open to experience (Duberstein, 1995) on standardized inventories were more prone to suicidal behaviour.

In adolescents, exposure to stressful events is the most important mediator between mental disorder vulnerability and suicidal behaviour (Fergusson, Woodward, & Horwood, 2000; Lester, 1995). Some of the most reported motivations for adolescents’ attempting suicide are the desire to end a certain state of mind and to escape from a painful situation (Lester, 1995). Some kind of cognitive rigidity is often reported by people considering suicide as a solution for their difficulties. A too rigid style of cognition, indeed, could reduce coping strengths: impaired problem-solving ability proved an important variable in the risk of suicide (Orbach, Mikulincer, Blumenson, Mester, & Stein, 1999; D’Zurilla, Chang, Nottingham, & Faccini, 1998; Pollock & Williams, 2004). On the other hand, those who concentrate on their own inner emotional world are also more likely to ruminate on life events. So it cannot be excluded that the subjects who are more able to phase out of their minds annoying and/or sad feelings through denial and self deception about current problems might be less exposed to feelings of hopelessness and suicide ideation. Self deception would somehow protect the subject from a negative view of him/her and of the situation, allowing a more optimistic evaluation of future prospects. The adolescents who have negative self-regard, indeed, seem more at risk of self-harm (Hawton, Rodham, Evans, & Weatherall, 2002).

Working on similar lines, Schotte and Clum (1982) conducted a study to examine the proposed diathesis stress model (Patsiokas, Clum, & Luscomb, 1979) of suicidal behaviour in college-aged suicide ideators, since Patsiokas et al. (1979)
investigation was concerned with suicide attempters. More specifically, the study explored a model of suicide behaviour asserting that when individuals who are cognitively rigid are placed under condition of high stress they are likely to become hopeless and, consequently, to engage in suicide behaviour. Additionally, it examined individual elements of this model in terms of their ability to differentiate between suicide ideators and non ideators in college population.

A total of 175 students (87 men, 88 women) enrolled in introductory psychology at Virginia Polytechnic Institute and State University volunteered for this study. A packet containing the following measures was given to each of the students: the Life Experiences Survey (Sarason, Johnson, & Siegel, 1978), a self-report adaptation of the Scale for Suicide Ideation (Beck et al., 1979); the Alternate Uses Test (Wilson, Christensen, Merrifield, & Guilford, 1975); the Means-End-Problem-Solving Procedure (Platt et al., 1971); the Hopelessness Scale (Beck et al., 1974); and the Zung (1965) Self-Rating Depression Scale. Results indicated that college-student suicide ideators are under higher levels of negative life stress, are more hopeless, and have higher levels of depression than their nonideating peers. Although no relationship was observed between suicide ideation and cognitive rigidity or suicide intent and cognitive rigidity, poor problem solvers under high stress were found to be significantly higher on suicide intent than any other group. Clearly, these findings suggest that problem-solving deficits may play a role in the development of suicide ideation and intent but that the role of problem-solving might lead to feelings of hopelessness, which in turn result in the development of suicide ideation and intent. The results were interpreted as offering support for a stress problem-solving model of suicidal behaviour in which poor problem-solvers under high life stress are considered to be at risk for depression, hopelessness, and suicidal behaviour.

These discussions, in conjunction with the findings of empirical researches led these investigators (Schotte & Clum, 1982; Patsiokas et al., 1979) to propose a diathesis-model of suicidal behaviour, whereby cognitive rigidity (i.e., a relative inability to identify problems and their solutions) mediates the relation between life stress and suicidal behaviour. Specifically, according to this model, individual deficient in the capacity for flexible divergent thinking, when placed under naturally occurring conditions of high life stress, are cognitively unprepared to develop the effective alternative solution necessary for adaptive coping. As a result of their
inability to engage in effective problem solving, they are assumed to become hopeless under such circumstances (Neuringer, 1974). This state of hopelessness places the individual at heightened risk for suicidal behaviour.

Schotte and Clum (1987) extended previous research through an investigation of life stress, cognitive rigidity, interpersonal problem-solving skills, depression, and hopelessness within a sample of hospitalized psychiatric patients (72 males, 28 female) on suicidal observation status. More specifically, diathesis-stress model of suicidal behaviour was subjected to further evaluation in a sample of hospitalized suicidal psychiatric patients who had greater levels of suicide intent than did the college students studied by them in previous research (Schotte & Clum, 1982). The results provided support for a diathesis-stress model of suicidal behaviour. The findings, however, were not completely straightforward. Interestingly, although hopelessness was found to be an excellent predictor of the level of suicide intent, as it has been in previous research (Schotte & Clum, 1982; Wetzel, 1976; Minkoff et al., 1973), correlations between the degree of hopelessness and measures of interpersonal problem-solving skills were generally nonsignificant. Thus scores on this measure appear to reflect not hopelessness arising from deficits in interpersonal problem-solving, but rather a maladaptive general orientation or set toward problems. The authors concluded that this observation lends credence to Beck, Rush, Shaw, and Emery’s (1979) admonition that both difficulties in generating potential solutions to interpersonal problems and hopelessness must be dealt with in the treatment of suicidal patients. Another investigation (Froyd & Perry, 1985) examined how each of two factors, coronary-prone behaviour and locus of control, are related to suicidal ideation in a college population. 43 students (23 men and 20 women) completed the Jenkins-Glass College Activity Survey, Rotter’s Internal-External Locus of Control Scale, and a self-assessment questionnaire of suicidal ideation. The results supported the hypothesis that external locus of control correlates with suicidal ideation. The second hypothesis, that type B men would have greater suicidal ideation, was not confirmed.

Upon the occurrence of a suicide attempt, intervention strategies can be planned by mental health professionals to focus upon enhancing the coping and personal resources of youth. Research has revealed that hopelessness, problem-solving deficits, black-and-white thinking, cognitive rigidity, and the acceptance of suicide as a desirable solution are common cognitive characteristics of suicidal adolescents.
Some additional perspectives on the roots of suicide include the fact that self-destructive behaviours can be traced to prior learning, including the social cognition view that we can learn indirectly by observing others’ actions and their consequences, including in symbolic form, as through literature, film, or television. Contemporary psychiatrist Bruce Bongar points out in his book *The Suicide Patient: Clinical and Legal Standards of Care* that “suicidal individuals have unique cognitive characteristics, that is, cognitive rigidity, dichotomous thinking, impaired problem-solving ability, hopelessness, irrational beliefs, and dysfunctional attitudes.” The American researcher and clinician, Menninger, regarded suicide as including a “peculiar death that entails three internal elements: the element of dying, the element of killing, and the element of being killed.”

**Affective Dysregulation and Suicidal Behaviour**

The successful accomplishment of the developmental tasks of childhood and adolescence requires affect regulation, and the ability to regulate their emotions as well as their behaviour translates into physical and mental health for adolescents. Having a glance at what can happen when age-appropriate emotion regulation has not been achieved will indicate the significance of emotion regulation in work with children and adolescents. The failure to regulate emotion is called dysregulation. When temporary, it can evoke symptoms of anxiety, accompanied with intense discomfort, poorly controlled behaviour, or withdrawal. If poor regulation is fairly constant, it can be manifested in the disorders we observe in some children (Dodge & Garber, 1991). Dysregulated emotion is intertwined with many of the psychological disorders we identify in young people; in fact, according to Gross (1998), it is implicated in many of the disorders described in the Diagnostic and Statistical Manual of the American Psychiatric Association (DSM). It is involved in more than half of the DSM-IV Axis I disorders and in the entire Axis II disorders and it has been called a hallmark of psychopathology (Beauchaine, Gatzke-Kopp, & Mead, 2007).

Affective dysregulation is a core aspect of most of the forms of psychopathology, and that close social relationships provide a context for affective development and regulation. There has been an increased interest in the role of affect, its regulation and dysregulation as related to different forms of psychopathology, with a range of studies showing associations between affect regulation deficits and diverse mental health problems (Gratz & Roemer, 2004). At the same time, many studies
have shown that the parent-child relationship may undergird as well as undermine the development of adaptive affect regulation (Morris, Silk, Steinberg, Myers, & Robinson, 2007). Despite a generally increasing interest in the sources and consequences of affect dysregulation, there is a relative lack of studies on affective dysregulation focusing on adolescence, which is regrettable, given that adolescence is a time of important developmental changes regarding social relationships, affective experiences, and prevalence of several forms of psychopathology as well. Affective dysregulation is marked by an inability to regulate emotions appropriately and susceptibility to irritability and negative affect (Mezzich et al., 2001). According to Plattner et al. (2007), in stressful situations, affectively dysregulated individuals 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. A few prior studies suggest an association between affective dysregulation and suicide risk (Tarter et al., 2004; Mezzich et al., 1997). However, most prior research on affective dysregulation has focused on adolescents, especially delinquent and clinical populations, and therefore little is known about the correlates of affective dysregulation among college students or young adults in general.

Arria et al. (2009) compared students with and without suicide ideation on each item of the Affective Dysregulation subscale. Interestingly, all but three items are significantly different between the groups (p > .05), and some items exhibit particularly large differences. In general, it appears that items relating to an inability to control one’s anger or depressed mood are observed much more frequently in students with suicide ideation. Suicide ideation among students is associated with affective dysregulation, independent of depressive symptoms, social support, and other factors. These findings have important implications for designing more comprehensive screening and assessment tools for suicide risk. Whereas suicidality is commonly associated with internalizing symptoms such as depression, affective dysregulation is usually marked by externalizing symptoms such as aggression and anger. Therefore, the finding that both high depressive symptoms and dysregulation are both associated with suicide ideation may reflect heterogeneity in the mechanisms that lead to suicide ideation.

It is found that chronic victims, according to child and teacher report, were at heightened risk for suicide ideation and suicidal/self-injurious behaviour during late childhood. Repeated exposure to bullying may have physiological repercussions.
exacerbating an already vulnerable stress response, (Ouellet-Morin et al., 2011) leading to further affective dysregulation and impulsivity. Thus, engaging in suicide ideation (Spirito, Valeri, Boergers, & Donaldson, 2003) or self-injurious/suicidal behaviours (Kemperman, Russ, & Shearin, 1997) may reflect maladaptive coping strategies, in response to increases in dysregulation.

Patterns of affect regulation that strongly interfere with competence can become symptoms of a disorder. They can also place a student at risk for developing a disorder or for having problematic interpersonal relationships (Shipman et al. 2007). For example, problems regulating negative emotions are related to internalizing disorders such as anxiety and/or depression, and difficulty with a negative emotion such as anger may be related to externalizing disorders or “acting out” (Gross, 1998). It can also lead adolescent behaviour to life threatening behaviour like deliberate self-harm or suicidal acts. Affective dysregulation is actually related to both types of problems; i.e., internalizing and externalizing behaviours. Adolescents who exhibit behaviours associated with internalizing and/or externalizing disorders generally exhibit more extreme and more frequent emotions.

Researches indicate that suicide ideation among adolescents is associated with affective dysregulation, independent of depressive symptoms, social support, and other factors. These findings have important implications for designing more comprehensive screening and assessment tools for suicide risk. Whereas suicidality is commonly associated with internalizing symptoms such as depression, affective dysregulation is usually marked by externalizing symptoms such as aggression and anger. Therefore, the finding that both high depressive symptoms and dysregulation are both associated with suicide ideation may reflect heterogeneity in the mechanisms that lead to suicide ideation (Arria et al., 2009).

Researchers have proposed and examined empirically many psychological functions of Non-Suicidal Self-Injury (NSSI), and they found a growing body of literature that suggests that the most common reason individuals give for engaging in NSSI is to alleviate an aversive emotional state (Klonsky, 2007). Although, NSSI is considered as para suicidal act but at a deeper level it is a product of suicidal cognition or suicide ideation which also seems to be deliberate self-harm and life threatening behaviour of an individual. Research has shown affect regulation to be perhaps the most commonly endorsed function of NSSI (Chapman, Gratz, & Brown, 2006). According to an affect regulation model, the purpose of NSSI is to alleviate
negative emotions and to dampen overwhelming emotional arousal (Jones, Congin, Stevenson, Straus, & Frei, 1979; Klonsky, 2007; Nock, 2009). Consistent with this hypothesis, research has found that individuals who self-injure tend to have higher trait levels of emotional reactivity (the tendency to experience more frequent and intense emotion) than those who do not self-injure (Gratz & Roemer, 2004). Further, individuals who engage in NSSI also exhibit difficulties in understanding, expressing, and regulating their emotions (Klonsky & Muehlenkamp, 2007). Linehan (1993) theorized that individuals may develop maladaptive mechanisms for coping with emotional distress at a young age as a result of emotionally invalidating environments during childhood.

Recently some researchers studied 223 young adults with a history of childhood-onset mood disorder and currently had a diagnosis of either major depressive disorder or bipolar disorder (Romm et al., 2009). Controls were 112 young adults without a history of psychiatric disorders. Suicide attempters used more maladaptive response styles (i.e. rumination and dangerous activities such as drinking, drug use, or aggression), and less adaptive response styles (i.e. distraction and problem solving), to manage their depressive mood than non-attempters. Furthermore, both female and male suicide attempters scored on average significantly higher in four out of the five affective temperament scales which contained depressive components (i.e. depressive, cyclothymic, irritable, and anxious). It signifies that affective dysregulation plays significant role in suicide ideation.

Linehan and colleagues (Linehan, 1993, 1999; Linehan & Shearin, 1988) recognized the importance of and role of affect regulation in suicidal behaviours. In those who are “chronically suicidal,” or who frequently attempt suicide, a pattern of emotional and behavioural dysregulation is present and may be the result of an initial temperamental or biological disposition in combination with an “invalidating rearing environment” (Linehan, 1993; p. 150). This connection between affect dysregulation and suicidal behaviour has been supported by others (Zlotnick et al., 1997; MacLeod et al., 1992).

Linehan (1993) also created a model that incorporates both affect regulation and suicidal behaviours, and her model also discusses predisposing temperamental and environmental factors. In those who are “chronically suicidal” (p. 150) or frequently attempt suicide, a pattern of emotional and behavioural dysregulation is present, and may be the result of an initial temperamental or biological disposition in
combination with an “invalidating rearing environment” (Linehan, 1993). This connection between affect dysregulation and suicidal behaviour has been supported by other research. Zlotnick and colleagues (1997) examined the relationship between affect regulation and self-destructive behaviours in adolescent inpatients who recently attempted suicide, and attempters demonstrated significantly more regulation difficulties than inpatients with suicidal ideation only. Their findings supported their hypothesis that suicide attempters would report higher levels of affect dysregulation than those with suicide ideation only, and they concluded that suicide attempts may be one means to reduce intolerable emotional and affective states. The inability to regulate mood or affect is most often in reaction to a life stressor that brings about an intense affective or emotional reaction, and suicidal behaviours may be one way to attempt to cope with this state. Shneidman (1992, 1996) and Baumeister (1990) each have presented theories of suicidal behaviour that also focus upon our reactions to life events and their theories claim that suicide is an escape from psychological pain or negative affect/emotions. Shneidman (1996) suggested that this pain (psychache) causes anguish, disturbance and perturbation that provide the motivation to attempt suicide, and even though he does not use the term affect in reference to this pain, it is possible that this pain represents affect. Shneidman also emphasizes the role of cognitive appraisals and the balance between thoughts and feelings in reference to the suicidal individual, but his theory suggests that affect is worth noting. Baumeister actually used the term negative affect to describe reactions to aversive self awareness due to self-blame for negative life events in his escape theory. He further explained that this negative affect is associated with increased suicide attempts to escape this state of existence. Both of these theorists incorporate an affective element in their theories, but again, these theories do not incorporate the postulates from the leading theory of affect (e.g., two orthogonal dimensions of affect). Similar to Shneidman, Baumeister also states that cognitive processes are important and in the escape theory, and precede affect, but the interaction of these two systems adds important information to the study of suicide.

**Suicide Ideation and Optimism**

Optimistic individuals appear to have better psychological and physical functioning even in the face of difficult circumstances (Peden, Rayens, Hall, & Beebe, 2001). Perhaps through the use of active adaptive strategies, such as identifying and
achieving appropriate and meaningful goals and establishing successful relationship that will extend into the future (Hirsch, Conner & Duberstein, 2007). An individual able to engender a positive outlook toward the future, and who is encouraged to do so, may reduce their stress, thereby mitigating risk for suicide thought and behaviours (Alloy et al., 1999; Linehan, Goodstein, Neilson, & Chilles, 1983).

Dispositional optimism, as measured by the Life Orientation Test-Revised (LOT-R; Scheier, Carver, & Bridges, 1994), is assumed to be stable and trait-like (Burke, Joyner, Czach, & Wilson, 2000) but it may also be a malleable and trainable attribute (Wrosh, Scheier, Miller, Schulz, & Carver, 2003; Schwarzer, 1999). Preliminary findings with adolescents and college students suggest that training individual to think optimistically can reduce depression (Hawkins & Miller, 2003; Vaillant, 2003); perhaps similar techniques can be used to decrease suicide ideation and behaviour in these at-risk populations. For instance, suicidal individuals might be asked to identify reason for living, to set goals and identify pathway toward their attainment or to restructure their attribution regarding past negative events (Malone et al., 2000; Johnson, Crofton, & Feinstein, 1996; Snyder et al., 1991), which are characteristics associated with decreased suicidal thoughts and behaviours (Hirsch et al., 2006). Meaningful and supportive interpersonal relationship that fosters a positive future orientation may also be important for preventing suicide (Gillham & Reivich, 2004; Barber & DeRubeis, 2001); encouragement and monitoring of social and interpersonal interaction may be a useful strategy. There is reason to believe, however, that some cognitive characteristics, such as optimism might be “protective”.

Dispositional optimism is a stable trait like personality characteristics comprised of a general, positive mood or attitude about the future and a tendency to anticipate a favorable outcome of life situations (Burke et al., 2000; Scheier & Carver, 1992). Hirsch and Conner (2006) assessed optimism and hopelessness, defined as a lowered expectation of goal achievement, reduced belief in likelihood of success and feelings of futility about the future (Dori & Overholser, 1999). An individual, who is hopeless, perhaps due to college related stressors, may feel as if they are unable to successfully achieve imported personal goals; however that does not preclude them from being optimistic that they may someday be able to do so. In the support of this, Hirsch and Conner (2006) also showed optimism to be conceptually distinct from hopelessness suggesting the possibility that both of these cognitive-emotional characteristics can manifest simultaneously. Although the variance in suicide ideation
accounted for the optimism is modest once depression and hopelessness are accounted for, the statistical significance of this finding may translate into clinical value.

As a potentially protective factor, optimism may provide a measure of resilience against negative physiological and psychological outcomes (Miller, Manne, Taylor, Keates, & Dougherty, 1996), including reduced depression (Chang & Sanna, 2001; Seligman, Schulman, DeRubeis, & Hollon, 1999), better psychological adjustment to negative life events (Davis, Nolen-Hoeksema, & Larson, 1998; Carver et al., 1993; Long & Sangster, 1993), and increased psychological well-being (Magaletta & Oliver, 1999). Such benefits may occur via a promotion of a more realistic and future oriented life perspective (Taylor & Brown, 1988) and the use of active, adaptive coping strategies (Gum & Snyder, 2002; Scheier & Carver, 1992), including direct engagement of problems, being motivated to overcome adversity and persisting toward goals (Brissette, Scheier, & Carver, 2002). Supportive intergenerational relationship may also be important (Chang & Sanna, 2001; Seligman et al., 1999).

Although there have only been a few rigorously controlled studies, preliminary findings indicate that optimism and hope are associated with reduced depressive symptoms in college students (Seligman et al., 1999; Range & Penton, 1994), suggesting that college students with an optimistic orientation may be less likely to experience suicide ideation. The role of optimism in suicidal behaviour is not studied in college students, however.

Overview (Gaps and Limitations)

1. The rising incidence of attempted suicide in the last two decades, often referred to as an “epidemic” in many countries, and of the numerous challenges in out-patients psychotherapeutic treatment none is perhaps greater than diagnosis and managing suicide behaviour.

2. Increasing recognition of suicide as a major health problem had led to the investigation of many aspects of the phenomenon of suicide. However, it is still an intriguing problem about which the amount of scientific knowledge is quite incomplete. The present investigation is an attempt to have more precise information about suicidal behaviour, especially suicide ideation.

3. The discussion further reveals that a number of attempts have been made to identify the social and psychological aspects of suicidal behaviour. Most of the
research on suicide behaviour has utilized adult clinical populations. Much of this work, however, has been concerned with people who have actually attempted or completed suicide. Because of the difficulty in obtaining data on completed suicides, studies actually focused upon surviving suicide attempters. But it is well known fact that attempted suicides which come to the notice of clinical workers form a very small proportion of the suicidal population. As a result most investigators utilize small clinical sample of surviving attempters. To circumvent the methodological constraints associated with small clinical sample, some researchers have begun to study suicide ideation in the general population (Vandivort & Locke, 1979; Paykel, Myers, Lindenthal, & Tanner, 1974; Schwab, Warheit, & Holzer, 1972).

In this context, it can be asserted that studies of suicide ideation assume that suicide behaviour forms a continuum ranging from suicidal ideas to suicidal acts (Bedrosian & Beck, 1979; Paykel et al., 1974; Beck & Greenberg, 1971). This continuum does not imply that all or even most individuals who contemplate suicide make an attempt. Ideation is viewed as a preliminary stage to the more life-threatening stages on the continuum, although the majority of persons who manifest suicide ideas do not seem to progress to the later stage. This contention is supported by the finding of Carlson and Cantwell (1982). In a study of adolescent, they found that the 42% of the respondent with severe ideation and 34% of those with slight ideation had made suicide attempt while virtually none of the respondent who reported no suicide ideation had made an attempt.

Thus suicide thoughts appear to be a precursor to more extreme suicidal behaviours, and this suggests one can learn something about the factor that set the stage for suicidal acts by identifying the causes of suicide ideation.

Kandel, Raveis, and Davies (1991) found that 41% of the females and the 16% of the males who score high on the suicide ideation scale reported having made an attempt to kill them. Understanding the dynamics of suicide ideation in non-suicidal sample has an important public health implication. It is a strong predictor of suicide attempts, especially among females (Bonner & Rich, 1987). Thus identifying the correlates of suicide ideation which is a prerequisite to threatened suicide is obviously more important because the earlier the identification the more feasible is intervention and prevention.
4. Only in recent years researchers have become interested in the ways in which people cope with stress, and although this research is still considered to be in its infancy, some consensus on the taxonomy and function of coping response has appeared. First, coping is considered to be a response or set of responses to external stressful events (McCrae, 1984; Billings & Moos, 1981; Folkman & Lazarus, 1980) whose function is to attenuate distressful psychological outcomes such as depression, and in this way coping modulates the individual’s psychological reaction to stressful events (Folkman, Lazarus, Gruen, & DeLongis, 1986).

5. Recent research has already identified a range of risk factors for suicidal behaviour which can be grouped according to several areas such as psychiatric variables, psychological and personality factors, and environmental or social variables. These findings, when combined, lead to the conclusion that suicidal behaviour can be viewed as a consequence of underlying trait vulnerability, including biological and psychological characteristics, and more state-dependent factors such as psychiatric and social variables (Mann, Waternaux, Haas, & Malone, 1999).

6. Although researchers in the recent past have provided rich information about suicide ideation, a shortcoming of most previous studies has been the tendency to determine the relationship between suicide ideation with just one or two variables. Thus, researchers have tended to focus on factors such as depression, hopelessness, social support in isolation etc. As far as can be established, no comprehensive effort has been made to determine the joint effects of a range of factors (e.g., depression, hopelessness, anxiety, negative automatic thoughts, family environment and social support) on suicide ideation in a single study comprising of non-clinical sample. Much more comprehensive research is needed on this matter.

7. Since suicide ideation is relatively common and attempted suicide and completed suicide are relatively rare (Pirkis, Burgess, & Dunt, 2000), the present study focused on suicide ideation. The present study is an attempt to expand the existing literature by incorporating in its purview, various gaps and limitations of earlier researches conducted on the salience of suicide ideation. On the basis of above review of literature and objectives in Chapter I following hypotheses were formulated.
HYPOTHESES

1. It was expected that the distribution of scores on different variables included in the present study would be normally distributed and follow a smooth curve.

2. It was expected that females, in comparison to males, would score higher on depression, hopelessness, anxiety, cognitive rigidity and affective dysregulation.

3. It was expected that there would be no difference between males and females on different dimensions of perceived family functioning.

4. It was expected that there would be positive relationship of suicide ideation with depression, hopelessness, anxiety, cognitive rigidity, and affective dysregulation.

5. It was expected that suicide ideation would be differentially related to different dimensions of perceived family functioning.