A Socio-Ecological Approach to Adolescent Suicide Ideation: The Role of Family, Peers, and Teachers

A thesis submitted in fulfilment of the requirements for the degree of Master of Science

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June, 2017
Declaration of Authorship

I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program; any editorial work, paid or unpaid, carried out by a third party is acknowledged; and, ethics procedures and guidelines have been followed.

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Date: 30 June 2017
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<th>Description</th>
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<tbody>
<tr>
<td>3ST</td>
<td>Three-Step Theory</td>
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<tr>
<td>ABS</td>
<td>Australian Bureau of Statistics</td>
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<tr>
<td>CARE</td>
<td>Care Assess Respond Empower</td>
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<tr>
<td>CASSS</td>
<td>Child and Adolescent Social Support Scale</td>
</tr>
<tr>
<td>CAST</td>
<td>Coping and Support Training</td>
</tr>
<tr>
<td>C-BDI-II</td>
<td>Chinese Beck Depression Inventory-II</td>
</tr>
<tr>
<td>CDC</td>
<td>Center for Disease Control and Prevention</td>
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<td>CSS</td>
<td>Columbia Suicide Screen</td>
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<tr>
<td>DASS</td>
<td>Depression Anxiety Stress Scale</td>
</tr>
<tr>
<td>DSM-IV</td>
<td>Diagnostic and Statistical Manual for Mental Disorders-4</td>
</tr>
<tr>
<td>FAD-GF</td>
<td>Family Assessment Device-General Functioning</td>
</tr>
<tr>
<td>LGBT</td>
<td>Lesbian, Gay, Bisexual and Transgender</td>
</tr>
<tr>
<td>IFI</td>
<td>Inventory of Father Involvement</td>
</tr>
<tr>
<td>IPPA</td>
<td>Inventory of Parent and Peer Attachment</td>
</tr>
<tr>
<td>IPTS</td>
<td>Interpersonal-Psychological Theory of Suicide</td>
</tr>
<tr>
<td>NSSI</td>
<td>Non Suicidal Self-Injury</td>
</tr>
<tr>
<td>SPSS</td>
<td>Statistical Package for the Social Sciences</td>
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<tr>
<td>WHO</td>
<td>World Health Organisation</td>
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Abstract

Suicide is presently the second leading cause of deaths in 15 to 25 year olds globally and has received considerable attention in recent decades. Suicide ideation in adolescence, in particular, has a distinct aetiology due to the significant developmental changes happening during this period, and the high incidence and prevalence of various psychopathologies and suicidal behaviours. Despite considerable research in adolescent suicide, the various risk and protective factors within the adolescent’s social context that may be associated with adolescent suicide ideation have been underappreciated. Guided by Bronfenbrenner’s Bioecological Theory of Human Development that accounts for the various influential factors existing in the adolescent’s environment, and two notable suicide theories, the Interpersonal Psychological Theory of Suicide and the Three-Step Theory, the aim of the present thesis adopts a social-ecological approach to understanding adolescent suicide ideation by exploring the role of individual, family, peer, and teacher-related factors. Examining the combined interaction of these factors is fundamental to inform and guide the development of evidence-based intervention and prevention programs for suicide ideation in adolescence.

Chapter 1 of the present thesis provides a detailed background on adolescent mental health, suicide, and key associated behaviours such as suicide ideation. The theoretical frameworks used in suicide research are then presented, followed by an overview of individual, family, peer and teacher-related factors in adolescent suicide ideation research. A more thorough analysis of these concepts will be provided in Chapters 2 and 3. Ethical and methodological challenges in suicide and suicide ideation research and existing limitations to rationalise the present thesis are then discussed. Chapter 1 concludes by presenting the rationale of the entire thesis followed by the aims and hypotheses for the two studies included in the thesis.
Central to Chapter 2 is Study 1 that aimed to explore the differences in adolescents’ perceptions of mother involvement and father involvement and their associations with adolescent suicide ideation and psychological well-being. At the beginning of Chapter 2, a comprehensive review of adolescents’ differential perceptions of mothers and fathers is provided, followed by a review of the literature on mother involvement, and a greater focus on the father involvement construct. Study 1 comprised 46 adolescents aged between 15 and 19 years old ($M$ = 16.59, $SD$ = 1.28) living in and attending a secondary school or university at undergraduate level in Victoria, Australia. Adolescents completed a questionnaire package self-reporting on several measures, namely, father involvement, mother involvement, psychological well-being and suicide ideation, to capture their experiences and relationships with their mother and father. Results showed significant differences in adolescents’ perceptions of mother involvement ($M$ = 118.02, $SD$ = 28.86) and father involvement ($M$ = 100.07, $SD$ = 34.08); $t(45)$ = -4.94, $p$ = .00. Findings also revealed that father involvement had a stronger relationship with adolescent suicide ideation ($r$ = -.59) and psychological well-being ($r$ = .61) than mother involvement.

Using the same sample, Study 2, in Chapter 3, aimed to test a predictive model of adolescent suicide ideation by examining the unique and combined contribution of father involvement, mother involvement, family functioning, peer attachment, teacher support, adolescent emotional distress, and psychological well-being in adolescent suicide ideation when confounded variables are controlled, with father involvement as the key independent variable. A profound exploration of the literature on the individual, family, peer and teacher-related factors is provided. Adolescents self-reported on additional measures including peer attachment, emotional distress, family functioning and teacher support. Performing bivariate correlations to determine the potential predictors to be included in the regression model, teacher support was the only variable not significantly associated with suicide ideation. The
hierarchical regression analysis revealed that emotional distress ($\beta = .45, p < .001$), peer attachment ($\beta = -.34, p < .01$), and father involvement ($\beta = -.63, p < .001$) were significant predictors of adolescent suicide ideation contributing uniquely to the regression model while psychological well-being, family functioning and mother involvement did not. Findings also showed father involvement was a significant predictor over and above the influence of other variables entered in the regression model. The final model comprising the individual, peer and family-related factors explained 53% of the variance in adolescent suicide ideation.

A general discussion of both studies are presented in Chapter 4 including theoretical, research, and clinical implications. Studies’ ethical and methodological concerns are then described, followed by proposed future research directions.
Chapter 1: Adolescent Suicide Ideation: A Review of the Literature

The literature has demonstrated and acknowledged that a state of positive mental health and well-being are essential to good quality of life across the lifespan (Huppert, 2009). While it is continuously recognized that having good mental health and well-being is beneficial in the long term, there is now growing concern for the mental health and well-being of young people (WHO; World health Organisation, 2012, 2014). The past four decades has observed a rise in mental health problems in adolescence and are a growing concern in this developmental period, having detrimental effects on adolescent health, functioning and well-being across the lifespan (Collishaw, 2015). Knowingly, the adolescent brain is known for its high adaptability and exceptional plasticity throughout this challenging developmental period, yet, adolescence is also the peak period for majority of onsets of several mental illnesses (Lee et al., 2014) including neurodevelopmental disorders, affective disorders, antisocial behaviors, and suicidal behaviors (Collishaw, 2015). Suicide is the second leading cause of deaths in 15-25 year olds globally, and is a major public health concern (WHO, 2014). In particular, 15-25% of adolescents experience suicide ideation at any point in time (Bridge, Goldstein, & Brent, 2006). As more research is being conducted to better understand this life-threatening behavior, the emphasis on individual psychiatric risk and protective factors has overlooked the combined interplay of social-ecological factors contributing to adolescent suicide ideation.

The aim of this chapter is to provide a review of the empirical literature on adolescent mental health with a focus on suicide ideation and the various risk and protective factors that may influence its development. The literature around adolescence and mental health is first reviewed. A description of the prevalence and aetiology of suicide in young people is then presented to highlight the significance of this phenomenon in young people. Current theoretical trends behind suicide research, particularly the development of suicide ideation,
are described next, followed by ethical and methodological challenges observed in adolescent suicide and suicide ideation research. An introductory overview of several individual, family, peer, and teacher-related risk and protective factors in the context of adolescent suicide ideation are discussed next; these are addressed in greater depth in Chapter 2 and Chapter 3. The chapter concludes with the presentation of the rationale for the present thesis.

**Mental Health in Adolescence**

Adolescence, recognised as a critical sensitive developmental period, ranging between 11 and 19 years, is a transition phase between childhood and adulthood in which the adolescent undergoes physical, emotional, psychological, cognitive and social changes and growth, which have considerable outcomes across the lifespan (Collishaw, 2015; Salmela-Aro, 2011). These changes are accompanied by heightened emotionality and co-occur with physical and biological changes, along with those linked to the adolescent’s developing brain and puberty onset (Spear, 2010). This period is recognized as a significant developmental phase because of the interplay between biological, cognitive and social changes that impact adolescents in important ways. (O'Donohue, Benuto, & Tolle, 2013). The behavioral and neurobiological changes occurring during adolescence are beneficial in preparing the brain to confront the challenges to come but can also present susceptibility to some form of psychopathology (Paus, Keshavan, & Giedd, 2008; Powers & Casey, 2015), which affect adolescents’ well-being and functioning across the lifespan (Collishaw, 2015). Long-term prospective studies have demonstrated the occurrence and progression of childhood psychiatric disorders into adulthood (Collishaw, 2015).

It is generally acknowledged that the adolescence phase is a healthy cohort, yet, 20% of adolescents are reported to experience a mental health problem every year globally with depression and anxiety most commonly experienced (WHO, 2012). Mental health is commonly accepted as a state of wellbeing, whereby the individual realizes and makes use of
their potential skills and abilities to navigate and cope with the daily stressors of life, can work effectively and have a positive influence in the community (WHO, 2012). Although the majority of adolescents navigate this significant developmental phase successfully, it is also a time of increased incidence of several mental health problems such as mood and anxiety disorders, eating disorders, psychosis, substance abuse and personality disorders (Paus et al., 2008).

**Prevalence and aetiology of adolescent psychiatric disorders.** The high incidence of mental disorders in children and adolescents and their impact on mental health and well-being are of major concern (Polanczyk, Salum, Sugaya, Caye, & Rohde, 2015). A systematic review, the first in estimating global pooled prevalence of child and adolescent mental disorders, revealed that about 241 million youths are suffering from a mental illness (Polanczyk et al., 2015). Similar trends in children and adolescent mental disorders are observed in the second national survey of more than 6,300 households conducted in Australia, with a 12-month prevalence of 13.9%, corresponding to 560,000 children and adolescents assessed with any mental disorder (Lawrence, Hafekost, et al., 2015; Lawrence, Johnson, et al., 2015). Findings are significant with a higher prevalence in certain conditions and considerable gender differences are observed. For instance, a 12-month prevalence for any anxiety disorder is 6.3% for males and 7.7% for females aged 12 to 17 years. Similarly, prevalence for major depressive disorder is higher for adolescent females, reporting 5.8% compared to 4.3% for males. Overall, findings from the national survey reveal prevalence for any disorder of 15.9% for males and 12.8% for females aged 12 to 17 years, reporting a higher prevalence for males than females.

Individual and system-level factors such as demographics, neurobiological and family, parent-child relationships and peer contexts make important contributions in determining the developmental path an individual takes (Luciana, 2013). Along these lines,
these factors characterize which individuals will navigate this developmental path successfully with positive outcomes in the face of negative experiences, and who are at risk of developing psychopathologies (Luciana, 2013). For instance, the timing of puberty is reported to be strongly linked to increased mental health and health-related behaviors in adolescence (Patton & Viner, 2007), with females experiencing early adrenarche having greater anxiety and mood problems and behavioral disorders (Dorn et al., 2008).

Pathophysiology of mental health problems is increasingly attributed to distortions in maturation of the adolescent brain (Paus et al., 2008). The occurrence of a number of psychopathologies in adolescence may be associated with irregularities or amplifications of normal maturation process occurring simultaneously with psychosocial, biological, and environmental factors influencing the developmental stage (Paus et al., 2008). Additionally, developmental mismatch between the heightened emotional and behavioral experiences associated with puberty and the cortical development of cognitive and emotional coping skills in late adolescence and early adulthood leave adolescents vulnerable and likely to exhibit greater moodiness, poor judgment, biased interpretations and poor emotion-focused coping (Hyde, Mezulis, & Abramson, 2008; Stoep, McCauley, Flynn, & Stone, 2009). It can therefore be argued that adolescents are acknowledged to be at high-risk of developing certain mental health problems, with suicide one of them.

**Suicide.** Suicide is recognized as a major public health concern, with approximately 800,000 people worldwide dying by suicide every year (WHO; 2014). Despite major advances in suicide research and better treatment of people with suicidal behaviours, rates of suicide have not experienced any major changes (Nock, Borges, Bromet, Cha, et al., 2008). Based on the definitions from the US Center for Disease Control and Prevention (CDC), *suicide* is defined as the harmful fatal self-inflicted behaviour with the intention to die as an outcome of that behaviour (Crosby, Ortega, & Melanson, 2011; Nock, Borges, Bromet, Cha,
Suicide attempt is understood as a potentially self-injurious behaviour with some intent to die as an outcome of that behaviour (Crosby et al., 2011; Nock, Borges, Bromet, Cha, et al., 2008); while suicide ideation is understood as passive thoughts of death varying in severity from ideations to specific intents and suicide plans (Bridge et al., 2006; Crosby et al., 2011). Furthermore, the term suicidality is characterised as all behaviours related to suicide including suicide ideation, suicide attempts and deaths by suicide, and is thought to lie on a continuum with suicide ideation (passive thoughts) and deaths by suicide as opposite ends of the spectrum (Bridge et al., 2006; Nock, Borges, Bromet, Cha, et al., 2008). There is evidence to indicate that self-harm, defined as the deliberate physical self-injury, irrespective of suicidal intent or motive (Hawton, Saunders, & O'Connor, 2012), and nonsuicidal self-injury (NSSI), understood as a particular form of self-injurious behaviours that comprise damage to one’s body tissue in the absence of any intention to die (Nock & Favazza, 2009), are significant risk factors in adolescent suicide and suicidal behaviours (Guan, Fox, & Prinstein, 2012; Hawton et al., 2012).

Suicide is a result of mental illnesses in most cases (Powers & Casey, 2015; Thapar et al., 2015). A systematic review of psychological autopsy studies revealed that approximately 90% of people who died by suicide had a psychiatric disorder, contributing to the population’s risk by 47-74% (Cavanagh, Carson, Sharpe, & Lawrie, 2003), suggesting that mental health problems are one of the major risk factors in suicide. In a recent meta-review, depression, schizophrenia, anorexia nervosa, bipolar disorder, opioid use and alcohol use disorder in females, were among the strongest risk factors for suicide when compared with other disorders (Chesney, Goodwin, & Fazel, 2014). In another study using data of 84,850 adults from the WHO world mental health survey, comprising 17 countries, significantly greater suicidal behaviours were reported in the presence of mental disorders (Nock, Borges, Bromet, Alonso, et al., 2008). Mental disorders more strongly associated with higher suicidal
ADOLESCENT SUICIDE IDEATION

behaviours were anxiety, mood, substance use and impulse-control disorders. Moreover, a greater number of mental disorders were associated with elevated suicidal behaviour risk.

Encompassing a much greater concern in young people, suicide is reported to be the second leading cause of deaths in 15-25 year olds globally. Despite this suicide has not been prioritized as a health problem, which led to the implementation of the WHO’s Mental Health Gap Action Programme that incorporates suicide prevention as part of the plan to reduce suicide rate by 10% by 2020 globally (WHO; 2014). Additionally, suicidal behaviours are particularly exhibited in adolescence with a risk of early onset in beginning adolescence (12 years), reaching a peak at 16 years old and continuing to persist in late adolescence (Nock, Borges, Bromet, Cha, et al., 2008). Moreover, it is reported that nearly 15-25% of adolescents experience suicide ideation, a predecessor to attempts and deaths by suicide, at any point in time (Bridge et al., 2006). The probability and timing of the transition from suicide ideation to plans and attempts seems to be coherent across multiple countries, with 33.6% of people experiencing suicide ideation carrying on to implement suicide plan, and 29% of people having suicide ideation carrying on to an attempt (Nock, Borges, Bromet, Alonso, et al., 2008). In addition, these transitions are more likely to occur within the first year after onset of suicide ideation (Nock, Borges, Bromet, Alonso, et al., 2008).

Adolescent suicide and suicidal behaviours in Australia. Suicide rates in Australia have become a national public concern with recent figures exposing suicide rate at its peak in more than a decade, with 3,027 deaths by suicide in 2015 at a rate of 12.6 per 100,000 compared to 2,864 deaths at a rate of 12.0 per 100,000 in 2014 (Australian Bureau of Statistics, 2016). Similarly, in the 15-19 years age group, 145 deaths by suicide in 2015 at a rate of 9.8 per 100,000 compared to 130 deaths by suicide in 2014 at a rate of 8.8 per 100,100 (Australian Bureau of Statistics, 2016). It is also observed that in the 15-19 years age group, over one third of total deaths is attributed to suicide at a ratio of 3:1 in males and females.
respectively (ABS; 2017). A recent national survey conducted in Australia provides the epidemiology of suicide and suicidal behaviours in 12 to 17 years old adolescents (Zubrick et al., 2016). At any point in a 12-month time period, findings revealed that 7.5% of adolescents reported having suicide ideation, while 5.2% reported a suicide plan, and 2.4% would make an attempt. Consistent with the literature, females are more likely to engage in suicidal behaviours than males. Additionally, the prevalence of suicidal behaviours in Australian adolescents diagnosed with a mental disorder (DSM-IV) was significantly higher than adolescents with no mental disorder, with Major Depressive Disorder (MDD) as the most significant disorder associated with suicide ideation, suicide plan and suicide attempt in the past 12 months.

**Suicide ideation.** Suicide ideation in adolescence is thought to hold a distinct aetiology because of the significant developmental changes and higher incidence of developing mental health problems during this period (Paus et al., 2008). Furthermore, as adolescents move to high school, they experience major changes in social relations (family and peers) and are more inclined to substance abuse (Arria et al., 2009). Developmentally, adolescents are different to adults and children, and are exposed to different experiences that increase their risk of developing suicide ideation and behaviours (Wyman, 2014). For instance, suicide ideation in adolescents is often developed in the context of a family conflict, disciplinary difficulties or peer related issues that are highly prominent in adolescence (Wyman, 2014). Wyman (2014) indeed argued that suicide prevention and intervention strategies need to consider appropriate adolescents’ developmental profiles that incorporate family, peer and teacher related factors, which will be addressed profoundly in Chapters 2 and 3. In view of the high incidence of suicide ideation in adolescence, the present thesis will focus on suicide ideation in adolescents.
Theoretical Frameworks in the Study of Suicidality

It is usually accepted that suicide is a complex phenomenon characterised by interrelated factors rather than a single factor in isolation (Bridge et al., 2006; Nock, Borges, Bromet, Cha, et al., 2008). Suicide rates are still a major public health concern despite much effort placed on the intervention and preventive measures to reduce suicide, and to advance the understanding of this phenomenon (Nock, Borges, Bromet, Alonso, et al., 2008). Hence, deeper consideration of theoretical frameworks to guide research in suicide, are recommended (Nock, Borges, Bromet, Cha, et al., 2008). In addition, research suggests that interventions should begin at the point of suicide ideation before transition to suicide attempt, based on evidence that suicide ideation is a predecessor to suicide attempts and deaths by suicide (Johnson, Wood, Gooding, Taylor, & Tarrier, 2011; O'Connor & Nock, 2014). It is therefore evident that knowledge of psychological processes that conceptualise suicide ideation and decisions to act on these thoughts are imperative (Johnson et al., 2011; O'Connor & Nock, 2014). Theoretical frameworks are influential both clinically and conceptually as they guide research on how suicide as a complex phenomenon comprises a combination of interrelated factors that augment suicide risk (O'Connor & Nock, 2014). Several theoretical frameworks about suicide ideation exist, including the Integrated Motivational-Volitional Model (IMV) and the Fluid Vulnerability Theory (FVT) (Klonsky, Saffer, & Bryan, 2017). The Interpersonal Psychological Theory of Suicide (IPTS) and the Three-Step Theory (3ST) were selected as they are among the most contemporary and promising ideation-to-action frameworks that make specific references to the development of suicide ideation (Klonsky, May, & Saffer, 2016; Klonsky et al., 2017) that focuses on the variables of interest and the aims of the present thesis. The consideration of individual, family, peers, and teacher-related risk and protective factors are argued to be more aligned with the Bioecological Theory of Human Development, which acknowledges the interplay of various systems including
individual, family, peer, and school, in the understanding of adolescent development (Bronfenbrenner & Ceci, 1994). While these three theories were not constructed for adolescence specifically, studies are gradually providing empirical evidence for using these frameworks in further progressing adolescent suicide research (Arria et al., 2009; De Luca, Wyman, & Warren, 2012; Perkins & Hartless, 2002).

**Interpersonal psychological theory of suicide.** Thomas Joiner’s predictive Interpersonal Psychological Theory of Suicide (IPTS) is one notable contribution (Joiner, 2005). The IPTS makes reference to how an individual develops suicide ideation, making important distinctions between suicide ideation and suicidal behaviours, that are not acknowledged and distinguished in other prominent theories (Joiner, 2005). The theory posits that for an individual to die by suicide, the person needs to develop the desire and capability to do so (Ribeiro & Joiner, 2009). In accordance with the IPTS, the concurrent interaction of two psychological constructs namely perceived burdensomeness and thwarted belongingness, leads to the development of the desire to die by suicide (Joiner, 2005; Ribeiro & Joiner, 2009). Perceived burdensomeness is understood as the serious lethal misperception that one’s own existence is a burden on family, friends and society (Joiner, 2005; Van Orden et al., 2010). This feeling that one is a burden can result in the dysfunctional belief that dying is better for family, friends and society than being alive (Ribeiro & Joiner, 2009; Van Orden et al., 2010); while thwarted belongingness is the feeling of alienation from friends, family and social clique (Joiner, 2005; Ribeiro & Joiner, 2009). The IPTS further suggests that the need to feel connected and to contribute to the wellbeing of close ones is essential and obstruction of these wants result in the development of desire to die by suicide (Van Orden, Witte, Gordon, Bender, & Joiner, 2008).

According to IPTS, suicidal desire, operationalized as suicide ideation, has been significantly linked to both perceived burdensomeness and thwarted belongingness
independently (Ribeiro & Joiner, 2009). Although both states were found to enhance the risk of developing the desire to die by suicide independently, the IPTS suggests that the statistical interaction between the two states predict suicide ideation risk at its highest when experienced concurrently over and above one state only (Ribeiro & Joiner, 2009). In a study of 309 undergraduate students aged 17 to 51 years, hierarchical multiple regression analyses revealed that high levels of perceived burdensomeness and thwarted belongingness (measured on the Interpersonal Needs Questionnaire) were significantly associated with increased suicide ideation (measured on the Beck Scale for Suicide Ideation) (Van Orden et al., 2008). Additionally, in the model containing the covariates gender, age and depressive symptoms; while high levels of perceived burdensomeness significantly increased suicide ideation, thwarted belongingness was not, however, the interaction of high level of perceived burdensomeness and thwarted belongingness significantly increased suicide ideation over and above covariates (Van Orden et al., 2008). In another study testing the IPTS, hierarchical multiple regression analyses indicated that main effects of perceived burdensomeness, operationalized as low perceptions of mattering, and low levels of thwarted belongingness, operationalised as family social support, in young adults, were significant associated with increased suicide ideation over and above major depression (Joiner et al., 2009). In addition, plotting a regression line revealed that the interaction of low mattering and low family social support revealed the greatest suicide ideation levels in a large community sample, supporting the IPTS (Joiner et al., 2009). Existing evidence thus supports the predictive value of IPTS, providing important knowledge on key risk factors for suicide, and assisting in prevention and design of interventions at the point of suicide ideation.

Nevertheless, some limitations in the IPTS exist. For instance, even though the IPTS conceptualises burdensomeness and belongingness as two distinct constructs within the framework, the two states are difficult to separate, given that one construct may predicate the
other, in other words, they are highly interrelated (Ribeiro & Joiner, 2009). Furthermore, while evidence of the relevance of IPTS is rising from adult populations, it’s applicability in youth suicide research received some support and needs further investigation (Stewart, Eaddy, Horton, Hughes, & Kennard, 2017), and even though the IPTS recognises a group of key risk factors, the theory overlooks the moderators (external) of other key risk factors (Cero & Sifers, 2013). In particular, the IPTS has not been tested within the parameters of parenting and suicide-related research, an important area to examine, given that parenting is highly salient in adolescent suicide ideation (Cero & Sifers, 2013). Notwithstanding these challenges, the IPTS seems to be a new theoretical framework that offers promising advancement in suicidology research (Ribeiro & Joiner, 2009). A major strength of IPTS is the particular distinction between suicide ideation and suicidal behaviours, which other theories overlook (Ribeiro & Joiner, 2009). Another salient contribution of IPTS is found in the predictions that are above and beyond depressive symptoms, known as one of the strongest predictors of suicide ideation and suicidal behaviours (Ribeiro & Joiner, 2009).

Along these lines, the framework is sensitive, with the ability to identify a greater amount of people susceptible to suicidal desire, including individuals experiencing perceived burdensomeness and thwarted belongingness (Van Orden et al., 2008). Moreover, the framework has been supported by 20 empirical tests and in community studies (Joiner et al., 2009; Ribeiro & Joiner, 2009).

**Three-step theory.** Another important conceptual contribution has been made by Klonsky and May (2015) who recently proposed the Three-Step Theory (3ST), founded on an ideation-to-action framework and informed by Joiner’s IPTS, that intends to guide researchers in suicidology research and prevention strategies. The 3ST provides unique explanations for the development of suicide ideation and the transition from ideation to attempt. According to the 3ST, suicide ideation and attempt are characterised by four
fundamental constructs, namely, pain, hopelessness, connectedness and suicide capacity. Initially, suicide ideation activates with pain that results from negative experiences, emotions, thoughts and sensations (Klonsky & May, 2015). For instance, pain can be a result of social isolation (Durkheim, 1897), burdensomeness and thwarted belongingness (Joiner, 2005) and physical suffering (Ratcliffe, Enns, Belik, & Sareen, 2008). Yet, the 3ST asserts that experiencing only pain is not sufficient to induce suicide ideation. In an individual who is in pain but still has hopes, then this element of hope can lessen the pain and help the individual to navigate his/her own way through difficulties instead of considering suicide (Klonsky & May, 2015). In this way, hopelessness, which will be discussed in greater detail in Chapter 3, is a necessary requisite in the development of suicide ideation. Along these lines, the 3ST predicts the joint influence of these two constructs in developing suicide ideation (Klonsky & May, 2015).

The second step in the 3ST incorporates the construct connectedness that distinguishes strong and moderate suicide ideation. According to Klonsky and May (2015), connectedness here means the connection that is developed to people, things and roles that are meaningful to the individual. Furthermore, the theory stipulates that the combined experiences of pain and hopelessness can only lead to moderate ideation (passive ideation), and that pain needs to overshadow connectedness for someone to experience strong suicide ideation (active) leading to fatal suicidal behaviours (Klonsky & May, 2015). While connectedness is comparable to the perceived burdensomeness and thwarted belongingness of the IPTS, the latter refers to direct causation of suicide ideation while the former is more likely to act as a protective factor hindering the severity of suicide ideation in individuals experiencing pain and hopelessness and at risk (Klonsky & May, 2015). It needs to be noted, however, that connectedness does not necessarily initiate pain, hopelessness or suicide ideation directly (Klonsky & May, 2015). Along these lines, connectedness acts as a
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protective factor in those individuals who are experiencing pain and hopelessness, specifically when connectedness surpasses an individual’s pain (Klonsky & May, 2015). It is important to highlight that the 3ST acknowledges the role of psychopathologies, which are recognised through their involvement in pain, hopelessness and connectedness (Klonsky & May, 2015).

The predictions of pain, hopelessness and connectedness were supported in a US adult community sample (age 18 to 70). The combined interaction of high levels of pain and hopelessness was significantly associated with increased suicide ideation, but connectedness was protective against ideation in people experiencing high pain and hopelessness, particularly in those where connectedness surpassed their pain (Klonsky & May, 2015). The last step of the 3ST is the transition from strong ideation to suicide attempt (Klonsky & May, 2015). In line with Joiner’s IPTS, the 3ST suggests that an individual needs to possess dispositional, acquired and practical variables to develop the capacity to die by suicide, also supported (Klonsky & May, 2015).

The 3ST is indeed a promising framework in the advancement of suicidology knowledge. While suicide research is understood to benefit within an ideation-to-action framework, some limitations with the 3ST are observed. Because it is a recently proposed approach, the theory has only been tested in a non-clinical sample and thus did not take into account psychopathology (Klonsky & May, 2015). Moreover, the 3ST has only been tested in adults and findings are based on cross-sectional studies (Klonsky & May, 2015). Notwithstanding these drawbacks, the 3ST is a new framework that offers several opportunities to the advancement of understanding suicide and assist in intervention and preventive strategies (Klonsky & May, 2015). The 3ST provides clear targets that aim to reduce suicide risk by focusing on reducing pain, increasing hope, enhancing connectedness and diminishing capacity (Klonsky & May, 2015).
**Bioecological theory of human development.** Urie Bronfenbrenners’ (1994)

Bioecological Theory of Human Development, originally termed as the ecological model, is another conceptual framework that promises to advance the understanding of adolescent suicide ideation, with an emphasis on adolescents’ social-ecological systems (Sun, Hui, & Watkins, 2006). The theory symbolises development as a result of the shared interaction between the developing individual and the environment (symbols, objects and persons), emphasizing the considerable influence of context (Bronfenbrenner & Morris, 2006). Central to Bronfrenbrenner’s theory is the recognition of proximal processes as the primary mechanisms that determine developmental outcomes, understood as complex lasting interactions between the developing individual and his/her immediate environment (Bronfenbrenner & Ceci, 1994; Bronfenbrenner & Morris, 2006). In other words, the Bioecological theory accentuates the role of proximal processes as the primary mechanisms for development, in which the developing individual engages in complex interactions with persons, symbols and objects, engaging in activities with the environment, mutually influencing each other, emphasizing the role of the developing individual in shaping his/her own development but also influenced by the various contexts in the ecological system.

Along these lines, the Bioecological Theory proposes the utilization of the Process-Person-Context-Time (PPCT) model that takes into account the simultaneous examination of proximal processes, person, context and time characteristics, to examine human development (Bronfenbrenner & Ceci, 1994; Bronfenbrenner & Morris, 2006). Bronfenbrenner and Ceci (1994) argue that these components need to be analysed within the developing individual’s ecological systems (across all levels) that involves the developing individual at the center of interrelated systems, arranged in concentric circles representing different levels or systems (contexts), starting with most proximal (Microsystems) to farthest (macrosystems). Microsystems correspond to interpersonal relations, roles and activities that are directly
experienced and involved by the developing individual in the immediate environment (Bronfenbrenner, 1994). Settings in the Microsystems (family, school, peer group, workplace) are the immediate environment that allow proximal processes to occur and enhance developmental outcomes via direct engagement and interactions with symbols, objects and persons. Examples of proximal processes include parent-child, learning new skills, child-child activities, group and solitary play and the like. Mesosystems, the next level influencing development is the interaction between two or more settings in which the developing individual is situated, such as the relation between the school and home. Exosystems, the third system, comprises interaction between two or more settings in which at least one of them does not involve the developing individual, such as home and the parents’ workplace that may have indirect influence on the child’s development. Macrosystems represent belief systems and culture that shape interactions and in turn proximal processes and thus influence development. Lastly, chronosystems represent the relationship of the developing individual and the environment over time that influences proximal processes, such as the death of a family member.

The exploration of the relationship between the individual and his/her ecological system, consisting of family, peers and school may facilitate a better understanding of suicide ideation. The various individual and socio-ecological factors will be discussed more profoundly in Chapters 2 and 3. Two studies have demonstrated the importance of socio-ecological factors in the prediction of adolescent suicide ideation. Examining family cohesion and conflicts, peer support, and teacher support in the prediction of suicide ideation in adolescents aged 11 to 16 years, Sun et al. (2006) provided significant support for adopting a socio-ecological approach. Likewise, Perkins and Hartless (2002) identified a range of factors across individual (age, hopelessness, alcohol and drug use, and physical and sexual abuse), family (family support), and extrafamilial (school climate) system levels, with hopelessness
and family support having the strongest influence in the prediction of suicide ideation in a sample of 14,922 European American and African American adolescents aged 12 to 17 years. This lends support to the importance of examining the multiple levels found in adolescents’ social ecology in the examination of suicidal thoughts. Further, research espousing Bronfenbrenner’s model may encourage a more developmental approach to the understanding of adolescent suicide ideation.

Overall, the IPTS (Joiner, 2005), the 3ST (Klonsky & May, 2015), and the Bioecological Theory (Bronfenbrenner & Ceci, 1994) are recognised as salient theoretical frameworks in suicide research. The IPTS and 3ST are recent conceptualisations exclusively offering unique explanations of the development of suicide ideation while the Bioecological Theory incorporates the interplay of multilevel systems and factors in explaining adolescent suicide ideation. Even though these frameworks have potential benefits in suicide research, the limited empirical evidence testing these approaches is apparent and thus further exploration is warranted. Furthermore, several challenges have been highlighted in suicide research that need attention.

**Ethical and Methodological Challenges in Suicide and Suicide Ideation Research**

A range of ethical issues in suicide research in general and methodological challenges in suicide ideation research are identified and essential to consider prior to conducting research in the field (Lakeman & Fitzgerald, 2009a, 2009b; J. Lamb, Puskar, & Tusaie-Mumford, 2001).

**Ethical challenges.** In particular, research with adolescents is challenging as they are minors and are seen as a vulnerable population and careful considerations of recruitment concerns such as informed consent, parental consent, confidentiality, and exceptions of confidentiality are needed (J. Lamb et al., 2001).
A survey conducted with researchers and ethics committee members on ethical issues in suicide research raised important concerns that need considerations (Lakeman & Fitzgerald, 2009a, 2009b). The difficulty in justifying the costs and benefits of conducting suicide-related research has been raised as an important concern (Lakeman & Fitzgerald, 2009a). Showing or assuring the benefits is challenging just as predicting whether harm will be present or not. Another critical issue is accessing the targeted population. Recruiting via mental health services and providers can damage the relationship that individuals have with their service providers. Additionally, it is likely that suicidal people are often excluded in suicide research due to exclusion and inclusion criteria, for instance, some research may not recruit people who are not involved with services or mental health providers, which exclude people who are suicidal and appropriate for the research, hence limiting knowledge and findings. The stigma and taboo surrounding suicide can also cause problems in the recruitment process, some cultures and people find suicide to be a sensitive topic and avoid talking about it openly. Hence, approaching people to participate in research and who in particular to approach becomes problematic. The most significant ethical issue raised by researchers and ethics committee members in a survey conducted (Lakeman & Fitzgerald, 2009a, 2009b) is the possible harm present to participants. Majority of respondents raised concerns of causing distress to participants when talking about suicide and inability to assess risk and manage someone who is suicidal while others voice out the issue of whether talking about this sensitive topic actually induces suicidal thoughts (Lakeman & Fitzgerald, 2009a). An additional concern is the participant’s competency to give consent to participate in suicide research, some researchers argue that being suicidal may be a sign of incompetence while other researchers argue that some people are reluctant to give honest responses, which may limit interpretation of research findings (Lakeman & Fitzgerald, 2009a, 2009b).
A further ethical problem often experienced is researchers’ competency. Some researchers are not equipped with the necessary skills to handle certain situations that may result in causing distress, to be over-intrusive, insensitive, or influence suicidal behaviour. Experience working with suicidal individuals and supervision is essential. The role and responsibility of the researcher towards participants is another ethical concern as their role may be similar to that of a care provider in their “duty to care” and difficulty in drawing the line between providing help and facilitating access to appropriate resources and help. In any event, it is argued that researchers receive the necessary trainings and supervision to be fully equipped to handle such situation. Confidentiality has also raised significant concerns, particularly in research involving young people. Further, it becomes difficult to provide help when research involves anonymous questionnaires or research with focus groups may result in disclosure. Lastly, researchers and members of ethics committee report that dealing with families are challenging as parents are often reluctant of any activities or questions posed related to suicidal thoughts within school settings and object to these (Lakeman & Fitzgerald, 2009a, 2009b). In other circumstances, family members refuse to be approached after a family member has died by suicide. Conducting suicide-related research, specifically with suicidal people, entail ethical concerns and therefore need to reflect good practice by using appropriate research design, method and methodology that is ethically sound (Lakeman & FitzGerald, 2009b).

**Methodological Challenges.** Considering the extensive research on suicide and its aetiology, several methodological challenges have also been observed, which are of relevance to suicide ideation research. The assumption that mental disorders are the primary causes of suicide deaths, in particular, has been questioned extensively (Pridmore, 2014). This belief was originally established on the basis of psychological autopsy studies concluding that 90% of individuals dying by suicide had a mental disorder, contributing to the population’s risk by
47%-74% (Cavanagh et al., 2003). While this approach provides deeper information on factors related to suicidal behaviours that are not available in epidemiological studies, (Pouliot & De Leo, 2006), it does not use standardised methods, with an over reliance on multi informants likely to affect the reliability and validity (Abondo, Masson, Le Gueut, & Millet, 2008). The fact that most people diagnosed with a psychiatric disorder do not develop suicidal behaviours implies the interplay of further social and psychological risk and protective factors (Haw & Hawton, 2015). Additionally, the consistent gender disparity with more females experiencing suicide ideation than males (Zubrick et al., 2016) suggests that factors other than mental disorders seem to play an important role (Pridmore, 2014).

Importantly, research on suicide is complemented by low-base rate and consequently not practically and statistically simple to carry out (Klonsky et al., 2016; Zubrick et al., 2016). Also, social desirability effect may interfere with findings due to the stigma associated with suicide leading to under-reporting (Fairweather-Schmidt & Anstey, 2012). Additionally, Burless and De Leo (2001) have provided some understanding of some methodological issues in suicide research. In terms of recruitment strategies, probability sampling methods, in which individuals in the targeted population have an equal chance of being selected, seem to be the preferred technique used but nonetheless differ across studies affecting the generalizability of the findings. An illustration of this is found in Lamis and Lester (2013) study that examined the risk and protective factors in college students’ suicide ideation, students in psychology introductory course were recruited (Lamis & Lester, 2013). The chosen sample may have led to biased interpretations of findings. Recruitment challenges are also observed in epidemiological studies despite significant samples, due to the low prevalence of adolescents reporting suicidal behaviors and low consent rate, and thus affecting generalizability (Lawrence, Hafekost, et al., 2015; Zubrick et al., 2016). The type of instruments used can also raise methodological concerns. Instruments to assess suicide
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ideation and attempts often comprise of varied aims and content (Klonsky et al., 2016). Some studies derive their own questions; some utilize single item measures, while other studies perform full assessments that tap the severity, planning, frequency, intent, and communication of suicidal behaviours to obtain more accurate results (Klonsky et al., 2016). Relying on single items can compromise the reliability of the findings (Sun et al., 2006). Inconsistencies in definitions of terminologies are also observed to have enormous impact on prevalence rates, research outcomes and clinical correlates (Klonsky et al., 2016).

The operationalization of suicide ideation varies across studies from fleeting thoughts (De Luca et al., 2012) to intensity, frequency of suicidal thoughts, and plans (Conner et al., 2016) as measures of suicide ideation, which compromise the quality of outcomes (Klonsky et al., 2016). The time frame used in the assessment of suicidal behaviours ranging from “past one year”, “last week”, to “lifetime” is also found to have possible impact on research outcomes (Burless & De Leo, 2001), as well as influencing the accuracy of adolescent recalls of suicidal thoughts (Klimes-Dougan, 1998; Nock, Borges, Bromet, Alonso, et al., 2008). In regards to adolescent suicide ideation, Klimes-Dougan (1998) acknowledged the source of information on adolescent suicide ideation may affect research such that adolescent reports of suicide ideation indicate higher suicidality rates compared to parent reports of adolescent suicide ideation, which should be carefully handled in adolescent suicide research.

Recruitment issues in adolescent research have also been raised (J. Lamb et al., 2001; Zubrick et al., 2016), which are of relevance in adolescent suicide research, leading to underpowered studies. Gaining access to adolescents within the school setting, in particular, can be challenging. Recruitment within school settings are problematic for several reasons. Some schools are reluctant due to the lack of staff members or teachers, or the distrust or lack of motivation to get involved in research. Time constraints such as school holidays and exams that require researchers to extend the recruitment process, and unforeseen
circumstances such as teacher strikes, student illness, or school closings, become obstacles in
the recruitment process, especially when researchers have a time limit to complete the
recruitment. Lastly, recruiting adolescents within the school setting require the schools to
negotiate with parents, and this becomes problematic when parents are reluctant to
participate, show no interest in research, and do not give consent.

In sum, the ethical and methodological concerns discussed need careful consideration
before, during, and after the implementation of research studies in adolescent suicide. As
discussed earlier in this chapter, a developmental approach to adolescent suicide ideation is
recommended to better understand this phenomenon due to the significant changes that
happen in this phase (Wyman, 2014). As such, a range of individual and contextual factors
have been recognised.

**Individual and Contextual Factors Contributing to Adolescent Suicide Ideation**

Numerous risk and protective individual and contextual factors are identified in
suicide ideation research in adolescence. These factors will vary in association with groups
which may be a greater risk, including clinical populations (A. Miller, Esposito-Smythers, &
Leichtweis, 2015), lesbian, gay, bisexual, and transgender (LBGT) populations (Haas et al.,
2010), and home-based foster care (Sawyer, Carbone, Searle, & Robinson, 2007). For the
purpose of the present thesis, suicide ideation in community samples will be examined, based
on findings that incidence of suicide ideation is high during adolescence in the community
(Bridge et al., 2006; Johnson et al., 2011). A range of factors have been identified to have
significant contributions in the development of suicide ideation in adolescence, an in-depth
review of the factors is discussed in *Chapters 2 and 3*. Individual-related factors are
important in the understanding and prediction of adolescent suicide ideation. The literature
highlights the high predictive power of hopelessness (Lamis & Lester, 2013) and depressive
symptoms (Zubrick et al., 2016) in adolescent suicide ideation. However, the independent
associations of hopelessness and depressive symptoms with adolescent suicide ideation are inconclusive. Furthermore, while research recognises gender effects as a potential risk factor, findings are inconsistent in the independent relationships among hopelessness and depressive symptoms, and adolescent suicide ideation and how they vary by gender.

Parent-child relationships have also been identified as prominent predictors of adolescent suicide ideation (Consoli et al., 2013). Looking into the differential roles of mothers and fathers in adolescent suicide ideation have gained increasing attention in recent years with evidence showing that mothers and fathers have independent contributions (Fagan, Day, Lamb, & Cabrera, 2014; McKinney & Renk, 2008). While parental involvement, an aspect of parent-child relations, has been associated with adolescent suicide attempts (Flouri & Buchanan, 2002), mother involvement and father involvement, conceptualised separately, have not been explored in adolescent suicide ideation. Based on robust findings that positive father involvement is beneficial for adolescent developmental outcomes, mental health and psychological well-being (Carlson, 2006; Flouri & Buchanan, 2003a), the nature and contribution of father involvement in adolescent suicide ideation and whether this varies by adolescent gender have not been looked at and is thus warranted. Family functioning has also been identified as an important predictor of adolescent suicide ideation (Au, Lau, & Lee, 2009). However, the limited research in community samples, as well as examining the direct associations between family functioning and adolescent suicide ideation, are evident. Aside from individual and family related factors, peer (Sun et al., 2006) and teacher relations (McNeely & Falci, 2004) are also recognised as significant factors in adolescent suicide ideation. Despite this, there is a shortage of studies investigating the independent associations of peer and teacher relations on adolescent suicide ideation.

Considering the significance of each of the above mentioned factors in understanding adolescent suicide ideation, only a few studies have adopted a socio-ecological and
developmental approach in adolescent suicide ideation research (De Luca et al., 2012; Perkins & Hartless, 2002; Sun et al., 2006). Several studies have investigated these factors in isolation, with only a minority adopting a social-ecological conceptual perspective to test a model of suicide ideation in adolescents. These few studies, however, have failed to account for the combined influence of factors that may predict suicide ideation. For instance, Sun et al. (2006) adopted a socio-ecological approach, guided by Bronfenbrenner’s theory, by considering the roles of families, peers and teachers. However, the study did not account for parent-child relations which play a major role in adolescence. Likewise, De Luca et al. (2012) tested a model of suicide ideation, with a combination of factors such as parents, peers, and teachers, but overlooked the contribution of family functioning, which is an important context that is likely to influence adolescents’ well-being. Similarly, while Arria et al. (2009) assessed the contribution of parent-child relations and support from family and friends, the study overlooked the role of teachers. Hence, presently, there is a lack of research evaluating the combined interaction of parent-child, family functioning, peers, and teachers, in a model of suicide ideation in adolescents. It needs to be highlighted that these studies are not informed by a suicide theory (Arria et al., 2009; De Luca et al., 2012; Perkins & Hartless, 2002; Sun et al., 2006). The IPTS and the 3ST are two recent suicide theories providing explanations for the occurrence of suicide ideation. However, these theories are novel and thus lack empirical support. Moreover, they haven’t been tested in parenting and suicide-related research.

Taken together, a scarcity of studies exploring the combined contribution of individual, family, peer, and teacher-related factors in the understanding of adolescent suicide ideation is observed. Importantly, existing literature has traditionally focussed on risk factors with minimum attention given to the protective factors that enhance adolescents’ mental health against developing suicide ideation. Moreover, how to conceptualise the combined
effect of risk and protective factors in preventive efforts, have not been examined. Existing limitations in the literature on adolescent suicide ideation research have been highlighted in this review and thus offering grounds for the present study, that is, to adopt a socio-ecological approach.

**Rationale, Aims, and Hypotheses**

Developmentally different to other age groups, understanding suicide ideation in adolescents encompass the thoughtful consideration of these social contexts, such as, parent-child, family, peer, and teacher relations, in which suicide ideation is more likely to occur (Daniel & Goldston, 2009). Moreover, in view of the current research and conceptual, theoretical, and empirical gaps in the literature presented in this thesis, the present research allows an exploration of the combined risk and protective factors in the comprehension of adolescent suicide ideation. Combined risk and protective factors have been used in many other studies predicting adolescent developmental outcomes which have been useful in preventive measures. The current research adopts a developmental approach to adolescent suicide ideation that is informed by the Bronfenbrenner’s Bioecological Theory and with reference to the Interpersonal-Psychological Theory of Suicide and the Three-Step Theory.

Objectives for the present research will now be discussed to address these limitations and gaps by looking at the roles of mothers, fathers, family functioning, peers and teachers in adolescent suicide ideation and psychological well-being and to evaluate the combined contribution of individual, family (parent-child and family relations), peer, and teacher relations. The design of the current research was correlational and quantitative in nature.

The aim of Study 1 was to gain greater insight into adolescents’ experiences and relationships with their mother and father. It explored the differences in adolescents’ perceptions of maternal and paternal involvement and their associations with adolescent
suicide ideation and psychological well-being. It was hypothesised that adolescents’ perceptions of mother involvement and father involvement would differ significantly in their global mean scores with mother involvement having higher mean scores than father involvement, and across all the dimensions namely, *discipline and responsibility, school encouragement, mother/father support, providing, time and talking together, praise and affection, developing talents and future concerns, reading and homework support,* and *attentiveness*. It was also hypothesised that perceptions of overall mother involvement and father involvement as well as all the dimensions of involvement would be significantly and negatively associated with adolescent suicide ideation and positively associated with psychological well-being. The rationale behind *Study 1* was to contribute to existing knowledge of the differential perceptions of mother involvement and father involvement and provide further insight into their specific dimensions, which are likely to be related to adolescent suicide ideation and psychological well-being. Exploring the dimensions of father and mother involvement will add knowledge to the specific aspects that are essential to the understanding of suicide ideation and psychological well-being in adolescents.

The aim of *Study 2* was to identify potential predictors across individual, family, peer, and teacher dimensions by examining the unique and combined contribution of father involvement, mother involvement, family functioning, peer attachment, teacher support and adolescent emotional distress and psychological well-being to adolescent suicide ideation, with father involvement as the key independent variable. It was also hypothesised that father involvement would independently and significantly predict adolescent suicide ideation over and above the other variables included in the model.
Chapter 2: Study 1

Differences in Adolescents’ Perceptions of Mother and Father Involvement and Relationship with Suicide Ideation and Well-Being.

Parents continue to have a fundamental role in adolescence even though adolescence is characterised by a search for autonomy, independence, and identity accompanied by emotional separation and reduced interaction with parents (Smokowski, Bacallao, Cotter, & Evans, 2015). While it is acknowledged that parents are undeniably significant figures in adolescence, there is an ongoing debate vis-à-vis the similarities and differences between the characteristics of fathering and mothering and how they are related to adolescent developmental outcomes, including their mental health and well-being (Cabrera, Fitzgerald, Bradley, & Roggman, 2014). Similarly, the significant roles of parents have been highlighted in adolescent suicide ideation research (Arria et al., 2009; Conner et al., 2016; Connor & Rueter, 2006; De Luca et al., 2012), with particular attention to the role of fathers (Conner et al., 2016; De Luca et al., 2012). The introductory section of this chapter will focus on a review of the literature about adolescent perceptions of parenting behaviours, followed by a discussion of mother involvement and father involvement, with a particular focus on the latter. The contribution of mothers and fathers to the understanding of adolescent mental health, including adolescent suicide ideation, will be also reviewed.

Adolescent Perceptions of Parenting Behaviours

Existing research demonstrate the differential parenting behaviours adopted by mothers and fathers, whereby parenting is understood as a set of behaviours, influenced by attitudes and beliefs, portraying how parents interact and communicate on a day-to-day basis with their offspring (McKinney & Renk, 2008) and is an indication of the quality of the parent-child relationship. Role Theory provides explanations on the differences in mothers and fathers’ parenting behaviours (Hosley & Montemayor, 1997). According to Role Theory,
mothers are traditionally known as the primary caregivers, are socialised to be caring and warm towards their children, whereas fathers are known to be the disciplinary figure and are providers in the family and therefore are less likely to be caring and warm towards children. These social roles have led to differences in the way mothers and fathers parent. However, changes in social roles and family structure, with more women in the workforce and higher rates of divorces, the roles of fathers are transforming and they are becoming more involved in parenting (Amato, 1994; McKinney & Renk, 2008). Families’ demographics seem to change over time and it is thus essential to continually explore both the roles of mothers and fathers (McKinney & Renk, 2008).

Adolescents’ differing perceptions of mothers’ and fathers’ parenting behaviours, in particular, have been shown in several studies. In a longitudinal investigation of 518 adolescents aged 12 to 17 years, Lansford, Laird, Pettit, Bates, and Dodge (2014) showed that adolescents perceive their mother to use more psychological control than their fathers and have more knowledge about their whereabouts and activities than fathers do. In another study conducted in Japan with adolescents and adults, participants perceived mothers to use a more authoritative parenting style than fathers (Uji, Sakamoto, Adachi, & Kitamura, 2014). Likewise, in another recent study conducted in Italy, Greece and Sweden with 805 adolescents aged 16 to 19 years old, mothers were perceived as more permissive, authoritative and authoritarian than fathers (Olivari, Hertfelt, Maridaki-Kassotaki, Antonopoulou, & Confalonieri, 2015). Additionally, in a study of 116 adolescents in grades 6 to 8, significant differences in adolescents’ perceptions and relationships with mothers and fathers were found (S. K. Williams & Kelly, 2005). Adolescents reported deeper feelings of attachment with their mothers than fathers, and also perceived their mothers to be more involved. In a cross-sectional study conducted in New Zealand comprising 393 adolescents aged 13 to 19 years, adolescents reported their mother to be more responsive than their father,
expressed their relationships with their mother to be of a stronger quality of affect than fathers and also looked for their mother in support seeking situations more than their father (Paterson, Field, & Pryor, 1994). Discrepancies in the evaluations of mother and fathers were also observed in terms of their parenting styles and involvement. Differences in parental involvement, one aspect of the parent-child interaction literature, defined as the care for children that is characterised by engagement, availability, and responsibility, has also been demonstrated (Flouri & Buchanan, 2002) in a longitudinal study of 244 adolescents (Paulson & Sputa, 1996). Ninth and twelfth grade year adolescents perceived higher involvement of mothers than fathers on the school work and school function dimensions. On the achievement values dimension, adolescents did not perceive mothers and fathers differently on the parental involvement construct. In the same study, adolescent perceptions of parenting styles also varied, reporting their mother to be more responsive and demanding than their father.

Similarly, in Quach, Epstein, Riley, Falconier, and Fang (2015) study of 996 Chinese adolescents aged 16 to 19 years, findings indicate that adolescents perceived mothers to display higher levels of pressure and warmth than fathers. There is evidence that adolescents’ evaluations of mothers and fathers are influenced by adolescent gender (Uji et al., 2014). In a review by McKinney and Renk (2008), sons are more likely to perceive their father to lack warmth and more distant and view their mother to be more supportive and warm as well as intrusive and overprotective. On the other hand, daughters report spending less time with their father and see their father as a figure of authority, whereas mothers are depicted as supportive (Holmbeck, Paikoff, & Brooks-Gunn, 1995). Likewise, boys reported both mothers and fathers to be more permissive and authoritarian than girls in the study of parenting styles in Italy, Sweden and Greece (Olivari et al., 2015). However, no differences were found in Quach et al. (2015) study of Chinese adolescents, both female and male adolescents reported higher levels of warmth and pressure displayed by mothers. Evidence
surrounding adolescents’ differential perceptions of mothers and fathers’ parenting behaviours is clearly evident. However, given the conceptual limitations and dated nature of past findings, researchers have then proposed to broaden the conceptualisations of maternal and paternal parenting to take into account both traditional and contemporary roles of mothers and fathers and their influence on adolescent outcomes (A. J. Hawkins & Palkovitz, 1999; Palkovitz, 1997).

**Quality of Parent-Child Relationships and Adolescent Mental Health**

Relationships between parents and their children have been studied from a number of theoretical perspectives, including Attachment Theory (Bowlby, 1982), Belsky’s Process Model of Parenting (Belsky, 1984), Bronfenbrenner’s Model (Bronfenbrenner, 1994), and the Ecology of Father-Child Relationships: An Expanded Model (Cabrera et al., 2014). The powerful impact of the strength of the parent-child relationships on children’s well-being has a long research tradition with current evidence indicating a direct impact on adolescent mental health (Consoli et al., 2013; LeMoyne & Buchanan, 2011; Mackin, Perlman, Davila, Kotov, & Klein, 2016; Smokowski et al., 2015). Wang and Sheikh-Khalil (2014) supports this line of research in a study of 1,056 adolescents aged between 15 and 17 years, showing parental involvement, conceptualised as, home-based involvement, academic socialisation, and school-based involvement, significantly predicted adolescent mental health measured as depressive symptoms. In a different study of 317 students with a mean age of 19 years, helicopter parenting, also known as overinvolvement of parents, was negatively associated with students’ psychological well-being (LeMoyne & Buchanan, 2011).

Parent-child relations have also been found to be linked with specific mental health outcomes such as adolescent suicide ideation. In a longitudinal study of 1,265 children studied at different intervals from birth till 21 years, findings revealed that adolescents aged
between 15 and 21 years reporting suicidal behaviours (suicide ideation and attempts) were more likely to report poor parent-child attachment in childhood (Fergusson, Woodward, & Horwood, 2000). Furthermore, in a cross-sectional study of 36,757 adolescents aged 17 years, having a negative relationship with parents increased risk of suicidal behaviours in depressed adolescents (Consoli et al., 2013). On the other hand, having warm and supportive parents can be protective against suicidal thoughts and behaviours; high parent connectedness was found to be protective, reducing the likelihood of adolescents (in grade nine to 12) to report suicide ideation (Taliaferro & Muehlenkamp, 2014). In the same way, in a longitudinal study of 13,234 adolescents aged 11 to 18 year, adolescents reporting high parent-child connectedness were less likely to express suicide ideation (Kuramoto-Crawford, Ali, & Wilcox, 2016). Similar findings were obtained in another longitudinal study of 550 female adolescents with a mean age of 14.39 years, in that higher levels of parental support had a buffering effect reducing levels of suicide ideation in stressed adolescents (Mackin et al., 2016). This buffering effect was even found to be stronger than peer support. Furthermore, evidence indicates that parent-child relations are potential mediators in buffering relationships and protective against suicidal behaviours. For instance, in a study of 300 Malaysia and Indian students aged 18 to 25 years old, perceived social support from significant others, family and friends, significantly mediated the relationship between stress and suicide ideation, in which perceived strong social support buffered against stress and protected students against suicide ideation (Khan, Hamdan, Ahmad, Mustaffa, & Mahalle, 2016). In another longitudinal study of 9404 elementary, middle, and high school students, investigation the mediation of parental support in the association between stress and suicide ideation, findings revealed that high parental support was uniquely related to reduced suicide ideation and buffered the association between stress and suicide ideation (Kang et al., 2017). Likewise, for both mothers and fathers, parental attachment mediated the relationships
between permissive and authoritative parenting styles and suicide ideation in 604 adolescents aged 15 to 18 years old (Nunes & Mota, 2017).

**Mother Involvement**

Mothers, as primary caregivers, have long been acknowledged, in particular, through the formulation of Bowlby’s Attachment Theory (Bowlby, 1982). Attachment refers to the secure emotional bond that originates between the child and the primary caregiver who is generally the mother (Bowlby, 1973), that is formed in childhood and across the lifespan (Chen et al., 2017), shaping child’s trust and security in caregiver (Bowlby, 1982). Attachment is vital for development and well-being and disruptions to this attachment may lead to psychopathology symptoms (Bowlby, 1982). A range of studies have demonstrated the significance of mothers in adolescents’ developmental outcomes and mental health (Chen et al., 2017; Laible, 2007). For instance, in a study of high school students assessing the quality of attachment conceptualized as care and control, findings revealed that adolescents reporting high maternal care and low control also reported less distress, better social support and well-being (Canetti, Bachar, Galili-Weisstub, Atara, & Shalev, 1997). Likewise, in another study, adolescents reporting secure attachment with mother were more likely to exhibit prosocial behaviours (Laible, 2007) and higher maternal attachment was associated with higher life satisfaction in a different study with adolescents (Chen et al., 2017).

**Mother involvement and adolescent mental health and psychological well-being.**

Evidence is consistent in demonstrating the important role of mother involvement in adolescents’ mental health and well-being. In Flouri and Buchanan (2003a) study of 2,722 adolescents with an age range between 14 and 18 years old, mother involvement, conceptualised as time spent, talking, future plans, and interest in school work, was significantly and positively associated with adolescents’ psychological well-being. In another
study of 349 families with an adolescent child of 11 to 14 years old, high mother involvement contributed significantly and independently to high levels of prosocial behaviour and hope (Day & Padilla-Walker, 2009). Similarly, in a longitudinal study of 1,056 adolescents aged 15 to 17 years old, parental involvement, conceptualised as academic socialisation, home-based, and school-based, was found to be significantly correlated with adolescents’ emotional functioning (Wang & Sheikh-Khalil, 2014). Mother-child relations have also been studied in the understanding of suicide ideation in adolescence.

**Mothers and adolescent suicide ideation.** In addition to the significant relationship between parent-child relations and adolescent suicide ideation discussed earlier, mother-adolescent relations, in particular, are also reported to contribute to adolescent suicide ideation. In the study of Arria et al. (2009) comprising 1,249 students aged 17 to 19 years old, it was reported that high levels of conflict with mothers was significantly and positively associated with suicide ideation in the presence of depressive symptoms. In another longitudinal study, high maternal conflict was significantly related to increased levels of adolescent suicidal behaviours including suicide ideation (Connor & Rueter, 2006). In a more recent study of 13,234 adolescents aged 11 to 18 years old, perceived connectedness with mothers was associated with decreased likelihood of reporting suicide ideation (Kuramoto-Crawford et al., 2016). Similarly, in a study comprising Chinese adolescents with a mean age of 14.74 years, parental warmth was negatively associated with suicide ideation (Li, Li, Wang, & Bao, 2016). On the other hand, in a study of 36,757 adolescents aged 17 years old, adolescents reporting a negative relationship with their mother were more likely to report suicide ideation (Consoli et al., 2013). These findings support the literature of the contribution of mother-child relations in the understanding of adolescent suicide ideation. As discussed earlier, several studies have demonstrated that positive mother involvement improves adolescent psychological well-being (Day & Padilla-Walker, 2009; Flouri &
Buchanan, 2003a; Wang & Sheikh-Khalil, 2014). In the investigation of the involvement construct, one study examined the role of parental involvement, measured as a single construct, in adolescent suicide attempts (Flouri & Buchanan, 2002); however, no study has looked at the role of mother involvement in the understanding of suicide ideation. Further, research suggest that fathers are equally important in adolescent’s development and well-being (M. E. Lamb, 2010) as well as suicide ideation in adolescents (Conner et al., 2016).

**Father involvement**

Whether fathers make a unique contribution above and beyond mothers, have intrigued many (Amato, 1994; Pleck, 2012). Traditionally perceived as the moral teacher, breadwinner and disciplinarian to gender role ideal, research has witnessed growing attention on the construct of father involvement due to changes in social roles of parents, as a result of greater maternal employment, in addition to political and technological changes (Amato, 1994; Cabrera, Fitzgerald, Bradley, & Roggman, 2007; Carlson, 2006; Pleck, 2012; Schoppe-Sullivan, McBride, & Ho, 2004) and a need to investigate fathers in response to rapid transformations in family life (Cabrera, Tamis-LeMonda, Bradley, Hofferth, & Lamb, 2000). The literature previously and even now dominated by research on mothering, there is consistent evidence of the positive impact of father involvement on children and adolescents well-being and developmental outcomes (Amato, 1994; Pleck, 2012; Sarkadi, Kristiansson, Oberklaid, & Bremberg, 2008; Schoppe-Sullivan et al., 2004).

**Theoretical models and approaches.** Despite the growing interest in father involvement, the lack of unique theoretical framework specifically addressing the aspects of fathering, particularly why fathers parent the way they do and how they contribute in children’s developmental outcomes is evident (Cabrera et al., 2014). As such, this challenges the advancement of knowledge on positive father involvement and child developmental outcomes (Cabrera et al., 2014) and also in determining how fathers directly and indirectly
influence and contribute to children’s developmental outcomes (Pleck, 2007, 2010). Furthermore, the lack of theory on fathering obstruct the development of appropriate measures of father involvement that may help in designing programs to enhance positive father-child relationships and child outcomes (Cabrera et al., 2014).

The shortage of theoretical approach specifically guiding research in fathering has led to a recently proposed heuristic model, termed the Ecology of Father-Child Relationships: An Expanded Model (Cabrera et al., 2014), taking into consideration the contemporary roles of fathers. Adopting ideas from Belsky’s process model of parenting (Belsky, 1984), which proposes that child characteristics, parent’s characteristics (psychological well-being and personality) and social contexts (marital relations, social networks and work experiences of parents) that are present in the parent-child relationship setting, directly influence parenting, and consecutively, influencing child development and Bronfenbrenner’s ecological theory, the model specifically addresses the reciprocal and transactional interactions of father-child relationships. The two models, however, do not explicitly address particular contexts that are possibly significant for fathers nor distinctively situate fathers in family contexts (Cabrera et al., 2014). The Expanded Model addresses these gaps, proposing that reciprocity, heterogeneity and malleability are necessary concepts to better explain the way fathers parent. In addition, as opposed to Bronfenbrenner’s model explaining development in concentric circles with systems influencing different levels hierarchically, the Expanded Model further posits that all systems synergistically interact, influencing each other (Cabrera et al., 2014).

The heuristic model places fathers in contextualised dynamic systems in which fathers’ parenting are associated with children’s behaviours (directly and indirectly) via other relationships (family) and factors (work, social network, history, maro-social factors). The
model also demonstrates the child as actively contributing to his/her own development, represented in the father-child reciprocal interactions. It takes into account the changes in the parent-child relationship and external factors (peers, jobs policies) over time due to changes occurring in the child’s development and parents’ lives as well as changes in external factors that may alter the parent-child relationship. For instance, a father having financial problems, will not only affect his psychological well-being and the way he parents his child, but will also affect his capability to provide the necessary resources for his child, partner and the family as a whole (Cabrera et al., 2014).

Existing research lends support to several components of this recent model. In regards to fathers’ characteristics, for instance, fathers who were older and possessed higher education were more likely to be involved with their offspring (V. King, Harris, & Heard, 2004; Rangarajan & Gleason, 1998). In another study (Coley & Hernandez, 2006), fathers’ income was positively and directly/indirectly associated with father involvement through parental conflict, and greater psychological distress reported by fathers predicted higher parental conflict and in turn, lower father involvement. Further, children’s characteristics, such as, difficult temperament, was significant in predicting greater parental conflict, and in turn, lower father involvement (Coley & Hernandez, 2006). In a study conducted by McBride, Schoppe, and Rane (2002), child’s temperament was strongly associated with father involvement and varied with child’s gender. On the other hand, fathers reporting higher levels of psychological well-being also reported greater involvement with their children (Coates & Phares, 2014). Other findings have demonstrated the link between fathers’ work and involvement with children (Hofferth & Sandberg, 2001; Hook & Wolfe, 2012). Different pathways of association have also been observed, for example, support and responsiveness exhibited by fathers during play with children were found to be related to later skills (language and self-regulation) (Cabrera, Shannon, & Tamis-LeMonda, 2007).
these findings, more empirical research is needed to support this recent model (Cabrera et al., 2014).

**Challenges in father involvement assessment and research.** Moving forward, it is now recommended that the same parenting constructs for both fathers and mothers are utilised in the examination of child outcomes (Fagan et al., 2014). There is now convergence in how mothers and fathers define their parenting roles and the time spent with their children, that is, the same qualitative and quantitative analyses of parenting constructs need to be used for both mothers and fathers (Fagan et al., 2014). In this way, using the same measures to assess father involvement and mother involvement allows better understanding of the influence of father involvement on children’s developmental outcomes and addresses gender differences (Fagan et al., 2014). Despite increasing evidence demonstrating the salience of fathers in adolescents’ development and well-being, research in the field is rigorous with several methodological concerns hindering deeper explorations of father involvement influences (Pleck, 2012). The majority of studies examining the unique effects of father involvement on child development outcomes rely on single source data, that is, the same person rating father involvement and child outcomes (Amato & Rivera, 1999). For example, Cookston and Finlay (2006), Amato (1994), Carlson (2006), Flouri (2005), (D. N. Hawkins, Amato, & King, 2007), and Flouri and Buchanan (2003a) are all based on adolescents’ ratings of father involvement and their own developmental outcomes. Using single source data are likely to result in shared-method variance in which findings are likely due to the method of measuring father involvement rather than the true effects of father involvement, and thus biased (Amato & Rivera, 1999).

Another methodological concern is that many studies fail to control for mother involvement in analyses (Cookston & Finlay, 2006; Flouri, 2005; D. N. Hawkins et al., 2007). Father involvement and mother involvement are generally correlated (Pleck &
Hofferth, 2008). Failing to control for mother involvement in the independent estimations of father involvement on children’s outcomes may lead to biased results (Pleck, 2012). For instance, father involvement may be possibly strong in families where mother involvement is also strong, and thus the focus on father involvement’s contribution may be exaggerated once mother involvement is taken into account (Fagan et al., 2014; M. E. Lamb, 2010; Pleck, 2012).

Another limitation observed is that most studies do not control for father characteristics (Carlson, 2006) and marital quality, for example Carlson (2006), Amato (1994), and Cookston and Finlay (2006), both affecting father involvement and the significant relationship between positive father involvement and adolescent developmental outcomes may be biased if father characteristics and marital quality are not considered. For example, fathers who reported low marital satisfaction also reported less involvement with children (Christopher, Umemura, Mann, Jacobvitz, & Hazen, 2015) and fathers reporting higher parental conflict also reported lower father involvement (Coley & Hernandez, 2006), while fathers reporting higher psychological well-being also reported higher involvement (Coates & Phares, 2014). Based on these findings, failing to control for marital quality and father characteristics, may alter the associations between father involvement and adolescent development. Furthermore, growing evidence indicate the role of fathers in the mental health and well-being of adolescence.

**Father involvement and adolescent mental health and psychological well-being.**

Several studies support the contribution of positive father involvement and adolescent outcomes, mental health and well-being, noting that these studies usually include mother involvement as well. In a study by Cookston and Finlay (2006), father involvement, defined as discussing personal concerns, shared activities, and closeness, was uniquely associated with delinquency in 2,837 adolescents aged 11 to 19 years. Findings showed that father
involvement (reported by adolescents) was uniquely related to adolescents’ delinquency, alcohol use and depressive symptoms, even after adolescent age and gender, and mothers and fathers’ education were controlled. Furthermore, higher father involvement emerged as a significant predictor in reducing adolescent depressive symptoms even after other confounding variables including mother involvement were controlled.

In another study, Flouri and Buchanan (2003a) investigated the role of father involvement (conceptualised as time spent, talk about worries, interest in school work, and helping in making plans for future) in adolescents’ (aged 14 to 18 years) psychological well-being, father involvement as perceived by adolescents, was independently and significantly associated with adolescents’ psychological well-being (measured as happiness) through hierarchical logistic regression analyses. Additionally, father involvement was an important predictor of happiness even after mother involvement, socio-economic status, child age and gender, self-efficacy, depressive symptoms and inter-parental conflict were controlled. Moreover, contrary to what was hypothesised, no gender differences were observed in the association between father involvement and adolescents’ psychological well-being. Similarly, in a retrospective study, nurturant fathering and father involvement during adolescence as reflected by adult daughters was positively associated with self-esteem and life satisfaction of adult daughters (Allgood, Beckert, & Peterson, 2012).

Father involvement has also been found to contribute to children’s mental health outcomes across the lifespan. For example, in a longitudinal study conducted by Flouri and Buchanan (2003b), findings revealed that father involvement at age 7 was protective against psychological adjustments at age 16 and father involvement and age 16 had a protective effect against psychological distress in females (age 33). In a study conducted by Amato (1994), findings support the belief that fathers are important in young adults’ lives. Adults (19 years and older) reporting closeness with fathers (reported by offspring) also reported
higher life satisfaction, less distressed and more happy for both daughters and sons independently of closeness to mothers when confounding variables age, gender, marital status, employment, education, number of children and intact/non-intact parents) were controlled.

A significant contribution to the fathering literature was made by Amato and Rivera (1999) cross-sectional study in demonstrating the unique influence of father involvement on children’s behaviours. Findings showed that father involvement (as reported by fathers), conceptualised as time, support and closeness was independently linked to children’s (aged 8 to 18 years) behaviour problems (exhibited at home and at school) and father involvement was negatively associated with behaviour problems (reported by mothers), even after mother involvement was controlled. Carlson (2006) longitudinal study of 2,733 adolescents aged 10 to 14 years, also contributed to the field in demonstrating that father involvement (measured on 7 items) was directly associated with adolescents’ behavioural problems, such that high levels of father involvement significantly predicted lower behavioural outcomes (internalising and externalising behaviours), consistent with current evidence of the positive father involvement influence on children. Moreover, as opposed to what was hypothesised, high father involvement was evenly beneficial for both males and females. In another longitudinal study, D. N. Hawkins et al. (2007) examined adolescents’ well-being (externalising and internalising problems and academic achievement) and tested a father effect and a child effect model via cross-lagged design. Based on adolescents’ reports of father involvement (conceptualised as shared activities, contact, closeness and communication), both model were supported for resident fathers. Thus, research is apparent in demonstrating that positive father involvement is beneficial for adolescent mental health and well-being.
**Fathers and adolescent suicide ideation.** As discussed earlier, robust evidence point to the pivotal role of parent-child relations in adolescent suicide ideation, with observations made to the differential contributions of mothers and fathers separately. Intriguingly, a small promising body of research indicate the significant role of fathers in the understanding of suicide ideation in adolescence. This is clearly portrayed in a study of De Luca et al. (2012), whereby perceived high father connectedness was significantly associated with reduced suicide ideation in adolescents while having a caring mother was not. Similarly, in a recent longitudinal study of 921 children and adolescents (17 years and younger), findings revealed that perceived higher connectedness with fathers (assessed as helping, communication, and closeness) but not mothers had a protective effect on adolescents, lowering the risk of suicidal behaviours (ideations, plans, and attempts) even after adjusting other factors (Conner et al., 2016). In suicide research, parental involvement has been examined as a single parental construct, conceptualised as loving, understanding, listening, having time to spend with child, encourage child to take own decisions, giving guidance about life, helpful, and giving attention, was found to be protective in reducing adolescent (aged between 14 and 19 years) suicide attempts (Flouri & Buchanan, 2002). The authors found that higher parental involvement was protective, lowering the risk of suicide attempts in adolescents from a community sample. However, despite these findings, the parental involvement construct, more precisely, the separate contribution of mother involvement and father involvement has not been explored in adolescent suicide ideation research. Moreover, in view of the robust findings of the role of positive father involvement in adolescent mental health and well-being (Carlson, 2006; Flouri & Buchanan, 2003a, 2003b; D. N. Hawkins et al., 2007), whether father involvement independently plays a significant role in the understanding of adolescent suicide ideation has not been looked at and is thus needed.
It is possible that father involvement is different for male and female adolescents. Based on gender socialisation and social learning theory, fathers are more likely to have a significant role and more involved in their sons’ lives than daughters (Rossi, 1990). A possible explanation is the advantaged opportunity and external expectations of socialising like-gender adolescents (Harris & Morgan, 1991). Some studies support the theory showing that father involvement is more beneficial for sons than daughters, for instance, Harris and Morgan (1991) and (Barnett, Marshall, & Pleck, 1992) both demonstrated gender differences in how involved fathers are. Despite these, several studies have also found no gender differences, contrary to what they hypothesised, for example, Amato (1994) and Carlson (2006), showing that fathers are beneficial for both sons and daughters. This suggests that findings regarding whether father involvement significantly vary by adolescent’s gender is still inconclusive.

Hence, study 1 aims to gain a deeper understanding of adolescent’s experiences with his/her mother and father independently rather than as a single parental construct. Previous findings have indicated mothers and fathers to have differential roles in adolescent mental health and well-being (Day & Padilla-Walker, 2009) and recent findings further showed their differential contributions in the explanation of suicide ideation (De Luca et al., 2012). Guided by Bronfenbrenner’s theory, the IPTS, and the 3ST, the present study intends to explore these relationships by examining the differences in adolescents’ perceptions of mother involvement and father involvement and their associations with adolescent suicide ideation and psychological well-being.

**Method**

**Participants**

The current study comprised 46 adolescents living in and attending a secondary school or university at undergraduate level. Inclusion criteria of the study entailed
adolescents in the age range of 15 to 19 years old, from a non-clinical population, living with biological parents, step-parents or single parents, and residing in Victoria, Australia.

Exclusion criteria comprised adolescents living in out of home care. Adolescents were aged between 15 and 19 years old ($M = 16.59$, $SD = 1.28$) with 13 males (28%) and 33 females (72%). The sample was predominantly females. Thirty-five percent of the sample was aged 17 years and 26% was aged 15 years. Majority of adolescents (85%) were born in Australia and of diverse ethnic background. There were 124 adolescents who expressed interests in participating while only 46 (37%) completed the questionnaire, 11 (9%) declined participating at a later stage, five (4%) did not complete the questionnaire and were removed from the data analysis. In regards to the return rate, only 51 (41%) sent back the questionnaire.

Table 1

*Demographic Characteristics of Study 1 and Study 2 Adolescents*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Adolescents N = 46</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>13 (28%)</td>
</tr>
<tr>
<td>Female</td>
<td>33 (72%)</td>
</tr>
<tr>
<td>Mean age in years (SD)</td>
<td>16.59 (1.28)</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
</tr>
<tr>
<td>Australian</td>
<td>19 (41%)</td>
</tr>
<tr>
<td>Lebanese</td>
<td>4 (9%)</td>
</tr>
<tr>
<td>Indian</td>
<td>4 (9%)</td>
</tr>
<tr>
<td>Caucasian</td>
<td>4 (9%)</td>
</tr>
<tr>
<td>Italian</td>
<td>2 (4%)</td>
</tr>
<tr>
<td>Other</td>
<td>10 (22%)</td>
</tr>
<tr>
<td>Missing</td>
<td>3 (6%)</td>
</tr>
<tr>
<td>Country of birth</td>
<td></td>
</tr>
<tr>
<td>Australia</td>
<td>39 (85%)</td>
</tr>
<tr>
<td>New Zealand</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>Nepal</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>England</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>Other</td>
<td>4 (9%)</td>
</tr>
<tr>
<td>Child order</td>
<td></td>
</tr>
<tr>
<td>First</td>
<td>21 (46%)</td>
</tr>
<tr>
<td>Second</td>
<td>19 (41%)</td>
</tr>
<tr>
<td>Grade</td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>--------</td>
</tr>
<tr>
<td>Grade 9</td>
<td>5 (11%)</td>
</tr>
<tr>
<td>Grade 10</td>
<td>11 (24%)</td>
</tr>
<tr>
<td>Grade 11</td>
<td>13 (29%)</td>
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<tr>
<td>Grade 12</td>
<td>11 (24%)</td>
</tr>
<tr>
<td>First year undergrad</td>
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<tr>
<td>Second year undergrad</td>
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<table>
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<th>Family structure</th>
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<td>Biological parent/step-parent</td>
<td>43 (94%)</td>
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<tr>
<td>Single parent</td>
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<tr>
<td>Missing</td>
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<th>Smoke</th>
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<td>3 (7%)</td>
<td></td>
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<tr>
<td>No</td>
<td>43 (93%)</td>
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<tbody>
<tr>
<td>Yes</td>
<td>3 (6%)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>43 (94%)</td>
<td></td>
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<tr>
<th>Alcohol</th>
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<tbody>
<tr>
<td>Yes</td>
<td>15 (33%)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>31 (67%)</td>
<td></td>
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<tr>
<th>Mental health problems</th>
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<tbody>
<tr>
<td>Yes</td>
<td>11 (24%)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>35 (76%)</td>
<td></td>
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<table>
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<tr>
<th>Romantic relationship</th>
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<tbody>
<tr>
<td>Yes</td>
<td>10 (22%)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>36 (78%)</td>
<td></td>
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<table>
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<tr>
<th>Hours on social media daily</th>
<th></th>
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<tr>
<td>Less than 1 hour</td>
<td>9 (19%)</td>
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<tr>
<td>1 to 2 hours</td>
<td>10 (22%)</td>
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<td>2 to 3 hours</td>
<td>11 (24%)</td>
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<tr>
<td>3 to 4 hours</td>
<td>11 (24%)</td>
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<tr>
<td>4 hours and above</td>
<td>5 (11%)</td>
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<th>Physical activity</th>
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<tr>
<td>Yes</td>
<td>40 (87%)</td>
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<tr>
<td>No</td>
<td>6 (13%)</td>
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</tbody>
</table>

**Measures**

Adolescents self-reported on several measures, namely, father involvement, mother involvement, psychological well-being, and suicide ideation. These constructs of interest in the study were assessed to capture adolescents’ experiences and their relationship with their mother and father.
**Demographic information.** Adolescents reported on several demographics and characteristics such as age, gender, ethnic background, birthplace, child order, grade, smoking, drugs, alcohol, family structure, mental health problems, romantic relationship, number of hours spent on social media, and physical activity as reported in Table 1. Note that questions on drugs, smoking, alcohol, romantic relationship, and physical activity had only a “yes” or “no” answer, no further details were asked.

**Father involvement.** The short version of the Inventory of Father Involvement (IFI; A. J. Hawkins et al., 2002), a 26-item self-report was used as a measure of father involvement. The IFI assesses how good a job fathers are doing in bringing up their child, tapping the cognitive, affective and behavioural domains (direct and indirect) of father involvement. The father involvement construct captures nine distinct dimensions, namely, Discipline and Responsibility, School Encouragement, Mother Support, Providing, Time and Talking Together, Praise and Affection, Developing Talents and Future Concerns, Reading and Homework Support, and Attentiveness. All of the dimensions consist of three statements each to rate, with the exception of Providing, comprising of only two statements. The IFI required adolescents to rate their fathers on a 7-point scale ranging from 0 = Very Poor to 6 = Excellent. Higher scores indicate higher involvement. The IFI measure has been utilised with children and adolescents (Day & Padilla-Walker, 2009; Flouri, 2005). Strong face and concurrent validity, and internal consistency reliability of the global Father Involvement construct (α = 0.98) were demonstrated (A. J. Hawkins et al., 2002). In the present study, strong internal reliabilities are reported for the nine dimensions (ranging from α = 0.84 to α = 0.97) and global father involvement (α = 0.98).

**Mother involvement.** Adolescents rated mother involvement on the IFI, modified for mothers. Strong internal reliabilities are reported across all the dimensions (ranging from α = 0.83 to α = 0.94) and global mother involvement (α = 0.98).
**Suicide ideation.** Adolescent suicide ideation was assessed via the self-report Depressive Symptom Inventory - Suicidality Subscale (DSI-SS; Metalsky & Joiner, 1997). The DSI-SS is a 4-item questionnaire, item A assessing the intensity, items B and C assessing frequency and plans of suicide ideation and item D measuring impulses for the last two weeks. Each item comprised four statements and adolescents were required to choose the statement that best applies to them. Each item was scored ranging from 0 to 3 and higher scores on the DSI-SS suggest higher severity of suicide ideation. The DSI-SS is reported to have good psychometric properties and has previously been used with an Australian sample population (Joiner, Pfaff, & Acres, 2002). In the present study, the DSI-SS reported strong Cronbach alpha (α = 0.94). The cut-off point used in the present study was 1 and above.

**Psychological well-being.** Adolescents’ psychological well-being was assessed via the Ryff Scales of Psychological Well-being (Ryff & Keyes, 1995). The self-report Ryff Scales is a 42-item version of the original questionnaire, designed to assess six domains of psychological well-being at the time of administration on six-point scale ranging from 1 = *Strong disagreement*, to 6 = *Strong agreement*. The domains explored include Self-Acceptance, Positive Relations with Others, Autonomy, Environmental Mastery, Purpose in Life, and Personal Growth. High scores indicated mastery of domain in respondent’s life. For the purpose of the present study, the overall score of psychological well-being was used. Ryff Scales has good psychometric properties (Ryff & Keyes, 1995). Strong internal reliability of the Ryff Scales was reported in the present study (α = 0.93).

**Procedure**

Participants completed the Adolescent Questionnaire Package (Refer to Appendix A) via the web-based software Qualtrics. All participants completed the demographic section, followed by self-report measures assessing father involvement, mother involvement,
emotional distress, psychological well-being, family functioning, peer attachment and teacher support.

Once approval was obtained from RMIT Ethics Committee (Refer to Appendix B) and the Department of Education (Refer to Appendix C), participants were recruited through several sources. A combination of simple random sampling cluster, in which participants are chosen at random and have an equal chance of being selected and convenience sampling, whereby participants are recruited based on their convenient accessibility (Field, 2009), were used. Several schools in Victoria were approached for permission to conduct research in the school setting. This comprised sending an email to principals of each school, with information regarding the research, a copy of the Information Sheet for Adolescents, the Questionnaire Package, the Recruitment Flyer (Refer to Appendix D) and the ethics approval letter. However, due to administrative reasons and sensitivity of the research topic, most of the schools declined to participate and the rest did not respond. Other strategies were then utilized to recruit participants, including the creation of a Facebook page. This encompassed sharing the study page to various psychology related pages and groups as well as inviting people to like the page. The Recruitment Flyer was posted on the page and interested participants were required to send a private message expressing their interests to participate in the research study. Participants were also recruited during the RMIT Open Day in 2016 as well as advertising in the RMIT Update, a weekly ebulletin for all RMIT staff members. The Commission for Children and Young People agreed to distribute our Recruitment Flyer via their email distribution lists. Other recruitment strategies included posting the recruitment flyer on several forums and blogs that target adolescents and families namely ReachOut.com, Relationships Australia Victoria and Whirlpool. Organisations such as Beyond Blue, Headspace and YMCA denied participation due to confidentiality reasons. Of all the various sources of recruitment, potential participants who agreed to participate were those
approached at the RMIT Open Day (80%), via the Facebook Page (10%), and through the RMIT weekly ebulletin (10%).

Interested participants, adolescents and their parents, were then asked to provide their email address and phone number. Prior to adolescents’ participation, details regarding the study was provided and consent was obtained from parents to allow their child to participate in the research study. An email was then sent to each adolescent comprising the Plain Language Statement (Refer to Appendix E) to communicate the purpose of the research study, their right to volunteer and withdraw from the study at any point in time, information on the various hotlines available should they need assistance in case of distress as well as the contact details of a clinical psychologist, followed by the link to the online survey which they just had to open to complete. An ID number was assigned to each adolescent for confidentiality and anonymity purposes. Consent to participate in research study was given at the beginning of the questionnaire (Refer to Appendix F) and was implied via the completion of the survey on Qualtrics. The recruitment phase lasted around nine months upon approval of ethics. In addition, an email was sent to students who expressed suicidal thoughts, providing the existing hotlines and availability of a psychologist to assist them.

**Research Design**

The study was correlational in nature. The independent variables comprised of father involvement and mother involvement, and dependent variables included psychological well-being and suicide ideation.

**Data Analysis**

The data were analysed using the Statistical Package for the Social Sciences (SPSS) version 23.0. The presence of missing data were found in the father involvement and mother involvement measure (which were less than 30%) and were handled using the Exclude cases pairwise option. Inspections of outliers were carried out using Box and Whiskers, and were
found in both father involvement and mother involvement. Since the study comprised a community sample, variations were likely to occur compared to clinical or geographical sample in which deviations are least expected. These outliers might actually produce valuable information about adolescents in the community, and due to the small sample size, the data were not transformed or removed.

Preliminary assumptions to ensure no violations of linearity, normality and homoscedascity were performed. Inspections of normality were carried out on mother involvement, father involvement and suicide ideation using the Shapiro-Wilk test together with visual inspections of Q-Q plots. Deviations from normality were identified in both father involvement and mother involvement. However, it needs to be noted that according to the central limit theorem, normality is assumed in samples 30 and above (Field, 2009). The suicide ideation scores were positively skewed and thus violated the assumption of normality. However, it was expected to be non-normal since majority of participants did not express any suicidal thoughts and not everyone in a given population is expected to have suicidal thoughts (Schmidt & Hunter, 2003). For these reasons, the suicide ideation variable was not transformed. In the study, bivariate correlations and paired-sample t-test were conducted to examine the differences in adolescents’ perceptions of mother involvement and father involvement and their associations with adolescent suicide ideation and psychological well-being.

**Results**

**Descriptive statistics**

In regards to suicide ideation, a total of 20% \((n = 9)\) of adolescents reported having suicide ideation and 80% \((n=37)\) reported no ideation. The means and standard deviations for the four items on the DSI-SS are presented in Table 2. Items A, B, and C, which measured the frequency, intensity, and plans of suicide ideation, were rated highest; whereas item D
which assessed impulses, was rated lowest. An independent sample t-test was conducted to examine whether there were gender differences in adolescent report of suicide ideation. The t-test revealed no significant difference in suicide ideation scores for males ($M = 0.85, SD = 1.67$) and females ($M = .64, SD = 1.65$); $t (44) = .39, p=.70$ (two-tailed).

Table 2

Mean and Standard Deviation of the DSI_SS items

<table>
<thead>
<tr>
<th>Items on the DSI_SS</th>
<th>$M$</th>
<th>$SD$</th>
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<tbody>
<tr>
<td>DSI_SS_A</td>
<td>0.20</td>
<td>0.45</td>
</tr>
<tr>
<td>DSI_SS_B</td>
<td>0.17</td>
<td>0.44</td>
</tr>
<tr>
<td>DSI_SS_C</td>
<td>0.20</td>
<td>0.50</td>
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<tr>
<td>DSI_SS_D</td>
<td>0.13</td>
<td>0.40</td>
</tr>
<tr>
<td>DSI_SS_Total</td>
<td>0.70</td>
<td>1.64</td>
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</table>

Descriptive statistics for the nine dimensions of the father and mother involvement constructs are presented in Table 3. Based on the mean item for each subscale of the involvement construct, fathers were highly involved in most of the dimensions, highest in the Providing dimension, followed by Praise and Affection and Developing Talents and Future Concerns and lowest in the Discipline and Teaching Responsibility and Attentiveness dimensions. On the other hand, mothers were highly involved in all dimensions. The highest level of involvement was found in the Providing followed by Praise and Affection and Developing Talents and Future Concerns dimensions and less involved in the Discipline and Teaching Responsibility and Attentiveness dimensions.

Table 3

Descriptives and Mean Difference of Father and Mother Involvement Dimensions

<table>
<thead>
<tr>
<th></th>
<th>Father Involvement (Scored 0-6)</th>
<th>Mother Involvement (Scored 0-6)</th>
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<tbody>
<tr>
<td>DSI_SS_A</td>
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<td></td>
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<tr>
<td>DSI_SS_B</td>
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<td>DSI_SS_C</td>
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<td>DSI_SS_D</td>
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<tr>
<td>DSI_SS_Total</td>
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<tr>
<td>Providing</td>
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<tr>
<td>Praise and Affection</td>
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<tr>
<td>Developing Talents and Future Concerns</td>
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<tr>
<td>Discipline and Teaching Responsibility and Attentiveness</td>
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</table>
### Differences in Perceptions of Mother and Father Involvement

Paired-samples t-tests were conducted to evaluate the differences in mean scores of global involvement score for mother involvement and father involvement and their corresponding dimensions. A statistically significant difference between overall adolescent ratings of mother and father involvement was revealed, with higher scores for mother involvement than father involvement as observed in Table 2. The magnitude of the differences in the means (mean difference = 17.96, 95% CI: -25.27 to -10.64) was very large (eta squared = .357). Additional t-tests to explore the difference in mean scores for the corresponding dimensions of the father and mother involvement construct revealed a statistically significant difference of adolescent ratings in the Discipline and Teaching Responsibility, School Encouragement, Father/Mother Support, Time and Talking Together, Praise and Affection, Developing Talents and Future Concerns, and Attentiveness dimensions. The largest difference was observed in Attentiveness, (eta squared = .31), and the least difference in Developing Talents and Future Concerns (eta squared = .09). On the other
hand, no statistically significant difference in adolescents ratings of *Providing* and *Reading and Homework Support* dimensions were found.

**Testing Relationships Among Dimensions of Mother and Father Involvement and Adolescent Suicide Ideation and Well-Being.**

To examine the relationships among the dimensions of father involvement and mother involvement and adolescent suicide ideation and adolescent psychological well-being, Pearson correlations were performed as can be shown in Table 4. Significant negative relationships were found among all the dimensions of father involvement and adolescent suicide ideation, *Praise and Affection* had the strongest correlation with adolescent suicide ideation followed by *Developing Talents and Future Concerns*. In the relationships among the nine dimensions of mother involvement and adolescent suicide ideation, only *Discipline and Teaching Responsibility, School Encouragement, Father Support, Providing, and Attentiveness* were significantly and negatively related to adolescent suicide ideation while *Time and Talking Together, Praise and Affection, Developing Talents and Future Concerns* and *Reading and Homework Support* were not. In the global involvement score, father involvement had a stronger negative correlation with adolescent suicide ideation ($r = -0.59$) than mother involvement ($r = -0.34$).

As shown in Table 3, in regards to adolescent psychological well-being, all the nine dimensions for mother and father involvement were significantly and positively correlated with adolescent psychological well-being, with father involvement having stronger relationship with psychological well-being than mother involvement in all the corresponding dimensions. An exception is *School Encouragement*. In the global involvement score, father involvement had a stronger positive correlation with adolescent psychological well-being ($r = 0.62$) than mother involvement ($r = 0.51$).
Table 4

Correlations of Father and Mother Involvement Dimensions with Suicide Ideation and Psychological Well-Being

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<th>12</th>
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<tbody>
<tr>
<td>1. Discipline and Teaching Responsibility</td>
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<td>2. School Encouragement</td>
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<td>3. Father/Mother Support</td>
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<td>4. Providing</td>
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<td>5. Time and Talking Together</td>
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<td>6. Praise and Affection</td>
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<td>7. Developing Talents and Future Concerns</td>
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<td>8. Reading and Homework Support</td>
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<td>9. Attentiveness</td>
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<td>10. Global Involvement Score</td>
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<td>11. Suicide Ideation</td>
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<td>12. Psychological well-being</td>
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*Note.* Correlations of the Father Involvement subscales are presented below the diagonal, and the correlations for the Mother Involvement subscales are presented above the diagonal.

*p<.05. **p<.01
Discussion

In order to gain greater insight into adolescents’ experiences and relationships with their mother and father, the aim of Study 1 was to examine the differences in adolescents’ perceptions of father involvement and mother involvement and their relationships with adolescent suicide ideation and psychological well-being. Twenty percent of the present sample reported suicide ideation, with higher scores in frequency, intensity, and plans of suicide ideation, compared to impulses of suicide ideation, which was rated the lowest. Overall, the level of suicide ideation among the adolescent was fairly low, suggesting that the sample was reasonably well-adjusted and healthy. Both parents displayed highest level of involvement in praising and being affectionate as reported by their adolescent children. The second highest level of involvement displayed by mothers was attentiveness while fathers were more involved in developing adolescents’ talents and plans for the future. On the other hand, both mothers and fathers were least involved in disciplining and teaching responsibilities to their adolescent children and reading and helping them in their homework.

It was hypothesised that adolescents’ perceptions of mother involvement and father involvement would differ significantly in their overall ratings of involvement and across all the nine dimensions of involvement for both mothers and fathers. This hypothesis was partially supported, whereby significant difference in adolescent overall ratings of mother involvement and father involvement was revealed, with a large effect size. In regards to the specific dimensions, however, significant differences were found in seven out of nine, including Discipline and Teaching Responsibility, School Encouragement, Father/Mother Support, Time and Talking Together, Praise and Affection, Developing Talents and Future Concerns, and Attentiveness dimensions, with the largest difference observed in the Attentiveness dimension and the least difference in the Developing Talents and Future
Concerns dimension. No differences were found in Providing and Reading and Homework Support.

The second aim of Study 1 was to explore the relationships among the dimensions across mother involvement and father involvement, and adolescent suicide ideation and psychological well-being. The hypothesis that the dimensions across mother involvement and father involvement will be significantly and negatively related to adolescent suicide ideation and positively related to psychological well-being was partially supported. While all the dimensions of father involvement were significantly and negatively correlated with adolescent suicide ideation, with Praise and Affection having the strongest relationship followed by Developing Talents and Future Concern; only Discipline and Teaching Responsibility, School Encouragement, Father Support, Providing, and Attentiveness dimensions of mother involvement were significantly and negatively associated with adolescent suicide ideation. In regards to adolescent psychological well-being, all the dimensions across both mother involvement and father involvement were significantly and positively associated with psychological well-being, with father involvement having a stronger relationship than mother involvement.

**Differences in mother involvement and father involvement.** The present study goes beyond previous research to incorporate a more insightful, unique and profound conceptualisation of mother and father involvement that taps into the affective, cognitive and ethical features of direct/indirect involvement. In the current study, adolescents reported mothers to be more involved than fathers which is consistent with previous findings, showing that mothers and fathers’ parenting behaviour vary (Lansford et al., 2014; Paterson et al., 1994; Uji et al., 2014; S. K. Williams & Kelly, 2005). One possible explanation to enlighten the differential evaluations of mothers and fathers is the Role Theory, which proposes that the roles of mothers and fathers are socially defined (Hosley & Montemayor, 1997), which could
have influenced adolescents’ perceptions. Mothers are traditionally expected to be the primary caregiver and the leading parent to provide care and warmth for their children. On the other hand, fathers are viewed as the disciplinarian; socially expected to meet the needs of the family and as such, are less likely to be involved in parenting and more engaged in providing the necessary resources to children. Adolescents may have been socialised into these socially defined roles of mothers and fathers, which may have, in turn, influenced their perceptions of mothering and fathering. Researchers have also argued that mothers are more likely to adopt an expressive role by being loving and affectionate and provide emotional support, whereas fathers have a more instrumental role (Meunier, Bisceglia, & Jenkins, 2012; Quach et al., 2015). In the present study, adolescents perceived their mothers to be more involved than fathers, possibly because mothers are more responsive towards their socio-emotional well-being and as a result, adolescents feel closer to their mothers emotionally than to their fathers. Mothers are generally known to devote more time with their children and fathers are outside the house and working most of the time to be able to provide all the resources the family needs. Indeed, in the study conducted by Phares, Fields, and Kamboukos (2009), mothers were reported to spend more time with adolescents than fathers. Consequently, adolescents in the study may have been more apt to witness the efforts and dedication of their mothers and therefore perceived mothers to be more involved.

The largest difference between mother involvement and father involvement was in their levels of attentiveness, which depicts the parents being attentive to adolescents’ daily lives and activities and knowledge about their whereabouts. This finding is consistent with Waizenhofer, Buchanan, and Jackson-Newsom (2004), showing that mothers were more knowledgeable than fathers about adolescents’ (aged between 10 and 17 years) daily activities and whereabouts. The second largest difference in mothers and fathers’ involvement was in disciplining the child and teaching responsibility, with mothers being
more involved in disciplining the child and setting limits and rules than fathers. While less is known about this aspect of parenting (Phares et al., 2009), this dimension is similar to Baumrind (1971) authoritative parenting style, describing parents as demanding and responsive in teaching and monitoring their child’s conduct using clear standards, to be responsible and disciplining their child in a supportive manner and teach their children to be assertive (Baumrind, 1991). Similarly, adolescents in the present study perceived their mothers to more likely to discipline them, to encourage them to do chores and setting limits and rules for their behaviour than fathers. Several studies have showed that mothers are more apt to use an authoritative style (Matejevic, Jovanovic, & Jovanovic, 2014; Uji et al., 2014) which could explain the results obtained.

In regards to encouraging adolescents in school activities and homework, adolescents in the study perceived mothers to encourage them in succeeding at school, doing their homework, and to follow the rules at school more than their fathers did. This is consistent with Paulson and Sputa (1996) in demonstrating that mothers are more involved in school-related activities than fathers. Mothers dedicate more time to interact with adolescents and this gives them more opportunity to engage in school work and encourage them to succeed at school. Mothers were also rated higher in praising adolescents and being affectionate, consistent with Starrels (1994) study, showing that adolescents aged 11 to 16 years reported their mothers to be more affectionate and closer to them than their fathers. Adolescents also perceived mothers to provide more support to fathers in parenting than fathers, more involved spending time and talking with adolescents which is consistent with Phares et al. (2009) study, and were more involved in developing talents and future concerns than fathers.

Overall, adolescents perceived mothers to be more involved than fathers on the various dimensions mentioned above. The findings may be interpreted using the Attachment Theory (Bowlby, 1973), adolescents perceived their mothers to be more involved, reflecting
the strong emotional bond and security that is formed between the adolescent and the primary caregiver, in this case, the mother. This difference may also be reflected in the parenting style utilised, mothers use a more authoritative style while fathers are more authoritarian (Uji et al., 2014). Considering that adolescence is a challenging period highlighted by the strive for autonomy, fathers using an authoritarian style that is characterised by authority, punitive and forceful measures to control behaviour may not be appreciated by adolescents and therefore perceive fathers as less involved. Mothers, on the other hand, are more authoritative and form a warm and accepting relationship with adolescents under supervision and allow autonomy, enabling adolescents to feel that their mothers are more understanding and trusting. A further explanation to the results obtained is that mothers might be aware of the significant challenges that occur during adolescence and therefore become more involved to enhance the mother-child relationship by being more supportive. In the present study, fathers were less involved and a possible explanation could be that fathers are aware that mothers will be supportive and take care of adolescents and therefore do not feel the need to be involved as much as mothers do. Alternatively, adolescents’ self-concept may be established in their interactions with parents which might have influenced their perceptions of mother and father involvement. Mothers may be more available to talk, accepting, and supportive of adolescents’ viewpoints and in turn influence their self-concept (Van Dijk et al., 2014).

Participants in the current study were mostly female adolescents which could explain the perceived lower involvement of fathers, consistent with Starrels (1994) findings indicating that fathers are less involved with daughters. In addition, mother-daughter relationships are stronger than father-daughter relationships which could explain these findings (Steinberg, 1987). Another plausible explanation for lower father involvement may be the result of maternal gatekeeping behaviours, that are likely to prohibit, restrain, and limit father involvement (Fagan & Barnett, 2003; Stevenson et al., 2014). Several studies have shown
that mothers’ gatekeeping attitudes diminish father involvement (Fagan & Barnett, 2003; Stevenson et al., 2014).

However, in providing basic needs and financial support to adolescents and reading and helping them in their homework, no significant differences were found between mothers and fathers. This indicates that adolescents’ mothers and fathers are equally involved in providing the resources and financial support adolescents need and also in motivating adolescents to read. This reflects the change in social roles as more mothers are working full-time and sharing the responsibilities with fathers, changes in family structure with more nonmarital births and higher rates of divorce which may possibly explain the equal parenting along these two dimensions.

**Relationships among mother and father involvement and adolescent suicide ideation and psychological well-being.** Although explanatory, the present study goes beyond previous research to explore the various dimensions of involvement and their relationships with adolescent suicide ideation. The results are consistent with previous findings in showing that parent-child relations are significant risk and protective factors associated with suicide ideation in adolescence (Connor & Rueter, 2006; Consoli et al., 2013; Kuramoto-Crawford et al., 2016; Mackin et al., 2016; Taliaferro & Muehlenkamp, 2014). While mother involvement and father involvement were both negatively related to adolescent suicide ideation, the latter had a stronger relationship than mother involvement, consistent with previous research (Conner et al., 2016; De Luca et al., 2012). Negative parenting characteristics may lead to adolescent emotional distress and risk for suicidal behaviours. For instance, father-adolescent conflict and cohesion had a stronger relationship with adolescent depression than mother-adolescent conflict and cohesion (Cole & McPherson, 1993). Likewise, another study showed that suicidal adolescents described their relationships with
fathers as less communicative and active than mothers (C. A. King, Segal, Naylor, & Evans, 1993). It can thus be understood that adolescents perceived fathers to be less involved than mothers in the study, which may explain the stronger relationship between father involvement and adolescent suicide ideation. The lower involvement of fathers may actually be a source of distress in adolescents. Connor and Rueter (2006) found that while warmth exhibited by mothers had direct negative associations with adolescent suicidal behaviours, warmth exhibited by fathers was related to adolescent suicidal behaviours when mediated by emotional distress. Another plausible explanation for the stronger relationship between father involvement and adolescent suicide ideation is that fathers’ low involvement and “disciplinarian” role maybe be obstructing adolescents’ adaptation to the significant changes that occur during adolescence that they need in order to attain autonomy and identity (social and personal).

It is possible that the significantly lower involved fathers and stronger relationship between father involvement and adolescent suicide ideation may be an indication of marital conflict. This was demonstrated in several studies, thus weakening the quality of fathers’ parenting behaviours (Lindsey, Caldera, & Tankersley, 2009), which is known as the spillover hypothesis (Stevenson et al., 2014). Marital conflict was found to lower father monitoring and warmth (Schofield et al., 2009), lower father-child attachment security (Frosch, Mangelsdorf, & McHale, 2000), and increased paternal control and insensitivity (Davies, Sturge-Apple, Woitach, & Cummings, 2009) and adverse father-child interactions (Lindsey et al., 2009). Moreover, according to the fathering vulnerability hypothesis, fathers’ parenting is more likely to be affected by this spillover than mothers’ parenting because of the higher significance ascribed to mothers’ parental role and mothers being more capable to compartmentalise their dual role as parent and spouse (Cummings, Goeke-Morey, &
Raymond, 2004). Hence, marital conflict may be an alternative explanation to the findings obtained.

The findings of the present study may be also indicative that mother’s involvement is considered “normal” in adolescents’ lives, but father’s involvement makes a unique difference that matters to adolescents. This may explain why Time and Talking Together, Praise and Affection, Developing Talents and Future Concerns, and Reading and Homework Support dimensions of mother involvement were not significantly associated with suicide ideation. Amato (1994) provided evidence of the importance of fathers, more than mothers, whereby young adults who reported being closer to their fathers were happier, more satisfied in life and less distressed irrespective of their relations with mothers. Conner et al. (2016) further showed that feeling connected to fathers but not mothers was associated with lower risk of suicidal thoughts. The current findings and previous research clearly indicate that fathers may hold a protective role in adolescent mental health, more specifically, suicide ideation, particularly in these dimensions. This was observed in De Luca et al. (2012) study, showing that adolescents were less likely to report suicide ideation when they described fathers to be supportive, but not mothers.

It is also observed that both mother involvement and father involvement were significantly associated with adolescent psychological well-being across all the dimensions, consistent with previous findings in demonstrating that mothers and fathers’ involvement contribute to adolescent psychological well-being (Amato, 1994; Day & Padilla-Walker, 2009; Flouri & Buchanan, 2003a). In addition, the present study also indicates that father involvement had a stronger relationship with adolescents’ psychological well-being than mother involvement, consistent with previous research (Amato, 1994; Flouri & Buchanan, 2003a) showing that fathers are salient figures in adolescents’ lives.
Limitations and future directions. Findings of this study need to be approached with caution for several reasons. First, the study was correlational in nature and as such cannot establish causation. Future research should use a longitudinal design to determine the causality and as well as bi-directional associations. While the results may suggest that mother involvement and father involvement contribute to adolescent suicide ideation, it may also be possible that adolescent psychopathology, in particular, suicidal behaviours, triggers negative parenting characteristics (Boeninger, Masyn, & Conger, 2013). In this case, adolescents’ negative behaviours and emotional distress may elicit less involvement from fathers. Second, the presence of outliers in the father and mother involvement data were observed which may have influenced the findings in the study. After careful considerations, it was decided to retain the outliers in the data set. It is argued that the study comprised a community sample, and thus deviations were expected compared to clinical or geographical samples in which deviations are less likely to occur. These outliers may be meaningful and reflect true variations that need to be considered. Moreover, the elimination of outliers in psychology research is debatable and may weaken the results and the sample size, and result in more errors in reporting (Bakker & Wicherts, 2014) and transformations are not always recommended as they may create further problems in handling the outliers (Field, 2009). Third, higher variability was observed in the ratings of father involvement compared to mother involvement, which could have explained the findings obtained. Fourth, the small sample size may have influenced the findings by increasing type 1 error or may have led to an overestimation of the magnitude of the father involvement and suicide ideation association. Future research should aim to obtain a larger sample size to increase statistical power. Fifth, the sample was predominantly female and results may not be applicable to diverse population, and because of the unequal number of males and females, further analyses to explore gender differences were not performed. Sixth, ratings of mother and
father involvement, suicide ideation, and psychological well-being were based on adolescents’ perceptions and may have been biased by adolescents’ distress, however, researchers argue that adolescents are better reporters of their own subjective experiences and are more accurate in self-reporting suicidal behaviours than parents (Lewis et al., 2014). Lastly, the age range used in the present study, which was 15 to 19 years, could have potentially affected the results obtained. It should be highlighted that 15 year olds and 19 year olds are two developmental stages and diverse in their thinking and their responses on the father involvement and mother involvement dimensions may vary. This could explain the high variability in the responses obtained and also provide an explanation for the presence of outliers observed in some dimensions of father involvement and mother involvement. Furthermore, the outliers found in the responses of involvement across some dimensions are indicative that some items in the involvement instrument may not be measuring adequately the parental involvement of older adolescents as they sound a bit “child like”. Future research can group the developmental stages into “mid” and “late” adolescence to capture the experiences and relationships with mothers and fathers across the two developmental stages. Differences between “younger” and “older” adolescents were found in Sun and Hui (2007b) study of testing a predictive model of adolescent suicide ideation. Hence, categorising the developmental stages might provide more information. The potential bias present in the sample needs to be acknowledged as the sample was self-selected and portrayed participants who have an interest in mental health or suicide and therefore may not be representative of adolescents in the community. Future research need to target a more representative sample to avoid bias.

**Conclusion.** Despite these limitations, this study goes beyond previous research, examining the differences in mothers and fathers’ parenting by exploring the various dimensions of the involvement construct that includes both traditional and contemporary
roles of parenting. In particular, given that adolescents’ perceptions of mother involvement and father involvement significantly differed, it is therefore imperative that research moves beyond scrutinizing parenting as a single construct and explore the differential roles of mothers and fathers. Perceived global father involvement was also shown to have a stronger relationship with adolescent suicide ideation and psychological well-being than mother involvement, father-adolescent relations, particularly in praising and being affectionate, should be a focus in the design of appropriate interventions for adolescents who are experiencing suicidal thoughts.
Chapter 3

Study 2 – Predictors of Adolescent Suicide Ideation

A range of individual and contextual factors are identified in the adolescent suicide ideation literature, which were summarised in Chapter 1. The introductory section of this chapter provides an in-depth review of the literature, describing individual, family, peer, and teacher-related factors contributing to adolescent suicide ideation research.

**Individual-Related Factors and Adolescent Suicide Ideation**

Abundant research has demonstrated the contribution of numerous factors in suicide risk (Bridge et al., 2006; Lawrence, Hafekost, et al., 2015; Nock, Hwang, Sampson, & Kessler, 2010; Zubrick et al., 2016) with mental disorders, demographics, and psychological factors among the most pertinent. Among these key factors, depression, hopelessness, gender effect and other risk factors are of particular prominence having high predictive power in adolescent suicide ideation research. Hence, a closer look at these factors are necessary to better understand suicide ideation in adolescents.

**Depression.** Current evidence highlights the significance of depression in suicidal behaviours, more specifically, suicide ideation. In a WHO survey of 21 countries, depression was one of the most robust predictors of suicide ideation, but to a much lesser extent in predicting the transition from ideations to suicide plans, planned or unplanned attempts in suicide ideators (Nock et al., 2009). Assessed as a continuous variable, depression is a major risk factor for suicide ideation particularly in adolescents in both clinical and community samples. In the second national survey conducted in Australia, adolescents having major depressive disorder were more likely to report suicide ideation in the past 12 months, especially in females, even after controlling for confounding variables (Zubrick et al., 2016). Additionally, in a recent study conducted in Melbourne Australia, of the 56 children and
adolescents aged between 10 and 16 years, diagnosed with depressive disorder (dysthymic or major depressive disorder), 43 reported suicide-related behaviours (suicide ideations and attempts) measured on the Suicidal Ideation Device (Hetrick, Parker, Robinson, Hall, & Vance, 2015). Likewise, in a community sample of 1,249 college students aged 17 to 19 years, 40% of adolescents reporting suicide ideation (measured on item 9 of Beck Depression Inventory) also reported elevated depressive symptoms (measured on Beck Depression Inventory) with more female adolescents reporting suicide ideation and high depressive symptoms than male adolescents (Arria et al., 2009). Similarly, in another community sample of adolescents aged 14 to 15 years, adolescents who expressed having suicide ideation also reported higher depressive symptoms compared to adolescents who did not express any suicidal thoughts (Labelle, Breton, Pouliot, Dufresne, & Berthiaume, 2013). Taken together, a vast amount of studies have indicated the strong impact of depressive symptoms in suicide ideation in adolescence. Aside from depressive symptoms, hopelessness has also surfaced as an important contributor of suicide ideation.

**Hopelessness.** A key factor less explored in adolescent suicide ideation research is hopelessness, understood as having pessimistic judgment of the future (Daniel & Goldston, 2012). It has also been reported to be a significant predictor in adolescent suicide ideation and behaviours (Lester, 2013) in both clinical (Huth-Bocks, Kerr, Ivey, Kramer, & King, 2007) and community samples (Lamis & Lester, 2013). Moreover, even though hopelessness and depression are associated and may co-occur, each may distinctively predict suicide ideation (Huth-Bocks et al., 2007). For example, both depression and hopelessness significantly predicted suicide ideation in a sample of 630 college students (Stephenson, Pena-Shaff, & Quirk, 2006). In another study, hopelessness significantly predicted suicide ideation in undergraduate students (Lamis & Lester, 2013).
Despite the consistency in findings of hopelessness and depression as strong predictors, mixed results are obtained in identifying which of the two better predict suicide ideation. For instance, in a study of college students, even though depression and hopelessness significantly predicted suicide ideation, depressive symptoms had a greater impact on suicide ideation than hopelessness (Konick & Gutierrez, 2005). Conversely, another study identified hopelessness as a significant predictor of suicide ideation in adolescents aged 14 to 18 years over and above depression (Labelle et al., 2013). In addition to depressive symptoms and hopelessness as salient risk factors, gender variations have also been observed in adolescent suicide ideation.

**Gender effect.** Gender difference is an important risk factor reported in suicidality research. Findings from epidemiological studies (Nock, Borges, Bromet, Alonso, et al., 2008) and national surveys (Zubrick et al., 2016) report higher prevalence of suicide ideation in females than males. In the prediction of adolescent suicide ideation, several studies are consistent with the literature reporting higher number of females experiencing suicide ideation than males (Allison, Allison, Roeger, Martin, & Keeves, 2001; Arria et al., 2009; Delfabbro, Malvaso, Winefield, & Winefield, 2015; Delfabbro, Winefield, & Winefield, 2013; Stephenson et al., 2006), while some found no gender differences (De Luca et al., 2012; Lamis & Lester, 2013; Sun & Hui, 2007b).

Gender differences in depression and hopelessness in the prediction of adolescent suicide ideation have also been reported. Several studies have found hopelessness as a significant predictor of adolescent suicide ideation (Lamis & Lester, 2013) and college students (Stephenson et al., 2006) for both females and males (Lamis & Lester, 2013) while gender variations were observed in a study of school adolescents in which depression and hopelessness were both significant predictors of suicide ideation in males and hopelessness but not depression, significantly predicted suicide ideation in females (Thompson, Mazza,
Herting, Randell, & Eggert, 2005). In contrast, Lamis and Lester (2013) found that while hopelessness predicted suicide ideation in both male and female undergraduates, depression was only significant in predicting female suicide ideation only. Moreover, hopelessness varied across gender and was a stronger predictor of adolescent suicide ideation in females (Labelle et al., 2013). On this note, gender variations are evident in the associations among hopelessness and depressive symptoms and adolescent suicide ideation.

Evidence is consistent in demonstrating depression, hopelessness, and gender effects as critical risk factors in the occurrence of adolescent suicide ideation. Despite this substantial body of research, the unique effects of depressive symptoms and hopelessness in the prediction of adolescent suicide ideation and how they vary by adolescent gender are still inconclusive.

**Other risk factors in adolescent suicide ideation.** While depression, hopelessness, and gender have been consistently identified as presenting risk for adolescent suicide ideation, other factors have received increasing attention. A recent Australian study examining the various health, socio-demographic, psychological factors in the prediction of the different levels of suicidality of 2,552 adolescents aged 14 to 16 years old revealed that having poorer life satisfaction, experiencing negative mood states, using marijuana, having concerns about weight, poor general health, and poorer psychological well-being, were all associated with suicide ideation and plans (Delfabbro et al., 2015). Other risk factors addressed in the literature include alcohol use disorder (Arria et al., 2009), and smoking in female adolescents (Delfabbro et al., 2013), which have also been reported to predict suicide ideation in adolescents. In a recent study testing a conceptual model of adolescent (aged 12 to 17 years) suicide ideation (from a clinical sample), chronic interpersonal stress was identified as a significant and indirect predictor of suicide ideation through perceived burdensomeness,
episodic interpersonal stress as a significant predictor of suicide ideation and thwarted belongingness in the presence of anxious and depressive symptoms (Buitron et al., 2016).

In summary, the predictive power of hopelessness and depressive symptoms in adolescent suicide ideation is evident. Nonetheless, the independent associations of hopelessness and depressive symptoms with adolescent suicide ideation are inconclusive. In addition, while gender effect has been identified as a potential risk factor in suicidal behaviours, inconsistencies in studies examining gender variations in the relationship amongst hopelessness, depressive symptoms and adolescent suicide ideation are observed. Excluding the above factors, the literature highlights other important associations, including stress, alcohol use, poor psychological well-being and smoking. In addition to individual-related factors, evidence of family-related factors in the prediction of adolescent suicide ideation is also reported.

**Family-Related Factors and Adolescent Suicide Ideation**

As discussed in Chapter 2, parent-child relations are key contributors in the understanding of suicide ideation in adolescence and have been supported by robust empirical findings (Arria et al., 2009; Conner et al., 2016; De Luca et al., 2012). Aside from the key role of parent-child relations addressed in Chapter 2, family functioning is another potential family factor that has demonstrated significant contribution in the adolescent suicide ideation literature.

The family is one of the most influential social sources in adolescence (L. R. Williams & Anthony, 2015). A functional family is understood as one that provides an environment that enriches healthy development and enhancing maturity of members in a family, with respect to each member’s resourceful and intellectual potentials (Matejevic, Jovanovic, & Ilic, 2015). Family functioning, based on a systems theory, supports the view that an individual is best understood by looking at the family as a whole unit and the transactional,
organisational and structural patterns that influence the behaviour of family members (I. W. Miller, Ryan, Keitner, Bishop, & Epstein, 2000). Assumptions underlying family systems theory contends that an individual cannot be understood on its own and apart from the family system, but involve all the members of the family and the transactional interactions that occur between the family members in a family system (I. W. Miller et al., 2000).

Family functioning has been reported as a potential risk factor in suicide ideation in adolescence. In a study conducted by R. A. King et al. (2001), adolescents (aged nine to 17 years) who reported suicide ideation were more likely to report poor family environment, even after depression, anxiety, and disruptive symptoms were controlled. In another study comprising a clinical sample of adolescents (aged 12 to 17 years), global family dysfunction was significantly and positively associated with suicide ideation through substance use and depressive symptoms (Prinstein, Boergers, Spirito, Little, & Grapentine, 2000). Similarly, family cohesion (measured on the Family Cohesion Scale) was significantly and negatively associated with suicide ideation (measured on item 9 of the Chinese Beck Depression Inventory-II (C-BDI-II)) in adolescents (aged 11 to 19 years), when mediated by self-esteem and depression (measured on the C-BDI-II) (Sun & Hui, 2007b). Conversely in a longitudinal study of 338 hospitalised suicidal adolescents aged between 13 and 17 years, improved family connectedness was found to be protective, lowering depressive symptoms and suicide ideation in suicidal adolescents (Czyz, Liu, & King, 2012), indicating that family functioning is evidently a substantial contributor. It needs to be acknowledged that while families are important, they may not have a central role for certain groups of adolescents who are at risk of suicide ideation, for example, adolescents living in foster care (Irwin, Coleman, Fisher, & Marasco, 2014).

Despite these consistent findings, research examining direct association between family functioning and suicidal behaviours, is scarce (Lipschitz, Yen, Weinstock, & Spirito,
A notable exception is Lipschitz et al. (2012) study of a clinical sample that revealed a direct link between family functioning and adolescent suicide ideation. Moreover, there is a lack of research on community samples as more studies are being conducted on adolescents from clinical populations.

To sum up, family functioning is an important variable to examine based on the family systems theory. Understanding the family as a whole allows better comprehension of adolescents and how they relate with others, affecting each other’s behaviours. On this note, family functioning is a significant predictor in adolescent suicide ideation. However, the limited studies conducted in community samples and examining the direct associations between family functioning and adolescent suicide ideation in the prediction of adolescent suicide ideation, are evident. It is also observed that adolescent suicide ideation research often overlooks the contribution of families and parent-child relations in the same study. For instance, Sun et al. (2006) accounted for family functioning to test a predictive model of suicide ideation in adolescents, overlooking the potential contribution of parent-child relations, while Arria et al. (2009); Conner et al. (2016); Connor and Rueter (2006); De Luca et al. (2012) explore parent-child relations without considering the influence of families. Both parent-child relations and family relations have important contributions and should therefore be considered in adolescent suicide ideation research. In addition to family, peers have a significant role in adolescence.

Peer Relations

Peer relations have a prominent role in adolescents’ social network, continuing across the lifespan (Bukowski, Newcomb, & Hartup, 1998). The magnitude of peer relationships become apparent during adolescence, when greater emphasis is placed on peer relations than parents and developing close bonds with peers for emotional and social support (Buhrmester
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& Furman, 1987) and is one of the primary sources of social support (La Greca, Davila, & Siegel, 2009). Attachment theory has been widely used in the understanding of peer relationships in adolescence (Gorrese & Ruggieri, 2012). Attachment, is understood as a persistent intense bond accompanied by affection and security (Armsden & Greenberg, 1987). According to the attachment theory (Bowlby, 1982), the attachment bond underlines the development of liking for particular individuals via frequent contact in challenging environments in which the adolescent coordinates the emotional and psychological experiences, forming a sense of security (Armsden & Greenberg, 1987). Threats to attachment relationships disturb the emotional and psychological stability of individuals, resulting in distress (Armsden & Greenberg, 1987). In this manner, the adolescence period predominantly places peer relationships as important figures in adolescents’ lives, and by mid-adolescence, peer relations become primary source of disclosure and intimacy (Wilkinson, 2004), and can also be perceived as the major attachment figure in adolescents who are not in a romantic relationship (Fraley & Davis, 1997).

Peer relationships have been studied extensively in adolescent development and well-being. Positive peer relations have been found to be protective against internalising behaviours such as anxiety (La Greca & Harrison, 2005) and contribute to greater well-being in adolescents (L. R. Williams & Anthony, 2015) while negative peer relations have been linked to depressive symptoms (La Greca & Harrison, 2005). Peer relations have also been linked to suicide ideation in adolescence. In a clinical sample of psychiatric adolescents (aged 12 to 17 years) hospitalised for exhibiting suicidal behaviours, findings revealed that low friendship support was directly related to increased risk of developing severe suicidal thoughts (Prinstein et al., 2000). In another study of 2,090 Canadian adolescents aged between 12 and 13 years, using data from a longitudinal national survey, reported poor peer relations as a significant predictor of adolescent suicide ideation, but insignificant in
predicting adolescent suicide ideation in males when confounding variables were controlled and weak associations in females (Fotti, Katz, Afifi, & Cox, 2006). Indirect pathways have also been investigated, for example, in a study of 433 adolescents in Hong Kong secondary schools, aged between 11 and 18 years, peer support (measured via the Perceived Social Support from Friends scale) was significantly associated with suicide ideation when mediated by depression and self-esteem (Sun et al., 2006). In a qualitative study of 13 adolescents aged 11 and 18 years, adolescents reporting severe suicide ideation (measured on the C-BDI-II) also reported repeated conflict/being victimised by peers that resulted in depressive symptoms and feelings of worthlessness and perceived suicide as an option (Sun & Hui, 2007a). On the other hand, peer support was beneficial for adolescents to share their suicidal thoughts and increased their sense of worthiness (Sun & Hui, 2007a). Despite these noteworthy findings, some authors found no significant relationships of peer relations in the prediction of adolescent suicide ideation (De Luca et al., 2012; Perkins & Hartless, 2002). Additionally, gender differences in peer relationships have been found with a meta-analytic review concluding females to be more significantly attached to peers than males (Gorrese & Ruggieri, 2012). Similarly, another study reported significant associations between peer support and suicide ideation in female adolescents only (Sun & Hui, 2007b). However, more research is needed to confirm these findings.

To encapsulate, even as the literature provides evidence that peer relations are potential risk factors in adolescent suicide ideation, a shortage of research on positive peer relations as a protective factor is observed (L. R. Williams & Anthony, 2015). Additionally, inconsistencies in the association between peer relations and adolescent suicide ideation warrant further investigation. It is also important to note that some of the studies testing a predictive model of adolescent suicide ideation do not take into account peer relations (Conner et al., 2016; Connor & Rueter, 2006; Consoli et al., 2013). While these studies
explore parent-child relations and individual factors, peers have a significant role to play, particularly in adolescence, and should be considered in adolescent suicide ideation research. In addition to peers, teachers have a prominent role in the adolescence phase.

**Teacher Support**

The school system plays a meaningful role in adolescence, as more time is spent at school. More particularly, teachers have been found to have a significant influence in adolescent developmental outcomes and well-being as they are the next important proximal adults after parents in adolescents’ lives (Theimann, 2016). A large number of studies have demonstrated the supportive and strong student-teacher relationship in students’ healthy development (Hamre & Pianta, 2001). Although this relationship is likely to change as students gain maturity, the bonding between students and adults in the school settings endure throughout high school (Crosnoe, Johnson, & Elder, 2004). For example, in a longitudinal study of 14,736 adolescents in grades seven to 12 revealed that students who rated their teachers positively (teacher bonding) were less likely to develop disciplinary problems (Crosnoe et al., 2004). Positive teacher bonding was a significant predictor of positive student outcomes even after confounding variables were controlled.

Positive student-teacher relationships can also contribute to positive emotional and social outcomes (Hamre & Pianta, 2006). For instance, in a study of 167 adolescents in sixth grade, results indicated that perceived support from teachers was significantly and negatively related to psychological distress in adolescents and a significant positive predictor of social responsibility goal pursuit (Wentzel, 1998). Additionally, support from teachers may be beneficial particularly when students experience low parental support (Harter, 1996), for instance, a study of 561 high school adolescents in grade 10 to 12 revealed that adolescents reported higher empathy with teachers than with parents and teacher connectedness (Drevets, Benton, & Bradley, 1996) and teachers better predicted several adolescent outcomes than
family connectedness in another study (Resnick et al., 1997). Furthermore, not only does teacher support impact adolescents’ depression and self-esteem (Colarossi & Eccles, 2003) and school connectedness (teacher connectedness) but was also found to lower emotional distress in adolescents (Resnick et al., 1997) and quality of student-teacher relationships were linked to adolescent delinquent behaviour (Theimann, 2016). Apart from teachers’ contribution in adolescents’ outcomes, teacher relations are also found to be important in the prediction of adolescent suicide ideation.

Having an important role in adolescent mental health, emerging studies have explored teachers as key contributors in adolescent suicide ideation. In a longitudinal study examining the risk and protective factors (individual, family, and school) and adolescents’ health in a sample of 12,118 high school students in grades seven to 12, findings indicated that students reporting high connectedness with teachers reported lower levels of suicide ideation (Resnick et al., 1997). Similarly, in another longitudinal study of adolescents in grade seven to 12, adolescents reporting teachers as caring and fair were less likely to report suicide ideation (McNeely & Falci, 2004). Sun et al. (2006) further reported teacher support (conceptualised as trust, offering advice, emotional support, caring and skills) as a strong predictor of suicide ideation in adolescent when mediated by depression and self-esteem, while teacher-student relationship was not. A more recent study demonstrated that having a caring teacher decreased the likelihood of adolescents attempting suicide (De Luca et al., 2012). In addition, in a qualitative study of adolescents with mild to severe suicide ideation, having a caring teacher was beneficial for adolescents reporting suicide ideation, revealing that having a supportive teacher made it easier for them to approach the teachers for help as well as increase their sense of school belongingness (Sun & Hui, 2007a). While (Sun & Hui, 2007b) did not show a significant association teacher support and adolescent suicide ideation, a
recent meta-analysis reported that higher school connectedness was significantly associated with reduced suicide ideation in adolescents (Marraccini & Brier, 2017).

In sum, evidence suggests the importance of teachers in adolescents’ developmental outcomes. Despite the few studies mentioned above, there is currently a lack of studies investigating the role of teachers in adolescent suicide ideation and well-being.

To address the shortcomings surrounding the literature on individual, family, peer, and teacher-related factors in adolescent suicide ideation research, informed by Bronfenbrenner’s Model, the aim of Study 2 is to examine the unique and combined contribution of father involvement, mother involvement, family functioning, peer attachment, teacher support, adolescent emotional distress, and adolescent psychological well-being in adolescent suicide ideation, with father involvement as the key independent variable.

**Method**

**Participants**

The same participants in Study 1 were used for Study 2, completing the questionnaire package with measures additional to mother involvement, father involvement, adolescent suicide ideation and psychological well-being. Among the 46 adolescents, 24% reported having a mental health problem and 20% expressed suicide ideation. Adolescents self-reported on measures depicting their relationships with family, friends and teachers as well as their own experiences. To determine the sample size needed for the analysis to be used for Study 2, which is hierarchical multiple regression, Power Analysis was calculated using G*Power 3.1, an online program to compute power analysis for several tests including regressions (Faul, Erdfelder, Buchner, & Lang, 2009). According to the power analysis, 98 participants were needed for Study 2; however, only 46 were recruited. Based on G*Power, with a power of 0.80, a minimum of 39 participants are required to detect at least a large effect (0.30). For this reason, the decision to carry on with Study 2 was maintained.
Measures

**Emotional distress.** Adolescents’ emotional distress was assessed using the short form version of the Depression Anxiety Stress Scales (DASS; Lovibond & Lovibond, 1995), measuring severity of depression, anxiety and stress symptoms. The Depression scale assessed *Dysphoria, Hopelessness, Devaluation of Life, Self-Depreciation, Lack of intent/involvement, Anhedonia, and Inertia.* The Anxiety scale assessed *Automatic Arousal, Skeletal Muscle Effects, Situational Anxiety* and *Subjective Experience of Anxious Affect.* The Stress scale assessed *Difficulty Relaxing, Nervous Arousal, Easily upset/agitated,* and *Irritability/over-reactivity and Impatient.* Adolescents were required to rate their symptoms over the last week on the three self-report scales of 21-item on a 4-point scale ranging from 0 = *Did not apply to me at all,* to 3 = *Applied to me very much, or most of the time,* each subscale comprised seven statements. Negatively worded items were reversed and a total score was calculated for each scale and multiplied by two. Scored indicated severity of symptoms ranging from normal to extremely severe with higher scores signifying more severe symptoms. The DASS-21 has been used previously in an Australian adolescent population and has reported strong Cronbach alphas for all the three scales ranging from .87 to .93 (Sawrikar & Hunt, 2005). In the present study, the overall score of the DASS was used in the analyses as the three scales were highly correlated with each other and was thus considered as a total score. In addition, the hopelessness item on its own was highly correlated with the depression scale and was therefore assessed within the DASS.

**Family functioning.** To measure the structural and organisational features of the family, the General Functioning Subscale of the McMaster Family Assessment Device (FAD-GF; Epstein, Baldwin, & Bishop, 1983) was employed. Adolescents rated the 12-item self-report FAD-GF, assessing overall functioning (health/dysfunction) of family. Items were rated on a selection among four choices ranging from *Strongly agree* to *Strongly disagree* and
higher scores indicate more problematic family functioning. The FAD-GF is reported to have moderate to high internal consistency (Epstein et al., 1983; Hetrick et al., 2015). A cut-off score of 2.00 was judged appropriate by the author to distinguish between health and unhealthy families (Epstein et al., 1983).

**Peer attachment.** Peer attachment subscale of the Inventory of Parent and Peer Attachment revised version (IPPA; Armsden & Greenberg, 1989) was utilised to assess adolescents’ perceptions of relationship (cognitive and affective dimensions) with close friends on Trust, Communication, and Alienation dimensions. The peer attachment instrument is a 25 item self report questionnaire including items such as “I trust my friends” that were rated on a five-point scale ranging from 1 = Almost never or never true to 5 = Almost always true or always true. Strong internal reliability of 0.92 and test-retest reliability of 0.86 were reported (Armsden & Greenberg, 1989)

**Teacher support.** Teacher support was measured via the 12-item teacher subscale of the Child and Adolescent Social Support Scale (CASSS; Malecki, Demaray, & Elliot, 2000). The CASSS teacher subscale self-report questionnaire measures adolescents’ perceptions of social support they receive from teachers, each item is rated on its frequency assessed on six-point scale ranging from 1 = Never to 6 = Always and its importance on three-point scale ranging from 1 = Not Important to 3 = Very Important. However, in the present study, the importance ratings was not used as it is only meant to be utilised for clinical interpretations (Malecki & Demaray, 2002). Higher scores indicate higher levels of perceived teacher support. The CASSS taps the emotional, appraisal, informational and instrumental domains of social support and is reported to have strong internal reliability of .92 (Malecki & Demaray, 2006) as well as construct validity (Malecki & Demaray, 2002).
Procedure

Participants completed the Adolescent Questionnaire Package (Refer to Appendix A) via the web-based Qualtrics. All participants completed the demographic section, followed by self-report measures assessing father involvement, mother involvement, emotional distress, psychological well-being, family functioning, peer attachment, and teacher support.

Participants were recruited via several sources upon approval from RMIT’s Ethics Committee and the Department of Education. An email was sent to interested participants once parental consent was obtained, consisting of the Plain Language Statement (Refer to Appendix E) and the link to the online survey and an ID number was provided to de-identify adolescents. At the end of the recruitment and data collection phase, an email was sent to adolescents who reported suicide ideation, providing information on existing hotlines in case of distress and the availability of a clinical psychological to assist them.

Research Design

The study was correlational in nature. The independent variables comprised of father involvement, mother involvement, emotional distress, psychological well-being, peer attachment, family functioning, and teacher support and the dependent variable was suicide ideation.

Results

The data were analysed using the Statistical Package for the Social Sciences (SPSS) version 23.0. Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, multicollinearity and homoscedascity. Shapiro-Wilk test revealed deviations from normality for emotional distress. This was anticipated as not all adolescents in the community were expected to exhibit emotional distress. While the assumption of multicollinearity was met, the assumptions of normality, linearity and homoscedascity were
violated and this was anticipated due to the small sample size. As a result, analyses were still performed assuming that violations of assumptions were likely to happen due to small sample size. Hierarchical Multiple Regression was utilised to analyse the independent and combined contribution of father involvement, mother involvement, adolescent emotional distress, adolescent psychological well-being, peer attachment, family functioning and teacher support.

**Descriptive Statistics**

The descriptive statistics for the total scores of the variables namely, father involvement, mother involvement, adolescent emotional distress, adolescent psychological well-being, peer attachment, family functioning, teacher support and adolescent suicide ideation are presented in Table 5. On the whole, twenty percent of adolescents (n= 9) reported suicide ideation while 80 percent of the sample did not (n= 37). Items measuring the frequency, intensity, and plans of suicide ideation were rated highest while impulses of suicide ideation was rated lowest. Overall, fathers were rated slightly above average in their levels of involvement while mothers were perceived to be highly involved. Adolescents in the study also reported high levels of peer attachment, family functioning, teacher support, and psychological well-being. Conversely, adolescents reported low levels of emotional distress in general. Further inspection of the mean subscales of the DASS (i.e., emotional distress), adolescents reported more stress ($M= 5.98$) than depression ($M= 4.61$) and anxiety symptoms ($M= 4.30$).
As reported in Table 6, father involvement, mother involvement, peer attachment, and psychological well-being were significantly and negatively correlated with suicide ideation. Whereas, family functioning and emotional distress were significantly and positively related with suicide ideation. Teacher support was the only variable not significantly related to suicide ideation and was thus not included in the regression analysis.
Testing a Predictive Model of Adolescent Suicide Ideation

Table 7

Summary of Hierarchical Multiple Regression Analysis for Variables Predicting Adolescent Suicide Ideation (n = 46)

<table>
<thead>
<tr>
<th>Model/Predictor</th>
<th>β</th>
<th>ΔR²</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Psychological Well-being</td>
<td>-.09</td>
<td>.39</td>
<td>.39</td>
<td>.37</td>
<td>14.05***</td>
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<tr>
<td>Emotional Distress</td>
<td>.57***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
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</tr>
<tr>
<td>Psychological Well-being</td>
<td>-.01</td>
<td>.00</td>
<td>.40</td>
<td>.36</td>
<td>9.30***</td>
</tr>
<tr>
<td>Emotional Distress</td>
<td>.57***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family Functioning</td>
<td>.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 3</td>
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<td></td>
</tr>
<tr>
<td>Psychological Well-being</td>
<td>.14</td>
<td>.05</td>
<td>.45</td>
<td>.40</td>
<td>8.37***</td>
</tr>
<tr>
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</tr>
<tr>
<td>Family Functioning</td>
<td>.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer Attachment</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 4</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Psychological Well-being</td>
<td>.15</td>
<td>.00</td>
<td>.45</td>
<td>.38</td>
<td>6.60***</td>
</tr>
<tr>
<td>Emotional Distress</td>
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<tr>
<td>Family Functioning</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Peer Attachment</td>
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<tr>
<td>Mother Involvement</td>
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<td></td>
<td></td>
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<tr>
<td>Step 5</td>
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<tr>
<td>Psychological Well-being</td>
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<td>.14</td>
<td>.59</td>
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<td>9.35***</td>
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<td>Family Functioning</td>
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<tr>
<td>Peer Attachment</td>
<td>-.34**</td>
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<tr>
<td>Mother Involvement</td>
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</tr>
<tr>
<td>Father Involvement</td>
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<td></td>
<td></td>
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</tbody>
</table>

Note. *p < .05; **p < .01; ***p < .001
A hierarchical multiple regression analysis was performed to test the strength of the predictive model and examine the independent role of father involvement in adolescent suicide ideation as shown in Table 7.

Adolescent individual-related factors, adolescent emotional distress (DASS) and psychological well-being, significant correlates of adolescent suicide ideation, were entered in the first block of the regression model (step 1). Family functioning was then entered in the second block of the regression model (step 2) and at step 3, peer attachment was added to the model. At Step 4, mother involvement was next entered and father involvement was added at step 5. This pattern of entry was devised in order to establish whether father involvement contributed in the prediction of adolescent suicide ideation over and above the variation explained by psychological well-being, emotional distress, family functioning, peer attachment, and mother involvement.

As shown in Table 7, emotional distress continued to be a significant predictor of adolescent suicide ideation during all the steps and explained a significant percentage of variance during the last step when all the variables were entered in the model. Contrary to emotional distress, psychological well-being did not contribute to the model. Likewise, family functioning did not contribute significantly to the model. Peer attachment was shown to be a significant predictor of adolescent suicide ideation, accounting for a significant amount of variance during Step 5 of the regression model. However, mother involvement was not a significant predictor of adolescent suicide ideation when added to the model at Step 4. Lastly, father involvement was shown to contribute significantly to the regression model over and above emotional distress, psychological well-being, peer attachment, family functioning, and mother involvement. Taken together, the final model comprising the individual, peer and family-related factors explained 53% of the variance in adolescent suicide ideation.
Discussion

The adoption of a socio-ecological perspective in understanding suicide ideation in adolescence has received increasing attention in recent years (De Luca et al., 2012; Sun et al., 2006). The aim of Study 2 was to identify potential predictors of adolescent suicide ideation across individual (emotional distress and psychological well-being), family (father involvement, mother involvement, and family functioning), peer (peer attachment), and teacher (teacher support) variables by exploring the unique and combined contribution of these factors, with father involvement as the key independent variable. In general, 20 percent (n= 9) of the sample reported suicide ideation while 80 percent (n= 37) did not. More specifically, in the assessment of suicide ideation, the frequency, intensity, and plans of suicide ideation were scored highest, compared to impulses of suicide ideation, rated the lowest. Adolescents in the study also revealed that their fathers and mothers are highly involved and also reported high levels of peer attachment, family functioning, psychological well-being, and teacher support. In addition, adolescents showed low levels of emotional distress. This suggests that the sample was relatively healthy, demonstrating good relationships with mothers, fathers, family, peers, and teachers, and increased well-being.

The first hypothesis that father involvement, mother involvement, family functioning, peer attachment, teacher support, and adolescent emotional distress and psychological well-being, uniquely and in combination, would significantly predict adolescent suicide ideation was partially supported. Bivariate correlations revealed that teacher support was the only variable not significantly associated with adolescent suicide ideation and was therefore excluded from the regression analysis. Furthermore, testing the predictive model also showed that while father involvement, mother involvement, family functioning, peer attachment, and adolescent emotional distress and psychological well-being in combination significantly
predicted adolescent suicide ideation, only emotional distress, peer attachment, and father involvement uniquely contributed to the predictive model. The second hypothesis that father involvement would independently and significantly predict adolescent suicide ideation over and above other variables was supported. Father involvement was found to significantly predict adolescent suicide ideation over and beyond the other factors in the model.

**Individual-related factors.** The present study showed that emotional distress was not only associated but also a strong predictor of suicide ideation, contributing uniquely and in combination with other factors. This is consistent with previous research, indicating that emotional distress is a significant risk factor of adolescent suicide ideation (Arria et al., 2009; Boden, Fergusson, & Horwood, 2007; Buitron et al., 2016; Labelle et al., 2013; Nock et al., 2009; Zubrick et al., 2016). Adolescence is a challenging period, undergoing biological, cognitive, and social changes that leave adolescents vulnerable to a range of mental health concerns and suicidal behaviours (Thapar, Collishaw, Pine, & Thapar, 2012). Hopelessness was assessed within the depressive scale of the DASS and whether hopelessness or depressive symptoms was a better predictor of adolescent suicide ideation could not be assessed. Moreover, since two-third of the sample were female adolescents, the findings obtained could be a mere reflection of female adolescents as previous research has found that depressive symptoms is a predictor of suicide ideation in female adolescent but not male adolescents (Labelle et al., 2013; Lamis & Lester, 2013) and that hopelessness was a better predictor of suicide ideation in female adolescents (Labelle et al., 2013). Indeed, further analyses in the present study revealed that depression was a significant predictor of suicide ideation in female adolescents but not male adolescents.

While anxiety, depression, and stress symptoms were all strongly associated with suicide ideation, anxiety had the strongest relationship with suicide ideation, followed by
depression, and stress. This is consistent with previous findings, demonstrating that stress, anxiety, and depressive symptoms are significant risk factors of suicide ideation in adolescents (Buitron et al., 2016; Labelle et al., 2013; Yen et al., 2014). In addition, Yen et al. (2014) showed that anxiety symptoms were significantly associated with suicide ideation in a sample of 1,027 adolescents in grades 7 to 12. The findings may reflect the high comorbidity of anxiety and depression which have been demonstrated in the literature, with a comorbidity estimate of 10 to 70 percent in adolescents (Angold, Costello, & Erkanli, 1999; Brady & Kendall, 1992). Hence, it is likely that this was observed in the current sample.

Psychological well-being, on the other hand, was significantly associated but not a significant predictor of adolescent suicide ideation and only contributed to the model in combination with other factors. It is possible that emotional distress may describe more precisely the experiences of adolescents who contemplate thoughts about suicide than psychological well-being. The psychological well-being construct appraised elements of self-acceptance, personal growth, environmental mastery, autonomy, and positive relations with others, may not fully capture and reflect the experiences of adolescents who express suicide ideation. Based on the findings, emotional distress may be a better construct to explore the prediction of adolescent suicide ideation than psychological well-being.

Family-related factors. Results of the present study showed that mother involvement and father involvement were significantly associated with adolescent suicide ideation, consistent with previous findings in showing that parents are salient support systems in adolescent lives (Arria et al., 2009; Consoli et al., 2013; De Luca et al., 2012; Fergusson et al., 2000; Kuramoto-Crawford et al., 2016; Mackin et al., 2016; Taliaferro & Muehlenkamp, 2014). In addition, while father involvement uniquely predicted adolescent suicide ideation, mother involvement did not independently contribute to the predictive model. These findings are consistent with De Luca et al. (2012) study showing that adolescents who reported having
a supportive father but not mother were less likely to have suicide ideation. Similarly, Conner et al. (2016) demonstrated that adolescents feeling connected with their fathers but not mothers was associated with reduced risks of suicidal behaviours including suicide ideation. These findings indicate that father-child relationships play a critical role in adolescent suicide ideation and if positive, they may be protective in reducing suicide ideation in adolescents. In addition, father involvement had a stronger relationship with adolescent emotional distress and psychological well-being than mother involvement, suggesting that father involvement impacts adolescents’ mental health more or in different ways than mother involvement.

Furthermore, given that both father involvement and peer attachment were strongly correlated with adolescent emotional distress and significant predictors of adolescent suicide ideation, it can be argued that father involvement and peer attachment may moderate the influence of distress on suicidal ideation, since the beta value of emotional distress decreased in the last step of the regression.

The current study also revealed a moderate positive relationship between family dysfunction and adolescent suicide ideation, consistent with previous research (Hetrick et al., 2015; C. A. King et al., 1993; R. A. King et al., 2001; Prinstein et al., 2000; Sun & Hui, 2007b). However, family functioning did not independently contribute to the predictive model. Previous research have found that family functioning was a significant predictor of adolescent suicide ideation when mediated by depression (Prinstein et al., 2000; Sun & Hui, 2007b) which could explain the present findings. It would be advantageous to explore moderation models with a larger sample to examine whether family functioning is a better predictor of adolescent suicide ideation indirectly. Although family functioning did not uniquely contribute to the prediction of adolescent suicide ideation, family functioning was significantly related to adolescent emotional distress, while it had the strongest relationship
with psychological well-being. As such, family functioning may be an important source of distress as well as reducing psychological well-being.

**Peer attachment.** Peer attachment was found to be strongly and positively related with adolescent suicide ideation and contributed uniquely to the predictive model, providing evidence that peer relations have a prominent role in adolescence (Fotti et al., 2006; Prinstein et al., 2000; Sun et al., 2006). Peer attachment was also found to be moderately related to emotional distress and strongly associated with psychological well-being, supporting previous findings (Gorrese & Ruggieri, 2012; L. R. Williams & Anthony, 2015). Evidence surrounding the prominent role of peers in adolescence is robust. Given that greater significance is given to peers than parents during adolescence, peer relations are important sources of emotional and social support that contributes to adolescents’ well-being and thus, may be protective against suicide ideation. The unique and significant contribution of peer attachment in the predictive model may be signifying that peer attachment is protective against suicide ideation in female adolescents, as majority of the sample were females. Indeed a significant association between peer support and suicide ideation in female adolescents only has been revealed in previous studies (Sun & Hui, 2007b). Peer attachment was a better predictor than mother involvement and family functioning and contributed independently in the predictive model while mother involvement and family functioning did not. A reasonable explanation to this is that peers become more salient in adolescence than parents and families for emotional and social support (Gorrese & Ruggieri, 2012), which might explain why mother involvement and family functioning were not significant predictors.

**Teacher support.** Teacher support was found to have a weak to moderate negative relationship with emotional distress and positive relationship with psychological well-being, consistent with previous research (Colarossi & Eccles, 2003; Resnick et al., 1997; Wentzel,
However, teacher support was not significantly associated with adolescent suicide ideation, consistent with Sun and Hui (2007b) study. Adolescents were asked to rate their teachers in general, which could explain the findings obtained. If adolescents were asked to choose a particular teacher with whom they feel comfortable and to rate them on how supportive they are, results might be different. It should also be highlighted that some teachers may be more supportive than others and this was not considered, which could explain the results obtained. Nonetheless, several researchers have demonstrated the positive contribution of teachers in adolescent emotional and social outcomes (Hamre & Pianta, 2006) and some authors have also revealed that teachers may be beneficial when adolescents report low parental support (Harter, 1996; Resnick et al., 1997). Moreover, in a qualitative study, adolescents experiencing suicide ideation expressed that having a caring teacher was beneficial and made it easier to approach teachers for help and enhanced their sense of belongingness (Sun & Hui, 2007a). In light of these previous findings, more research is needed in this area. In addition, even though teacher support was not significantly associated with suicide ideation, the present findings acknowledge that teachers impact adolescents’ emotional distress and psychological well-being.

**Father Involvement.** Father involvement, particular the *Praise and Affection* and *Developing Talents and Future Concerns* dimensions having the strongest relationship with suicide ideation as observed in Study1, emerged as a significant predictor of adolescent suicide ideation and had the greatest contribution in the predictive model, over and beyond the influence of adolescent emotional distress, psychological well-being, peer attachment, family functioning, and mother involvement which is highly correlated with father involvement. While the father involvement construct has not been previously explored in the prediction of adolescent suicide ideation, the findings are consistent with the small body of research indicating that fathers have a more important role to play in adolescent suicide
ideation than mothers (Conner et al., 2016; De Luca et al., 2012). Day and Padilla-Walker (2009) further showed that fathers’ involvement and connectedness (but not mothers) were both related to adolescents’ negative behaviours (internalising and externalising) and mothers’ involvement and connectedness (but not fathers) were related to positive behaviours (hope and prosocial behaviours), arguing that fathers’ parenting practices are more associated with negative behaviours which could be a plausible explanation to the findings obtained in the present study. Given that father involvement predicted adolescent suicide ideation over and above the influence of adolescent emotional distress, psychological well-being, peer attachment, family functioning, and mother involvement, insinuates that the poor quality of father-adolescent relationships may be a significant source of distress in adolescents who are susceptible to suicide ideation (Connor & Rueter, 2006). Conversely, positive father-adolescent relationships may act as a protective factor against suicide ideation.

The predictive model. While mother involvement and family functioning did not uniquely contribute to the predictive model, the overall model comprising the individual, family, and peer factors in combination was significant. This is consistent with previous research, providing evidence for adopting a socio-ecological approach to the understanding of suicide ideation in adolescence (De Luca et al., 2012; Perkins & Hartless, 2002; Sun et al., 2006). Considering the fact that substantial changes occur developmentally in adolescence, biologically, cognitively, and socially, taking a socio-ecological perspective to comprehend suicide ideation in adolescence seem appropriate.

Limitations and future directions. Study 2 comprised some limitations that need to be addressed in future research. Due to the unequal number of females and males, further analyses to examine gender differences for each of the factors could not be performed, limiting supplementary findings. An important shortcoming of the study to be highlighted is the small sample size. The small sample size not only reduces the statistical power but also
increases type 1 error, that is, concluding that relationships among variables are significant when in fact they are not (Hackshaw, 2008). Having a small sample size also leads to overestimating the magnitude of a relationship among variables, which can result in unreliable findings. These limitations restrict the generalizability of the results to the general population. Hence, the findings obtained are only preliminary and future research to extend the study with larger sample size is required to confirm these findings. Also, reports of household income were overlooked in the study, which is an important covariate, highly correlated with father involvement and mother involvement. Future research need to consider this demographic. Third, parents’ mental health and marital quality were not assessed in the present study. Previous research has demonstrated that mothers’ and father’s mental health and well-being and marital quality influence parenting behaviours and in turn impact adolescent developmental outcomes (M. E. Lamb, 2010). Future research need to assess parents’ mental health and marital quality to obtain more accurate findings in the prediction of adolescent suicide ideation. Lastly, adolescents self-reported their relationships with mothers, fathers, family, peers and teachers. Adolescents may be biased in their ratings and thus influence the findings obtained in the study.

**Conclusion.** Notwithstanding these limitations, the current study adopts a socio-ecological approach to the understanding of adolescent suicide ideation and provides evidence of using such a perspective. Given that adolescence is marked by significant changes, looking at the individual, family, peer, and teacher-related factors seem beneficial to better understand suicide ideation. In particular, based on the findings of this study, adolescent emotional distress, father involvement, and peer attachment seem to have an important role in adolescent suicide ideation and should thus be accounted for in the design of intervention and prevention strategies. Specifically, fathers and peers may have a protective role in reducing adolescent suicide ideation.
Chapter 4: Summary and Conclusions

The two studies conducted in the current thesis have scrutinised adolescents’ experiences and relationships with mothers, fathers, family, peers, and teachers, and their contribution to suicide ideation. Conforming to previous research, this thesis provides evidence of the differential roles of mother involvement and father involvement in adolescent suicide ideation and psychological well-being. Specifically, mothers were perceived to be more involved than fathers across all the dimensions of the involvement construct, particularly in the *Attentiveness* dimension, supporting the hypothesis that mother involvement and father involvement would significantly differ in their overall means and partially supporting the hypothesis that they will differ across all dimensions of involvement. Furthermore, father involvement had a stronger relationship with adolescent suicide ideation and psychological well-being than mother involvement. This signifies the differential parenting characteristics of mothers and fathers in adolescent suicide ideation and well-being.

In testing a predictive model of adolescent suicide ideation, a range of risk and protective socio-ecological factors were identified as potential predictors. Adolescent emotional distress, peer attachment, and father involvement were found to be significant predictors of adolescent suicide ideation, with father involvement having the greatest contribution. With the exception of teacher support, the overall combination of mother involvement, father involvement, family functioning, peer attachment, and adolescent emotional distress and psychological well-being significantly contributed to the predictive model, partially supporting the hypothesis. This chapter aims to evaluate the findings of the two studies developed in this research and discuss the implications, acknowledging the limitations of the thesis.


Conceptual and Theoretical Implications.

Study 1 provided evidence for the separate conceptualisation of mother involvement and father involvement. The significant difference in these two constructs across the nine dimensions of involvement suggests that mothers and fathers’ parenting behaviours differ. The difference in the strengths of the relationships of mother involvement and father involvement with adolescent suicide ideation and psychological well-being further supports the notion that mother and fathers parent differently, with fathers possibly having a more salient role. These findings contribute knowledge to the small body of research on the key role of fathers in adolescent suicide ideation (Conner et al., 2016; De Luca et al., 2012). Furthermore, the findings of Study 1 generates knowledge on the involvement construct as a suitable measure of fathering and mothering, capturing the traditional and contemporary parenting behaviours, especially in the understanding of suicide ideation in adolescents. Hence, findings of Study 1 suggests to move beyond conceptualising mothering and fathering as a single parental construct and to acknowledge that mothers and fathers have different parenting characteristics that are likely to influence adolescent developmental outcomes differently. Furthermore, father involvement, operationalized as a multidimensional construct that taps into the cognitive, affective, and ethical characteristics, is a richer conceptualisation of fathering and is recommended in research in parenting and adolescent suicide ideation.

Study 2 provided empirical support of Bronfenbrenner’s Bioecological theory by adopting a socio-ecological developmental approach as a theoretical framework in the understanding of suicide ideation in adolescence. Findings of this study supports the theory, demonstrating adolescent suicide ideation as a result of proximal processes between adolescents and their environment, in this case, adolescents’ emotional distress and psychological well-being, mothers, fathers, family, and peers, mutually influencing each
other. Adolescent emotional distress, father involvement, and peer attachment emerged as significant predictors of suicide ideation in adolescence and the overall significant predictive model suggest that a socio-ecological approach to comprehend adolescent suicide ideation is needed.

Study 2 additionally provides empirical evidence of the IPTS and the 3ST. Addressing limitations, the present findings support the IPTS, providing evidence of this theory with parenting behaviours, and support the use of both the IPTS and the 3ST with adolescents. The conceptualisation of mother involvement, father involvement, peer attachment, and family functioning is consistent with the IPTS, particularly thwarted belongingness and connectedness, which suggests that less involved mothers and fathers, unhealthy family functioning, and less attached with peers is associated with increased suicide ideation, as observed in the study. Moreover, the unique contribution of father involvement and peer attachment suggest that research on the IPTS and the 3ST, may benefit by exploring these constructs as conceptualisations of thwarted belongingness. The findings of this research has thus provided evidence of conceptualising mothering and fathering separately in adolescent suicide ideation research and empirical support of Bronfenbrenner’s Bioecological theory, the IPTS, and the 3ST as potential theoretical frameworks that are promising in adolescent suicide ideation research.

**Implications for Research**

This thesis has several implications for research. Given that conducting adolescent suicide research is sensitive and challenging, particularly with this population, the present research provides adequate support for using Qualtrics as a method of recruitment and data collection. Further, by de-identifying adolescents and assigning ID numbers, participants were reassured of the confidentiality and safety in participating in the research, which is
essential when doing research with vulnerable populations such as adolescents. A Facebook Page was created as part of the recruitment strategy to reach the targeted population in the research. Given that majority of young people have a Facebook account, targeting adolescents via social media is beneficial. Hence, researchers and students may utilise social media to reach the targetted population. Recruitment within school settings was problematic for several reasons, including the sensitivity of the research topic, the lack of interest of school staff members, and time constraints. Researchers may need to consider alternative sources of recruitment other than schools, such as perhaps targeting parents initially, via parent community groups or parenting workshops. Once parents are approached, they may follow-up with their adolescent children. As a result, adolescents may be more convinced and willing to participate. Additionally, given the diversity of forms that contemporary families take, conducting research with the different types of families, such as same-sex parents, is essential to understand how individual, family, peer, and school-related factors impact suicide ideation in adolescents. The sample obtained in the present research were mostly female adolescents. There is evidence indicating that gender is an important risk factor in suicide research, hence recruitment strategies need to target equal female and male adolescents to obtain more homogenous samples which may help in furthering research. The current research was cross-sectional in nature, thus limiting conclusions and interpretations. A better understanding of the time-course of suicide ideation may provide key information by exploring the factors that predict adolescent suicide ideation assessed at different time frames. The present study measured suicide ideation using a time scale of two weeks. Extending the research to a longitudinal study and assessing suicide ideation at various time points may provide essential details on which of the individual, family, peer, and teacher-related factors predict suicide ideation and at which time frames. Lastly, to overcome biases inherent in self-report measures as observed in the present research, interview and behavioral
measures may be utilised to inspect whether findings replicate (Klonsky & May, 2015). For instance, interactive voice-response interview surveys, which is an automated phone interview method that enables participants to interact with their phone directly by responding to questions without human intervention (Kaminer, Litt, & Burke, 2006). This method increases participants’ sense of privacy and responses to sensitive behaviours and attitudes more precisely.

**Implications for clinical practice**

Findings highlight the significance of measuring adolescents’ emotional distress as an important step in identifying at-risk students. High levels of emotional distress was not only independently and significantly associated with increased suicide ideation in adolescents, but was also associated with low levels of father involvement, mother involvement, peer attachment, psychological well-being, teacher support, and family dysfunction. Hence, clinicians, school counsellors and psychologists, and teachers or school staff members, may screen for emotional distress using the self-report school-based screening tool, the Columbia Suicide Screen (CSS; Shaffer et al., 2004) to identify suicide risk, including suicide ideation, by screening for risk factors including depression. The CSS was found to better identify suicidal and emotionally distressed high-school adolescents aged 11 to 19 years old than school professionals (Scott et al., 2009).

Alternatively, adolescents’ emotional distress, psychological well-being and relationship with mothers, fathers, family, may be targeted using the CARE (Care, Assess, Respond, Empower) program which aims to lower suicidal behaviours, including suicide ideation, and associated risk factors, and enhance protective factors (personal and social skills) (Eggert, Thompson, Herting, Seyle, & Randell, 1994; Katz et al., 2013). The CARE program, a school-based suicide prevention approach, comprises a computer-assisted
assessment of suicide, and risk and protective factors, followed by a counselling and social network intervention that encourages students’ help-seeking behaviours and positive coping and providing support and a safe environment to enhance students’ connection with adults (Katz et al., 2013). The assessment component, carried out by the school clinician or counsellor, measures suicidal behaviors including suicide ideation, depression, stressors, hopelessness, anxiety, coping strategies, and personal and social resources (Katz et al., 2013). The counselling intervention consist of a debrief session with students on the results of the assessment, strengthening coping strategies, and developing an action plan to boost support resources (Katz et al., 2013). The social network intervention encourages students to connect with a case manager, usually the school counsellor or clinician, teacher and parent or guardian, to improve support. CAST (Coping and Support Training) is another suicide prevention program reinforcing life skills and social support of at-risk adolescents identified through the CARE program (Eggert & L.J, 1996). The skills taught include mood management, family and adult support, self-esteem, decision-making and goal setting (Katz et al., 2013). In a study of 14 to 19 years old high school students, a combination of CARE and CAST decreased depression and suicidal behaviors and enhanced problem-solving and coping skills, and perceived family support (Randell, Eggert, & K.C, 2001). Using the CARE program, adolescents’ emotional distress and suicide ideation may be reduced as well as facilitating their relationships with their mother, father and family. The CAST program, on the other hand, may be utised to target adolescents’ life skills and support systems by educating them on how to manage their mood and coping behaviours, to make better decisions and enhance problem solving skills.

Findings of this research underline the importance of assessing adolescents’ perceptions of mother involvement and father involvement. Mental health clinicians and
practitioners who are involved in working with adolescents with suicidal thoughts may consider assessing how involved mothers and fathers are in adolescents’ lives. A closer look at mother-adolescent and father-adolescent relations may inform clinicians and practitioners, and provide psychoeducation to mothers and fathers, to enhance or maintain their involvement with adolescents. Findings of this research indicate that high mother involvement and father involvement were significantly associated with reduced adolescent suicide ideation and that family dysfunction was associated with increased suicide ideation. These family relationships may be targeted using available interventions such as for example, the Attachment-Based Family Therapy (ABFT; Diamond et al., 2010), founded on interpersonal theories, and found to effectively reduce depressive symptoms and suicide ideation in adolescents at post-treatment and during follow-up. The ABFT relies on individual and family sessions to strengthen the relations between parent-adolescent and other members of the family, improve communication and interaction as well as enhancing adolescents’ security. Specifically, by including fathers in therapy, clinicians may optimise positive father involvement and improve father-adolescent relations. Individual sessions with adolescents may be carried out to enhance adolescents’ problem solving skills, communication with parents and family members so that they feel more connected and supported, as well as affective regulation. Alternatively, involvement of mothers and fathers may be strengthened through the Resourceful Adolescent Parent Program (RAP-P; Schochet, Holland, Osgarby, & Whitefield, 1998), a program that targets parents to reduce suicide ideation by educating parents about suicide, suicidal behaviours, and good parenting, and decreasing stress and family conflict (Glenn, Franklin, & Nock, 2015). The effectiveness of this program has been supported in randomised controlled trials (Katz et al., 2013; Pineda & Dadds, 2013).
Adolescents look for their friends for emotional and social support and it is important to maintain and enhance these relationships by enriching close and supportive relationships among peers. This can be approached in several ways. Within the school settings, school counsellors and school psychologists may help build a supportive environment by organising peer helper programmes to assist students in building peer networks (Sun & Hui, 2007a). School counsellors may also design specific skill programmes targeting students’ coping skills, self-efficacy, interpersonal skills, emotion regulation, and problem-solving strategies that will help adolescents adapt to significant challenges that occur during adolescents (Katz et al., 2013; Rice & Meyer, 1994). These programmes may help equip adolescents with the necessary skills to maintain a positive relationship with peers, which may act as a buffer against adolescent suicide ideation. By educating them with these skills, adolescents can easily relate with their friends and turn to their friends more, for support. School-based programmes may be an option to psycho-educate adolescents.

In view of the significant role of peers in adolescents’ lives as discussed in Chapter 1, using a peer leadership training program may help peers to identify friends with suicide ideation and referring them to adults, and in turn increase more help-seeking. Sources of Strengths (LoMurray, 2005), a type peer leadership training program, is a school-based suicide prevention approach that focuses on optimizing socio-ecological protective influences by increasing positive coping behaviours and develop positive coping norms and behaviours of peers within the school. In this model of peer leadership, peer leaders are trained to support their friends by assisting friends in nominating and engaging with trusted adults to enhance communication between adolescents and adults, to increase help-seeking whereby friends seek help from adults to assist their suicidal peers, and to make use of coping resources (interpersonal and formal). The purpose of this program is to increase the probability that adolescents will receive help as well as lowering the chance of suicide ideation (Wyman et
al., 2010). A randomised controlled trial of 18 high schools provided evidence of the
reliability and validity of using this approach and revealed that training peer leaders enhanced
protective factors (Wyman et al., 2010). Trained peer leaders were more likely than non-
trained leaders to refer a peer to an adult. Further, training peer leaders enhanced their school
engagement and connectedness with adults as well as adaptive norms (Wyman et al., 2010).
Hence, school counsellors or psychologists may adopt this program within the school setting
to enhance students’ perception of seeking help and reinforce relationship with peers.

**Directions for future research**

Future research needs to consider an examination of the roles and contributions of
mothers and fathers separately in adolescent suicide ideation. Parenting roles keep changing
with time and research needs to continue assessing the social roles of mothers and fathers to
explore the differential parenting characteristics with time. Theoretically, findings of this
research provide empirical support of utilising Bronfenbrenner’s socio-ecological framework
and research should continue utilising a developmental approach in adolescent suicide
research. Despite being recent, the IPTS and the 3ST are potential suicide theories that will
facilitate research in the field and should be applied in future research. In addition, the
present research needs to be replicated with a bigger sample to confirm the findings obtained.
A longitudinal design can be used to assess the perceptions of mother involvement and father
involvement and their association with adolescent suicide ideation, as well as testing a
predictive model of suicide ideation over time may help elicit useful information about
adolescents’ relationships with mothers, fathers, family, peers and teachers. Future research
may also consider performing path analyses, an extension of hierarchical regression, to
evaluate direct and indirect effects among mother involvement, father involvement, family
functioning, peer attachment, teacher support, and adolescent emotional distress, on
adolescent suicide ideation. This method would help obtain richer information on these
relationships. The present research relied on adolescents’ perceptions of their relationships with their mother, father, family, peers, and teachers. It would be advantageous to use a triangulation approach, by obtaining fathers and mothers’ perceptions of their own involvement and their partner’s involvement with adolescents, and family functioning. This may help provide valuable information on whether fathers and mothers’ perceptions of involvement and family functioning predict adolescent suicide ideation. It is noted that the factors in combination explained 53% of the variation in adolescent suicide ideation, suggesting the influence of other factors found in adolescents’ ecological system. Future research should consider other potential factors to test the predictive model. Lastly, while a central part of this thesis was focused on parent-child relationships, future research need to consider young people living in out of home care to reflect the diversity of populations of adolescents living in the community as they are at-risk groups.

Ethical and Methodological Challenges

Some ethical and methodological concerns were experienced in the research and some were addressed in the most ethically sound way possible. One major ethical concern is the difficulty in approaching students to participate in the research and parents to obtain parental consent. Due to the stigma and sensitivity of the research topic, several students and parents did not express interest. Similarly, majority of the schools declined participation, raising concern about potential distress this research might cause to students and the risks present such as talking to students about suicide, that might encourage students to develop suicide ideation. Some measures were taken to address such risks included in the Plain Language Statement (Appendix E), which comprised information on the various hotlines available should students need assistance in case of distress or need someone to talk. The contact details of a clinical psychologist who also supervised this research was also provided in the plain language statement. Additionally, an email was sent to students who expressed suicidal
thoughts, to communicate the existing hotlines and availability of a psychologist to assist them. In regards to methodological concerns, it is likely that participants may have provided socially desirable responses in the survey and therefore not answering certain questions truthfully. It it therefore possible that participants have suppressed any suicidal thoughts. Another concern is the potential bias present in the sample recruited as they were self-selected and therefore represent adolescents who have an interest in the topic and may not be representative of adolescents in the community. Recruitment issues were also experienced, schools were reluctant and parents were hesitant to give approval to participate in the research and access to the target population was therefore challenging.

**Conclusion**

Researchers are increasingly recognising and acknowledging the importance of exploring adolescents’ social-ecological system in the explanations of the development of suicide ideation, with particular interests in individual, family, and peer system levels. Employing a cross-sectional design, the first study of the present thesis aimed to explore adolescents’ differential perceptions of mother involvement and father involvement and their relationships with adolescent suicide ideation and well-being. The second study examined a predictive model of adolescent suicide ideation with a focus on individual, family, peers, and teachers. The current thesis was informed by Bronfenbrenner’s Bioecological Theory of Human Development, a socio-ecological and developmental approach to adolescent suicide ideation, the Interpersonal-Psychological Theory of Suicide, and the Three-Step Theory to address the aims and objectives.

It can be concluded that adolescents’ perceptions of mother involvement and father involvement differ, with mothers being more involved with adolescents than fathers. In their relationships with adolescent suicide ideation and psychological well-being, it was found that
father involvement had a significantly stronger relationship with adolescent suicide ideation across all the nine dimensions of involvement, particularly *Praise and Affection*, and psychological well-being than mother involvement. Among the individual, family, peer, and teacher relations, adolescent suicide ideation was significantly associated with adolescent emotional distress, psychological well-being, family functioning, and peer attachment only, while teacher support did not. The combined predictive model of adolescent suicide ideation including individual, family, and peer factors, was significant, with adolescent emotional distress, peer attachment, and father involvement emerging as significant unique predictors uniquely contributing to the model, with father involvement having the greatest influence.

Overall, it can be deduced that a social-ecological framework to the understanding of adolescent suicide ideation is recommended to inform a more holistic approach in intervention and preventive efforts against suicide ideation in adolescents, with a focus on the positive role of fathers and peers.
References


**Behaviour Research and Therapy, 40(4), 471-481. doi:10.1016/S0005-7967(01)00017-1**


La Greca, A. M., Davila, J., & Siegel, R. (2009). Peer relations, friendships, and romantic relationships: Implications for the development and maintenance of depression in adolescents. In W. Furman, C. McDunn, & B. Young (Eds.), *Adolescent emotional*


methods approach to diagnostic classification. *Frontiers in psychology, 5.*
doi:10.3389/fpsyg.2014.00766


doi:10.1017/S0954579413000643

doi:10.1017/S0033291716003275


disorders and suicidal behavior: findings from the WHO World Mental Health Surveys. *PLoS med*, 6(8), 1-17. doi:10.1371/journal.pmed.1000123


Uji, M., Sakamoto, A., Adachi, K., & Kitamura, T. (2014). The impact of authoritative, authoritarian, and permissive parenting styles on children’s later mental health in


doi:10.1177/0004867415622563
Appendix A: Adolescent Questionnaire Package

To be completed by research team:

<p>| | |</p>
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<tbody>
<tr>
<td>Date Received</td>
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<tr>
<td>Participant Code</td>
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<tr>
<td>School</td>
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</tbody>
</table>
Thank you for willing to participate in this project by completing the questionnaire package.

The questionnaire includes questions about:

• You
• Your relationship with your parents, family, friends and teachers
• Your well-being
• Your mental health

Please note that:

• Information you provide will be confidential
• There is no right or wrong answer

Please answer as many questions as possible.

Thank you.
Information About You

The questions below are information about you. If you are an adolescent aged 15 to 19 years, please answer the following:

• Your gender
  □ Female □ Male □ Other (please specify) _______________________

• Your age: _______________________

• Please state your ethnic background:______________________________

• Your country of birth: _______________________

• What is your position in the family? (e.g., first child, second child)?
  □ First □ Fourth
  □ Second □ Fifth
  □ Third □ Sixth or higher

• Which school do you attend? _______________________

• What grade are you in? _______________________

• Are you currently living with both parents (mother and father/step parents)?
  □ Yes □ No

• If No, who are you currently living with?
  □ Mother □ Mother

• Do you smoke?
  □ Yes □ No

• Do you take drugs?
  □ Yes □ No

• Do you drink alcohol?
  □ Yes □ No

• Do you suffer from any health or mental health problems (e.g., asthma, diabetes, epilepsy, anxiety)?
☐ Yes ☐ No
If yes, please specify: ________________________________

• Are you in a romantic relationship at the moment?
  ☐ Yes ☐ No

• Number of hours spend on social media daily?
  ☐ Less than 1 hour ☐ 3 to 4 hours
  ☐ 1 to 2 hours ☐ 4 hours and above
  ☐ 2 to 3 hours

• Do you do any physical activity?
  ☐ Yes ☐ No
**My Dad and I**

Think of your relationship with your father over the past 12 months. Please rate how good a job you think he did as a father on each of the items listed below. (Please do not fill this section if you are currently not living with your dad)

<table>
<thead>
<tr>
<th>Item</th>
<th>Very Poor</th>
<th>Poor</th>
<th>Fair</th>
<th>Average</th>
<th>Good</th>
<th>Very Good</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Disciplining me</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>2. Encouraging me to do my chores</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
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<tr>
<td>3. Setting rules and limits for my behavior</td>
<td>0</td>
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<td>2</td>
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<td>4</td>
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<td>6</td>
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<tr>
<td>4. Encouraging me to succeed in school</td>
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<td>6</td>
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<tr>
<td>5. Encouraging me to do my homework</td>
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<td>5</td>
<td>6</td>
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<tr>
<td>6. Teaching me to follow rules at school</td>
<td>0</td>
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<tr>
<td>7. Giving my mother encouragement and emotional support</td>
<td>0</td>
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<tr>
<td>8. Letting me know that my mother is an important and special person</td>
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<td>5</td>
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<tr>
<td>9. Cooperating with my mother in my upbringing</td>
<td>0</td>
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<tr>
<td>10. Providing me basic needs (food, clothing, shelter, and health care)</td>
<td>0</td>
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<td>2</td>
<td>3</td>
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<td>6</td>
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<tr>
<td>11. Accepting responsibility for my financial support</td>
<td>0</td>
<td>1</td>
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<td>6</td>
</tr>
<tr>
<td>12. Being a pal or a friend to me</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>5</td>
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<tr>
<td>13. Spending time just talking with me when I want to talk about something</td>
<td>0</td>
<td>1</td>
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<td>6</td>
</tr>
<tr>
<td>14. Spending time with me doing things I like to do</td>
<td>0</td>
<td>1</td>
<td>2</td>
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<tr>
<td>15. Praising me for being good or doing the right thing</td>
<td>0</td>
<td>1</td>
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<tr>
<td>16. Praising me for something I have done well</td>
<td>0</td>
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<tr>
<td>17. Telling me that he loves me</td>
<td>0</td>
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<tr>
<td>18. Encouraging me to develop my talents</td>
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<tr>
<td>19. Encouraging me to continue my schooling beyond high school</td>
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<td>20. Planning my future (education, training)</td>
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<tr>
<td>21. Encouraging me to read</td>
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<td>22. Reading with me</td>
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<td></td>
<td>Very Poor</td>
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<td>23. Helping me with my homework</td>
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<tr>
<td>24. Attending events I participate in (sports, school, church events)</td>
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<td>25. Being involved in the daily or regular routine of taking care of my basic needs and activities (feeding, driving me to places, etc.)</td>
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<td>26. Knowing where I go and what I do with my friends</td>
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</table>
My Mum and I

Think of your relationship with your mother over the past 12 months. Please rate how good a job you think she did as a mother on each of the items listed below. Please do not fill this section if you are currently not living with your mum.

<table>
<thead>
<tr>
<th>Item</th>
<th>0 = Very Poor</th>
<th>1 = Poor</th>
<th>2 = Fair</th>
<th>3 = Average</th>
<th>4 = Good</th>
<th>5 = Very Good</th>
<th>6 = Excellent</th>
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<tbody>
<tr>
<td>1. Disciplining me</td>
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<td>2. Encouraging me to do my chores</td>
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<td>4. Encouraging me to succeed in school</td>
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<td>7. Giving my father encouragement and emotional support</td>
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</tbody>
</table>
About my Family

These are general questions about your family. Please rate the statements below

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Planning family activities is difficult because we misunderstand each other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. In time of crisis we can turn to each other for support</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3. We cannot talk to each other about sadness we feel</td>
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<tr>
<td>4. Individuals are accepted for what they are</td>
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</tr>
<tr>
<td>5. We avoid discussing our fears and concerns</td>
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</tr>
<tr>
<td>6. We can express feelings to each other</td>
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</tr>
<tr>
<td>7. There are lots of bad feelings in the family</td>
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</tr>
<tr>
<td>8. We feel accepted for what we are</td>
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</tr>
<tr>
<td>9. Making decisions is a problem for our family</td>
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</tr>
<tr>
<td>10. We are able to make decisions about how to solve problems</td>
<td></td>
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</tr>
<tr>
<td>11. We don’t get along well together</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. We confide in each other</td>
<td></td>
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</tr>
</tbody>
</table>
**About my Friends**

This part asks about your feelings about your relationships with your close friends. Please read each statement and circle the **ONE** number that tells how true the statement is for you now.

<table>
<thead>
<tr>
<th></th>
<th>Almost Never or Never True</th>
<th>Not Very Often True</th>
<th>Sometimes True</th>
<th>Often True</th>
<th>Almost Always or Always True</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I like to get my friend’s point of view on things I’m concerned about.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>My friends can tell when I’m upset about something.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>When we discuss things, my friends care about my point of view.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>Talking over my problems with friends makes me feel ashamed or foolish.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>I wish I had different friends</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>My friends understand me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>My friends encourage me to talk about my difficulties.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>My friends accept me as I am.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>I feel the need to be in touch with my friends more often.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>My friends don’t understand what I’m going through these days.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11</td>
<td>I feel alone or apart when I am with my friends.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12</td>
<td>My friends listen to what I have to say.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13</td>
<td>I feel my friends are good friends.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14</td>
<td>My friends are fairly easy to talk to.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15</td>
<td>When I am angry about something, my friends try to be understanding.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16</td>
<td>My friends help me to understand myself better.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17</td>
<td>My friends care about how I am feeling.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18</td>
<td>I feel angry with my friends.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19</td>
<td>I can count on my friends when I need to get something off my chest.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20</td>
<td>I trust my friends.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21</td>
<td>My friends respect my feelings.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22</td>
<td>I get upset a lot more than my friends know about.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>23</td>
<td>It seems as if my friends are irritated with me for no reason.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24</td>
<td>I can tell my friends about my problems and troubles.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>25</td>
<td>If my friends know something is bothering me, they ask me about it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
My Psychological Well-Being

The following set of questions deals with how you feel about yourself and your life. Please remember that there is no right or wrong answers.

1 = Strongly Disagree  2 = Disagree Somewhat  3 = Disagree Slightly  4 = Agree Slightly  5 = Agree Somewhat  6 = Strongly Agree

<table>
<thead>
<tr>
<th>Circle the number that best describes your present agreement or disagreement with each statement.</th>
<th>Strongly Disagree</th>
<th>Disagree Somewhat</th>
<th>Disagree Slightly</th>
<th>Agree Slightly</th>
<th>Agree Somewhat</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I am not afraid to voice my opinions, even when they are in opposition to the opinions of most people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>2. In general, I feel I am in charge of the situation in which I live.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>3. I am not interested in activities that will expand my horizons.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>4. Most people see me as loving and affectionate.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>5. I live life one day at a time and don’t really think about the future.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>6. When I look at the story of my life, I am pleased with how things have turned out.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7. My decisions are not usually influenced by what everyone else is doing.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8. The demands of everyday life often get me down.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>9. I think it is important to have new experiences that challenge how you think about yourself and the world.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>10. Maintaining close relationships has been difficult and frustrating for me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>11. I have a sense of direction and purpose in life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>12. In general, I feel confident and positive about myself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>13. I tend to worry about what other people think of me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>14. I do not fit very well with the people and the community around me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>15. When I think about it, I haven’t really improved much as a person over the years.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Circle the number that best describes your present agreement or disagreement with each statement.</td>
<td>Strongly Disagree</td>
<td>Disagree Somewhat</td>
<td>Disagree Slightly</td>
<td>Agree Slightly</td>
<td>Agree Somewhat</td>
<td>Strongly Agree</td>
</tr>
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</tr>
<tr>
<td>16. I often feel lonely because I have few close friends with whom to share my concerns.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>17. My daily activities often seem trivial and unimportant to me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>18. I feel like many of the people I know have gotten more out of life than I have.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>19. I tend to be influenced by people with strong opinions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>20. I am quite good at managing the many responsibilities of my daily life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>21. I have the sense that I have developed a lot as a person over time.</td>
<td>1</td>
<td>2</td>
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<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>22. I enjoy personal and mutual conversations with family members or friends.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>23. I don't have a good sense of what it is I'm trying to accomplish in life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>24. I like most aspects of my personality.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>25. I have confidence in my opinions, even if they are contrary to the general consensus.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>26. I often feel overwhelmed by my responsibilities.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>27. I do not enjoy being in new situations that require me to change my old familiar ways of doing things.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>28. People would describe me as a giving person, willing to share my time with others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>29. I enjoy making plans for the future and working to make them a reality.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>30. In many ways, I feel disappointed about my achievements in life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>31. It’s difficult for me to voice my own opinions on controversial matters.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>32. I have difficulty arranging my life in a way that is satisfying to me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Circle the number that best describes your present agreement or disagreement with each statement.</td>
<td>Strongly Disagree</td>
<td>Disagree Somewhat</td>
<td>Disagree Slightly</td>
<td>Agree Slightly</td>
<td>Agree Somewhat</td>
<td>Strongly Agree</td>
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</tr>
<tr>
<td>33. For me, life has been a continuous process of learning, changing, and growth.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>34. I have not experienced many warm and trusting relationships with others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>35. Some people wander aimlessly through life, but I am not one of them.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>36. My attitude about myself is probably not as positive as most people feel about themselves.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>37. I judge myself by what I think is important, not by the values of what others think is important.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>38. I have been able to build a home and a lifestyle for myself that is much to my liking.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>39. I gave up trying to make big improvements or changes in my life a long time ago.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>40. I know that I can trust my friends, and they know they can trust me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>41. I sometimes feel as if I’ve done all there is to do in life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>42. When I compare myself to friends and acquaintances, it makes me feel good about who I am.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>
About Me

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There is no right or wrong answers. Do not spend too much time on any statement.

<table>
<thead>
<tr>
<th>0 = Did not apply to me at all</th>
<th>1 = Applied to me to some degree, or some of the time</th>
<th>2 = Applied to me to a considerable degree, or a good part of the time</th>
<th>3 = Applied to me very much, or most of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I found it hard to wind down</td>
<td>Did not apply to me at all</td>
<td>Applied to me to some degree, or some of the time</td>
<td>Applied to me to a considerable degree, or a good part of the time</td>
</tr>
<tr>
<td>2. I was aware of dryness of my mouth</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3. I couldn’t seem to experience any positive feeling at all</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>4. I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>5. I found it difficult to work up the initiative to do things</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>6. I tended to over-react to situations</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>7. I experienced trembling (eg, in the hands)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>8. I felt that I was using a lot of nervous energy</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>9. I was worried about situations in which I might panic and make a fool of myself</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>10. I felt that I had nothing to look forward to</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>11. I found myself getting agitated</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>12. I found it difficult to relax</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>13. I felt down-hearted and blue</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>14. I was intolerant of anything that kept me from getting on with what I was doing</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>15. I felt I was close to panic</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Did not apply to me at all</td>
<td>Applied to me to some degree, or some of the time</td>
<td>Applied to me to a considerable degree, or a good part of the time</td>
</tr>
<tr>
<td>---</td>
<td>---------------------------</td>
<td>-------------------------------------------------</td>
<td>-----------------------------------------------------------------</td>
</tr>
<tr>
<td>16. I was unable to become enthusiastic about anything</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>17. I felt I wasn’t worth much as a person</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>18. I felt that I was rather touchy</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>19. I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>20. I felt scared without any good reason</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>21. I felt that life was meaningless</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

**About my Mental Health**

On this questionnaire are groups of statements. Please read all of the statements in a given group. Pick out and circle the one statement in each group that describes you best for the past TWO WEEKS. If several statements in a group seem to apply to you, pick the one with the higher number. BE SURE TO READ ALL OF THE STATEMENTS IN EACH GROUP BEFORE MAKING YOUR CHOICE.

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>I do not have thoughts of killing myself</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sometimes I have thoughts of killing myself</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Most of the time I have thoughts of killing myself</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I always have thoughts of killing myself</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>I am not having thoughts about suicide</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I am having thoughts about suicide but have not formulated any plans</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I am having thoughts about suicide and am considering possible ways of doing it</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I am having thoughts about suicide and have formulated a definite plan</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>I am not having thoughts about suicide</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I am having thought about suicide but have these thoughts completely under my control</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I am having thoughts about suicide but have these thoughts somewhat under my control</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I am having thoughts about suicide but have little or no control over these thoughts</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>I am not having impulses to kill myself</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>In some situations I have impulses to kill myself</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>In most situations I have impulses to kill myself</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>In all situations I have impulses to kill myself</td>
<td></td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>
### About my Teacher

<table>
<thead>
<tr>
<th></th>
<th>How Often?</th>
<th>Important?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never</td>
<td>Almost Never</td>
</tr>
<tr>
<td>1. My teacher(s) cares about me.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2. My teacher(s) treats me fairly.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3. My teacher(s) makes it okay to ask questions.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>4. My teacher(s) explain things that I don’t understand.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>5. My teacher(s) shows me how to do things</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>6. My teacher(s) helps me solve problems by giving me information.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>7. My teacher(s) tells me I did a good job when I’ve done something well.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>8. My teacher(s) nicely tells me when I make mistakes.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>9. My teacher(s) tells me how well I do on tasks.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>10. My teacher(s) makes sure I have what I need for school.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>11. My teacher(s) takes time to help me learn.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>12. My teacher(s) spends time with me when I need help.</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
- On a scale from 0-10, to what extent did you **complete** this questionnaire on your **own**?

Not at all  | A little bit  | A lot

0 0 0 0 0 0 0 0 0 0

0 1 2 3 4 5 6 7 8 9 10

Thank you for your Participation in this Study

😊
Appendix B: RMIT Human Ethics Approval

5 May 2016

Associate Professor Susana Gavidia-Payne
Building 201, Level 3, Room 14A
School of Health and Biomedical Sciences
RMIT University

Dear Susana,


Thank you for requesting an amendment to your Human Research Ethics project titled: The protective role of father involvement, family functioning, peer and teacher relations in adolescent mental health and well-being, which was originally approved by Science Engineering and Health CHEAN in 2015 for a period of 2 years.

I am pleased to inform you that the CHEAN has approved your amendment as outlined in your request.

The CHEAN notes and thanks you for providing all documentation that incorporates these amendments. This documentation will be appended to your file for future reference and your research may now continue.

The committee would like to remind you that:

All data should be stored on University Network systems. These systems provide high levels of manageable security and data integrity, can provide secure remote access, are backed up on a regular basis and can provide Disaster Recover processes should a large scale incident occur. The use of portable devices such as CDs and memory sticks is valid for archiving; data transport where necessary and for some works in progress; The authoritative copy of all current data should reside on appropriate network systems; and the Principal Investigator is responsible for the retention and storage of the original data pertaining to the project for a minimum period of five years.

Please Note: Annual reports are due on the anniversary of the commencement date for all research projects that have been approved by the CHEAN. Ongoing approval is conditional upon the submission of annual reports failure to provide an annual report may result in Ethics approval being withdrawn.

Final reports are due within six months of the project expiring or as soon as possible after your research project has concluded.

The annual/final reports forms can be found at: www.rmit.edu.au/staff/research/human-research-ethics

Yours faithfully,

Associate Professor Barbara Polus
Chair, Science Engineering & Health
College Human Ethics Advisory Network
Cc: Supervisors: Dr Irfan Mehser
Student: Tzenousha Mootin
Appendix C: The Department of Education Ethics Approval

2016_002970

Miss Teerousha Mootin  
School of Health and Biomedical Sciences  
RMIT  
PO Box 71  
BUNDOORA 3083

Dear Miss Mootin,

Thank you for your application of 5 February 2016 in which you request permission to conduct research in Victorian government schools titled *The Protective Role of Father Involvement, Family Functioning, Peer and Teacher Relations in Adolescent Mental Health and Well-Being.*

I am pleased to advise that on the basis of the information you have provided your research proposal is approved in principle subject to the conditions detailed below.

1. The research is conducted in accordance with the final documentation you provided to the Department of Education and Training.

2. Separate approval for the research needs to be sought from school principals. This is to be supported by the Department of Education and Training approved documentation and, if applicable, the letter of approval from a relevant and formally constituted Human Research Ethics Committee.

3. The project is commenced within 12 months of this approval letter and any extensions or variations to your study, including those requested by an ethics committee must be submitted to the Department of Education and Training for its consideration before you proceed.

4. As a matter of courtesy, you advise the relevant Regional Director of the schools or governing body of the early childhood settings that you intend to approach. An outline of your research and a copy of this letter should be provided to the Regional Director or governing body.

5. You acknowledge the support of the Department of Education Training in any publications arising from the research.

6. The Research Agreement conditions, which include the reporting requirements at the conclusion of your study, are upheld. A reminder will be sent for reports not submitted by the study's indicative completion date.

Your details will be dealt with in accordance with the Privacy Act 1975 and the Privacy and Data Protection Act 2014. Should you have any queries or wish to gain access to your personal information held by this department please contact our Privacy Officer at the above address.

VICTORIA State Government
I wish you well with your research. Should you have further questions on this matter, please contact Youla Michaels, Project Support Officer, Insights and Evidence Branch, by telephone on (03) 9637 2707 or by email at michaels.youla.y@edumail.vic.gov.au.

Yours sincerely

Joyce Cleary
Director
Insights and Evidence

31/03/2016
Appendix D: Recruitment Flyer

**INVITATION TO PARTICIPATE IN A RESEARCH STUDY**

**ARE YOU**
A young person aged 15-19 years living with both parents, step-parents or single parent?

We want to understand the various factors that contribute to optimal adolescent mental health and well-being

<table>
<thead>
<tr>
<th>What are we specifically looking at?</th>
<th>Why is your contribution important?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parental involvement</td>
<td>Your contribution can help us identify the range of factors that contribute to adolescent well-being so we can design better supports and interventions</td>
</tr>
<tr>
<td>Adolescents’ relationship with parents, family, friends and teachers</td>
<td></td>
</tr>
<tr>
<td>How families function</td>
<td></td>
</tr>
</tbody>
</table>

**How can you help?**

Participation will involve completing an [online](#) or [paper questionnaire](#). Send an email to Ms Teerousha Mootin and she will send you the link to the questionnaire or the paper version.

Ms Teerousha Mootin | Email: Rmit.myresearch@gmail.com | Phone: 99257375
Associate Professor Susana Gavidia-Payne | Email: susana.gavidia-payne@rmit.edu.au | Phone: 99257710

Follow us on [Facebook](#) [http://www.facebook.com/myfamilymyselfcare/](http://www.facebook.com/myfamilymyselfcare/)

**ANY QUESTIONS?** Should you need further information on the research project, please feel free to phone or email Ms Teerousha.

**YOUR CONTRIBUTION IS VALUABLE!**
Appendix E: Plain Language Statement

Appendix A – Adolescent Information Sheet

Invitation to Participate in a Research Project

PROJECT INFORMATION STATEMENT

Participant Information [ADOLESCENT]

Project Title: The Protective Role of Father Involvement, Family Functioning, Peer and Teacher Relations in Adolescent Mental Health and Well-Being.

Investigators:

- Teerousha Mootin
  Masters by Research Student
  RMIT University, s3552782@student.rmit.edu.au, 9925-7375
- Associate Professor Susana Gavidia-Payne
  RMIT University, susana.gavidia-payne@rmit.edu.au, 9925-7710

You are invited to participate in a student research project being conducted by RMIT University. Please read this sheet carefully and be confident that you understand its content before deciding whether to participate. If you have any questions about the project, please contact Ms Teerousha Mootin on 9925-7375 or Associate Professor Susana Gavidia-Payne on 9925-7710.

Who is involved in this research project? Why is it being conducted?

This research is being conducted by Teerousha Mootin as part of her Masters by Research (Psychology) degree at RMIT and is supervised by Associate Professor Susana Gavidia-Payne. The project has been approved by the RMIT Human Research Ethics Committee and the Department of Education and Training.

Why have you been approached?

You have been invited to participate as you are an adolescent aged between 15 and 19 years, living with both parents (mother and father), step-parents or single parent. You have been approached after receiving approval from the Department of Education and Training and the principal of your school.

Receiving consent from a participant

Once you have read the information sheet, you may wish to give your consent to participate in the research project.

What is the project about? What are the questions being addressed?

The current project is looking at the protective influence of parents, the family as a whole unit, peer attachment and teacher support in adolescent mental health and well-being. The question being addressed in this study is to find the protective factors that aim to reduce mental health concerns and increase adolescent well-being.
If you agree to participate, what will you be required to do?

If you agree to participate, you will be required to email or phone the researcher, that is advertised on the [The school Newsletter; flyer] and the link [link] to complete the questionnaire package online will be sent to you. Paper questionnaire is available upon request. Once you are on the online site, you will see that different questionnaires apply to mothers, fathers and adolescents, which can be accessed via the different links. You will need to click on the option that applies to you to access the appropriate questionnaire package. The questionnaire package will comprise general questions about you, your well-being, your relationship with your mother and father, your perceptions about your family as a whole and your relationship with your friends and teachers. The questionnaire package will take approximately 30 minutes to complete. You will be required to circle your responses. For example, 'Most people see me as loving and affectionate', you will need to rate the statement on a six-point scale ranging from 1 = Strongly Disagree to 6 = Strongly Agree.

What are the possible risk and disadvantages?

You may be concerned or upset about your responses on questions pertaining to emotional distress. Nevertheless, you do not have to answer any questions that you are uncomfortable with. If you are unduly concerned about your responses to any of the questionnaire items or if you find participation in the project distressing, you should contact Associate Professor Susana Gavidia-Payne when convenient. She will assist to your concerns in confidentiality and will suggest appropriate follow-up, if necessary. If you experience distress, you may also want to access:


What are the benefits associated with participation?

Existing evidence shows that relationships with parents, peers and teachers, affect adolescent well-being and mental health outcomes. Findings from this research will help bring knowledge to the protective factors that contribute to adolescent well-being. Findings from this project will be communicated to you at the end of the study upon request.

What will happen to the information you provide?

Information you provide in the questionnaire will remain confidential and will be accessible only by the researchers. Additionally, anonymity will be kept in that you will not be identified at any stage of the research. Any information that you provide can be disclosed only if (1) it is to protect you or others from harm, (2) if specifically required or allowed by law, or (3) you provide the researchers with written permission. The research data (questionnaires) obtained will be kept securely at RMIT for 5 years after publication, before being destroyed. The final research paper will be kept in the RMIT Repository and will be accessible online via the library of research papers. The research paper containing the main findings may also be published in a journal in the future.
What are my rights as a participant?

- The right to withdraw from participation at any time
- The right to have any unprocessed data withdrawn and destroyed, provided it can be reliably identified, and provided that so doing does not increase the risk for the participant.
- The right to have any questions answered at any time.

Whom should you contact if you have any questions?

If you have any questions or complaints regarding the study, please feel free to contact Associate Professor Susana Gavidia-Payne on 9925-7710.

What other issues should you be aware of before deciding whether to participate?

This research project will use an external site to create, collect and analyse data collected in a questionnaire format. The questionnaire system and website we are using is Qualtrics. If you agree to participate in this questionnaire, the responses you provide to the survey will be stored on a host server that is password protected and accessed by researchers involved in the project only. Once we have completed our data collection and analysis, we will import the data we collect to the RMIT server where it will be stored securely for five (5) years. The data on the RMIT host server will then be deleted and expunged.

Using Qualtrics is a secured method of collecting data and is highly recommended by the Human Research Ethics Committee at RMIT when the information needs to remain private.

Users should be aware that the World Wide Web is an insecure public network with the potential risks that a user’s transactions are being or may be viewed, intercepted or modified by third parties or that data which the a user downloads may contain computer viruses or other defects.

Yours Sincerely,

Dr Trish Melzer
BBSc, MPsy, PhD

Associate Professor Susana Gavidia-Payne
D.Psy, MSc, PhD

Ms Teeroush Mootin
Masters by Research Student at RMIT

If you have any concerns about your participation in this project, which you do not wish to discuss with the researchers, then you can contact the Ethics Officer, Research Integrity, Governance and Systems, RMIT University, GPO Box 2476V VIC 3001. Tel: (03) 9925 2251 or email human.ethics@rmit.edu.au
Appendix F: Consent Form

1. I have read the information sheet
2. I agree to participate in the research project as described
3. I agree:
   • to complete the questionnaire

4. I acknowledge that:
   (a) I understand that my participation is voluntary and that I am free to withdraw from the project at any time and to withdraw any unprocessed data previously supplied (unless follow-up is needed for safety).
   (b) The project is for the purpose of research. It may not be of direct benefit to me.
   (c) The privacy of the personal information I provide will be safeguarded and only disclosed where I have consented to the disclosure or as required by law.
   (d) The security of the research data will be protected during and after completion of the study. The data collected during the study may be published, and a report of the project outcomes will be provided to the head of the school. Any information which will identify me will not be used.

Participant’s Consent

Participant: ___________________________ Date: ____________

(Signature)

--------------------------------------------------------------------------------------------------------------------------

Participant:

Email: ____________________________

Code: ____________________________

Family Contact Details:

**Mother**

Name: ____________________________

Phone: ____________________________

Email: ____________________________

**Father**

Name: ____________________________

Phone: ____________________________

Email: ____________________________